Certification
Test Report
Non-Confidential Business Information
(Non-CBI)

Central Boiler, Inc.

Wood-Fired Hydronic Heater

Model: Classic Edge 560

Prepared for:	Central Boiler, Inc. 20502 160th Street Greenbush, MN 56726
Prepared by:	OMNI-Test Laboratories, Inc. 13327 NE Airport Way Portland, OR 97230 (503) 643-3788
Test Period:	9/17/2019 – 10/17/2019
Report Date:	December 6, 2019
Report Number:	0117WB038E

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- Document Edition # 001 (12/17/19) -

AUTHORIZED SIGNATORIES

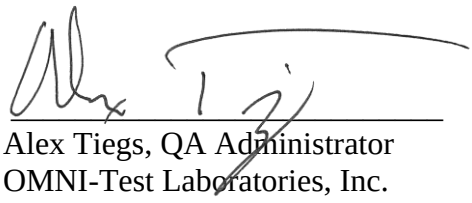
This report has been reviewed and approved by the following authorized signatories:

Technician:



Bruce Davis, Technician
OMNI-Test Laboratories, Inc.

QA Review:



Alex Tiegs, QA Administrator
OMNI-Test Laboratories, Inc.

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Section 1

Introduction/Appliance Description/Photographs/Drawings

INTRODUCTION

Central Boiler, Inc. retained OMNI-Test Laboratories, Inc. (*OMNI*) to perform certification emissions testing on the Classic Edge 560 boiler in accordance with U.S. EPA 40 CFR Part 60, Subpart QQQQ – Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces. The Classic Edge 560 furnace when tested with Oak cord wood meets the 2020 particulate matter emission limit of a weighted average 0.15 lbs/mmBtu heat output and a maximum emissions limit per individual category 0.15 lbs/mmBtu heat output.

Emissions (lb/mmbtu output)	
Heating Season	0.13
Year-Round Use	0.14

The testing was performed at *OMNI*'s testing facility in Portland, Oregon. The unit was received in good condition and logged in on June 4, 2019 then assigned and labeled with *OMNI* ID #2374. *OMNI* representatives Bruce Davis conducted the certification testing and completed all testing by October 19, 2019.

The unit was conditioned for 48 hours prior to testing by operating it at a Category III heat output rate.

The testing method used is composed of four distinct aspects:

- **Particulate Matter Emissions**: Particulate matter sampling using a dilution tunnel via ASTM E2618-13, and ASTM E2515-11
- **Delivered Efficiency**: Using entering and exiting water temperature differences along with measured flow rate to determine useful heat output.
- **Thermal Efficiency and CO Emissions**: Measured using sections 13.7 through 13.10 of CSA B415-10.
- **Operation**: As dictated by ASTM E2618, the appliance is brought to operating temperature before adding the test fuel charge, providing for a hot-to-hot test cycle with measurements taken under constant heat draw conditions within pre-determined ranges. There is no attempt to modulate heat demand to simulate an indoor thermostat cycling on and off in response to changes in the indoor environment.

Four test categories are used within the "Operation" scope:

- **Category I**: Heat Output less than 15% of Manufacturer's Rated Heat Output Capacity
- **Category II**: Heat Output 16 To 24% of Manufacturer's Rated Heat Output Capacity
- **Category III**: Heat Output 25 To 50% of Manufacturer's Rated Heat Output Capacity
- **Category IV**: Manufacturer's Rated Heat Output Capacity

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The test results presented herein apply only to the specific appliance tested.

INDIVIDUAL RUN SUMMARIES – Certification Testing

Run 1 - Test procedures followed to produce a Category IV burn; heat draw was adjusted to approximately 195,000 BTU's. Observed burn rate was calculated at 11.98 kg/h. Emissions results were calculated using particulate sampling from Oak cordwood, on a hot to hot cycle. Heat demand water temperature set to call for heat at 165 degrees Fahrenheit and to go off demand mode at 185 degrees Fahrenheit. No additional sampling anomalies occurred, this test run was determined to be valid for inclusion in the weighted average.

Run 2 - Test procedures followed to produce a Category III burn; heat draw was adjusted to approximately 86,000 BTU's. Heat demand water temperature set to call for heat at 165 degrees Fahrenheit and to go off demand mode at 185 degrees Fahrenheit. Observed burn rate was calculated at 5.33 kg/h. Emissions results were calculated using particulate sampling from Oak cordwood, on a hot to hot cycle. No sampling anomalies occurred, this test run was determined to be valid for inclusion in the weighted average.

Run 3 - Test procedures followed to produce a Category II burn; heat draw was adjusted to approximately 43,000 BTU's. Heat demand water temperature set to call for heat at 165 degrees Fahrenheit and to go off demand mode at 185 degrees Fahrenheit. Observed burn rate was calculated at 2.71 kg/h. Emissions results were calculated using particulate sampling from Oak cordwood, on a hot to hot cycle. No sampling anomalies occurred, this test run was determined to be valid for inclusion in the weighted average.

Run 4 - Test procedures followed to produce a Category I burn; heat draw was adjusted to approximately 25,000 BTU's. Heat demand water temperature set to call for heat at 165 degrees Fahrenheit and to go off demand mode at 185 degrees Fahrenheit. At 739 minutes the test was stopped due to no weight loss in 30 minutes, results were not included in the weighted average due to fire out.

Run 5 - Test procedures followed to produce a Category I burn; heat draw was adjusted to approximately 25,000 BTU's. Heat demand water temperature set to call for heat at 165 degrees Fahrenheit and to go off demand mode at 185 degrees Fahrenheit. Observed burn rate was calculated at 1.62 kg/h. Emissions results were calculated using particulate sampling from Oak cordwood, on a hot to hot cycle. No sampling anomalies occurred, this test run was determined to be valid for inclusion in the weighted average.

APPLIANCE DESCRIPTION

The Classic Edge 560 is a wood fired outdoor hydronic heater. It is designed to heat and circulate water in a closed loop, supplying energy to an existing system. Its heavy gauge steel structure consists of a large, roughly rectangular firebox constructed of either carbon steel or titanium enhanced stainless steel, and is surrounded by a water jacket with an integrated heat exchanger. The unit is well insulated and protected by an outer sheet metal skin designed for outdoor installation.

Combustion air is regulated by a blower and multiple dampers which supply air to various parts of the firebox. Airflow through the firebox is "downdraft." This means that when operating properly, this design gasifies the wood fuel in the upper portion of the firebox, and burns this gas below the grate in the lower portion of the firebox. Flue gasses are routed through the heat exchanger and exit through an 6" flue opening at the rear of the unit.

The Classic Edge 560 responds to heat demand by cycling the combustion blower on and off depending on water temperature. Combustion air dampers actuate in response to combustion gas temperature in order to promote low emissions output and efficient operation. The water temperature set point is user adjustable.

Other features of the Classic Edge 560 include:

- Overtemperature protection
- Atmospheric pressure vent for water circuit
- Network-enabled temperature logging
- Gasification chamber access door

The firebox of the Classic Edge 560 is approximately 31" deep, 23" wide, and 32" high. Firebox volume is 13.76 ft^3. The dry weight of the unit is 1778.5 lb and the approximate capacity of the water jacket is 196 gallons.

Central Boiler, Inc.
Classic Edge 360

Appliance Front



Appliance Right



Appliance Back



Typical Preburn Fuel



Run 1 Fuel



Run 1 Fuel – Loaded



Run 2 Fuel



Run 2 Fuel – Loaded



Run 3 Fuel



Run 3 Fuel – Loaded



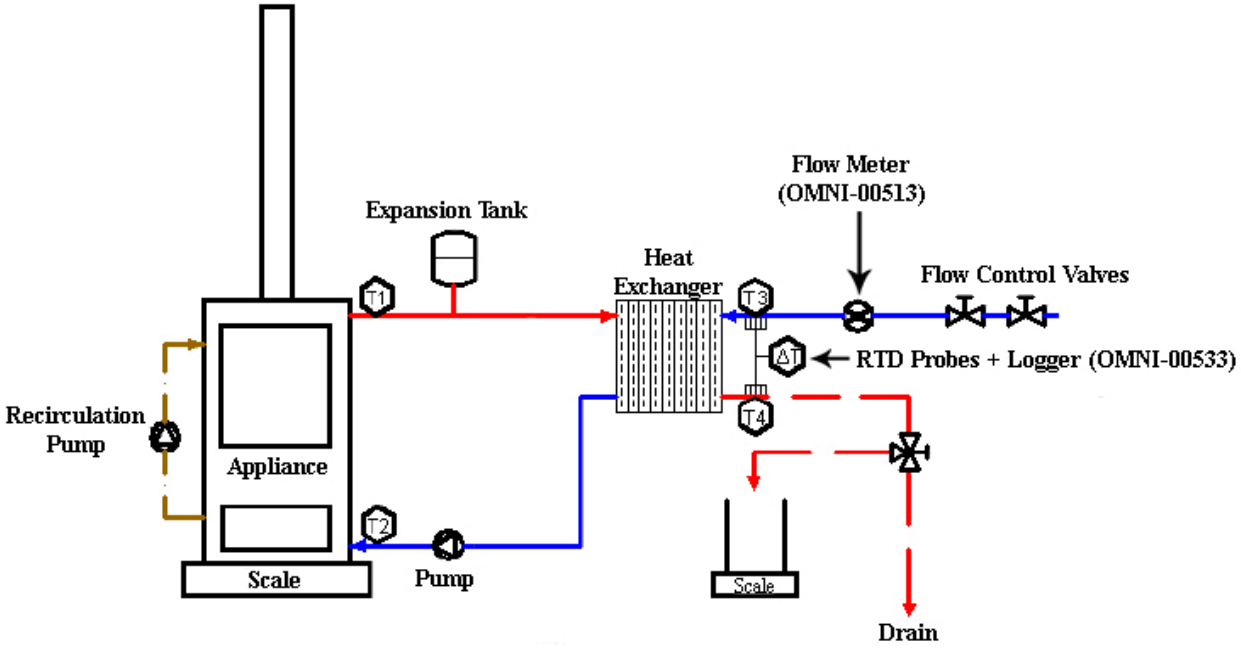
Run 4 Fuel



Run 4 Fuel – Loaded



Test Equipment Schematic



Section 2

Quality Assurance/Quality Control

QUALITY ASSURANCE/QUALITY CONTROL

OMNI follows the guidelines of ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories," and the quality assurance/quality control (QA/QC) procedures found in *OMNI*'s Quality Assurance Manual.

OMNI's scope of accreditation includes, but is not limited to, the following:

- ANSI (American National Standards Institute) for certification of product to safety standards.
- To perform product safety testing by the International Accreditation Service, Inc. (formerly ICBO ES) under accreditation as a testing laboratory designated TL-130.
- To perform product safety testing as a "Certification Organization" by the Standards Council of Canada (SCC).
- Serving as a testing laboratory for the certification of wood heaters by the U.S. Environmental Protection Agency.

This report is issued within the scope of *OMNI*'s accreditation. Accreditation certificates are available upon request.

The manufacturing facilities and quality control system for the production of the Classic Edge 560 at Central Boiler's manufacturing facility were evaluated to determine if sufficient to maintain conformance with OMNI's requirements for product certification. OMNI has concluded that the manufacturing facilities, processes, and quality control system are adequate to produce the appliance congruous with the standards and model codes to which it was evaluated.

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Sample Analysis

Analysis Worksheets

Tared Filter, Probe, & O-Ring Data

OMNI-Test Laboratories, Inc. **ASTM E2618 Wood Heater Run Sheets**

Client: Central Boiler Project Number: 0117WB038E Run Number: 1

Model: Edge 560 Tracking Number: 2374 Date: 9/17/19

Test Crew: B Davis

OMNI Equipment ID numbers: 637, 592, 282A

ASTM E2515 Lab Sheet

Assembled By:

B Davis

Date/Time in Dessicator:

9/18/19 0815

	Weighing #1	Weighing #2	Weighing #3	Weighing #4	Weighing #5
Date/Time:	9/19/19 0910	9/23/19 0910	9/27/19 0810		
R/H %:	27.5	27.9	26.6		
Temp:	76.8	74.6	74.4		
200 mg Audit:	200.1	200.1	200.1		
2 g Audit:	2000.3	2000.3	2000.2		
100 g Audit:	99997.8	99997.7	99997.8		
Initials:	AA	AA	AC		

Train	Element	ID #	Tare (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A (First Hour)	Front Filter	D897	116.9	118.3	118.2	✓		
	Rear Filter							
	Probe							
	O-Ring Set							
A (Remainder)	Front Filter	D894	119.5	135.0	134.8	✓		
	Rear Filter	D898	118.0	118.7	118.7	✓		
	Probe	21	114392.8	114393.4	114393.4	✓		
	O-Ring Set	R875	3572.1	3572.6	3572.5	✓		
B	Front Filter	D895	117.8	133.7	133.7	✓		
	Rear Filter	D896	118.8	119.9	119.5	119.3	✓	
	Probe	24	114126.8	114128.4	114128.5	✓		
	O-Ring Set	R876	3290.6	3291.0	3290.5	3290.3	✓	
BG	Filter	D899	117.7	118.2	118.0	✓		

Technician Signature: B Davis Date: 11/19/19

OMNI-Test Laboratories, Inc. **ASTM E2618 Wood Heater Run Sheets**

Client: Central Boiler Project Number: 0117WB038E Run Number: 2

Model: Edge 560 Tracking Number: 2374 Date: 9/18/19

Test Crew: BDavis

OMNI Equipment ID numbers: 637, 592, 283A

ASTM E2515 Lab Sheet

Assembled By:

BDavis

Date/Time in Dessicator:

9/19/19 0820

	Weighing #1	Weighing #2	Weighing #3	Weighing #4	Weighing #5
	Date/Time: 9/20/19 0820	Date/Time: 9/23/19 0800	Date/Time: 9/23/19 0800	Date/Time: 9/23/19 1425	Date/Time:
	R/H %: 28.5	R/H %: 27.9	R/H %: 26.6	R/H %: 27.4	R/H %:
	Temp: 76.8	Temp: 74.6	Temp: 74.4	Temp: 74.8	Temp:
	200 mg Audit: 200.1	200 mg Audit: 200.1	200 mg Audit: 200.1	200 mg Audit: 200.1	200 mg Audit:
	2 g Audit: 2000.3	2 g Audit: 2000.3	2 g Audit: 2000.2	2 g Audit: 2000.2	2 g Audit:
	100 g Audit: 99997.8	100 g Audit 99997.7	100 g Audit 99997.8	100 g Audit 99997.8	100 g Audit
	Initials: BL	Initials: BL	Initials: BL	Initials: BL	Initials:

Train	Element	ID #	Tare (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A (First Hour)	Front Filter	D900	118.0	118.6	118.6 ✓			
	Rear Filter							
	Probe							
	O-Ring Set							
A (Remainder)	Front Filter	D901	117.7	133.3	133.0	132.7 ✓	132.5 ✓	
	Rear Filter	D902	118.0	119.1	118.8	118.6 ✓		
	Probe	20	114253.6	114254.8	114254.4	114254.4 ✓		
	O-Ring Set	R877	3470.5	3471.9	3471.4	3471.4 ✓		
B	Front Filter	D903	117.8	133.6	133.2	132.8	132.8 ✓	
	Rear Filter	D905 ~~D904~~	117.1	117.9	118.0 ✓			
	Probe	37	114464.8	114466.1	114466.0 ✓			
	O-Ring Set	R878	3385.4	3387.9	3386.3	3386.1 ✓		
BG	Filter	D906	116.9	117.5	117.2	117.0 ✓		

Technician Signature: BDavis Date: 9/27/19

OMNI-Test Laboratories, Inc. **ASTM E2618 Wood Heater Run Sheets**

Client: Central Boiler Project Number: 0117WB038E Run Number: 3

Model: Edge 560 Tracking Number: 2374 Date: 10/8/19

Test Crew: B Davis

OMNI Equipment ID numbers: 637, 572, 203A

ASTM E2515 Lab Sheet

Assembled By:

B Davis

Date/Time in Dessicator:

10/9/19 1510

	Weighing #1	Weighing #2	Weighing #3	Weighing #4	Weighing #5
Date/Time:	10/15/19 0816	10/17/19 1005	10/18/19 0843		
R/H %:	20.3	22.4	20.8		
Temp:	71.0	71.2	72.0		
200 mg Audit:	200.1	199.9			
2 g Audit:	2000.1	2000.2			
100 g Audit:	99997.9	99998.0			
Initials:	BR	BA			

Train	Element	ID #	Tare (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A (First Hour)	Front Filter	D907	117.9	117.5	117.6 ✓			
	Rear Filter							
	Probe							
	O-Ring Set							
A (Remainder)	Front Filter	D908	118.0	131.3	131.5 ✓			
	Rear Filter	D909	119.3	119.2	119.4 ✓			
	Probe	OES4	114147.8	114148.4	114148.6 ✓			
	O-Ring Set	R893	4155.8	4157.1	4157.1 ✓			
B	Front Filter	D910	118.3	131.3	131.5 ~~132.4~~ ✓			
	Rear Filter	D911	118.5	118.7	118.8 ✓			
	Probe	4	114858.8	114859.3	114859.5 ✓			
	O-Ring Set	R894	3364.4	3365.1	3364.9 ✓			
BG	Filter	D912	118.4	118.3	118.4 ✓			
A	Filter	D913	118.9	130.7	131.7 ✓			
B	Filter	D914	117.7	129.5	~~130.7~~ 129.5 ✓ MA 129.5			

Technician Signature: BD Date: 11/19/19

OMNI-Test Laboratories, Inc. **ASTM E2618 Wood Heater Run Sheets**

Client: Central Boiler Project Number: 0117WB038E Run Number: 5

Model: Edge 560 Tracking Number: 2374 Date: 10/17/19

Test Crew: D. Davis

OMNI Equipment ID numbers: 637, 592, 283A

ASTM E2515 Lab Sheet

Assembled By:

D Davis

Date/Time in Dessicator:

10/18 0905

	Weighing #1	Weighing #2	Weighing #3	Weighing #4	Weighing #5
	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:
	10/22 9:20	10/23/19 1145	10/23/19 0923	10/24/19 0848	10/25/19 0832
	R/H %:	R/H %:	R/H %:	R/H %:	R/H %:
	39	29.5	6.0	5.4	15.1
	Temp:	Temp:	Temp:	Temp:	Temp:
	75	72.6	70.7	70.7	69.2
	200 mg Audit:	200 mg Audit:	200 mg Audit:	200 mg Audit:	200 mg Audit:
	200.0	200.0	200.0	200.0	200.0
	2 g Audit:	2 g Audit:	2 g Audit:	2 g Audit:	2 g Audit:
	2000.3 mg	2000.2	2000.3	2000.2	2000.2
	100 g Audit:	100 g Audit	100 g Audit	100 g Audit	100 g Audit
	99998.1 mg	99998.0	99997.9	99998.0	99997.9
	Initials:	Initials:	Initials:	Initials:	Initials:
	TT	JV	AL	BL	AL

Train	Element	ID #	Tare (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A (First Hour)	Front Filter	D922	117.7	117.7	117.6	117.3	117.5	
	Rear Filter	N/A						
	Probe	N/A						
	O-Ring Set	N/A						
A (Remainder)	Front Filter 2	D928	117.7	124.4	124.3	123.7	123.6	
	Front Filter 1	D923	118.3	~~137.7~~ 137.8	137.3	136.7	136.6	
	Rear Filter	D924	117.5	118.6	118.3	117.9	117.8	
	Probe	~~R897~~	113709.7	113711.8	113711.7	113711.5	113711.4	
	O-Ring Set	R897	3402.1	3405.2	3405.5	3403.0	3402.3	3402.1
B	Front Filter 1	D925	118.3	138.4	137.6	137.2	136.6	136.7
	Front Filter 2	D929	~~118.3~~	122.0	122.1	121.6	121.6	
	Rear Filter	~~D926~~ D926	117.6 118.0	119.3	119.2	118.8	118.6	
	Probe	8	115597.6	115599.2	115599.1	115598.7	115598.2	115598.4
	O-Ring Set	R898	3322.5	3325.5	3325.2	3323.3	3322.8	3322.8
BG	Filter	D927	117.8	118.2	118.2	118.0	118.0	

Technician Signature: D Davis Date: 11/19/19

Tare Sheet: (check one) **Probes**____ **47mm Filters**_✓_ **100mm Filters**____ **O-Ring Pair**____

Prepared By: B DAVIS Balance ID #: OMNI-00637 Thermohygrometer ID #: OMNI-00592 Audit Weight ID #/Mass: OMNI-00283A / 200 mg

Placed in Dessicator: Date: 8/12/19 Time: 0825 ID #	Date: 8/13/19 Time: 0840 RH %: 18.3 T (°F): 75.5 Audit: 200.0	Date: 8/16/19 Time: 0930 RH %: 12.8 T (°F): 75.2 Audit: 200.1	Date: 8/19/19 Time: 0837 RH %: 23.1 T (°F): 75.5 Audit: 200.1	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
D885	118.2	118.0	✓				
D886	117.1	117.2	✓				
D887	118.2	118.2	✓				
D888	117.5	117.4	✓				
D889	118.6	118.7	✓				
D890	118.4	118.4	✓				
D891	118.4	118.3	✓				
D892	118.9	119.1	✓				
D893	116.8	116.8	✓				
D894	119.5	119.5	✓		9/17/19	01ATWB038E	1
D895	117.7	117.8	✓				
D896	118.4	118.9	118.8 ✓				
D897	116.8	116.9	✓				
D898	118.0	118.0	✓				
D899	117.9	117.7	✓				
D900	118.1	118.0	✓		9/18/19		2
D901	117.6	117.7	✓				
D902	118.1	118.0	✓				
D903	118.0	117.8	✓				
D904	117.9	118.0	✓		Not used		
	Initials: BR	Initials: BR	Initials: BR	Initials:			

Final Technician Signature: _____ Date: 8/19/19 Evaluator signature: _____

Tare Sheet: (check one) **Probes**_____ **47mm Filters**_✓_ **100mm Filters**_____ **O-Ring Pair**_____

Prepared By: B Davis Balance ID #: OMNI-00637 Thermohygrometer ID #: OMNI-00592 Audit Weight ID #/Mass: OMNI-00593A / 200 mg

Placed in Dessicator: Date: 8/22/19 Time: 0910 ID #	Date: 8/23/19 Time: 0930 RH %: 20.7 T (°F): 74.8 Audit: 200.0	Date: 8/27/19 Time: 0840 RH %: 17.9 T (°F): 75.5 Audit: 200.0	Date: Time: RH %: T (°F): Audit:	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
D905	117.9 117.2	117.1			9/18/19	0117WB038E	2
D906	116.8	116.9			↓		↓
D907	118.1	117.9					
D908	117.9	118.0					
D909	119.2	119.3					
D910	118.3	118.3					
D911	118.7	118.5					
D912	118.4	118.4					
D913	119.0	118.9					
D914	117.8	117.7					
D915	118.1	117.9					
D916	117.7	117.7					
D917	117.7	117.7			Not used		
D918	117.5	117.6					
D919	118.1	118.0					
D920	117.6	117.6					
D921	118.4	118.5					
D922	117.6	117.7			10/17/19	0117WB038E	5
D923	118.3	118.3			10/17/19	↓	↓
D924	117.4	117.5			10/17/19	↓	↓
	Initials: BD	Initials: BD	Initials:	Initials:			

Final Technician Signature: BD Date: 8/27/19 Evaluator signature: K. J. Morgan

Tare Sheet: (check one) **Probes**_____ **47mm Filters**_✓_ **100mm Filters**_____ **O-Ring Pair**_____

Prepared By: D Davis Balance ID #: Thermohygrometer ID #: Audit Weight ID #/Mass: /

Placed in Dessicator: Date: 9/23/19 Time: 0825 ID #	Date: 9/24/19 Time: 0900 RH %: 17.9 T (°F): 75.5 Audit: 200.1	Date: 9/25/19 Time: 0955 RH %: 21.2 T (°F): 73.4 Audit: 200.0	Date: 9/26/19 Time: 10:13 RH %: 25.0 T (°F): 73.9 Audit: 200.1	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
D925	118.4	118.3	✓		10/17/19	0117W13038E	5
D926	118.1	118.0	✓		10/17/19	0117W13038E	5
D927	117.9	117.6	117.8 ✓		10/17/19	0117W13038E	5
D928	117.7	117.7	✓		10/18/19	0117W13038E	5
D929	117.6	117.6	✓		10/18/19	0117W13038E	5
D930	117.8	117.9	✓				
D931	119.1	118.9	✓				
D932	118.1	118.0	✓				
D933	119.2	119.3	✓				
D934	117.8	118.9	✓				
D935	118.9	119.0	✓				
D936	118.1	118.1	✓				
D937	118.2	118.1	✓				
D938	117.8	117.8	✓				
D939	118.9	118.7	✓				
D940	117.5	117.5	✓				
D941	118.9	118.8	✓				
D942	118.7	118.9	✓				
D943	118.1	118.1	✓				
D944	117.5	117.5	117.4 ✓				
	Initials: DD	Initials: DD	Initials: DD	Initials:			

Final Technician Signature: _____ Date: 11/19/19

Evaluator signature: _____

Tare Sheet: (check one) **Probes** ✓ **47mm Filters**____ **100mm Filters**____ **O-Ring Pair**____

Prepared By: B Davis Balance ID #: OMNI-00637 Thermohygrometer ID #: OMNI-00592 Audit Weight ID #/Mass: OMNI-00283A 1 100g

Placed in Dessicator: Date: 6/11/19 Time: 0910 ID #	Date: 6/12/19 Time: 0820 RH %: 17.4 T (°F): 78.4 Audit: 99997.9	Date: 6/13/19 Time: 1020 RH %: 19.4 T (°F): 77.5 Audit: 99997.9	Date: Time: RH %: T (°F): Audit:	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
OES 4	114146.7	114146.9					
OES 5	113570.9	113570.8					
OES 6	113710.0	113709.9					
18	114402.1	114401.9					
24	114127.7	114127.5					
27	114273.5	114273.7					
29	114278.3	114278.4					
34	115868.2	115868.2					
35	114326.1	114326.2					
36	114883.4	114883.5					
37	114464.9	114464.8			9/18/19	0117WB038E	2
38	114151.1	114151.0					
	Initials:	Initials:	Initials:	Initials:			

Final Technician Signature: [signature] Date: 6/13/19 Evaluator signature: [signature]

Tare Sheet: (check one) **Probes** ✓ **47mm Filters** ____ **100mm Filters** ____ **O-Ring Pair** ____

Prepared By: B Davis Balance ID #: omni-00637 Thermohygrometer ID #: omni-00592 Audit Weight ID #/Mass: omni-00283A 1 100g

Placed in Dessicator: Date: 7/9/19 Time: 0845 ID #	Date: 7/10/19 Time: 10:05 RH %: 19.8 T (°F): 75.4 Audit: 99997.8	Date: 7/11/19 Time: 0916 RH %: 23.1 T (°F): 76.6 Audit: 99997.7	Date: 7/15/19 Time: 10:10 RH %: 20.7 T (°F): 76.6 Audit: 99997.9	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
OES 4	114147.0	114146.2	114146.4	✓			
OES 5	1135706	1135706	✓				
OES 6	113710.1	113709.1	113709.8				
11	114185.6	114185.6	✓				
12	114284.0	114283.4	114283.6	✓			
14	114547.4	114547.1	114547.3	✓			
15	114340.6	114340.6	✓				
16	114266.8	114266.3	114266.6				
17	114561.4	114561.0	114561.2	✓			
18	114402.0	114401.6	114401.8	✓			
20	114253.7	114253.4	114253.6	✓	9/18/19	0117WA038E	2
21	114392.3	114391.5	✓				
22	114343.3	114343.4	✓				
13	114322.4	114321.8	114322.0	✓			
	Initials: BR	Initials: B	Initials: BR	Initials:			

Final Technician Signature: B Davis Date: 9/27/19 Evaluator signature: M. Morgan

Tare Sheet: (check one) **Probes** ✓ **47mm Filters**____ **100mm Filters**____ **O-Ring Pair**____

Prepared By: B Davis Balance ID #: Omni-002737 ~~002733A~~ Thermohygrometer ID #: Omni-00592 Audit Weight ID #/Mass: Omni-002734 1 100g

Placed in Dessicator: Date: 7/31/19 Time: 0910 ID #	Date: 8-1-19 Time: 1040 RH %: 15.6 T (°F): 76.6 Audit: 99997.9	Date: 8-2-19 Time: 0825 RH %: 14.2 T (°F): 77.7 Audit: 99997.8	Date: 8-5-19 Time: 0906 RH %: 16.4 T (°F): 75.3 Audit: 99997.8	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
3	116011.9	116011.7	✓				
OES 3	114769.0	114769.1	✓				
21	114393.0	114392.8	✓		9/21/19	0117038E	1
24	114127.5	114127.0	114126.8	✓	~~8/27/19~~	~~0117038E~~ 02	~~1~~ ↓
27	114273.9	114273.7	✓				
28	114750.4	114750.2	✓				
29	114279.1	114279.2	✓				
31	114367.3	114367.5	✓				
32	114741.5	114741.7	✓				
33	113944.4	113944.3	✓				
35	114326.4	114326.4	✓				
59	117786.1	117786.3	✓				
	Initials: BD	Initials: BD	Initials: BA	Initials:			

Final Technician Signature: [signature] Date: 8/2/19

Evaluator signature: [signature]

Tare Sheet: (check one) **Probes** ✓ **47mm Filters** _____ **100mm Filters** _____ **O-Ring Pair** _____

Prepared By: B Davis Balance ID #: Omni-00637 Thermohygrometer ID #: Omni-00592 Audit Weight ID #/Mass: Omni-002834 / 100g

Placed in Dessicator: Date: 9/24/19 Time: 0815 ID #	Date: 9/25/17 Time: 1040 RH %: 21.9 T (°F): 75.5 Audit: 99997.8	Date: 9/26/19 Time: 08:58 RH %: 25.0 T (°F): 73.9 Audit: 99998.0	Date: 9/27/19 Time: 08:12 RH %: 23.6 T (°F): 71.7 Audit: 99997.9	Date: 9/30/19 Time: 09:50 RH %: 9.8 T (°F): 69.2 Audit: 99997.8	Date Used	Project Number	Run No.
OES 3	114769.1	114769.3 ✓					
3	116011.8	116012.0 ✓					
4	114858.9	114858.8 ✓					
OES 4	114147.9	114147.8 ✓					
8	115597.4	115597.6 ✓			10/17/19	0117WB038E	5
OES 6	113709.5	113709.7 ✓			10/17/19	0117WB038E	5
11	114186.5	114186.9 ✓	114186.9 ✓	~~114186.3~~			
9	115696.7	115696.9 ✓		~~115695.7~~			
14	114548.3	114548.7 ✓	114548.3	114547.6	Not used		
12	114284.3	114284.5 ✓		~~114283.7~~			
16	114266.3	114266.7 ✓	114266.5 ✓	~~114266.2~~			
17	114562.2	114562.3 ✓		~~114561.7~~ DZ			
	Initials: DZ	Initials: TT	Initials: TT	Initials: TT			

Final Technician Signature: _____ Date: _____ Evaluator signature: _____

Tare Sheet: (check one) **Probes**_____ **47mm Filters**_____ **100mm Filters**_____ **O-Ring Pair** ✓

Prepared By: B Davis Balance ID #: Omni-00637 Thermohygrometer ID #: Omni-00592 Audit Weight ID #/Mass: Omni-00283A / 5g

Placed in Dessicator: Date: 9/4/19 Time: 0850 ID #	Date: 9/5/19 Time: 0925 RH %: 19.8 T (°F): 75.9 Audit: 5000.0	Date: 9/6/19 Time: 0805 RH %: 19.7 T (°F): 76.8 Audit: 5000.1	Date: Time: RH %: T (°F): Audit:	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
R867	3355.6	3355.8	✓				
R868	3284.1	3284.2	✓				
R869	3332.4	3332.6	✓				
R870	4079.9	4079.7	✓				
R871	4106.2	4106.3	✓				
R872	3384.9	3385.0	✓				
R873	3310.5	3310.7	✓				
R874	4081.0	4081.2	✓				
R875	3572.2	3572.1	✓		9/17/19	0117WB038E	1
R876	3290.6	3290.6	✓		↓		↓
R877	3470.7	3470.5	✓		9/18/19		2
R878	3385.3	3385.4	✓		↓		↓
R879	3412.9	3412.0	✓				
R880	4119.1	4119.3	✓				
	Initials: BD	Initials: BD	Initials:	Initials:			

Final Technician Signature: B D Date: 9/6/19 Evaluator signature: M. Moya

Tare Sheet: (check one) **Probes**____ **47mm Filters**____ **100mm Filters**____ **O-Ring Pair** ✓

Prepared By: B Davis Balance ID #: Omni-00637 Thermohygrometer ID #: Omni-00592 Audit Weight ID #/Mass: Omni-2834 / 5g

Placed in Dessicator: Date: 9/20/19 Time: 0815 ID #	Date: 9/23/19 Time: 0920 RH %: 27.9 T (°F): 74.6 Audit: 5000.0 26041	Date: 9/24/19 Time: 0950 RH %: 17.9 T (°F): 75.5 Audit: 5000.1	Date: 9/25/19 Time: 10:03 RH %: 21.2 T (°F): 73.4 Audit: 5000.0	Date: Time: RH %: T (°F): Audit:	Date Used	Project Number	Run No.
R881	3514.1	3513.6	3513.6	✓			
R882	4282.2	4281.9	4281.8	✓			
R883	3544.8	3544.3	3544.4	✓			
R884	3569.4	3568.8	3568.8	✓			
R885	3532.3	3532.0	3532.1	✓			
R886	3501.1	3500.6	3500.6	✓			
R887	3487.4	3487.1	3487.0	✓			
R888	3334.4	3333.9	3334.1	✓			
R889	3295.2	3295.1	✓				
R890	3368.9	3368.8	✓				
R891	3386.6	3386.3	3386.5	✓			
R892	3294.8	3294.8	✓				
R893	4155.8	4155.8	✓		10/8/19	0117WB038E	3
R894	3364.5	3364.4	✓		↓		↓
R895	4102.7	4102.6	✓				
R896	3330.4	3330.2	✓				
R897	3402.0	3402.1	✓		10/17/19	0117WB038E	5
R898	3322.4	3322.5	✓		↓	↓	↓
R899	3310.5	3310.6	✓				
R900	3421.7	3421.8	✓				
	Initials: BD	Initials: BD	Initials: BM	Initials: MK			

Final Technician Signature: BD Date: 9/25/19

Evaluator signature: K. Morgan

Calibrations

ID #	Equipment Name/Description	Attachment Type
637	Balance, Analytical - Mettler Instrument	Calibration Certificate
283A	Weight Standard set	Calibration Certificate
132	Weight Standard, 10 lb. - WeightMaker	Calibration Log
650	Barometer	Calibration Certificate
296-T59	DeWalt 16' Tape Measure	Calibration Log
430	Delmhorst Wood Moisture Meter	None*
592	Hygrometer/Thermometer, Digital - Omega	Calibration Certificate
353	Scale, Platform – Fuel Scale	Calibration Log
356	Scale, Pro-Dec (5000 lbs.) - Avery Weigh-Tronix	Calibration Certificate
410	Microtector	Calibration Certificate
322	Dry Gas Meter	Calibration Log
594	Infrared gas analyzer	Manual Cover
335	Sampling Box, Automated Emissions - Apex XC-60	Calibration Log
336	Sampling Box, Automated Emissions - Apex XC-60	Calibration Log
431	Wood Moisture Meter Calibrator	Calibration Log
513	Omega Low Flow Magmeter	Calibration Log
559	Dwyer Vaneometer	Manual

Certificate of Calibration

Certificate Number: **704810**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

OnSite

0723.01
Calibration

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

PO: **190241**
Order Date: **07/10/2019**
Authorized By: **N/A**

Property #: **OMNI-00637**
User: **N/A**
Department: **N/A**
Make: **Mettler Toledo**
Model: **MS104TS/00**
Serial #: **B729400181**
Description: **Analytical Scale, 120g**
Procedure: **DCN 500887**
Accuracy: **±0.0005g**

Calibrated on: **07/10/2019**
*Recommended Due: **01/10/2020**
Environment: **21** °C **39** % RH
* As Received: **Within Tolerance**
* As Returned: **Within Tolerance**
Action Taken: **Calibrated**
Technician: **111**

Remarks: * Many factors may cause the unit to drift out of calibration before the recommended due date. Any reported error is the absolute value between the reference and the unit. Uncertainties include the effects of the unit.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
723A	Rice Lake	1mg-200g (Class 0)	Mass Set,	05/22/2020	694890

Measurement Data

Parameter / Measurement Description	Range Unit	Reference	Min	Max	%Error	UUT	Uncertainty
Before/After							Accredited = ✓
Force							
	g	10.00000	9.9995	10.0005	0.0000	10.0000 g	1.2E-05 ✓
	g	30.00000	29.9995	30.0005	0.0000	30.0000 g	1.3E-05 ✓
	g	60.00000	59.9995	60.0005	0.0001	60.0001 g	1.8E-05 ✓
	g	90.00000	89.9995	90.0005	0.0000	90.0000 g	2.1E-05 ✓
	g	120.00000	119.9995	120.0005	0.0001	119.9999 g	2.9E-05 ✓

JJ Calibrations, Inc. certifies that this instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual with the stated procedure using standards that are traceable to the National Institute of Standards and Technology (NIST), or other National Measurement Institutes (NMI's), or by using natural physical constants, intrinsic standards or ratio calibration techniques. The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2005, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without prior written consent of JJ Calibrations, Inc.
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Reviewer

3 Issued 07/12/2019 Rev # 15

Inspector

Certificate of Calibration

Certificate Number: **685888**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

0723.01
Calibration

PO: **180188**
Order Date: 10/09/2018
Authorized By: **N/A**

Property #: OMNI-00283A
User: N/A
Department: N/A
Make: Troemner Inc
Model: 1mg-100g (Class F)
Serial #: 47883
Description: Mass Set, 21pc
Procedure: DCN 500901
Accuracy: Class F

Calibrated on: 10/26/2018
*Recommended Due: 10/26/2023
Environment: 20 °C 57 % RH
* As Received: Within Tolerance
* As Returned: Within Tolerance
Action Taken: Calibrated
Technician: **139**

Remarks: * Many factors may cause the unit to drift out of calibration before the recommended due date. Any reported error is the absolute value between the reference and the unit. Uncertainties include the effects of the unit.

This set meets Class F specifications.
Received and returned eight (8) masses in a black case secured by a rubber band.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
723A	Rice Lake	1mg-200g (Class 0)	Mass Set,	03/23/2019	668240
800A	Sartorius	MSA225W100DI	Analytical Balance	12/11/2018	663857

Measurement Data

Parameter / Measurement Description	Range Unit	Reference	Min	Max	[k]Error	UUT	Uncertainty
Before/After							Accredited = ✓
Mass							
Dot	200 mg	200.00030	199.4603	200.5403	0.0500	200.0503 mg	6.2E-01 ✓
	1 g	1.00000880	0.9991088	1.0009088	0.0000000	1.0000088 g	1E-03 ✓
	2 g	2.00001470	1.9989147	2.0011147	0.0003250	2.0003397 g	1.3E-03 ✓
	5 g	5.00000840	4.9985084	5.0015084	0.0000400	4.9999684 g	1.7E-03 ✓
	10 g	10.0000100	9.998010	10.002010	0.000245	9.999765 g	2.3E-03 ✓
Dot	20 g	20.0000140	19.996014	20.004014	0.000990	20.001004 g	4.6E-03 ✓
	50 g	49.9999660	49.989966	50.009966	0.000595	49.999371 g	1.1E-02 ✓
	100 g	100.000000	99.98000	100.02000	0.00194	99.99806 g	2.3E-02 ✓

JJ Calibrations, Inc. certifies that this instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual with the stated procedure using standards that are traceable to the National Institute of Standards and Technology (NIST), or other National Measurement Institutes (NMI's), or by using natural physical constants, intrinsic standards or ratio calibration techniques. The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2005, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without prior written consent of JJ Calibrations, Inc.
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Reviewer

3 Issued 10/29/2018 Rev # 15

Inspector

SCALE WEIGHT CALIBRATION DATA SHEET

Weight to be calibrated: 10 pounds

ID Number: OMNI-00132

Standard Calibration Weight: 10 pounds

ID Number: OMNI-00255

Scale Used: MTW-150K

ID Number: OMNI-00353

Date: 2/23/2018 By: B. Davis

Standard Weight (A) (Lb.)	Weight Verified (B) (Lb.)	Difference (A - B)	% Error
10.0	10.0	0.0	0

*Acceptable tolerance is 1%.

This calibration is traceable to NIST using calibrated standard weights.

Technician signature: [signature] Date: 2/23/18

Certificate of Calibration

Certificate Number: **698278**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

0723.01
Calibration

PO: **190231**
Order Date: 04/04/2019
Authorized By: **N/A**

Property #: OMNI-00650
User: **N/A**
Department: **N/A**
Make: Control Company
Model: 6530
Serial #: 181062211
Description: Thermohygrometer / Barometer
Procedure: 403406
Accuracy: ±3%RH, ±.4°C(0.8°F), ±4mbar(0.12inHg)

Calibrated on: 04/18/2019
*Recommended Due: 04/18/2020
Environment: **22** °C **53** % RH
* As Received: Within Tolerance
* As Returned: Within Tolerance
Action Taken: Calibrated
Technician: **146**

Remarks: * Many factors may cause the unit to drift out of calibration before the recommended due date. Any reported error is the absolute value between the reference and the unit. Uncertainties include the effects of the unit.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
847A	Fluke	RPM4	Reference Pressure Monitor	11/21/2019	688957
644A	Thunder Scientific	1200	Two Pressure Humidity Generator	07/30/2019	674006

Measurement Data

Parameter / Measurement Description	Range Unit	Reference	Min	Max	[k]Error	UUT	Uncertainty
Before/After							Accredited = ✓
Humidity							
	%	13.0	10	16	1	14 %	5.8E-01 ✓
	%	50.0	47	53	2	48 %	5.8E-01 ✓
	%	80.0	77	83	3	77 %	5.8E-01 ✓
Temperature							
	°C	20.00	19.6	20.4	0.4	19.6 °C	8.1E-02 ✓
	°C	35.00	34.6	35.4	0.4	34.6 °C	8.1E-02 ✓
	°C	50.00	49.6	50.4	0.2	49.8 °C	8.1E-02 ✓
Barometer							
	29 inHg	29.6210	29.501	29.741	0.009	29.630 inHg	8.1E-02 ✓

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Reviewer

3 Issued 04/19/2019 Rev # 15

Inspector

OMNI Environmental Services, Inc.
OMNI-Test Laboratories, Inc.

Tape Measure Calibration Log

Place the calibrated 12" ruler under the tape measure and verify that each ½" (i.e. 1.5", 2", 2.5") between 0 and 36" is within 1/8".

Calibrated using OMNI-00281

Tape Measure Number	Description	Cal Dates				Technician Initials			
OMNI-00296-T55	Dewalt 16' Tape Measure	12/12/16	12/4/17	1/2/19		BR	BR	BR	
OMNI-00296-T56	Dewalt 25' Tape Measure	12/12/16				BR			
OMNI-00296-T59	Dewalt 25' Tape Measures	12/12/16				BR			
OMNI-00296-T58	Dewalt 25' Tape measure	3/9/17	4/3/18			BR	BR		
OMNI-00296-T40	Stanley FatMax Tape measurer 16'	11/17/17	1/2/19			NTS	BR		
OMNI-00296-T31	Stanley Powerlock Tape Measurer	11/22/17	1/2/19			NTS	BR		
OMNI-00296-T59	DeWalt 25' tape Measure	12/06/17	4/3/19			NTS	BR		
OMNI-00296-T54	DeWalt 25' tape Measure	12/06/17				NTS			
OMNI-00296-T56	DeWalt 25' tape Measure	12/06/17				NTS			
OMNI-00296-T55	DeWalt 25' tape Measure	12/06/17	4/3/18	4/3/19		NTS	BR	BR	
OMNI-00296-T47	Removed From Service. Numbers were wearing off.	1/2/19				BR			

Certificate of Calibration

Certificate Number: **707901**

JJ Calibrations, Inc.
7724 SE Aspen Summit Drive
Portland, OR 97266-9217
Phone 503.786.3005
FAX 503.786.2994

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

PO: **190258**
Order Date: **09/03/2019**
Authorized By: **N/A**

Property #: **OMNI-00430**
User: **N/A**
Department: **N/A**
Make: **Delmhorst**
Model: **MCS-1**
Serial #: **OMNI 00430**
Description: **Moisture Calibrator**
Procedure: **Raw Data**
Accuracy: **Raw Data**

Calibrated on: **09/09/2019**
*Recommended Due: **09/09/2020**
Environment: **22** °C **53** % RH
As Received: **Other - See Remarks**
As Returned: **Other - See Remarks**
Action Taken: **Calibrated**
Technician: **40**

Remarks: * Many factors may cause the unit to drift out of calibration before the recommended due date. Any reported error is the absolute value between the reference and the unit.

Data is provided for your determination of acceptability and reported measure value only.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
281A	Hewlett-Packard	3458A	Digital Bench Multimeter, 8.5	06/18/2020	700481

Measurement Data

Parameter / Measurement Description	Range Unit	Reference	Min	Max	*Error	UUT
Before/After						
Resistance						
12 %	120 MOhm	0.00000	0.0000	0.0000	120.5641	120.5641 MOhm
22 %	1.1 MOhm	0.0000000	0.000000	0.000000	1.100236	1.100236 MOhm

JJ Calibrations, Inc. certifies that this instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual with the stated procedure using standards that are traceable to the National Institute of Standards and Technology (NIST), or other National Measurement Institutes (NMI's), or by using natural physical constants, intrinsic standards or ratio calibration techniques. The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2005, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without prior written consent of JJ Calibrations, Inc.
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Reviewer

Issued 09/11/2019 Rev # 15

Inspector

VWR Temperature Hygrometer Calibration Procedure and Data Sheet

Frequency: Every Two Years

Step 1: Locate NIST traceable standard.

Step 2: Place unit to be calibrated, tracking No. OMNI-00592, inside OMNI desiccate box on the same shelf with the NIST traceable standard.

Step 3: After a period of not less than four hours record the temperature and humidity of both units in the spaces provide below.

Step 4: If the unit to be calibrated matches the NIST standard within ± 4%, it is acceptable. If not, the unit needs to be sent to a repair company or replaced.

Verification Data:

Date: ~~1/29/19~~ 1/29/19 pa Technician: BDavis

Time in desiccate: 0840 Recording time: 1415

NIST Standard Temperature: 70.2 °F NIST Standard Humidity: 14.6

Test Unit Temperature Reading: 69.9 °F Test Unit Humidity Reading: 12.1

Test unit OMNI- 00592 is X or was not ___ within acceptable limits.

Technician Signature: [signature]

Comments: A difference of 2.5% was found, with a full scale of 90% on the Instrument this gives a 2.77% deviation.

Calibration sheet For MTW-150K S/N MKW04072 (OMNI-00353)

Calibration Interval: 12 months

Parameter	Date	Omni reference weights used	Weight	Scale readout	Compliance	
Mass in Lbs.	12-11-08	00132	10 lb	10.0 lbs	✓	
	12-11-08	00132, 255	20 lb	20.0 lbs	✓	
	12-11-08	00132, 255, 274	30 lb	30.0 lbs	✓	
	3/9/11	00132	10LBS	10LBS	X	SW
	3/9/11	132/255	10LBSx2	20LB	X	SW
	3/9/11	132/255/274	10LBx3	30LB	X	SW
	8/10/2012	00132	10 lb	10.0 lb	✓	J. Clark
	8/10/2012	132, 255	20 lb	20.0 lb	✓	J. Clark
	8/10/2012	132, 255, 274	30 lb	30.0 lb	✓	J. Clark
	7/19/2013	00132	10 lb	10.0 lb	✓	J. Clark
	7/19/2013	132, 255	20 lb	20.0 lb	✓	J. Clark
	7/19/2013	132, 255, 274	30 lb	30.0 lb	✓	J. Clark
	7/8~~9~~/2014	- 00132	10 lb	10.0 lb	✓	J. Clark
	7/9/2014	- 00132, - 00255	20 lb	20.0 lb	✓	J. Clark
	7/9/2014	-00132, -00255, -00274	30 lb	30.0 lb	✓	J. Clark
	7/13/2015	-00132	10 lb	10.0 lb	✓	J. Clark
	7/13/2015	-00132, -00255	20 lb	20.0 lb	✓	↓
	7/13/2015	-00132, -00255, -00274	30 lb	30.0 lb	✓	
	7/26/2016	Omni - 00283B	1 kg	2.2 lb	✓	B Davis
	7/26/2016	Omni - 00274	10 lb	12.2 lb	✓	B Davis
	7/26/2016	Omni - 00255	10 lb	22.2 lb	✓	B Davis
	8/14/17	Omni - 00283B	1 kg	2.2 lbs	—	BD —
	8/14/17	Omni - 00274	+ 10.0	BD 10.0 12.2	—	BD —
	8/14/17	Omni - 00255	+ 10.0	22.2	—	BD —
	8/31/18	Omni - 00283B	1 kg	2.2	—	BD —
	8/31/18	Omni - 00274	+ 10.0	12.2	—	BD —
	8/31/18	Omni - 00255	+ 10.0	22.2	—	BD —
	10/24/19	Omni - 00283B	1 kg	2.2 lbs	—	BD —
	10/24/19	Omni - 00274	+ 10.0	12.2 lbs	—	BD —
	10/24/19	Omni - 00255	+ 10.0	22.2 lbs	—	BD —

Established 1974

QUALITY CONTROL SERVICES

LABORATORY EQUIPMENT • SALES • SERVICE • CALIBRATION • REPAIRS
2340 SE 11TH Ave. Portland, Oregon 97214 • Box 14831 Portland, Oregon 97293
(503) 236-2712 • FAX (503) 235-2535 • www.qc-services.com

A2LA ACCREDITED
CERTIFICATE #1550.01

OMNI-Test Laboratories, Inc.
13327 NE Airport Way
Portland, OR 97230

Report Number: OMNE0353719181002

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Weigh-Tronix	WI-125x5000x0.5lb	53719	356	Lab

Units	Readability	SOP	Cal Date	Last Cal Date	Cal Due Date
lbs	0.5	QC033	10/2/18	10/4/17	10/2019

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: 1000 Tol: 2.5	Test Wt: HB44 Tol: HB44	Test Wt: 1000 Tol: 2.5	☐ Good ☑ Fair ☐ Poor
As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	Temperature: 20.2°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	999.5	999.5	0.31
700	699.5	699.5	0.31
500	499.5	499.5	0.29
200	199.5	199.5	0.29
100	99.5	99.5	0.29
50	49.5	49.5	0.29

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Avoirdupois Cast W	Rice Lake	25 and 50lb	PWO990-CA	11/24/17	11/2019	20172265

Permanent Information Concerning this Equipment:
Inidcator Serial Number: 069076

Comments/Information Concerning this Calibration
10/2/2018 - Used 1062 lbs of dead load to be able to walk scale up close to capacity. Relative Humidity = 61.0 %

Report prepared/reviewed by: _____ **Date:** 10-2-18 **Technician:** R.Kauble
Signature: _____

THIS CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF QUALITY CONTROL SERVICES, INC.

The uncertainty is calculated according to the ISO Guide to the Expression of Uncertainty in Measurement and includes the uncertainty of standards used combined with the observed standard deviation of the unit under test. The uncertainty is expanded with a k factor of 2 for an approximate 95% level of confidence. Instruments listed above were calibrated using standards traceable to the National Institute of Standards and Technology (NIST). Calibration data reflect results at the time and location of calibration. Calibration data should be reviewed to insure that the instrument is performing to its required accuracy.

Certificate of Calibration

Certificate Number: **686722**

JJ Calibrations, Inc.
7007 SE Lake Rd
Portland, OR 97267-2105
Phone 503.786.3005
FAX 503.786.2994

Omni-Test Laboratories
13327 NE Airport Way
Portland, OR 97230

0723.01
Calibration

PO: **180192**
Order Date: 10/22/2018
Authorized By: **N/A**

Property #: OMNI-00410
User: N/A
Department: N/A
Make: Dwyer
Model: 1430
Serial #: OMNI-00410
Description: Microtector
Procedure: DCN 500908
Accuracy: ±0.00025" WC

Calibrated on: 10/30/2018
*Recommended Due: 10/30/2019
Environment: 22 °C 44 % RH
* As Received: Limited
* As Returned: Limited
Action Taken: Calibrated
Technician: **111**

Remarks: * Many factors may cause the unit to drift out of calibration before the recommended due date. Any reported error is the absolute value between the reference and the unit. Uncertainties include the effects of the unit.

Previous limitation of micrometer head calibrated only continued. .001" reading micrometer head ±.001" (LSD) tolerance applied.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
541A	Select	E8FED2	Gage Block Set, 8pc	12/18/2018	663864

Measurement Data

Parameter / Measurement Description	Range Unit	Reference	Min	Max	*Error	UUT	Uncertainty Accredited = ✓
Before/After							
Length							
	Inch	0.1300	0.129	0.131	0.001	0.129 Inch	1.1E-03 ✓
	Inch	0.3850	0.384	0.386	0.001	0.384 Inch	1.1E-03 ✓
	Inch	0.6150	0.614	0.616	0.001	0.614 Inch	1.1E-03 ✓
	Inch	0.8700	0.869	0.871	0.001	0.869 Inch	1.1E-03 ✓
	Inch	1.0000	0.999	1.001	0.001	0.999 Inch	1.1E-03 ✓

JJ Calibrations, Inc. certifies that this instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual with the stated procedure using standards that are traceable to the National Institute of Standards and Technology (NIST), or other National Measurement Institutes (NMI's), or by using natural physical constants, intrinsic standards or ratio calibration techniques. The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2005, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without prior written consent of JJ Calibrations, Inc.
JJ Calibrations, Inc. quality system has been assessed and accredited to ISO/IEC 17025:2005.

Reviewer

3 Issued 10/31/2018 Rev # 15

Inspector

Thermal Metering System Calibration
Y Factor

Manufacturer:	APEX
Model:	MC 563 Source Sampler
Serial Number:	601001
OMNI Tracking No.:	OMNI-00322
Calibrated Orifice:	☐ Yes

Previous Calibration Comparision

Date	9/8/2014	Acceptable Deviation (5%)	Deviation
y Factor	1.001	0.05005	0.013
Acceptance	Acceptable		

Current Calibration

Acceptable y Deviation	0.020
Maximum y Deviation	0.002
Acceptable dH@ Deviation	N/A
Maximum dH@ Deviation	N/A
Acceptance	Acceptable

Average Gas Meter y Factor	Orifice Meter dH@
0.988	N/A

Calibration Date:	09/25/19	
Calibrated by:	Tony Tong	
Calibration Frequency:	Six Month	
Next Calibration Due:	3/25/2020	
Instrument Range:	1.000	cfm
Standard Temp.:	68	oF
Standard Press.:	29.92	"Hg
Barometric Press., Pb:	30.32	"Hg
Signature/Date:		10/30/2019

Reference Standard *			
Standard Calibrator	Model	Standard Test Meter	
	S/N	OMNI-00001	
	Calib. Date	14-Nov-18	
	Calib. Value	0.9981	y factor (ref)

Calibration Parameters	Run 1	Run 2	Run 3
Reference Meter Pressure ("H2O), Pr	0.00	0.00	0.00
DGM Pressure ("H2O), Pd	2.00	1.26	0.51
Initial Reference Meter	407.803	414.306	420.616
Final Reference Meter	413.327	420	426.5
Initial DGM	0	0	0
Final DGM	5.554	5.741	5.953
Temp. Ref. Meter (°F), Tr	71.0	71.0	71.6
Temperature DGM (°F), Td	72.0	72.0	72.0
Time (min)	8.0	10.0	21.0
Net Volume Ref. Meter, Vr	5.524	5.694	5.884
Net Volume DGM, Vd	5.554	5.741	5.953
Gas Meter y Factor =	**0.990**	**0.989**	**0.986**
Gas Meter y Factor Deviation (from avg.)	0.002	0.001	0.002
Orifice dH@	**N/A**	**N/A**	**N/A**
Orifice dH@ Deviation (from avg.)	N/A	N/A	N/A

where:

1. Deviation = |Average value for all runs - current run value|
** 2. y = [Vr x (y factor (ref)) x (Pb + (Pr/ 13.6)) x (Td + 460)]/ [Vd x (Pb + (Pd / 13.6)) x (Tr + 460)]
** 3. dH@ = 0.0317 x Pd / (Pb (Td + 460)) x [(Tr + 460) x time) / Vr]^2

* Reference calibration is traceable to NIST through NIST Test # 40674, Kimble ASTM E1272, or NIST traceable laboratory

** Equations come from EPA Method 5

The uncertainty of measurement is ±0.14 ft^3/min. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

ZRE NDIR/O_2



USER'S MANUAL

1312 West Grove Avenue
Orange, CA 92865-4134
Phone: 714-974-5560 Fax: 714-921-2531
www.gasanalyzers.com

Thermal Metering System Calibration
Y Factor

Manufacturer:	APEX
Model:	XC-60-EP
Serial Number:	606001
OMNI Tracking No.:	OMNI-00335
Calibrated Orifice:	☐ Yes

Previous Calibration Comparision

Date	1/21/2019	Acceptable Deviation (5%)	Deviation
y Factor	1.022	0.0511	0.013
Acceptance	Acceptable		

Current Calibration

Acceptable y Deviation	0.020
Maximum y Deviation	0.004
Acceptable dH@ Deviation	N/A
Maximum dH@ Deviation	N/A
Acceptance	Acceptable

Average Gas Meter y Factor	**Orifice Meter dH@**
1.009	**N/A**

Calibration Date:	07/23/19	
Calibrated by:	B. Davis	
Calibration Frequency:	Six months	
Next Calibration Due:	1/23/2020	
Instrument Range:	1.000	cfm
Standard Temp.:	68	oF
Standard Press.:	29.92	"Hg
Barometric Press., Pb:	30.16	"Hg
Signature/Date:		7/23/19

Reference Standard *			
Standard Calibrator	Model	Standard Test Meter	
	S/N	OMNI-00001	
	Calib. Date	14-Nov-18	
	Calib. Value	0.9981	y factor (ref)

Calibration Parameters	Run 1	Run 2	Run 3
Reference Meter Pressure ("H2O), Pr	0.00	0.00	0.00
DGM Pressure ("H2O), Pd	2.00	1.38	1.00
Initial Reference Meter	299.7	306.5	312.1
Final Reference Meter	306.4	312	320.9
Initial DGM	0	0	0
Final DGM	6.694	5.54	8.88
Temp. Ref. Meter (°F), Tr	78.0	78.0	78.0
Temperature DGM (°F), Td	88.0	89.0	89.0
Time (min)	34.0	34.0	62.5
Net Volume Ref. Meter, Vr	6.700	5.500	8.800
Net Volume DGM, Vd	6.694	5.54	8.88
Gas Meter y Factor =	**1.013**	**1.008**	**1.007**
Gas Meter y Factor Deviation (from avg.)	0.004	0.001	0.002
Orifice dH@	**N/A**	**N/A**	**N/A**
Orifice dH@ Deviation (from avg.)	N/A	N/A	N/A

where:

1. Deviation = |Average value for all runs - current run value|
** 2. y = [Vr x (y factor (ref)) x (Pb + (Pr/ 13.6)) x (Td + 460)]/ [Vd x (Pb + (Pd / 13.6)) x (Tr + 460)]
** 3. dH@ = 0.0317 x Pd / (Pb (Td + 460)) x [(Tr + 460) x time) / Vr]^2

* Reference calibration is traceable to NIST through NIST Test # 40674, Kimble ASTM E1272, or NIST traceable laboratory
** Equations come from EPA Method 5
The uncertainty of measurement is ±0.14 ft^3/min. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

Reviewed By 8/27/19

DIFFERENTIAL PRESSURE GAUGE CALIBRATION DATA SHEET

Instrument to be calibrated: Pressure Transducer

Maximum Range: 0-2" WC ID Number: OMNI-00335

Calibration Instrument: Digital Manometer ID Number: OMNI-00633

Date: 7/23/19 By: B. Davis

This form is to be used only in conjunction with Standard Procedure C-SPC.

Range of Calibration Point ("WC)	Digital Manometer Input ("WC)	Pressure Gauge Response ("WC)	Difference (Input - Response)	% Error of Full Span*
0-20% Max. Range 0 - 0.4	0.045	0.042	0.003	0.15
20-40% Max. Range 0.4 - 0.8	0.525	0.526	0.001	0.05
40-60% Max. Range 0.8 – 1.2	1.120	1.124	0.004	0.2
60-80% Max. Range 1.2 – 1.6	1.330	1.336	0.006	0.3
80-100% Max. Range 1.6 – 2.0	1.733	1.739	0.006	0.3

*Acceptable tolerance is 4%.

The uncertainty of measurement is ±0.4" WC. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

Technician signature: _____ Date: 7/23/19

Reviewed by: _____ Date: 08/27/19

Temperature Calibration
EPA Method 28R, ASTM 2515

Booth:	Temperature Monitor Type:	Equipment Number:
Mobile	National Instruments Logger	00335, 00336

Reference Meter Equipment Number: 00373	Calibration Due Date: 8/30/19

Calibration Performed By:	Date:	Ambient Temperature:	Barometric Pressure:
B. Davis	7/23/19	76	30.16

Input Temperature (F)	Ambient	Meter A	Meter B	Filter A	Filter B	Tunnel	FB Interior
0	1	1	1	1	1	0	0
100	101	101	101	101	101	100	100
300	301	301	302	301	301	300	300
500	501	501	501	501	501	500	500
700	701	701	701	701	701	700	700
1000	1001	1001	1001	1001	1001	1000	1000

Input (F)	FB Top	FB Bottom	FB Back	FB Left	FB Right	Imp A	Imp B	Cat	Stack
0	0	0	0	0	0	1	1	1	1
100	100	100	100	100	100	101	101	101	100
300	300	300	300	300	300	301	301	301	300
500	500	500	500	500	500	501	501	501	501
700	700	700	700	700	700	701	701	701	700
1000	1000	1000	1000	1000	1000	1001	1001	1001	1000
1500								1501	
2000								2001	

Technician signature: _____ Date: 7/23/19

Reviewed By: _____ Date: 08/27/19

Thermal Metering System Calibration
Y Factor

Manufacturer:	APEX
Model:	XC-60-EP
Serial Number:	606002
OMNI Tracking No.:	OMNI-00336
Calibrated Orifice:	☐ Yes

Previous Calibration Comparision

Date	1/21/2019	Acceptable Deviation (5%)	Deviation
y Factor	0.995	0.04975	0.005
Acceptance	Acceptable		

Average Gas Meter y Factor	Orifice Meter dH@
0.990	N/A

Calibration Date:	07/23/19	
Calibrated by:	B. Davis	
Calibration Frequency:	Six months	
Next Calibration Due:	1/23/2020	
Instrument Range:	1.000	cfm
Standard Temp.:	68	oF
Standard Press.:	29.92	"Hg
Barometric Press., Pb:	30.16	"Hg
Signature/Date:		7/23/19

Current Calibration

Acceptable y Deviation	0.020
Maximum y Deviation	0.001
Acceptable dH@ Deviation	N/A
Maximum dH@ Deviation	N/A
Acceptance	Acceptable

Reference Standard *			
Standard Calibrator	Model	Standard Test Meter	
	S/N	OMNI-00001	
	Calib. Date	14-Nov-18	
	Calib. Value	0.9981	y factor (ref)

Calibration Parameters	Run 1	Run 2	Run 3
Reference Meter Pressure ("H2O), Pr	0.00	0.00	0.00
DGM Pressure ("H2O), Pd	1.94	1.20	0.80
Initial Reference Meter	321	326.1	331.2
Final Reference Meter	326.003	331.1	336.6
Initial DGM	0	0	0
Final DGM	5.107	5.124	5.549
Temp. Ref. Meter (°F), Tr	78.0	78.0	78.0
Temperature DGM (°F), Td	88.0	88.0	89.0
Time (min)	23.8	29.0	38.0
Net Volume Ref. Meter, Vr	5.003	5.000	5.400
Net Volume DGM, Vd	5.107	5.124	5.549
Gas Meter y Factor =	**0.991**	**0.989**	**0.989**
Gas Meter y Factor Deviation (from avg.)	0.001	0.001	0.001
Orifice dH@	**N/A**	**N/A**	**N/A**
Orifice dH@ Deviation (from avg.)	N/A	N/A	N/A

where:

1. Deviation = |Average value for all runs - current run value|

** 2. y = [Vr x (y factor (ref)) x (Pb + (Pr/ 13.6)) x (Td + 460)]/ [Vd x (Pb + (Pd / 13.6)) x (Tr + 460)]

** 3. dH@ = 0.0317 x Pd / (Pb (Td + 460)) x [(Tr + 460) x time) / Vr]^2

* Reference calibration is traceable to NIST through NIST Test # 40674, Kimble ASTM E1272, or NIST traceable laboratory

** Equations come from EPA Method 5

The uncertainty of measurement is ±0.14 ft^3/min. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

Reviewed By 8/27/19

DIFFERENTIAL PRESSURE GAUGE CALIBRATION DATA SHEET

Instrument to be calibrated: Pressure Transducer

Maximum Range: 0-2" WC ID Number: OMNI-00336

Calibration Instrument: Digital Manometer ID Number: OMNI-00633

Date: 7/23/19 By: B. Davis

This form is to be used only in conjunction with Standard Procedure C-SPC.

Range of Calibration Point ("WC)	Digital Manometer Input ("WC)	Pressure Gauge Response ("WC)	Difference (Input - Response)	% Error of Full Span*
0-20% Max. Range 0 - 0.4	0.99	0.102	0.003	0.15
20-40% Max. Range 0.4 - 0.8	0.727	0.730	0.003	0.15
40-60% Max. Range 0.8 – 1.2	0.951	0.953	0.002	0.10
60-80% Max. Range 1.2 – 1.6	1.466	1.470	0.006	0.30
80-100% Max. Range 1.6 – 2.0	1.714	1.718	0.004	0.20

*Acceptable tolerance is 4%.

The uncertainty of measurement is ±0.4" WC. This is based on the reference standard having a TAR (Test Accuracy Ratio) of at least 4:1.

Technician signature: _____ Date: 7/23/19

Reviewed by: _____ Date: 08/27/19

Temperature Calibration
EPA Method 28R, ASTM 2515

Booth:	Temperature Monitor Type:	Equipment Number:
Mobile	National Instruments Logger	00335, 00336

Reference Meter Equipment Number: 00373	Calibration Due Date: 8/30/19

Calibration Performed By:	Date:	Ambient Temperature:	Barometric Pressure:
B. Davis	7/23/19	76	30.16

Input Temperature (F)	Ambient	Meter A	Meter B	Filter A	Filter B	Tunnel	FB Interior
0	1	1	1	1	1	0	0
100	101	101	101	101	101	100	100
300	301	301	302	301	301	300	300
500	501	501	501	501	501	500	500
700	701	701	701	701	701	700	700
1000	1001	1001	1001	1001	1001	1000	1000

Input (F)	FB Top	FB Bottom	FB Back	FB Left	FB Right	Imp A	Imp B	Cat	Stack
0	0	0	0	0	0	1	1	1	1
100	100	100	100	100	100	101	101	101	100
300	300	300	300	300	300	301	301	301	300
500	500	500	500	500	500	501	501	501	501
700	700	700	700	700	700	701	701	701	700
1000	1000	1000	1000	1000	1000	1001	1001	1001	1000
1500								1501	
2000								2001	

Technician signature: _____ Date: 7/23/19

Reviewed By: _____ Date: 08/27/19

WOOD MOISTURE CONTENT CALIBRATION WORKSHEET

Moisture Content Standard OMNI ID #: 00431

Reference Moisture Content Standard: **OMNI # 00430**

Date	Temp.	Barometric Pressure	Fixed Moisture %	Fixed Moisture %	Observed Moisture %		Initials
11/14/16	68° F	30.10 in Hg	22%	12%	22%	12%	AB2
5/10/17	70°F	30.14 in Hg	22%	12%	22%	12%	ABC
11/17/17	70°F	30.23 in Hg	22%	12%	22%	12%	MHS
5/18/18	71°F	30.12 in Hg	22%	12%	22%	12%	TB2
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			
			22%	12%			

Notes: _____

Technician signature: _____ Date: 11/15/16

Calibration Record

Vaneometer Air Velocity Meter OMNI-00559

Calibration Service Record			
Date	**By**	**Results**	**Date of next Calibration**
11/17/17	BD	Installed New Vane From Manufacturer	5/17/18
7/12/18	BR	Installed New Vane from Manufacturer	1/12/19
6/13/19	BR	Installed New Vane From Manufacturer	6/15/19
6/13/19	BD	Installed New Vane From Manufacturer	12/13/19

Section 3

Owner's Manual / Label

Central Boiler, Inc.
20502 160th Street
Greenbush, MN 56726

Serial No: Date Manufactured:

Model: Classic Edge 560

U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with the 2020 particulate emission standards using cord wood.

Tested to: ASTM E2618-13, ASTM E2515-11, CAN/CSA-B415.1-10 (R2015)
Meets: EPA Step 2 Emission Level

Total Particulate Matter: 3.3 g/hr annual weighted average
0.14 lbs/Million Btu heat output

Thermal Output Rating: 0 - 194,724 Btu/hr

Firebox Volume: 14 cubic ft.

Appliance needs periodic inspection and repair for proper operation. Consult owner's manual for further information. It is against federal regulations to operate this appliance in a manner inconsistent with operating instructions in the owner's manual.

p/n: 7000868

Tested & Listed By OMNI-Test Laboratories, Inc. Portland Oregon USA

Central Boiler
20502 160th Street
Greenbush, MN 56726

Report (rapport) # 0117WB036S (12/2014), 0117WB038E

Serial No. (Numéro de série)	Model (Modèle)	Month/Year Manufactured (Date de fabrication)

Solid Fuel Only Models: Classic Edge 560 Outdoor Wood Furnace

Listed by OMNI-Test Laboratories to the applicable portions of the following standards: UL 2523-2018 Solid Fuel-Fired Hydronic Heating Appliances, Water Heaters and Boilers, CAN/CSA B415.1-10 (R2015) Performance Testing of Solid-Fuel-Burning Heating Appliances, CSA-B366.1-11 (R2015) Solid-Fuel-Fired Central Heating Appliance, ASTM E2618-13 Standard Test Method for Measurement of Particulate Emissions and Heating Efficiency of Solid Fuel-Fired Hydronic Heating Appliances, ASTM E2515-11 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel.

For outdoor installations only; Category I Boiler.

May be connected to existing boiler system by qualified installer only.

Never fire appliance with water level below the FULL mark.

DO NOT ATTEMPT TO LIGHT A FIRE WHEN THERE IS GAS VAPOR PRESENT.

FOR SAFETY, KEEP FIREBOX DOOR LATCHED. Leaving the firebox door open may lead to a runaway fire.

THE APPLIANCE, CHIMNEY, AND AUXILIARY BURNER MUST BE KEPT IN GOOD CONDITION AND CLEANED WHEN NECESSARY.

THE HEAT EXCHANGER, FLUE PIPE, AND CHIMNEY MUST BE CLEANED REGULARLY TO REMOVE ACCUMULATED CREOSOTE AND ASH. ENSURE THAT THE HEAT EXCHANGER, FLUE PIPE, AND CHIMNEY ARE CLEANED AT THE END OF EACH HEATING SEASON TO MINIMIZE CORROSION DURING THE SUMMER MONTHS. THE APPLIANCE, FLUE PIPE, AND CHIMNEY MUST BE IN GOOD CONDITION. THESE INSTRUCTIONS ALSO APPLY IF A DRAFT INDUCER IS USED.

A POWER GENERATOR MAY BE USED IN EVENT OF POWER FAILURE TO PREVENT LINES FROM FREEZING.

DO NOT CONNECT THIS APPLIANCE TO CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

Installation Clearances to Combustibles

44 in. (1.12 m) from the back, 48 in. (1.22 m) from the front, 12 in. (0.3 m) from the sides, 18 in. (0.46 m) from the chimney inspection cover

Do not store wood or other combustible material within installation clearances. Base - Noncombustible; concrete preferred for all models. Minimum recommended chimney length is 8 ft (two 4-ft sections, p/n 10508, supplied). Adjust flue draft between -0.010 and -0.030 in. WC (-2.490 and -7.470 Pa). Unsafe to adjust flue draft higher than -0.050 in. WC (-12.450 Pa). Maximum Circuit Breaker: 120 Volts, 50/60 Hz, 15 Amps. Maximum Auxiliary Outlet Load: 120 Volts, 50/60 Hz, 7 Amps.

Firebox Fuel

BURN WOOD ONLY; LOAD WITH CAUTION TO PREVENT DAMAGE TO APPLIANCE. DO NOT BURN GARBAGE, GASOLINE, NAPHTHA, ENGINE OIL, OR OTHER INAPPROPRIATE MATERIALS. DO NOT USE CHEMICALS OR FLUIDS TO START FIRE.

Refer to Owner's Manual for further instructions.

Modèles à combustible solide seulement : Chaudière Extérieure à Bois Classic Edge 560

La chaudière hydronique extérieure Classic Edge fabriquée par Central Boiler a été certifiée par les laboratoires OMNI-Test conforme aux sections applicables des normes suivantes : UL 2523-2018 Appareils de chauffage hydroniques, chauffe-eaux et chaudières à eau à combustibles solides, CAN/CSA B415.1-10 (R2015) Essais et rendement des appareils de chauffage à combustibles solides, CSA-B366.1-11 (R2015) Appareil de chauffage central à combustibles solides, ASTM E2618-13 Protocole d'essais standard destiné à mesurer les émissions de particules et le rendement thermique des appareils de chauffage hydroniques à combustibles solides, ASTM E2515-11 Protocole d'essais standard destiné à déterminer les émissions de particules recueillies par un tunnel de dilution.

Ne convient qu'à des installations extérieures; chaudières de catégorie I.

Peut être connecté à une chaudière existante uniquement par un installateur qualifié.

Ne démarrez jamais l'appareil si le niveau d'eau se situe en deçà du repère FULL (PLEIN).

N'ESSAYEZ PAS D'ALLUMER UN FEU EN PRÉSENCE DE VAPEURS DE GAZ.

À DES FINS DE SÉCURITÉ, GARDEZ FERMÉE LA PORTE DE LA CHAMBRE DE COMBUSTION. Si vous la laissez ouverte, cela peut provoquer un incendie incontrôlé.

L'APPAREIL ET LA CHEMINÉE DOIVENT ÊTRE, AU BESOIN, NETTOYÉS ET MAINTENUS EN BON ÉTAT.

L'ÉCHANGEUR THERMIQUE, LE CARNEAU DE FUMÉES ET LA CHEMINÉE DOIVENT ÊTRE NETTOYÉS RÉGULIÈREMENT AFIN D'ÉLIMINER LES ACCUMULATIONS DE CRÉOSOTE ET DE CENDRES. ASSUREZ-VOUS DE NETTOYER L'ÉCHANGEUR THERMIQUE, LE CARNEAU DE FUMÉES ET LA CHEMINÉE À LA FIN DE CHAQUE SAISON DE CHAUFFE AFIN DE MINIMISER LES RISQUES DE CORROSION DURANT LES MOIS CHAUDS. L'APPAREIL, LE CARNEAU DE FUMÉES ET LA CHEMINÉE DOIVENT ÊTRE EN BON ÉTAT. CES INSTRUCTIONS SONT ÉGALEMENT VALABLES SI LE SYSTÈME EST DOTÉ D'UN DISPOSITIF D'ASPIRATION.

EN CAS DE PANNE D'ÉLECTRICITÉ, POUR ÉVITER QUE LES CANALISATIONS NE GÈLENT, UNE GÉNÉRATRICE ÉLECTRIQUE PEUT ÊTRE UTILISÉE.

NE CONNECTEZ PAS CET APPAREIL À UNE CONDUITE DE CHEMINÉE DE CHEMINÉE SERVANT UN AUTRE.

Installation et Espace Libre jusqu'à des Matériaux Combustibles

112 cm (44 pouces) à partir de l'arrière / 122 cm (48 pouces) à partir du devant / 30 cm (12 pouces) à partir des côtés / à 46 cm (18 pouces) du raccord de cheminée

N'entreposez ni bois ni autre forme de combustible à l'intérieur de la zone de dégagement de l'installation. Base – non combustible; le béton est préféré pour tous les modèles. La longueur de cheminée recommandée s'élève à huit pieds (deux sections de quatre pieds, p/n 10508). Réglez le tirage du carneau entre -0,01 et -0,03 pouce de colonne d'eau (-2,490 et -7,470 Pa). Il est dangereux de régler le tirage sur une valeur supérieure à -0,05 pouce de colonne d'eau. Disjoncteur maximale : 120 V, 50/60 Hz, circuit 15 A. Charge maximale prise de courant auxiliaire : 120 V, 50/60 Hz, circuit 7 A.

Combustible pour chambre de combustion

NE BRÛLEZ QUE DU BOIS; CHARGEZ-LE AVEC PRÉCAUTION POUR ÉVITER D'ENDOMMAGER L'APPAREIL. NE PAS BRÛLER DE DÉCHETS, D'ESSENCE, DE NAPHTE, D'HUILE MOTEUR OU TOUT AUTRE PRODUIT INAPPROPRIÉ. NE PAS UTILISER DE PRODUITS CHIMIQUES OU DE LIQUIDES INFLAMMABLES POUR L'ALLUMAGE.

Pour des directives additionnelles, reportez-vous au manuel d'utilisation.

p/n 7000866

CENTRAL BOILER®

CLASSIC EDGE™

TITANIUM HDX SERIES

OUTDOOR WOOD FURNACE



OWNER'S MANUAL

CLASSIC EDGE 560

TITANIUM HDX SERIES

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
- **WHAT TO DO IF YOU SMELL GAS**
  - **Do not try to light any appliance.**
  - **Do not touch any electrical switch.**
  - **Immediately call your gas supplier. Follow the supplier's instructions.**
  - **If you cannot reach your gas supplier, call the fire department.**
- **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

EM
C OTL US

0117WB036S
0117WB038E

MADE IN USA

SAVE THESE INSTRUCTIONS

(p/n 9000721 - REV. A) - DRAFT

Central Boiler, Inc. • 20502 160th Street • Greenbush, MN 56726
CentralBoiler.com

The Classic Edge outdoor hydronic heater by Central Boiler is listed by OMNI-Test Laboratories to the applicable portions of the following standards: UL 2523-2018 Solid Fuel-Fired Hydronic Heating Appliances, Water Heaters and Boilers, CAN/CSA B415.1-10 (R2015) Performance Testing of Solid-Fuel-Burning Heating Appliances, CSA-B366.1-11 (R2015) Solid-Fuel-Fired Central Heating Appliance, ASTM E2618-13 Standard Test Method for Measurement of Particulate Emissions and Heating Efficiency of Solid Fuel-Fired Hydronic Heating Appliances, ASTM E2515-11 Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel.

The Classic Edge 560 includes two 4-foot stainless steel insulated chimney sections (6" in diameter, p/n 6500004). Use only stainless steel solid fuel chimneys specified by Central Boiler. Maximum draft is marked on nameplate.

French Owner's Manual is available at CentralBoiler.com/support or upon request from your dealer
(Manuel d'installation en français disponible sur demande auprès de votre revendeur)

CLASSIC EDGE 560 — Annual Efficiency Rating*: 90.2% (lower heating value), 83.8% (higher heating value)
Manufacturer's Rated Heat Output Capacity: 194,724 Btu/hr | Range**: 0 to 194,724 Btu/hr.
Water Capacity: 205 gal. | Weight: 1,668 lbs

*Performance is a product of the combustion rate, combustion efficiency and heat exchange efficiency with a single fuel load without refueling. Results vary based on wood species, wood quality, wood quantity and moisture content. Efficiencies are determined under the same test conditions using higher heating value, lower heating value and annual fuel utilization efficiency (AFUE).

- This heater meets the 2020 U.S. Environmental Protection Agency's cord wood emission limits for wood heaters sold after May 15, 2020. Under specific test conditions this heater has been shown to deliver heat at rates shown for the respective model above**.
- This wood heater has a manufacturer-set minimum low burn rate that must not be altered. This wood heater needs periodic inspection and repair for proper operation. It is against federal regulations to operate this wood heater in a manner inconsistent with operating instructions in this manual.
- DO NOT OVERFIRE THIS HEATER. Attempts to achieve heat output rates that exceed heater design specifications can result in permanent damage to the heater.
- Any person(s) operating a hydronic heater must comply with all applicable laws, including but not limited to local ordinances.
- Improper use or failure to maintain the hydronic heater may cause nuisance conditions. The person(s) operating a hydronic heater is/are responsible for operation in a manner that does not create a nuisance condition. Meeting the setback distance and stack height recommendations from the manufacturer and requirements in applicable State and local regulations may not always be adequate to prevent nuisance conditions in some areas due to terrain or other factors.
- Operating an outdoor furnace may not be suitable to some individuals' abilities or lifestyles. Be sure to review the Owner's Manual for the appliance with your dealer.

- Register at time of purchase for FREE 25 Year Limited Warranty -

Verify your warranty and check status of water samples at: CentralBoiler.com/w25

For parts and accessories, service or repairs, call your authorized Central Boiler dealer or heating contractor. Record the information below for future reference.

Model	Serial Number	Installation Date
Dealership Name		Phone Number
Owner Name		

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How to Use This Guide

The guide is divided into sections to help with the operation and maintenance of the outdoor furnace. If questions arise that are not answered with this manual, consult with your authorized Central Boiler dealer.

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CENTRAL BOILER ONLINE RESOURCES

Enter **CentralBoiler.com** in your browser or scan the code using any QR code reader app on your smartphone to access Central Boiler's library of information to help with installation, operation and maintenance of your Central Boiler outdoor furnace.

Detailed Furnace Installation Variations - https://www.CentralBoiler.com/explore/furnace-installation/

View and/or download PDFs to assist in installation of your outdoor furnace. Information and examples regarding pumps, foundations, chimneys and support structures, ThermoPEX piping, and example configurations for a variety of heating configurations.

Online Support Center

https://www.CentralBoiler.com/Support/

Enter your furnace serial number and find articles, answers, parts and more information.



Videos to supplement the Owner's Manual are available at
www.youtube.com/centralboilerinc
Watch tips on initial startup, testing system water and more.

EPA RESOURCES

EPA's Burnwise Program - https://www.epa.gov/burnwise

How to Use a Moisture Meter Video - http://www.youtube.com/watch?v=jM2WGgRcnm0

EPA offers tips on how to properly use a moisture meter to test firewood before using in a wood-burning stove or fireplace. Wet wood can create excessive smoke which is wasted fuel.

Split, Stack, Cover and Store Video - http://www.youtube.com/watch?v=yo1--Zrh11s

EPA offers four simple steps to properly dry firewood before using in a wood-burning stove or fireplace. Wet wood can create excessive smoke which is wasted fuel. Burning dry, seasoned firewood with a moisture content of 20% or less can save money and help reduce harmful air pollution.

Resources to Help Burn Wood the Right Way - https://www.epa.gov/burnwise/resources-help-you-burn-wood-right-way-and-promote-burn-wise-program
Find tip sheets, brochure and flyers, and more information.

NOTE: The warranty can be voided by operating a residential hydronic heater in a manner inconsistent with the Owner's Manual.

INSTALLATIONS IN MASSACHUSETTS:

1. All installation components must be products approved in the Commonwealth of Massachusetts by the Gas and Plumbing Board.
2. The maximum run of tubing from the water heater to a fan coil is 50 linear feet.
3. Persons operating this hydronic heater are responsible for operation of the hydronic heater so as not to cause a condition of air pollution as defined in 310 CMR 7.01(1).

Labeling and Terminology

The outdoor furnace and this installation guide use the following terms and symbols to bring attention to the presence of hazards of various risk levels and important information concerning the use and maintenance of the outdoor furnace.

⚠ DANGER

This symbol and text indicate an imminently hazardous situation which, if ignored, will result in death or serious injury.

⚠ WARNING

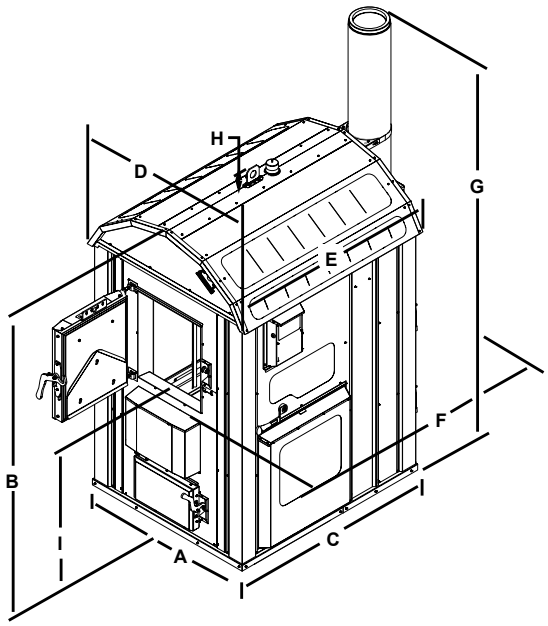
This symbol and text indicate the presence of a hazard which can cause severe personal injury or death to an operator or bystander, or substantial property damage if ignored.

⚠ CAUTION

This symbol and text indicate the presence of a hazard which can cause minor personal injury or property damage if ignored.

NOTE: Indicates supplementary information worthy of particular attention relating to installation, operation, or maintenance of the outdoor furnace but is not related to a hazardous condition.

Be sure to follow all instructions and related precautions as they are meant for your safety and protection. Store this manual in a readily accessible location for future reference.



Classic Edge 560 Measurements									
	A	B	C	D	E	F	G	H	I
in.	42.5	76	55.5	45	56	73.5	151	5	37.5
cm	108	193	141	114	142	187	384	13	95

- Measurement (F) is from firebox door to chimney inspection cover.
- Measurement (G) includes two 4 ft (1.2 m) chimney sections.
- All measurements are approximate

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Important Precautionary Information

Be sure to read carefully and understand these precautions before, during and after the installation, operation and maintenance of the furnace.

NOTE: All operations must be in accordance with local and state codes which may differ from the information in this manual.

⚠ CAUTION

This outdoor furnace is not intended to be the only source of heat. In the event of a prolonged power failure, a generator may be used to prevent lines from freezing. Should the outdoor furnace be left unattended, run out of fuel or require service, an alternate heating source in the building being heated should be in place to prevent damage caused by freezing.

⚠ WARNING

This outdoor furnace and/or chimney is not intended or safety tested to be used or installed in a building where contents of that building could be damaged or where a financial loss could occur from smoke, soot, fire or water.

⚠ WARNING

The outdoor furnace vent cap must fit loosely on the vent opening. Do not force the cap down or try to seal it tightly onto the vent pipe. Do not extend or restrict the vent pipe or opening. DO NOT ALLOW THE OUTDOOR FURNACE TO BE PRESSURIZED.





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⚠ WARNING

Be sure the outdoor furnace is filled with water before firing. Never fire the outdoor furnace when the water level is more than 1" (2.5 cm) below the FULL mark on the sight gauge. 1650XL Inhibitor Plus and Molyboost must be added before the initial fill (see Water Quality and Maintenance).

⚠ WARNING

Disconnect the electrical power to the outdoor furnace before replacing an electrical component.

⚠ WARNING

Do not attempt service inside the electrical control panel without first disconnecting the electrical power at the main power source.

NOTE: Any electrical installation should be done by a qualified installer in accordance with applicable codes.

⚠ WARNING

Allow the outdoor furnace to thoroughly cool and completely clean out the firebox before draining water from the outdoor furnace. If the water in the outdoor furnace ever boils, be sure to check the water level and restore to full. If water is added, the proper level of 1650XL Inhibitor Plus (p/n 1650) must be maintained.

⚠ WARNING

When cleaning the outdoor furnace, be careful not to spill any coals.

⚠ WARNING

ALWAYS store ash in a covered non-combustible container.

⚠ WARNING

Do not allow combustible materials (straw, hay or wood) near the outdoor furnace. Keep the perimeter of the outdoor furnace clear and clean.

⚠ WARNING

For fire safety, keep all combustible materials at least six feet (two meters) away from the outdoor furnace, especially around the door area. Debris of wood chips and other combustibles in the area may be easily ignited if a hot coal is spilled out of the firebox and left unnoticed.

⚠ WARNING

The firebox door must be closed and latched at all times except when filling the firebox with wood. Leaving the firebox door open may lead to a runaway fire. In the event of a runaway fire, close the firebox door. In the event of a chimney or soot fire, close the firebox door and make sure power is off to the outdoor furnace.

⚠ WARNING

All covers must be maintained at all times except during maintenance, inspection and service.

⚠ WARNING

When opening the firebox door, the door switch will shut off the primary air actuator motor while the firebox door is open. Do NOT disable the door switch.

NOTE: The prohibition against burning these materials does not prohibit the use of fire starters made from paper, cardboard, saw dust, wax and similar substances for the purpose of starting a fire in an affected wood heater.

NOTE: Do not use chemicals or fluids to start the fire. Use kindling or gas-fired wood ignition option to start an initial fire.

NOTE: The sight gauge valve should always be closed, except when checking water level. Water will automatically drain from the sight gauge tube when the valve is closed. Remember that this type of valve requires only 1/4 turn to open or close.

⚠ WARNING

This heater is designed to burn natural wood only. DO NOT BURN: unseasoned wood, treated wood, colored paper, cardboard, trash or garbage.

NOTE: Chloride or sulfurous gases can be generated if plastic or rubber is burned and will mix with the moisture from the wood and form hydrochloric or sulfuric acids in the firebox, creating corrosion.

NOTE: This outdoor furnace is not to be used with an automatic stoker.

⚠ CAUTION

This outdoor furnace is not to be connected to a chimney flue serving another appliance.

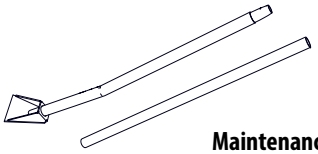
⚠ WARNING

When adding wood to the firebox, be careful not to get pinched between the wood and the door frame, or any part of the outdoor furnace. Use extreme care with large pieces of wood that may be difficult to handle.

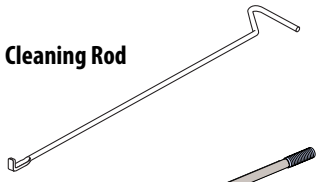
Tools

Included with each new furnace are tools that are invaluable for maintenance and cleaning. Use the **maintenance tool** to clean the firebox and to remove ash from the Reaction Chamber. The maintenance tool is also used for cleaning the firebox and door frame. The **cleaning rod** can be used to break up heavy or solidified ash in the firebox. It is also used to clean the heat exchangers. The **Reaction Chamber cleaning tool** is used to clean ash from the Reaction Chamber.

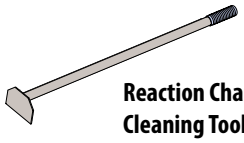
Refer to the Maintenance section for more information.



Maintenance Tool



Cleaning Rod



Reaction Chamber Cleaning Tool

Foundation

The outdoor furnace may be installed directly on stable, level ground without the necessity of a foundation, although installing the outdoor furnace on a foundation offers many advantages. The outdoor furnace is less likely to move due to frost heaving. A foundation keeps the area directly around the outdoor furnace free of standing water and can help to keep unwanted pests out. It can also raise the furnace up to provide a more comfortable height of the firebox door opening.

If the ground is unstable, one option is to use patio blocks under the perimeter of the base. Another option is to pour a concrete foundation.

To install the outdoor furnace on a concrete foundation, refer to the illustration for dimensions and for the location of the hollowed-out area for each model. A 4" to 6" (10 to 15 cm) thick concrete slab works well; however, a thicker slab may be used to obtain the desired door opening height.

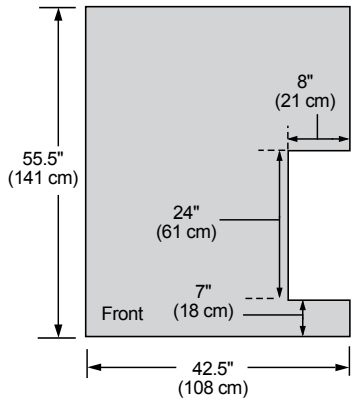
If the area for the concrete slab is unstable and/or affected by frost heaving, consider installing 2" closed-cell insulation beneath the front portion of the slab and under the area of the ground used for walking.

⚠ CAUTION

Do not use any combustible materials for the foundation.

NOTE: The installation surface or foundation must be noncombustible. The hot supply and return lines must also be protected from possible exposure to sunlight, fire or physical damage that may be caused by an occurrence outside the outdoor furnace enclosure. Foundations may consist of concrete, crushed rock or patio blocks.

Classic Edge 560
(Foundation Optional)



⚠CAUTION
Do not use any combustible materials for the foundation.

Outdoor furnace must be installed on a noncombustible surface or foundation that incorporates an enclosure that will prevent supply and return lines from possible exposure to sunlight, fire, or physical damage that may be caused by an occurrence outside the outdoor furnace enclosure. Foundation may consist of concrete, crushed rock, or patio blocks.

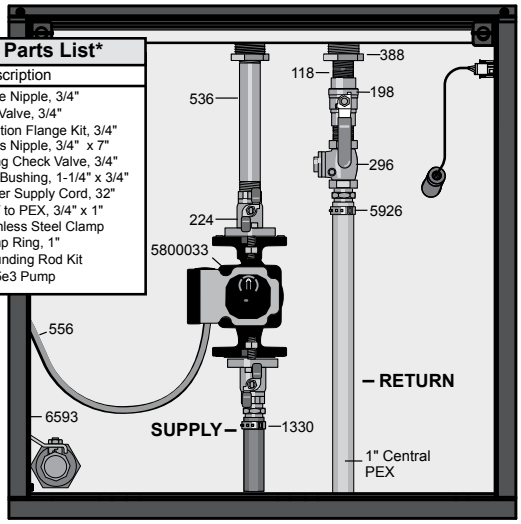
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Access to Ports on Outdoor Furnace

Ports are provided that allow mounting circulation pumps on the outdoor furnace. Refer to the illustrations in this section for proper supply and return line and pump installations for your model.

NOTE: The Installation Guide provides more information on pump selection. For even more detailed information, see the Hydronic Component Selection Guide (p/n 2482), available from your Central Boiler dealer.

Classic Edge 560 Models – 1-Pump Configuration



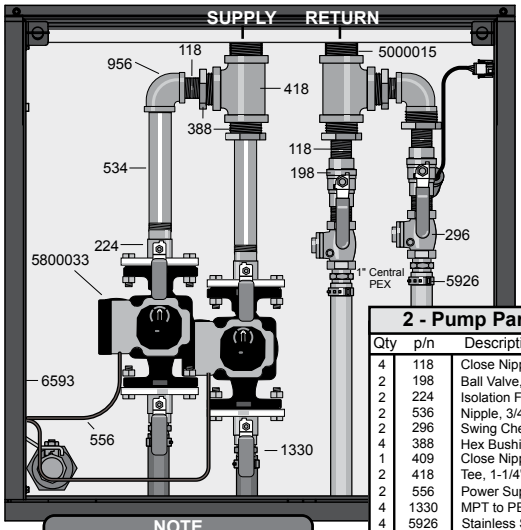
1 - Pump Parts List*

Qty	p/n	Description
2	118	Close Nipple, 3/4"
1	198	Ball Valve, 3/4"
1	224	Isolation Flange Kit, 3/4"
1	536	Brass Nipple, 3/4" x 7"
1	296	Swing Check Valve, 3/4"
2	388	Hex Bushing, 1-1/4" x 3/4"
1	556	Power Supply Cord, 32"
2	1330	MPT to PEX, 3/4" x 1"
2	5926	Stainless Steel Clamp Crimp Ring, 1"
1	6593	Grounding Rod Kit
1	5800033	0015e3 Pump

*Parts and accessories sold separately.
Pump size may vary.
For illustration purposes only.

NOTE
Grounding Rod Kit (p/n 6593) must be installed with every furnace.

Classic Edge 560 Models – 2-Pump Configuration*



2 - Pump Parts List*

Qty	p/n	Description
4	118	Close Nipple, 3/4"
2	198	Ball Valve, 3/4"
2	224	Isolation Flange Kits, 3/4"
2	536	Nipple, 3/4" x 7"
2	296	Swing Check Valve, 3/4"
4	388	Hex Bushing, 1-1/4" x 3/4"
1	409	Close Nipple, 1-1/4"
2	418	Tee, 1-1/4"
2	556	Power Supply Cord, 32"
4	1330	MPT to PEX, 3/4" x 1"
4	5926	Stainless Steel Clamp Crimp Ring, 1"
1	6593	Grounding Rod Kit
1	11157	Nipple, 1-1/4" x 3"
2	5000015	Nipple, 1-1/4" x 2-1/2"
2	5000016	90° Elbow, 1-1/4" FPT
2	5800033	0015e3 Pump

NOTE
Grounding Rod Kit (p/n 6593) must be installed with every furnace.

*Parts and accessories sold separately.
Pump size may vary. For illustration purposes only.

***Pump Extension Kit (p/n 2500164) required.**

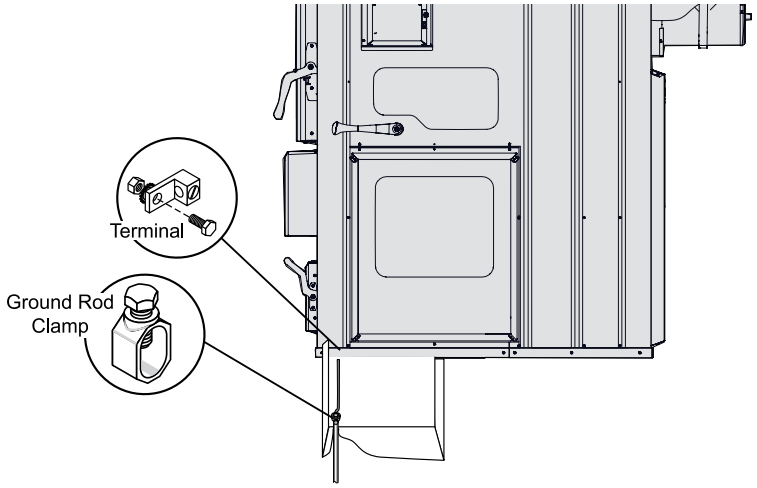
Ground Rod Kit

The outdoor furnace must be electrically bonded to ground in accordance with the requirements of the authority having jurisdiction or, in absence of such requirements, with the National Electrical Code, ANSI/NFPA 70 and/or the Canadian Electrical Code Part 1, CSA C22.1 Electrical Code.

Install a Ground Rod Kit (p/n 6593) and connect it to the outdoor furnace.

1. In the water line trench near the outdoor furnace, drive the ground rod into the ground until the top of the ground rod is below the ground surface.
2. Route the ground wire from the ground rod under the outdoor furnace base and over to the frame of the outdoor furnace.
3. Secure the ground terminal with a cap screw (1/4" x 3/4"), star washer and nut. Secure the ground wire to the terminal; then secure the ground wire to the ground rod with the clamp. Tighten all hardware securely.

NOTE: A hole for the ground terminal has been pre-punched in the outdoor furnace base near the pumps.



Detailed Furnace Installation Variations

Visit CentralBoiler.com to access a library of detailed illustrations for connecting to a wide variety of existing heating systems and for other heating options.

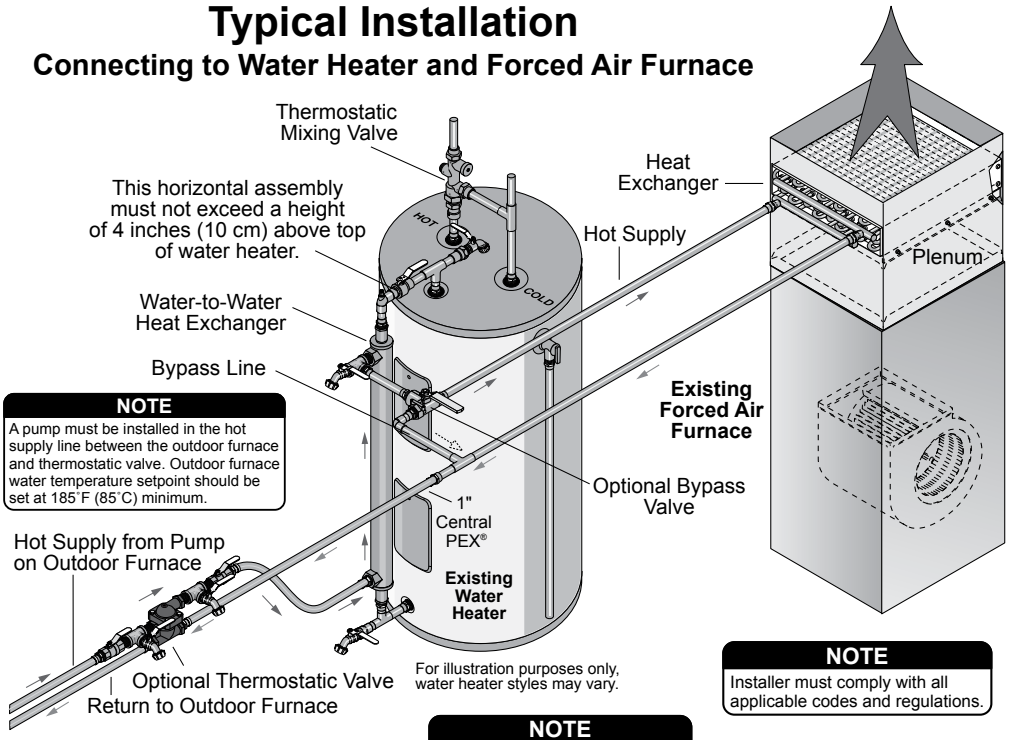
Furnace Installation - Connecting to Your Existing System

A common installation is to connect the outdoor furnace to an existing water heater and then to an existing forced air system. A water-to-air heat exchanger is mounted in the plenum or duct work of the existing furnace. Heated water from the outdoor furnace either continuously flows through the water-to-air heat exchanger or is diverted through a 3-way zone valve. When the thermostat senses the need for heat, the fan on the existing furnace forces air through the heat exchanger, transferring heat throughout the existing ductwork.

NOTE: There are numerous ways to connect to your heating system. Refer to the Central Boiler Outdoor Furnace Installation Guide for other installations.

Typical Installation

Connecting to Water Heater and Forced Air Furnace



NOTE
Installer must comply with all applicable codes and regulations.

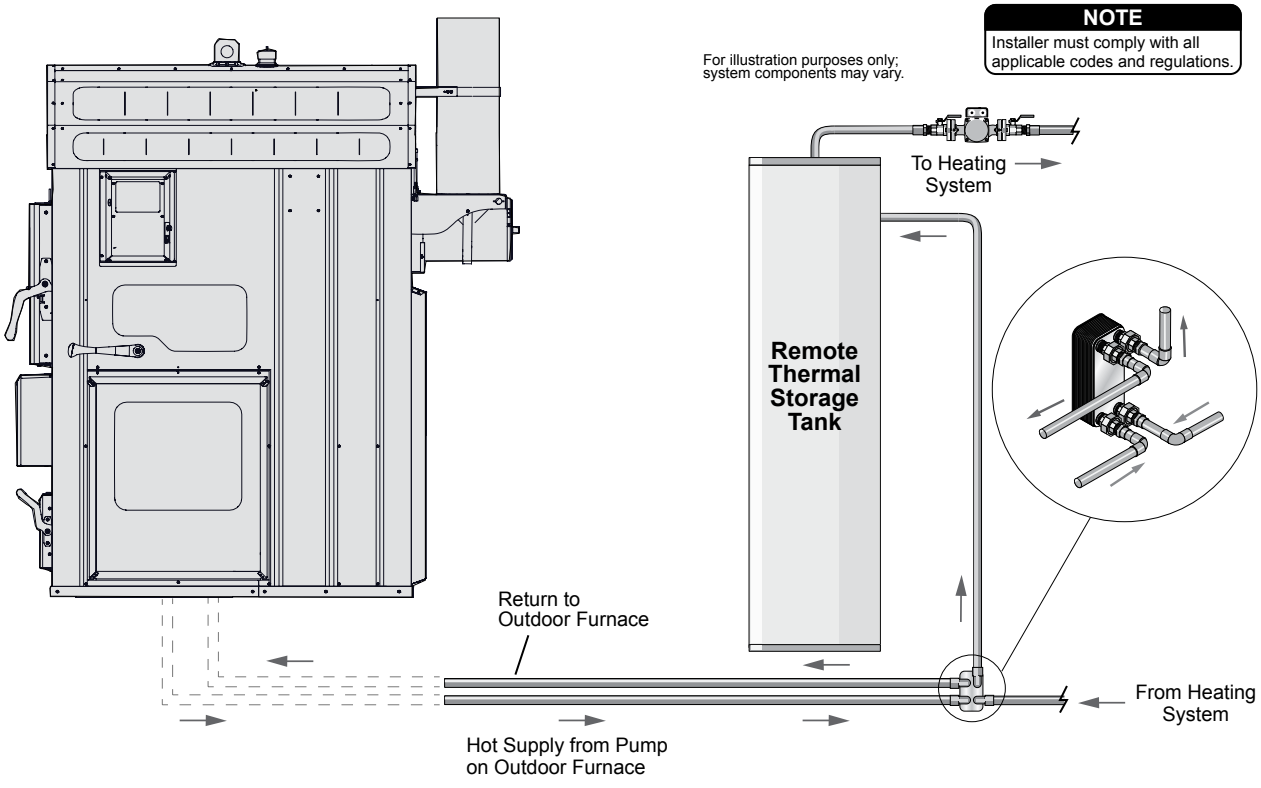
NOTE
Any electrical installation should be done by a qualified installer in accordance with applicable codes.

NOTE: A certified electrician must do the electrical installation.

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Remote Thermal Storage Installation

Connecting to Remote Thermal Storage Tank



Outdoor Wood Furnace Best Burn Practices

1. Read and follow all operating instructions supplied by the manufacturer.
2. FUEL USED: Only those listed fuels recommended by the manufacturer of your unit. Never use the following: trash, plastics, gasoline, rubber, naphtha, household garbage, material treated with petroleum products (particle board, railroad ties and pressure treated wood), leaves, paper products, and cardboard.
3. LOADING FUEL: For a more efficient burn, pay careful attention to loading times and amounts. Follow the manufacturer's written instructions for recommended loading times and amounts.
4. STARTERS: Do not use lighter fluids, gasoline, or chemicals.
5. CHIMNEY RECOMMENDATIONS: In higher populated areas, extend the chimney to a height above the roofs of surrounding buildings.
6. Always remember to comply with all applicable state and local codes.

Be considerate of neighbors when operating your furnace. If you use your furnace in the summer months, be certain your chimney exhaust is not adversely affecting neighbors with open windows.

Chimney Recommendations

In higher populated areas, extend the chimney to a height above the roofs of surrounding buildings. Use Central Boiler Chimney Extensions when extending the chimney. When only the standard eight feet (2.4 m) of chimney are used, the sections must be secured at the connection joint with four (4) screws to stabilize the extension.

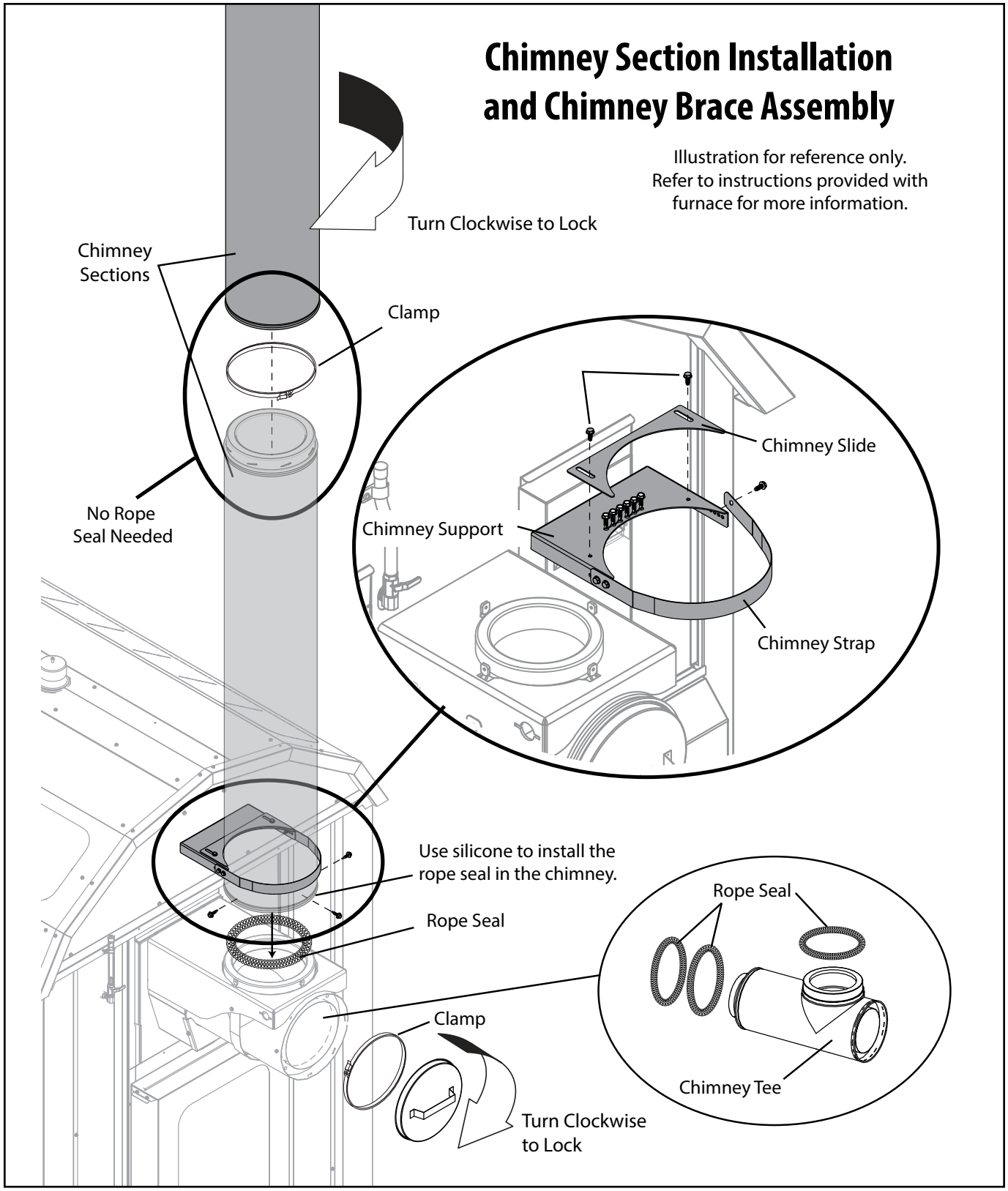
Chimney Installation

NOTE: Instructions for installing chimney sections and the chimney brace assembly are also provided with the furnace.

1. Remove the two slotted hex screws securing the Chimney Slide to the Chimney Support.
2. Remove the six self-tapping screws from the slot in the Chimney Brace Support. These screws are used to assemble the chimney sections.
3. Remove the single slotted hex screw securing the Chimney Strap to the Chimney Brace Support.
4. Install the rope seal at the bottom of the first chimney section; then assemble the chimney as shown.
5. Mount the Chimney Slide to the Chimney Support with two slotted hex screws. Do not tighten completely to allow the Chimney Slide to move.
6. Level the chimney front to back; then position the Chimney Slide against the chimney and completely tighten the two slotted hex screws.
7. Wrap the Chimney Strap around the chimney and secure with a slotted hex screw.
8. Secure the base of the chimney and the joint between the first two chimney sections with three self-tapping screws.

Chimney Section Installation and Chimney Brace Assembly

Illustration for reference only.
Refer to instructions provided with furnace for more information.



If extensions are added to the standard eight feet (2.4 m) of chimney, the chimney should be reinforced appropriately. The illustration shows chimney support recommendations when three or more sections are used. When adding sections of chimney, make sure that there is nothing within the fall zone of the chimney that could be damaged. If something is located within the fall zone and cannot be removed, guy wires or braces may need to be installed to prevent a falling chimney from causing damage.

NOTE: If more than three 4-foot (1.2-m) sections of chimney are used, a support (e.g., a pole, pipe or other structural support) may be installed from the ground that can withstand wind. Other reinforcement recommendations are shown.

NOTE: For chimney extensions or chimney replacement, use only genuine Central Boiler chimney components. Parts are available from an authorized Central Boiler dealer.

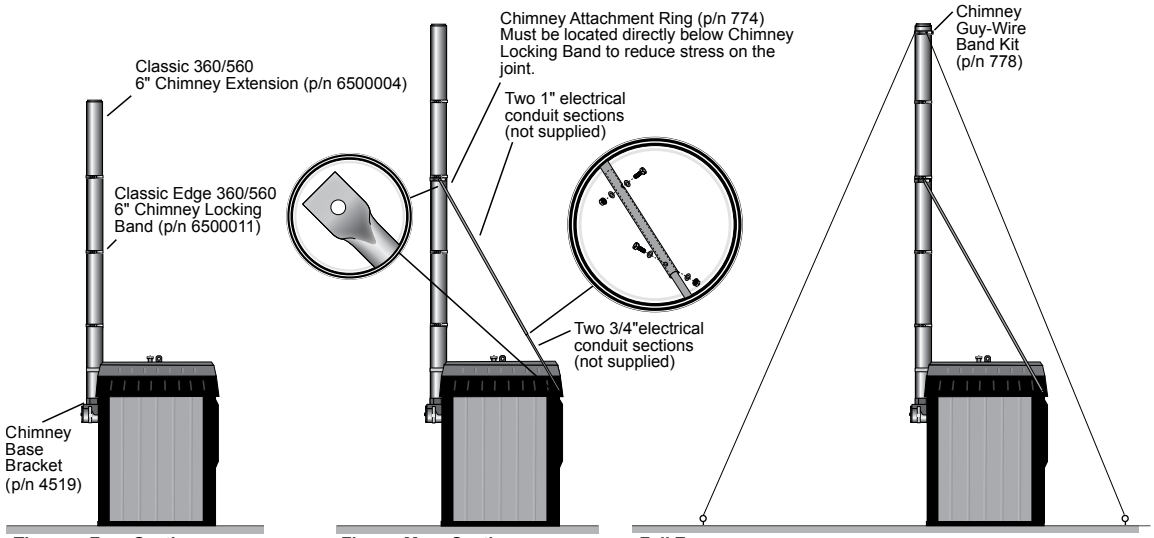
The installation of a spark arrestor is recommended, particularly where there are dry conditions or where there is combustible material near the unit, unless the installation of a spark arrestor is prohibited by local requirements.

NOTE: If the screen is left on the chimney cap, the spark arrestor should be inspected and cleaned as needed.

Use common sense to avoid potential fires, including exercising caution when disposing of ashes, cleaning and refueling. Keep all highly combustible materials (e.g., gasoline, propane, leaves, pine needles, etc.) away from an operating unit at all times. Take special precautions in windy conditions.

NOTE: You may need to increase the chimney height if conditions occur that force exhaust to low levels.

Chimney Reinforcement Recommendations



Three or Four Sections
When three or four sections of chimney are being used, a Chimney Base Bracket Kit (p/n 4519) is recommended.

Five or More Sections
When five or more sections of chimney are being used, a Chimney Base Bracket Kit (p/n 4519) and a Chimney Attachment Ring (p/n 774) are recommended.

Fall Zone
If objects are placed in the fall zone of the chimney, a Chimney Guy-Wire Band Kit (p/n 778) or additional bracing is recommended.

NOTE
- Additional bracing may be necessary in certain areas such as those subject to severe weather, winds, freezing rain, etc.
- Inspect all bracing bi-annually for integrity.

WATER QUALITY AND MAINTENANCE

INITIAL WATER TREATMENT, FILL AND TESTING



The Installation and Initial Water Treatment Guide provided with the furnace provides step-by-step instructions for finalizing the installation which includes important information about adding water treatment and filling the outdoor furnace system for the first time (or any time the system has been completely drained and needs to be refilled). Refer to Finalizing the Installation.

Use the following information for your outdoor furnace model:

INITIAL 1650XL INHIBITOR PLUS TREATMENT AMOUNTS	
Classic Edge 560	1-1/4 units

NOTE: If the system has a larger than normal water capacity, more 1650XL Inhibitor Plus should be added at a recommended rate of 7 oz. (207 ml) per 10 gallons (37.8 liters) of system water. One unit (1 gallon or 3.78 liters) of 1650XL Inhibitor Plus will treat 180 gallons (681 liters) of system water.

INITIAL MOLYBOOST TREATMENT AMOUNTS	
Classic Edge 560	21 oz.

NOTE: If the system has a larger than normal water capacity, more MolyBoost should be added at a recommended rate of 1 oz. (29.6 ml) per 10 gallons (37.8 liters) of system water.

NOTE: Remember that for Titanium Series stainless steel models, water treatment with 1650XL and MolyBoost is required. For non-stainless models, MolyBoost is optional.

NOTE: MolyBoost is an additive that enhances the corrosion protection properties of 1650XL Inhibitor Plus. When used with 1650XL Inhibitor Plus, it provides more protection than using 1650XL separately. MolyBoost does not provide adequate protection alone without 1650XL.

Titanium Series Models - Water Samples

Maintaining the corrosion inhibitor at a proper level is imperative to preventing corrosion failures. To qualify for the 25 year warranty, you must follow the instructions in the Owner's Manual and the Installation and Initial Water Treatment Guide concerning initial water treatment and maintenance. When the outdoor furnace is initially put into service, and once a year after that, you are required to submit a water sample to confirm proper maintenance and water treatment (see When to Submit Water Sample for more information). No warranty claim can be approved unless the outdoor furnace registration and the required water tests verifications are on file at Central Boiler.

NOTE: It is your responsibility as owner to ensure that your water sample information is accurate and that you submit your samples on a timely basis as required by the warranty for your stainless steel outdoor furnace. Failure to do so will result in a one year warranty.

Water Sample Kit

Your owner's packet contains a Water Sample Kit for submitting an initial water test. Additional Water Samples Kits are available from your Central Boiler dealer.

When to Submit Water Sample

INITIAL WATER SAMPLE: You are required to submit an initial water sample within 30 days of purchase of your outdoor furnace. EXCEPTION: if your outdoor furnace is not being installed within 30 days of purchase, you must email Central Boiler (service@centralboiler.com) with an estimated installation date, your name and your furnace serial number. When the furnace installation is complete, send the water sample **within 10 days of the initial fill**.

ANNUAL WATER SAMPLE: You are required to submit a water sample yearly prior to the anniversary date of your initial installation. Record the anniversary date below:

_____

DATE OF INSTALLATION

TO CHECK STATUS OF YOUR WATER SAMPLE: Check the status of your water sample at:

CentralBoiler.com/w25

You will need your serial number and postal code. Please allow 2-3 weeks for results to be available.

SYSTEM MAINTENANCE

An important part of outdoor furnace maintenance is controlling the quality of the water in the outdoor furnace.

Water Test Kits and Test Results

DATE	pH LEVEL	NITRITE LEVEL

Record the results of pH and nitrite level tests in the table above.
If additional space is needed, record on a separate sheet of paper.

It is very important to keep record of water test results (include the date, pH and nitrite level). If subsequent water tests indicate a pH that is too low and/or a nitrite level that is too high, the results should be verified using a new test kit.

The pH test strips and indicator have a varying shelf life that can affect their accuracy. Test kits should be stored in a dry area at room temperature to obtain maximum accuracy over a longer period of time.

The pH and nitrite levels of the water in the outdoor furnace will not decrease unless fresh water is added to the furnace and/or biological contamination is introduced. Biological contamination can occur if the furnace is not heated up to 185˚F immediately after filling it with inhibitor and water as directed. The nitrite level of the water in the outdoor furnace will not increase unless 1650XL Inhibitor Plus is added. For example, if a water test in the fall of the year indicates a pH of 8.5 and a nitrite level of 2000 ppm and no water or 1650XL Inhibitor Plus is added, a water test the following spring must indicate a pH of at least 8.5 and a nitrite level of no more than 2000 ppm (or slightly less, due to evaporation).

NOTE: ANY time water is added to the system, it is extremely important to bring the water temperature up to operating temperature (185˚F) as soon as possible, even if it is during the off-season. Failure to bring the water in the system up to operating temperature immediately after filling the system can allow bacteria present in the water to multiply and prevent the 1650XL Inhibitor Plus from providing adequate protection.

If the test indicates a significantly lower pH level or higher nitrite level, perform another test with a new test kit to verify the results. If the results are +10% different using a new test kit, it is an indication that either water or 1650XL Inhibitor Plus has been added to the system.

If a test is conducted and verified that indicates a high pH (above 9.5) and/or nitrite level (above 30 drops), DO NOT ADD MORE 1650XL INHIBITOR PLUS. Adding 1650XL Inhibitor Plus increases nitrite and pH levels. Use the following steps to obtain the correct nitrite and pH levels:

1. Drain the outdoor furnace until the water in the sight gauge reaches the bottom of the sight gauge; then add fresh water until it is 1 inch below the FULL mark on the sight gauge.
2. Circulate the water for 30 minutes. Test the water again and, if needed, add 1650XL Inhibitor Plus.
3. Bring the water temperature up to operating temperature (185˚F), circulate for 24 hours and test the system water again.

POST HEATING SEASON MAINTENANCE

The water should be left in the outdoor furnace if the outdoor furnace is not being used for an extended period of time.

1. Refer to the Preventive Maintenance Schedule for a list of operations to perform.
2. Shut off the power supply to the outdoor furnace.
3. Place a cover over the chimney to keep rain from entering the outdoor furnace. Clean and oil the chimney flue to the firebox.
4. To prevent condensation in the firebox, one option is to keep a 60W light bulb on in the firebox during the non-heating season.

Flushing the System

If the system water is brown or orange, it is an indication that the 1650XL Inhibitor Plus level has not been maintained and corrosion is present in the water jacket. Sludge Conditioner (p/n 166 or 1660) can be used by circulating the recommended amount through the furnace **for one week** to help clean some of the corrosion from inside the water jacket before flushing and refilling.

Recommended amounts are:

Classic Edge 560, 1 unit

NOTE: 1 unit = 1/2 gallon if using p/n 1660 or 1 unit = 1 gallon if using p/n 166. Use one unit of Sludge Conditioner per 200 gallons of system water.

Draining Treated System Water

1650XL Inhibitor Plus is composed of common materials and is biodegradable. However, in keeping with good safety and environmental practices, the supplier recommends the following if draining treated system water becomes necessary:

You may drain the outdoor furnace to a home septic system. Central Boiler 1650XL Inhibitor Plus is biodegradable and can be properly treated in a residential septic system. If doing so, however, be careful not to overflow the septic system.

Do not drain the outdoor furnace in such a manner that the drain water could in any way contact surface water, stream, river, estuary (where a river meets a sea), lake, pond, ocean or other types of waters.

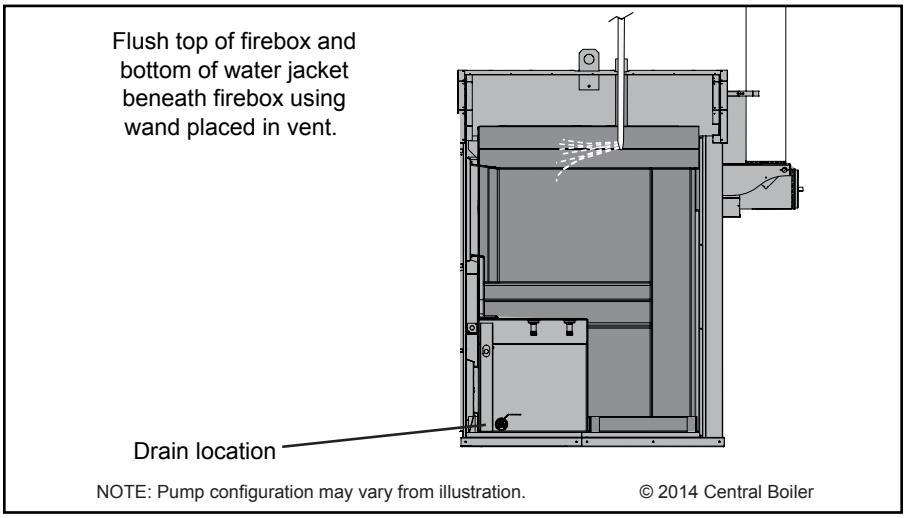
Do not drain to any location within 50 feet (15 meters) of any water well.

The water jacket should then be thoroughly flushed and the system refilled with the proper amount of 1650XL Inhibitor Plus and Molyboost added (see following section). Be sure to test the system water to verify the proper amount of 1650XL Inhibitor Plus.

1. De-energize the pump(s) and close the supply and return valves on the outdoor furnace. Remove the inspection panel and insulation covering the drain to gain access to the drain valve. Remove the cap and connect a hose to the drain.
2. Open the drain to drain the system; then flush the top of the firebox and bottom of the water jacket beneath the firebox using a wand placed in the vent.

⚠ CAUTION

Completely clean out the firebox before draining water from the outdoor furnace.



3. Close the drain valve securely and replace the cap on drain after flushing the outdoor furnace.
4. Add 1650XL Inhibitor Plus and Molyboost.
5. Fill the outdoor furnace following the procedure in Finalizing the Installation in the Installation Guide. Start the pump(s) and bring the water temperature up to operating temperature (185˚F) for two hours with the system circulating to thoroughly mix the 1650XL Inhibitor Plus.

NOTE: ANY time water is added to the system, it is extremely important to bring the water temperature up to operating temperature (185˚F) as soon as possible, even if it is during the off-season. Failure to bring the water in the system up to operating temperature immediately after filling the system can allow bacteria present in the water to multiply and prevent the 1650XL Inhibitor Plus from providing adequate protection.

6. Insulate the area using a mat of fiberglass insulation.
7. Install the inspection panel and secure with self-tapping screws.

Wood Selection and Preparation

Before You Start Operating Your Classic Edge Outdoor Wood Furnace

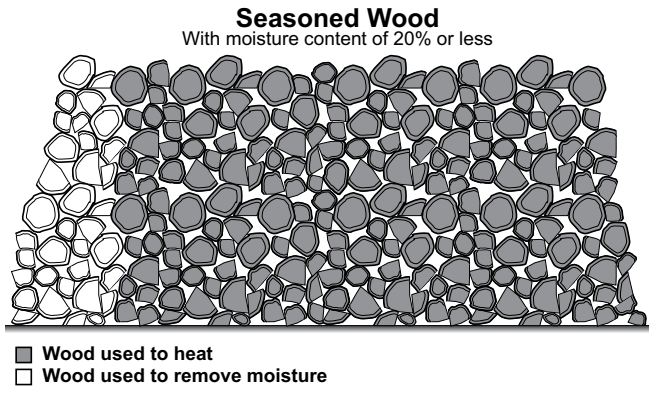
Be sure to read carefully and observe all of the information in the entire Owner's Manual.

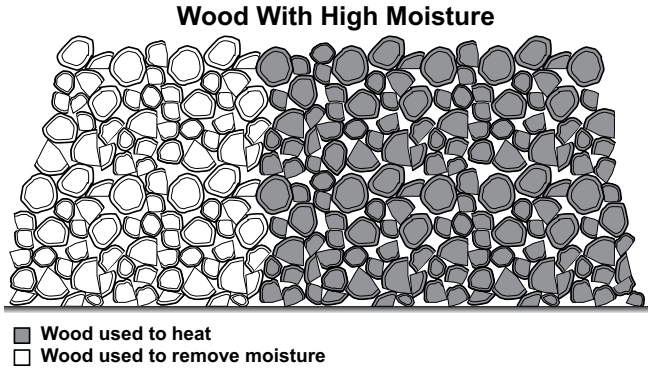
If any questions arise that cannot be answered by the information in this manual, be sure to contact your dealer.

For the best results, it is best to burn seasoned split wood. However, it may be possible to burn some unsplit wood with the split wood depending on quality, size, moisture content and wood type. Properly seasoned wood has a moisture content of 20% or less. It is darker, has cracks in the end grain, and sounds hollow when smacked against another piece of wood. Most wood needs to be split to dry down to 20% within a year. Wood between 4" and 8" (10 and 20 cm) in diameter works well in most cases. Pieces of wood that are too large can reduce output capacity because they burn slower.

- Wood that works well in most cases:
  - Is between 4" and 8" (10 and 20 cm) in diameter
  - Is approximately 60-70% of the length of the firebox
  - Typically weighs 10-15 pounds per cubic foot for heavy heat loads
- Pieces of wood that are too large can reduce output capacity because they burn slower. Wood that is too long can cause bridging.
- Seasoned wood burns more efficiently, minimizes the amount of creosote formation and reduces emissions.
- Maintain a quantity of smaller, drier pieces of wood for relighting the fire if the wood load is burned very low or becomes completely empty.
- Green wood contains about 50% moisture by weight. Energy is required to heat the wood and evaporate the moisture - energy which could have been used to provide heat for the home. The illustration below shows that burning drier, seasoned wood provides more energy for heating your home compared with burning green, unseasoned wood that uses more energy to evaporate the moisture and provides less energy for heating your home.

NOTE: Do not store wood within the outdoor furnace installation clearances or within the spaces required for fueling, ash removal and other routine maintenance operations.





Operating Instructions

FIRESTAR COMBUSTION CONTROLLER

Refer to the FireStar Combustion Controller Operation Manual for information about the combustion controller.

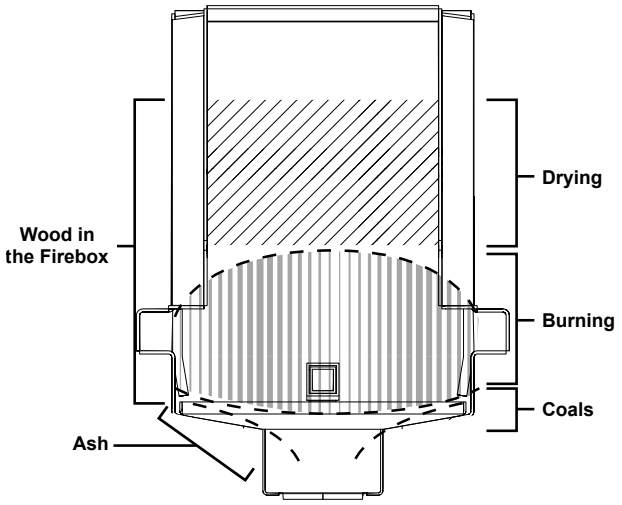
How the Classic Edge Works

Because of its highly efficient and clean-burning design, the Classic Edge operates differently than other types of wood-burning devices. Understanding a few basic principles will help you operate the Classic Edge as it was designed, maximizing its performance, heat transfer and longevity.

NOTE: For proper operation, the fuel must match the heat load, the furnace must be maintained to ensure proper air flow, and the water temperature must be kept above 150˚F (66˚C).

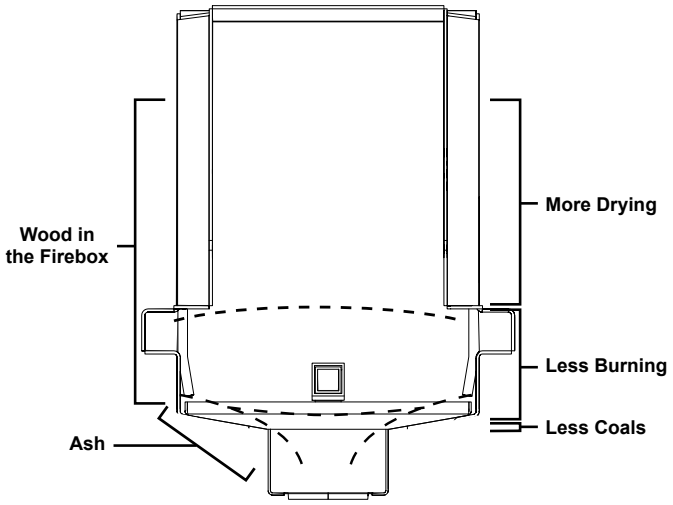
1. The combustion air fan pressurizes the airbox located at the front of the outdoor furnace. Primary air flow, regulated by an actuator motor, flows into the firebox through combustion air outlets located on the front and sides near the bottom. Secondary air is regulated by a second actuator motor that allow air flow through the air charge tube. Combustion starts in the firebox near the bottom of the wood load.

Operating with Properly Seasoned Wood



- Burns more efficiently
- Minimizes amount of wood used
- Reduces emissions
- Extends life of furnace
- Reduces bridging

Operating with Wood with Too Much Moisture

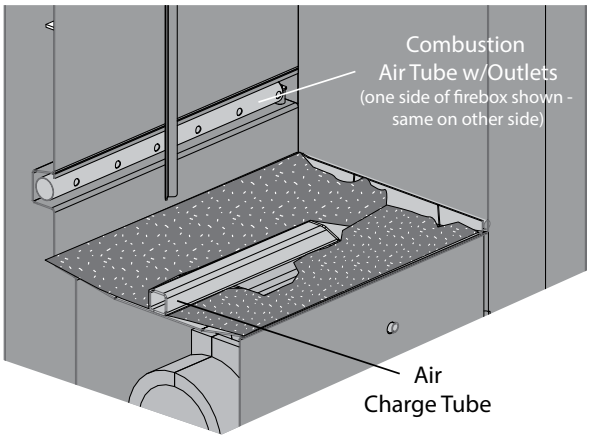


- Burns less efficiently
- Increases amount of wood used
- Lowers combustion rates
- Increases maintenance requirements
- Increases bridging

NOTE: When the volume of burning wood is greater than the volume of drying wood, the outdoor furnace operates more efficiently.

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NOTE: The combustion air outlets must be visible (i.e., ash must be kept below the combustion air outlets as shown).

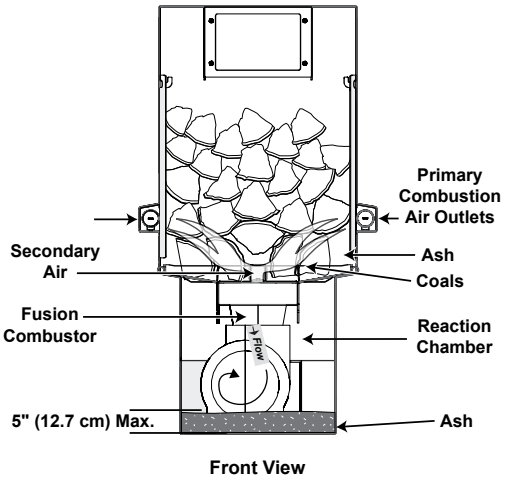


Keep the combustion air tube outlets open and clear of ash and coals to allow the furnace to operate properly.

2. Gasified fuel exits the bottom of the firebox alongside and under the air charge tube, through the mixing channel and down to the Fusion Combustor and Reaction Chamber™. Final combustion occurs in the Reaction Chamber where extremely high temperatures aid in complete combustion. The chimney creates a draft (negative pressure) which helps to draw exhaust gases from the furnace.

3. Heat is transferred to the water from the hot gases as they move through the firebox, the Reaction Chamber and the heat exchanger.

CORRECT
(Proper Flow)



NOTE: The illustration shows the Classic Edge operating correctly with proper combustion air flow and with the wood properly loaded.

NOTE: A key point to remember about the operation of the Classic Edge is that as wood burns, the combustion gases flow down through the bottom of the firebox so the proper flow must be maintained as shown.

NOTE: Refer to the General Troubleshooting Information for more information on outdoor furnace operation and for conditions to avoid.

Cold Start Firing

NOTE: These procedures apply to initial firing or refueling the outdoor furnace from a cold start (water temperature below 100˚F or 38˚C) and/or no charcoal base left in the firebox).

Use small, dry kindling to establish a good fire on initial or cold startups.

⚠ CAUTION

Do not burn plastic, garbage, treated wood or fuels not listed for this outdoor furnace.

⚠ CAUTION

If the water in the outdoor furnace boils, be sure to check the water level and restore to full. Add 1650XL Inhibitor Plus (p/n 1650) as needed (see Water Quality and Maintenance).

NOTE: Before firing the outdoor furnace for the first time, make sure the proper amount of 1650XL Inhibitor Plus has been added and the water level is 1" below the full mark on the sight gauge, as the water will expand when heated.

1. Disconnect the heat load draw by turning off the pump(s).
2. Turn the controller on by pressing the **Power** ⏻ button.
3. Lift and push the bypass door handle toward the back of the outdoor furnace to open the bypass door; then unlatch and open the firebox door.

NOTE: The alarm is a reminder that the bypass door is open. During a cold start, it will continue to sound.

⚠ WARNING

When opening the firebox door, the door switch will shut off the primary air actuator motor while the firebox door is open. Do NOT disable the door switch.

4. The first time you fire the outdoor furnace, add very dry kindling to fill the firebox to a level approximately 15 inches (38 cm) from the bottom of the firebox. Smaller kindling is preferred. It should be staggered and able to ignite and burn quickly for the initial fire.

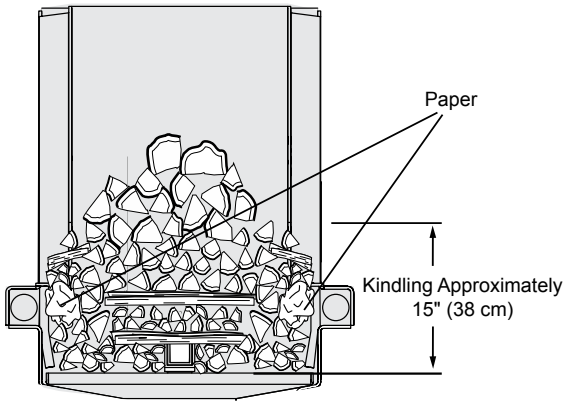
NOTE: For Ignition Assist, press the Ignition Air button on the FireStar combustion controller with the firebox door open to add air and help ignite a new load of wood.

5. To get the cleanest start-up, the kindling must first start to burn at the bottom and as close to center as possible. Place paper around the firebox with very small pieces of kindling on top. Light the paper and kindling. Once the paper and kindling are lit, close and latch the firebox door. Do not close the bypass door.

⚠ CAUTION

Do not leave the firebox door open while the fire is burning. Damage to the door seal and paint on the front of the outdoor furnace will result and it could cause a dangerous build-up of gas in the firebox.

Cold Start Initial Fire Up



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6. Allow the wood load to burn until the kindling turns to coals (leave the bypass door open); then add enough kindling again to fill the firebox about 1/4 full. On top of the kindling, add 8-10 inches (20-25 cm) of dry, seasoned split wood. Close and latch the firebox door.

7. Wait for 15 seconds; then slowly pull the bypass door handle toward the front of the furnace and push down to close the bypass door.

8. After the water temperature is above 150˚F (66˚C), proceed to Adding Heat Load.

Adding Heat Load

NOTE: During initial start-up, a considerable amount of moisture from condensation will collect inside the firebox and heat exchanger and may drip out of the Reaction Chamber door. This is normal and the moisture will evaporate after the first couple of fuel loads.

1. With no heat load draw in the system, monitor the operation of the outdoor furnace until the water temperature reaches the water temperature setpoint.

2. Turn on the pump(s); then start a heat load draw in the system by turning up the thermostat in the house. Monitor the outdoor furnace for one hour or until another cycle occurs (i.e., outdoor furnace goes from combustion to idle mode). If the water temperature drops and does not recover to the water temperature setpoint within one hour of starting the heat load draw, the heat load draw should be shut off, allowing the furnace to cycle to the idle mode again.

NOTE: The outdoor furnace will not operate satisfactorily if the heat load is higher than the output capacity of the outdoor furnace.

3. At this point, there should be glowing coals established in the bottom of the firebox. The firebox can be filled with dry, seasoned split wood.

Ash Removal Frequency

During the first week of operation, check the level of ash in the Reaction Chamber every two days. Ash needs to be removed from the Reaction Chamber before it obstructs the combustion air flow for efficient operation. Clean the Reaction Chamber before it becomes 1/2 full of ash (approximately 5" or 13 cm deep in any area of the Reaction Chamber).

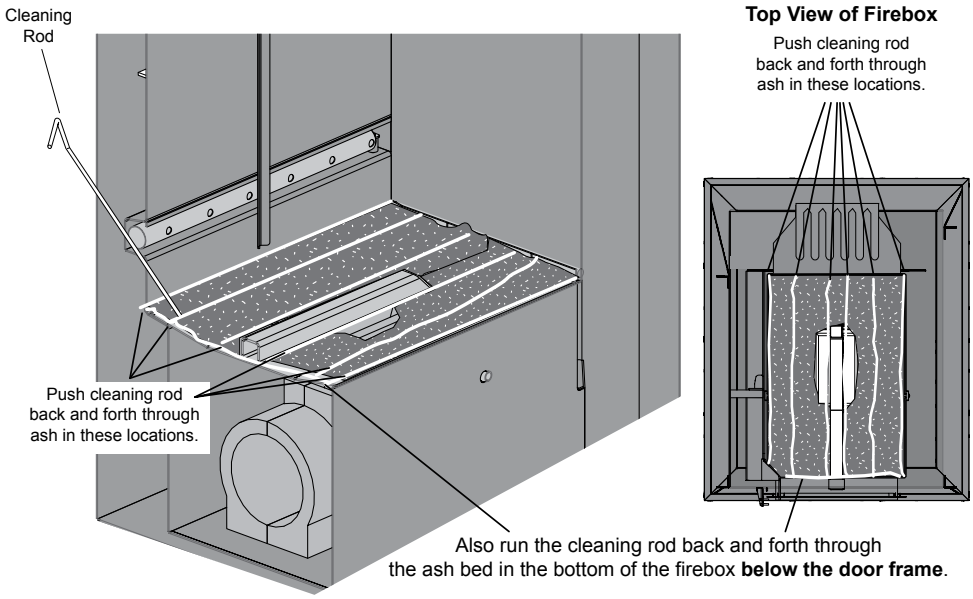
Adding Wood

1. Slowly lift and push the bypass door handle toward the back of the outdoor furnace to open the bypass door; then wait for 15 seconds.

NOTE: The alarm is a reminder that the bypass door is open. During a cold start, it will continue to sound.

⚠ WARNING

Keep your face away and stay as far away as possible from the firebox door area when opening the door.



2. Unlatch the firebox door; then slightly open the firebox door and wait 10 seconds. Stay as far away as possible as the firebox door is opened because smoke and hot gases escaping through the firebox door opening could ignite. From a safe distance, observe the fuel load.

⚠ WARNING

Use extreme care when adding wood when wood or coals are already present. Very hot gases may be coming out of the firebox door opening.

OPERATING TIP

Run the cleaning rod through the coal bed every time before loading wood to help maintain proper air flow and optimize combustion.

3. Using the illustration as a reference, push the cleaning rod through the ash, coals and remaining wood in the bottom of the firebox to loosen it up, including a pass on each side of the air charge tube. Also run the rod through the ash bed back and forth in the bottom of the firebox below the door frame.

NOTE: Neglecting to push the cleaning rod through the ash and coals as described in Step 3 each time before wood is loaded can cause the ash bed to deepen and become compacted. This can result in poor heat output and combustion because of restricted airflow. Compacted ash will not fall into the Reaction Chamber; it will need to be removed with a shovel.

4. Some ash in the bottom of the firebox (but not alongside the charge tube) is necessary for the proper operation of the outdoor furnace. Ash acts as an insulator, keeping the glowing coals in the bottom of the firebox hot enough to restart the fire. When using the cleaning rod, some of the ash will fall into the Reaction Chamber and some ash with coals will remain. The coals remaining around the mixing channel (the area alongside the air charge tube) will create a clean, efficient burn.

5. The combustion air outlets must be kept open and clear of ash and coals to allow the furnace to operate properly. If needed, remove enough ash to keep the combustion air outlets free of obstruction.

NOTE: It is important to understand that when the water temperature setpoint (185°F) is reached, the combustion air is shut off until the water temperature drops to the setpoint minus the differential setting. During this cycle-off time there will be no active fire in the firebox. If the firebox door is opened, the wood might begin to burn again but will be shut down when the door is closed if the water temperature is above the setpoint. If the door is opened and closed when the water temperature is below the setpoint the fan will cycle on again to achieve the setpoint even though the differential point has not been reached. If the combustion cycle is activated with the water temperature at least to the differential below setpoint and the fire is not actively burning when the door is closed, first confirm that proper operating and maintenance procedures are being performed before considering testing mechanical components.

6. When refilling the firebox, the new wood load will ignite quickly and burn more efficiently if these instructions are followed. This will prevent creosote buildup in the heat exchanger, air channels or primary elbow. The operating procedures will maintain good air flow and very efficient combustion.

DAILY

- Run the cleaning rod through the ash and coal bed and along both sides of the air charge tube as shown on previous page to keep ash loose. **Use care near the refractory mixing channel.** This will allow excess ash to flow down into the Reaction Chamber. If the coal bed/remaining wood is more than 4 inches deep, it may be necessary to use the cleaning rod to open a passage through the coals on each side of the air charge tube. **Air flow down past the air charge tube is essential for a good combustion rate to be maintained. To confirm adequate air flow, cautiously open the Reaction Chamber door to visually identify the combustion air flow while the furnace is in a burn cycle with the fan on and the bypass closed.**

- To ensure the fire will maintain good combustion, it is important to refill the firebox when an adequate amount of the previous wood load is remaining (enough to provide enough heat and fire to dry and ignite the new wood load). If the coals burn out from under the new wood load and are unable to keep the fire going, there are not enough coals and wood left from the previous load. On Classic Edge Titanium HDX models with FireStar controller software version 6.7 or later, enabling the Easy Refire mode will help keep part of the wood load for a quicker, more efficient fire up after reloading. Easy Refire is enabled as default setting on version 6.72 and later.

- Be sure to fill the firebox with enough wood so there is adequate wood left the next time you load to dry and ignite the new wood.

- Keep in mind that burning dry, well-seasoned wood requires less coals to ignite the new wood load.
- Burning higher moisture wood or larger, unsplit wood will require that a larger amount of the previous wood load remain in the firebox to adequately ignite the new wood load. If there are not an adequate amount of coals or enough of the previous wood load to achieve a good hot fire and efficient combustion with Reaction Chamber temperatures, open the bypass door for a long enough time to get the new wood load burning well; then close the bypass. Refer to Cold Start Firing.
- If the furnace is being used in the fall and spring or on heat loads much lower than the main heating season, use a 25% wood load or whatever amount will be needed for the period of time between normal reloading.

WEEKLY (or as needed)

- Clean the heat exchanger weekly (or as needed) to prevent air flow restriction. When the operating procedure outlined here is used, there will be no creosote formation in the Reaction Chamber or heat exchanger passage.
- Clean ash out of the Reaction Chamber channel as needed. It is best not to allow the Reaction Chamber to fill to a depth over 1/2 full.
- Inspect and clean the chimney tee as needed to prevent restriction.
- Clean and inspect the spark arrestor (if one is being used) as needed.
- Review the operation and maintenance, and refueling tips videos available on the Online Support Center.

NOTE: If the furnace has been operated without adequate airflow and efficient combustion, it may be necessary to inspect and clean the primary combustion air outlets, air channels, primary air elbow, heat exchanger, and Reaction Chamber.

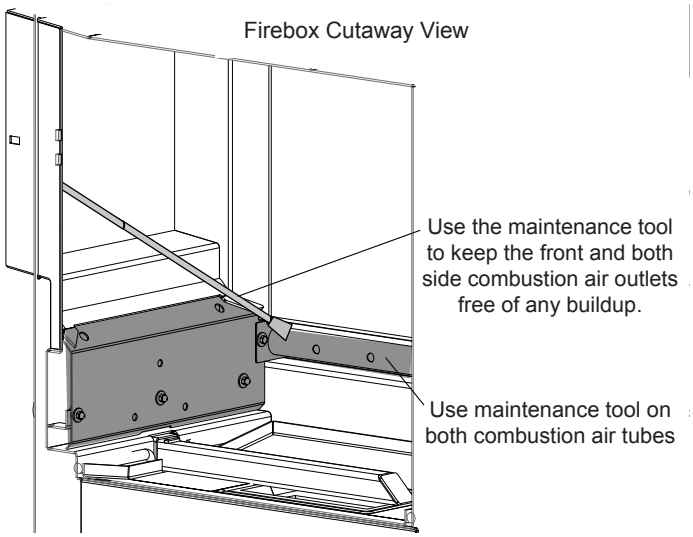
NOTE: If the fire goes out or keeps going out, the pulse timer can be adjusted to a longer duration and shorter time periods between idle pulses.

⚠ WARNING

When adding wood to the firebox, be careful not to get pinched between the wood and the door frame or any part of the outdoor furnace. Use extreme care with large pieces of wood that may be difficult to handle.

7. Inspect the firebox for crusty deposits on the walls and in the corners and use the maintenance tool or similar type of tool to scrape and remove. Use the maintenance tool to remove any thick deposits from the inside front corners of the firebox, down each side and across the top, as shown.

8. Use the maintenance tool to keep the front combustion air outlets, and the combustion outlets on both air tubes free of any buildup.



9. When loading, load the wood so that the combustion air outlets on the side of the firebox do not become blocked or restricted.

10. Close and latch the firebox door. **Do not use the firebox door to ram wood into the outdoor furnace. Do not operate the outdoor furnace with the firebox door open.** Combustion in the firebox cannot be controlled if the firebox door is left open or unlatched. If the firebox door is left open, an uncontrolled burn will result. To return to a controlled burn, close and latch the firebox door.

11. Wait for 15 seconds; then slowly pull the bypass door handle toward the front of the furnace and push down to close the bypass door.

⚠ WARNING

The firebox door must be closed and latched at all times except when filling the firebox with wood or damage to gaskets, paint, etc., may occur. Leaving the firebox door open may lead to a runaway fire. In the event of a runaway fire, close the firebox door.

Maintenance Schedule

PREVENTIVE MAINTENANCE SCHEDULE

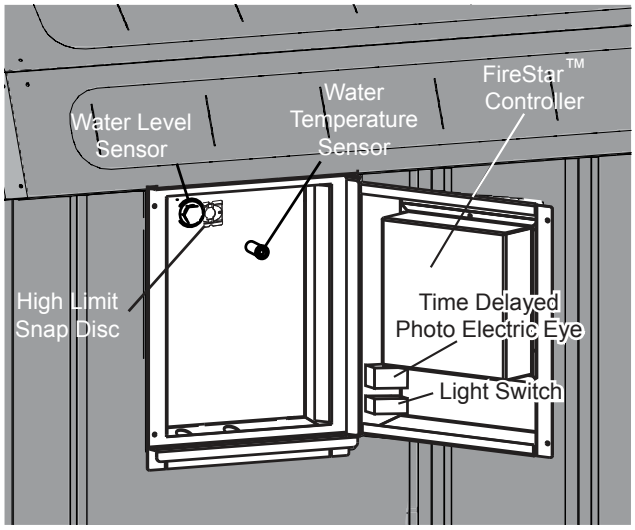
Regular maintenance and inspections can help extend the life of your outdoor furnace and prevent high-cost repairs. This table is meant to serve as a general guideline until you become acquainted with how the outdoor furnace operates with your specific application.

OPERATION	SERVICE INTERVAL: Before first operation of season	Daily	Weekly	Monthly	Semi-Annually	Post Season	Other	See Section Number
Check water level.	●	●						1
Remove ash.			C			●		3
Scrape firebox door frame; use cleaning rod in ash.		A				●		8
Inspect firebox door seal.		A				●		4
Inspect and lubricate door latch bushings.						●	G	4
Inspect chimney and chimney tee.	●		●			●		5
Check vent cap.	●							2
Clean heat exchangers.	●		C			●	F	6
Inspect rear access heat exchanger door latches, seal and insulation							H	6
Inspect Reaction Chamber and Fireball.	●		C			●		7
Inspect secondary air charge tube and refractory.						●		11
Inspect firebox and firebox ash area.	●	A				●		8
Inspect and clean combustion air outlets.	●		C			●	B	9
Inspect and clean the combustion fan and inlet screen.					D			10
Oil the combustion fan.						●		10
Check pH and nitrite levels of water.	●				D	●		E
Inspect primary and secondary combustion air elbows.						G		12
Grease bypass door handle.				F		●		13
Perform a complete cleaning.				F		●		14

NOTE: Check daily for build-up of creosote in the lower corners and around the air outlets until experience shows how often cleaning is necessary.

- A Daily, or as needed.
- B Twice a week.
- C Weekly until interval for your application can be determined.
- D When new, after three months, then every six months thereafter.
- E Refer to **Testing Treated Water in the Outdoor Furnace** (Installation and Initial Water Treatment Guide).
- F Frequency will vary depending on heat load requirements, type of wood used and the moisture content of the wood.
- G Or as needed.
- H Whenever rear access heat exchanger door is opened.

Control Locations



ROUTINE MAINTENANCE

⚠ CAUTION

Use only genuine Central Boiler Parts and Accessories if it ever becomes necessary to replace any component of the outdoor furnace.

Routine inspections and maintenance are essential to the proper operation and longevity of the outdoor furnace. The items indicated in the preventive maintenance schedule are intended to serve as a guideline. Actual intervals between inspections and maintenance may vary depending on a number of factors, including your heat load requirements, type of wood used, and outdoor temperatures.

NOTE: Proper maintenance of the firebox, Reaction Chamber, Fusion Combustor, heat exchanger, chimney transition box and chimney tee are essential for the outdoor furnace to function properly and for longevity.

⚠ CAUTION

Do not burn plastic, garbage, treated wood or fuels not listed for this outdoor furnace.

NOTE: Chloride or sulfurous gases can be generated if plastic or rubber is burned and will mix with the moisture from the wood to form hydrochloric or sulfuric acids in the firebox, creating corrosion.

Creosote - Formation and Need for Removal. When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.

NOTE: If the outdoor furnace is operated correctly, creosote will not form in the chimney.

The chimney connector and chimney should be inspected at least twice monthly during the heating season to determine if a creosote buildup has occurred, and to check for corrosion or condensation. If creosote has accumulated it should be removed to reduce the risk of a chimney fire.

⚠ WARNING

The chimney and chimney connector must be clean and in good condition.

MAINTENANCE SECTIONS

Refer to the Preventive Maintenance Schedule for the recommended intervals with which to perform these maintenance items.

Section 1 - Water Level

Open the sight gauge valve. The sight gauge tube will fill to indicate the level of water in the outdoor furnace. Be sure to close the sight gauge valve after checking water level. The sight gauge valve and tube will drain when the valve is closed.

Section 2 - Vent Cap

Check that the vent cap fits loosely on the vent opening. Check the vent cap copper tube for obstruction; clean with a pipe cleaner if needed.

⚠ WARNING

The outdoor furnace vent cap must fit loosely on the vent opening. Do not force the cap down or try to seal it tightly onto the vent pipe. Do not extend or restrict the vent pipe or opening. DO NOT ALLOW THE OUTDOOR FURNACE TO BE PRESSURIZED.

Section 3 - Ash

Refer to the Adding Wood section.

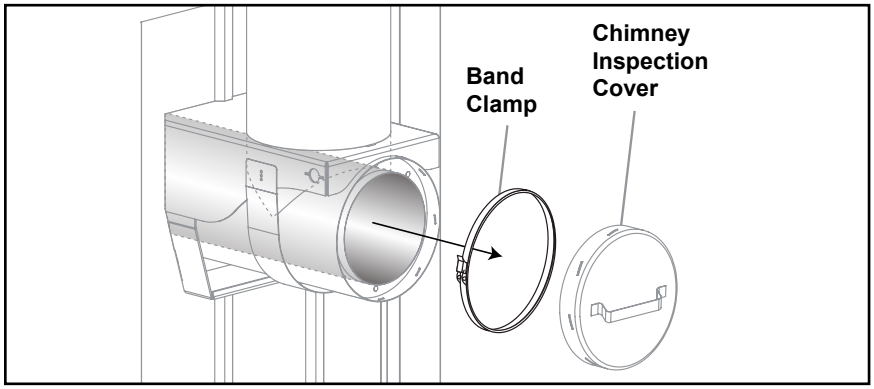
Section 4 - Firebox Door Seal and Bushings

Make sure the firebox door is properly latched and check the condition of the firebox door seal. If it is not sealing properly (indicated by a uniform indentation), replace the seal. If it is not sealing properly after replacing the seal, the firebox door may need to be adjusted. See Firebox Door Hinge/Latch Bearing Adjustment in Serviceable Items section.

Section 5 - Chimney Tee and Chimney

Remove the band clamp and chimney inspection cover. Inspect the chimney outlet and chimney for excessive creosote, ash or deposits and clean as necessary.

NOTE: The chimney inspection cover must fit tightly. Check and clean if necessary the groove for the cover to prevent air from leaking out. Leaking air caused by an improperly fitting cover can cause corrosion.



Section 6 - Heat Exchangers

NOTE: Inspect the heat exchangers weekly, and clean as needed, until the interval for your application can be determined. Frequency will vary depending on a number of factors including heat load requirements, type of wood used and the moisture content of the wood.

NOTE: The best time to clean the heat exchangers is prior to loading with wood when all that remains in the firebox is a glowing coal bed.

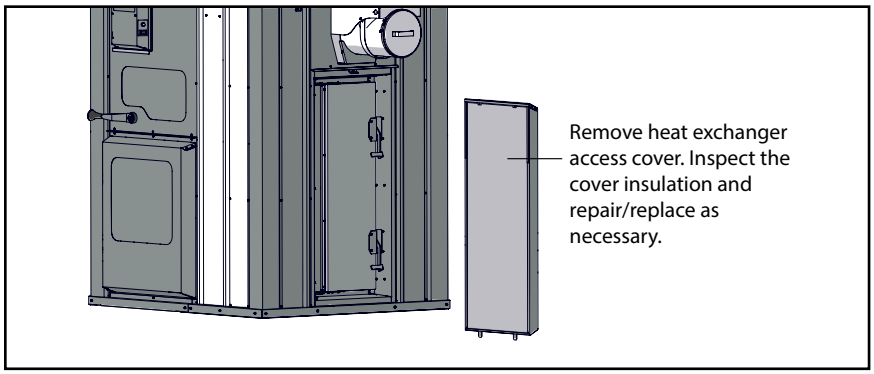
1. Press the **Power** ⏻ button on the FireStar combustion controller to turn it off.

⚠ CAUTION

Be sure to turn off the FireStar combustion controller before doing this procedure.

2. Remove the chimney inspection cover. Inspect the area above the heat exchangers for any excessive ash buildup. Clean and remove any excessive ash accumulation.

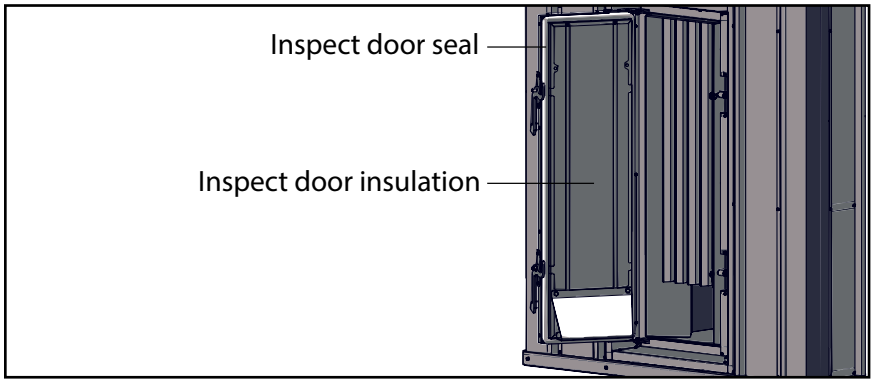
3. Remove the heat exchanger access cover from the back of the furnace. Inspect the cover insulation and repair/replace as necessary.



4. Carefully undo both latches on the hinged heat exchanger door. If any coals or wood remain in the firebox, slowly open the door making sure to stand off to the side when opening it.

⚠ CAUTION

Open the heat exchanger door slowly and stand off to the side when opening it.



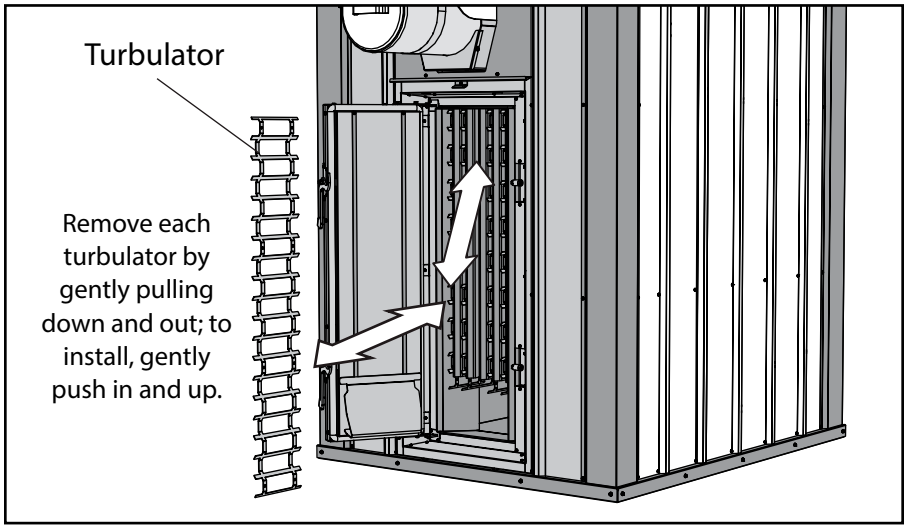
5. Inspect the door insulation and door seal. Repair/replace any defective seal or insulation.

6. Inspect the door frame edge for any buildup of creosote or ash. Use the maintenance tool to clean the door edges.

⚠ CAUTION

Always wear the appropriate personal protective gear when cleaning ash from the turbulators and the Reaction Chamber.

7. Remove each turbulator by gently pulling down and out. Clean each turbulator to remove any ash or buildup; then inspect for damage.

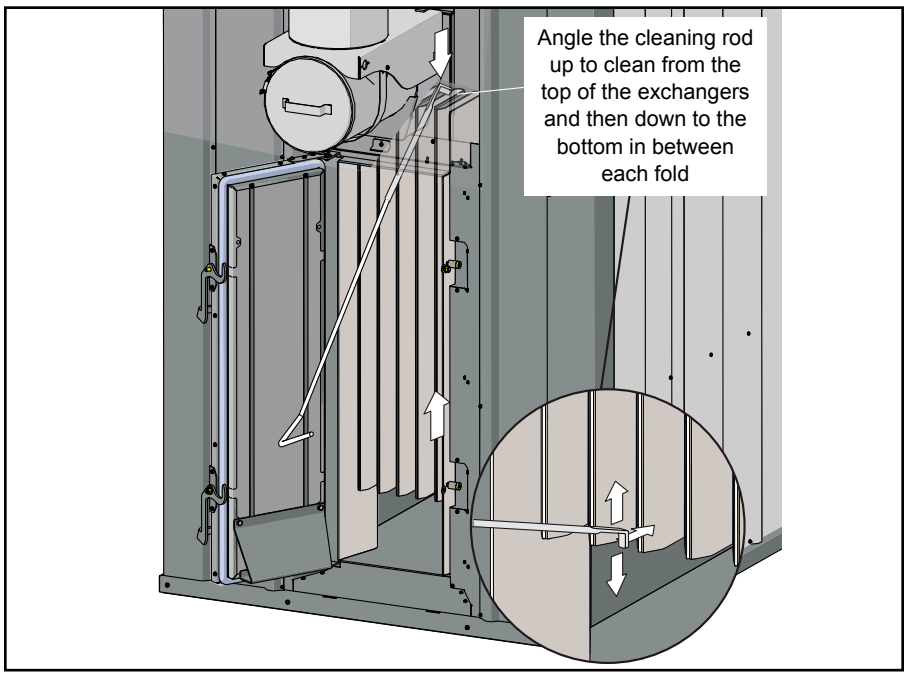


8. Inspect the heat exchangers for excessive buildup of creosote or ash. Use the scraping end of the maintenance tool to clean any accumulations from the sides of the heat exchanger sections. Angle the cleaning rod up to clean from the top of the exchangers and then down to the bottom between each folder of the exchanger.

NOTE: If there is creosote buildup in the heat exchanger, it is caused by operating the furnace incorrectly. It is important to follow the recommended operation and maintenance procedures (see Operating Instructions).

The Flue Brush Kit (p/n 390) is an excellent option as an additional way to clean the exchangers.





9. Using the maintenance tool and a shovel, clean any accumulated ash from beneath the heat exchanger. Dispose of ash properly.
10. Ensure that the door seal and frame are still clean of any debris or ash; then install each turbulator by gently pushing in and up.
11. Close and latch the heat exchanger door; then install the heat exchanger access cover and chimney inspection cover.
12. Press the **Power** ⏻ button on the FireStar combustion controller to turn it on.

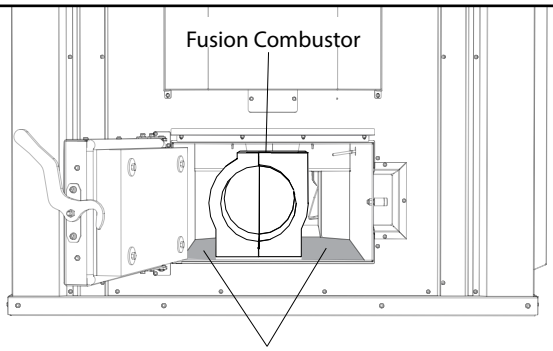
Section 7 - Reaction Chamber

1. Press the **Power** ⏻ button on the FireStar combustion controller to turn it off.

⚠ CAUTION

Be sure to turn off the FireStar combustion controller before doing this procedure.

2. Unlatch and open the Reaction Chamber door.
3. Use the maintenance tool to pull the ash to the front of the furnace. Take care when pulling ash from each side of the Fusion Combustor not to move the refractory sections.
4. Use a small shovel to remove all of the ash and deposits from the Reaction Chamber. Take care not to damage the temperature sensor. You can also clean ash from the back of the furnace by opening the heat exchanger door.



Carefully pull ash to the front of the Reaction Chamber on each side of the Fusion Combustor using the maintenance tool; then remove with small shovel.

NOTE: It is extremely important to clean ash from the entire Reaction Chamber area. If necessary, refer to section Heat Exchangers section for the procedure for removing ash from heat exchanger area.

⚠ CAUTION

Take care not to damage the temperature sensor when removing ash.

If needed, clean ash from the back of the furnace by opening the heat exchanger door.



5. Close the Reaction Chamber door and secure the latch.
6. Press the **Power** ⏻ button on the FireStar combustion controller to turn it on.

Section 8 - Firebox

⚠ WARNING

Remove all wood, coals and ash from the firebox.

1. Scrape the top and sides of the firebox and around the door frame area to remove any deposits; then inspect the surfaces of the firebox for any signs of corrosion, paying particular attention to the ash level and below.

NOTE: When scraping to clean inside the firebox, be sure to pay particular attention to the corners and to the seams.

2. If signs of corrosion are present, contact your dealer. Refer to the section Corrosion is Present in the Troubleshooting section.
3. A thin, tar-like creosote layer may form on the firebox walls and migrate toward the bottom of the firebox where it could collect into a thicker layer. Normally this layer will burn up as it collects on the bottom. If it migrates to the bottom of the firebox and does not burn up, it must be removed. Do not allow it to cover or restrict air flow through the combustion air outlets or bottom of the firebox. If larger, thick, dry deposits form on the walls in the firebox, they should be removed with the maintenance tool.

NOTE: Be aware that the hotter the fire, the less creosote is deposited, so weekly cleaning may be necessary in mild weather, even though monthly cleaning may be enough in coldest months.

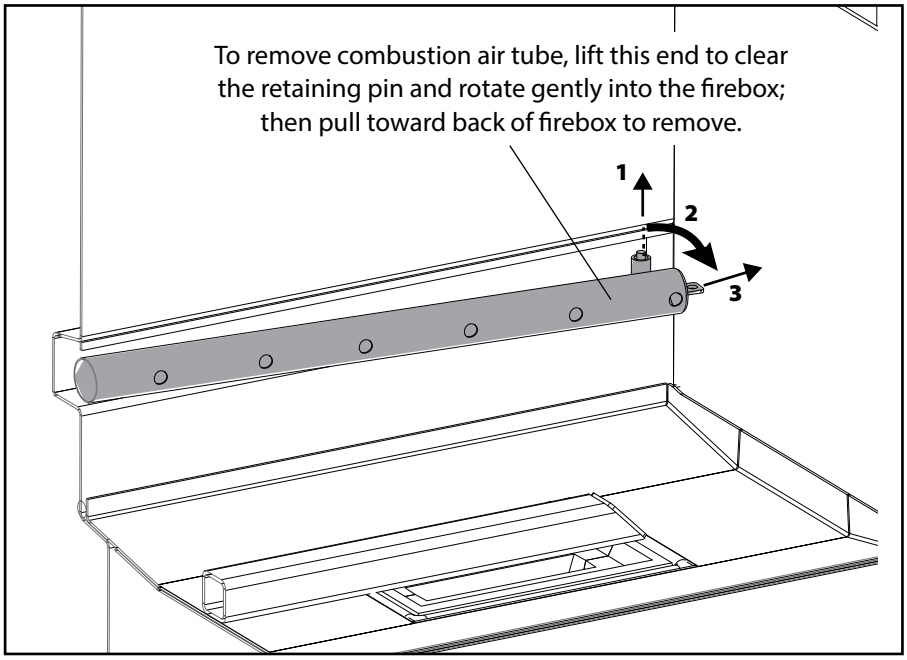
Section 9 - Combustion Air Tubes

NOTE: If the combustion air tubes are becoming restricted by ash or creosote, it is caused by operating the furnace incorrectly. It is important to follow the recommended operation and maintenance procedures (see Adding Wood section).

Primary combustion air is supplied to the firebox through the combustion air outlets located in the front air channel and in the side combustion air tubes. Be sure to clean off any buildup around the combustion air tube holes and buildup that may collect around the combustion air tubes themselves.

The side combustion air tubes can be removed if necessary. To remove, lift the end of the tube closest to the back of the firebox up off of the retaining pin, then in and toward the back of the firebox. Install by reversing this procedure.

NOTE: If there is a large amount of buildup on the exterior of the combustion air tube, it may be necessary to first remove the buildup to make removal easier.



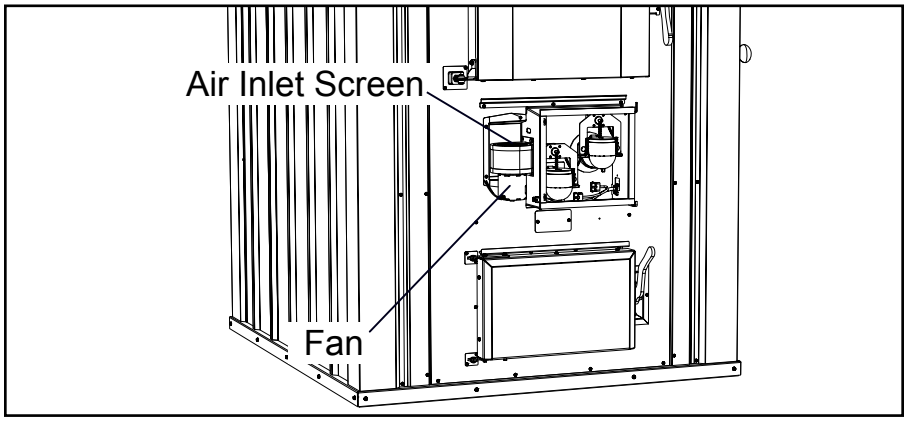
Section 10 - Combustion Air Fan

1. Disconnect power to the outdoor furnace.

⚠ WARNING

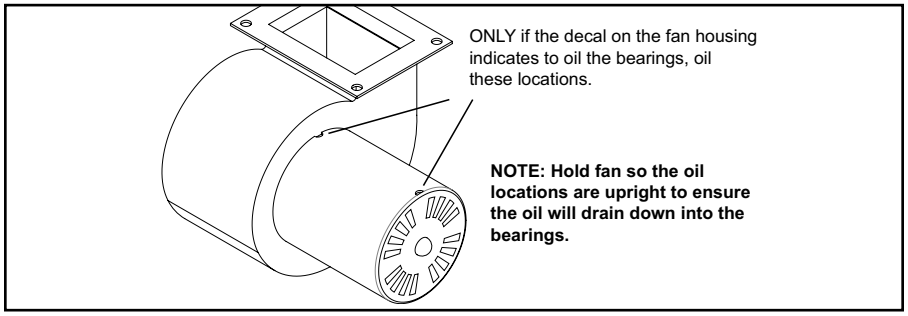
Do not proceed without testing that power is disconnected.

2. Remove the airbox access cover; then open the hinged airbox door. Inspect the combustion air fan inlet screen and fan wheel and clean if necessary. Make sure the air intake is clean and not obstructed.



NOTE: Only if the decal on the fan housing indicates to oil the bearings at the end of each heating season, oil the combustion fan bearings using the following procedure.

4. If the decal on the fan housing indicates to oil the bearings, remove the bolts securing the combustion fan and remove the combustion fan. Hold the fan so the oil locations are upright; then apply 10 drops of SAE 20 non-detergent oil (e.g., 3-IN-ONE® Oil) in each location, as shown. Install the combustion fan and secure with bolts.



5. Close and secure the airbox door. Install the airbox access cover.

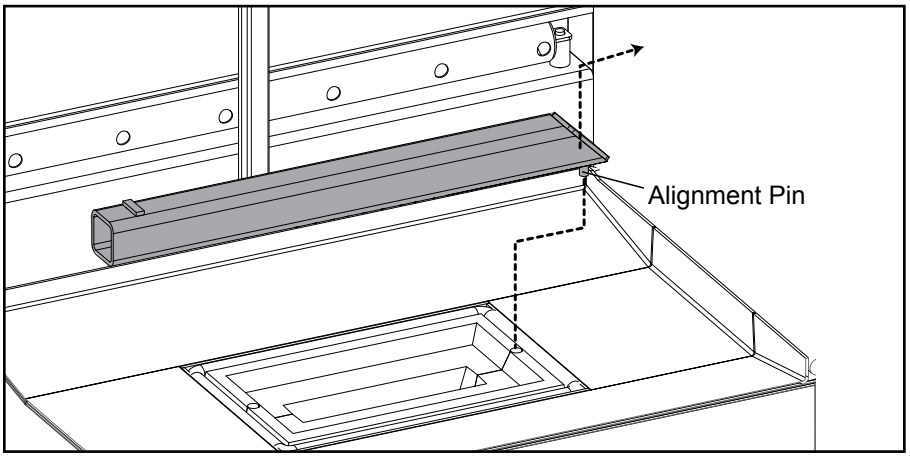
⚠ DANGER

Do not connect power or operate the outdoor furnace with the airbox access cover removed. The outer airbox cover must be installed and secured with screws.

Section 11 - Air Charge Tube and Refractory

Removing and inspecting the air charge tube and inspecting the refractory is best done after the outdoor furnace has been shut down and the firebox has been cleaned according to the Complete Firebox Cleaning Procedures.

NOTE: The air charge tube and refractory are wear items.



1. Remove the air charge tube by lifting and then sliding it toward the rear of the outdoor furnace. Inspect the mixing channel to see the area is not plugged.
2. Inspect each refractory module for damage. Small cracks and chips in the refractory are normal. If large pieces of the refractory modules are missing, contact your Central Boiler dealer.
3. Install the air charge tube making sure the alignment pin is seated in the alignment hole in the refractory modules.

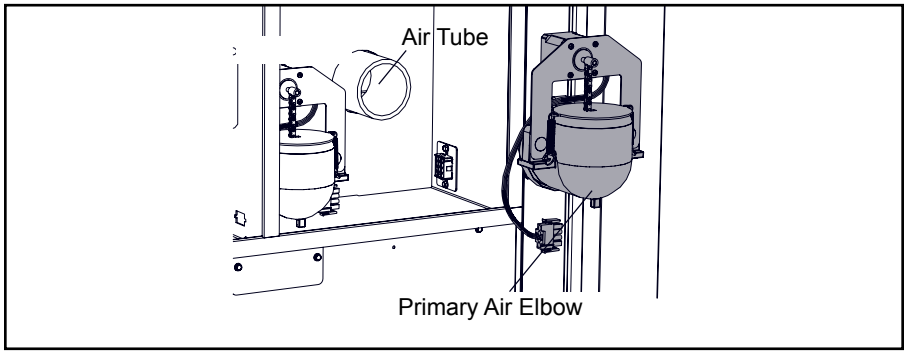
Section 12 - Primary Air Elbow

1. Disconnect the electrical power to the outdoor furnace at the main power source.

⚠ WARNING

Do not proceed without testing that power is disconnected. Make sure the power cannot be reconnected while servicing the actuator motors (i.e., use lock out, tag out).

2. Remove the outer airbox cover; then open the airbox door.
3. Disconnect the actuator motor wiring harness.
4. Loosen the hose clamp securing the primary air elbow to the air tube; then remove the assembly from the airbox.



5. Inspect the elbow and clean out any build-up or blockage.

NOTE: A *small* amount of material in the elbow is normal and is not an indication of improper operation.

NOTE: If there is creosote buildup in the primary air elbow, it is caused by operating the furnace incorrectly. It is important to follow the recommended operation and maintenance procedures (see Adding Wood section).

6. Inspect the air tube for blockage or obstructions. To remove blockage or obstructions in the air tube, a screwdriver and a shop vac may be useful.

7. Install the primary air elbow over the air tube; then tighten the hose clamp.

8. Connect the actuator motor wiring harness.

9. Close and secure the airbox door. Install the outer airbox cover and secure with screws.

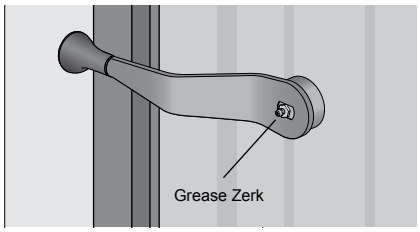
⚠ DANGER

Do not connect power or operate the outdoor furnace with the outer airbox cover removed. The outer airbox cover must be installed and secured with screws.

10. Connect the electrical power to the outdoor furnace at the main power source.

Section 13 - Bypass Handle

1. Using the grease zerk on the bypass handle, add grease.



2. Lift and lower the bypass handle several times to distribute the grease.

Section 14 - Complete Cleaning Procedures

The frequency for performing a complete cleaning will vary depending on a number of factors, including your heat load requirements, type of wood used, and the moisture of the wood.

NOTE: Proper maintenance of the firebox, Reaction Chamber, heat exchanger, chimney transition box and chimney tee are essential for the outdoor furnace to function properly and for longevity.

NOTE: It may be best to allow the wood and coals to burn out completely before this type of cleaning.

⚠ CAUTION

Always wear the appropriate personal protective gear (e.g., protective gloves, clothes, dust mask, etc.) when cleaning ash from the firebox and the Reaction Chamber, etc.

⚠ CAUTION

Clear the entire area surrounding the outdoor furnace of any combustible materials before performing these cleaning procedures.

⚠ WARNING

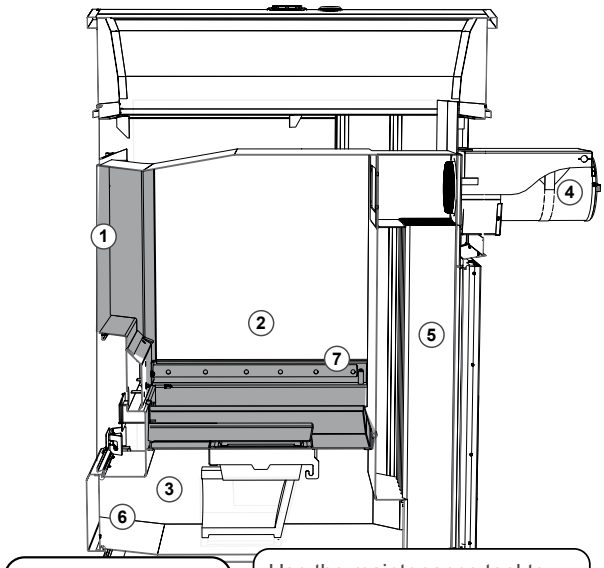
Be careful not to spill any coals or ash. Place coals and ash in a metal container with a tight-fitting metal lid.

NOTE: Refer to the illustration and clean the areas identified in the order shown. For each area in the illustration, refer to the corresponding maintenance section.

1. Press the **Power** ⏻ button to turn the FireStar combustion controller off.

⚠ CAUTION

Be sure to turn off the FireStar combustion controller before doing this procedure.



Clean ash and deposits from the areas identified in the order shown. Refer to the corresponding maintenance sections for detailed procedures.

(1) Door Frame (2) Firebox (3) Reaction Chamber (4) Chimney Tee
(5) Heat Exchangers (6) Reaction Chamber
(7) Combustion Air Outlets

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Door Frame

Open the firebox door; then scrape the face and surface area of the door frame to remove any deposits.

Firebox

See Maintenance Section 8 - Firebox.

Chimney Tee

See Maintenance Section 3 - Chimney Tee.

Heat Exchangers

See Maintenance Section 6 - Heat Exchangers.

Reaction Chamber

See Maintenance Section 7 - Reaction Chamber.

Combustion Air Tubes / Air Charge Tube

See Maintenance Section 9 - Combustion Air Tubes and Maintenance Section 11 - Air Charge Tube and Refractory.

SERVICEABLE ITEMS

NOTE: These procedures should be performed by a qualified individual and in accordance with any and all federal, state/provincial and local codes and regulations. When performing work on an appliance observe all precautions in the literature, tags and labels attached to the appliance and other safety precautions that may apply. When working with electricity and electrical components, failure to follow precautions could result in property damage, personal injury or death.

NOTE: If any of these items are under warranty, remember that the warranty covers only the cost of the replacement part. Labor is not covered.

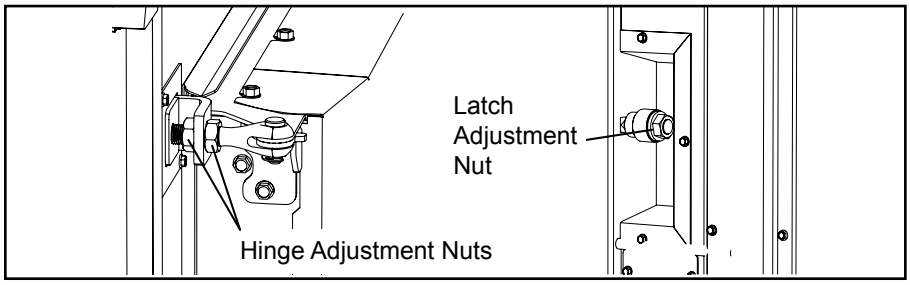
NOTE: Use only genuine Central Boiler parts and accessories if it ever becomes necessary to replace any component on the outdoor furnace.

FIREBOX DOOR HINGE / LATCH BEARING ADJUSTMENT

If the firebox door seal has been replaced and it is not sealing properly, the firebox door may need to be adjusted to close more tightly. When adjusting the firebox door, make sure it is not adjusted too tightly as damage to the firebox door, frame or door seal may result.

1. To tighten the hinges, loosen the inner adjustment nut and turn the outer nut in slightly; then tighten the inner adjustment nut securely. Adjust the top and bottom hinge for equal pressure when the door is latched.

2. To tighten the latch bearing, loosen the latch adjustment nut; then tap the latch bearing assembly in toward the firebox. Tighten the latch adjustment nut securely.



FIREBOX DOOR SEAL

The firebox door seal must be in good condition to ensure an airtight seal. If the outdoor furnace is operated with the door open or ajar, the firebox door seal may become damaged or brittle due to excessive temperatures. If replacement is necessary, use the following procedure:

⚠ WARNING

Remove all wood, coals and ash from the firebox.

1. Disconnect power to the outdoor furnace.

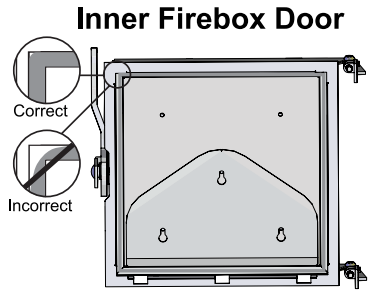
⚠ WARNING

Do not proceed without testing that power is disconnected. Make sure the power cannot be reconnected while testing components (i.e., use lock out, tag out).

2. Using a scraper, remove the firebox door seal on the inner side of the firebox door and clean any remaining silicone adhesive from the groove. Any residue left in the groove will interfere with the new silicone seal.

3. Apply a liberal amount of silicone sealant into the entire firebox door seal groove.

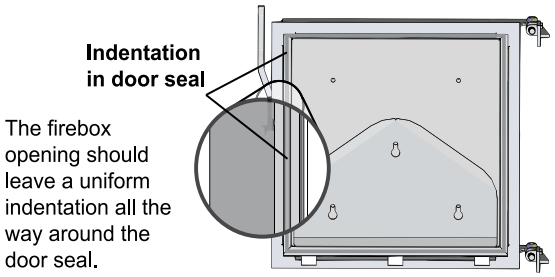
4. Starting at the center of the hinge side of the firebox door, insert the new silicone seal into the groove, pressing it firmly into the bead of silicone sealant. Make sure the seal is not stretched as it is pressed into the corners. Force the seal out to fill in the corners as shown.



5. Scrape the face and surface area of the door frame to remove any deposits.

6. Close the firebox door. Make sure that pressure is felt as the latch is closed to ensure the seal is tight with the door frame.

7. Open the firebox door and check that there is an impression in the seal from the door frame. This mark must extend, with no gaps, around the entire perimeter of the firebox door seal. If needed, adjust the hinges and latch assembly.



⚠ CAUTION

The firebox door seal will be damaged or destroyed if it is not installed properly.

REACTION CHAMBER DOOR SEAL

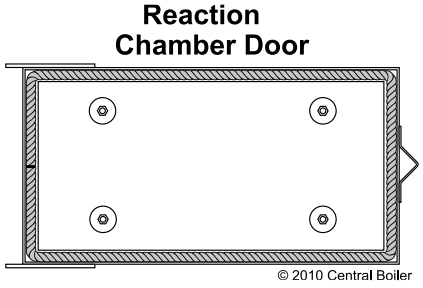
The Reaction Chamber door seal must be in good condition to ensure an airtight seal. If replacement is necessary due to the Reaction Chamber door seal becoming damaged or brittle, use the following procedure:

1. Disconnect power to the furnace.
2. Unlatch and open the Reaction Chamber door.
3. Use the maintenance tool to pull the ash to the front of the furnace; then use a small shovel to remove all of the ash and deposits from the Reaction Chamber. Take care not to damage the temperature sensor.

⚠ WARNING

Remove all ash from the Reaction Chamber.

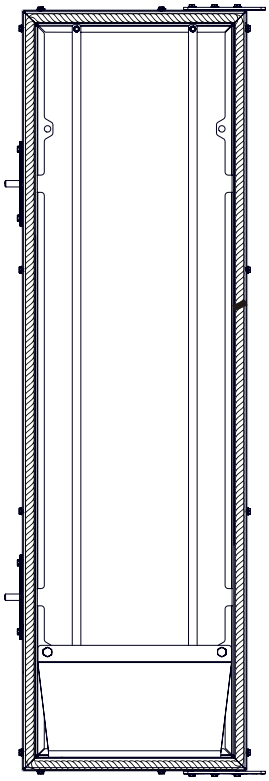
4. Using a scraper, remove the Reaction Chamber door seal rope and clean any remaining silicone adhesive from the groove. Any residue left in the groove will interfere with the new seal.
5. Apply a liberal amount of silicone sealant into the entire Reaction Chamber door seal groove.
6. Starting at the center of the hinge side of the Reaction Chamber door, insert the new door seal rope into the groove, pressing it firmly into the bead of silicone sealant. Make sure the Reaction Chamber door seal rope is not stretched as it is pressed into the corners. Force the Reaction Chamber door seal rope out to fill in the corners as shown.



7. When the seal has been pressed into the groove all the way around the Reaction Chamber door, cut the end of the rope about one inch longer than required and press it tightly against the beginning end of the rope.
8. Close the Reaction Chamber door and secure the latch.

HEAT EXCHANGER DOOR SEAL

Heat Exchanger Door Seal Rope



The heat exchanger door seal must be in good condition to ensure an airtight seal. If replacement is necessary due to the door seal becoming damaged or brittle, use the following procedure:

1. Press the **Power** ⏻ button on the FireStar combustion controller to turn it off.

⚠ CAUTION

Be sure to turn off the FireStar combustion controller before doing this procedure.

2. Remove the heat exchanger access cover from the back of the furnace.
3. Carefully undo both latches on the heat exchanger door; then slowly open the door making sure to stand clear of the opening.

⚠ CAUTION

Open the heat exchanger door slowly and stand off to the side when opening it.

4. Using a scraper, remove the heat exchanger door seal rope and clean any remaining silicone adhesive from the groove. Any residue left in the groove will interfere with the new seal.
5. Apply a liberal amount of silicone sealant into the entire heat exchanger door seal groove.
6. Starting at the center of the hinge side of the heat exchanger door, insert the new door seal rope into the groove, pressing it firmly into the bead of silicone sealant. Make sure the door seal rope is not stretched as it is pressed into the corners. Force the door seal rope out to fill in the corners as shown.
7. When the seal has been pressed into the groove all the way around the heat exchanger door, cut the end of the rope about one inch longer than required and press it tightly against the beginning end of the rope.
8. Close the heat exchanger door and secure with latches. Install and secure the heat exchanger access cover.

CIRCUIT BREAKER

The circuit breaker is located in the pump access area and also serves as the furnace disconnect. If the circuit breaker trips (turns off), reset it by turning it on. If the circuit breaker continues to trip, a component may be faulty. It is possible to isolate a faulty component using the following procedure.

1. Disconnect power to the outdoor furnace.

⚠ WARNING

Do not proceed without testing that power is disconnected. Make sure the power cannot be reconnected while testing components (i.e., use lock out, tag out).

2. Remove the airbox access cover; then open the airbox door.
3. Disconnect the actuator motor harness and disconnect the fan harness.
4. To test for a faulty component, connect one component at a time (e.g., start with one of the actuator motors); then connect power to the outdoor furnace. If the circuit breaker trips, the component is likely faulty. If not, disconnect power to the outdoor furnace and repeat the procedure until all components have been tested.

⚠ CAUTION

Disconnect power to the outdoor furnace before disconnecting a component and before connecting a component.

5. Close and secure the airbox door. Install the airbox access cover.

⚠ DANGER

Do not connect power or operate the outdoor furnace with the outer airbox cover removed. The outer airbox cover must be installed and secured with screws.

AIRBOX SEAL

Replace the airbox seal if it becomes damaged or worn to maintain proper operation of the furnace. See your Central Boiler dealer for replacement seals.

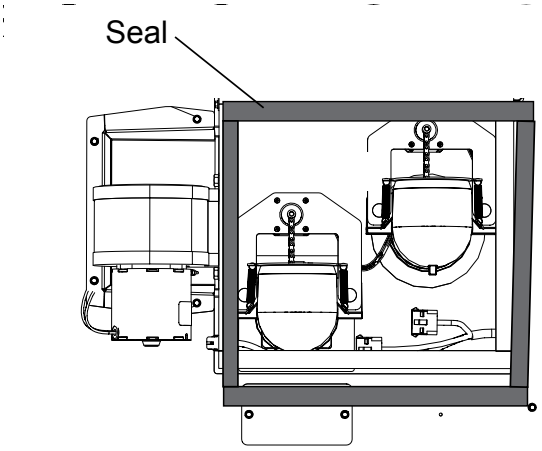
NOTE: It is best to replace the entire seal. Over time, the seal will compress, and replacing it in sections may result in the old sections not sealing completely against the airbox door.

1. Disconnect power to the outdoor furnace.

⚠ WARNING

Do not proceed without testing that power is disconnected. Make sure the power cannot be reconnected while replacing the airbox seal.

2. Remove the airbox access cover; then open the airbox door. Using a scraper or similar tool, scrape off the existing seal from the airbox.
3. Clean off any remaining adhesive residue with alcohol or a suitable solvent.
4. Measure and cut replacement seal.

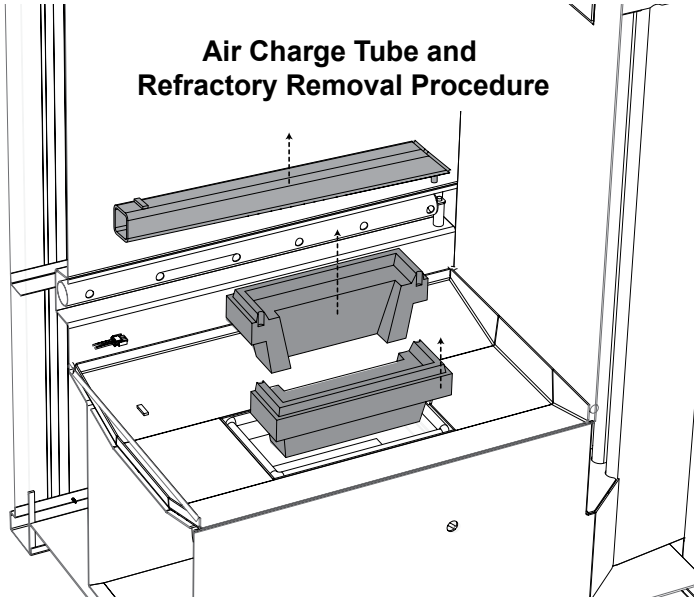


5. Remove the adhesive backing from the replacement seal and carefully apply the seal to the airbox as shown, making sure there are no gaps.
6. Close the airbox door and turn the furnace back on.
7. After the fan has started, use your hand to feel around the edges of the airbox door to check for leaks. A little air leakage, especially around the latches, is normal. If an excessive amount of air is felt, turn off the furnace; then check and repair/replace the seal if necessary.
8. Install the airbox access cover.

AIR CHARGE TUBE AND REFRACTORY MODULES

⚠ WARNING

Remove all wood, coals and ash from the firebox and allow the firebox to cool thoroughly before replacing the air charge tube and/or refractory.



1. Remove the air charge tube by lifting it up and sliding it toward the back of the outdoor furnace.
2. Remove the rope gasket; then remove the existing refractory modules.
3. Ensure the area where the new refractory modules will be installed is clean and free of all debris. Install the new refractory modules; then install a new rope gasket on top of the refractory modules.
4. Install the new air charge tube by placing it in the opening at the front of the outdoor furnace as shown; then pull it toward the front of the outdoor furnace to secure it in place making sure the alignment pin fits into the alignment hole in the refractory modules.

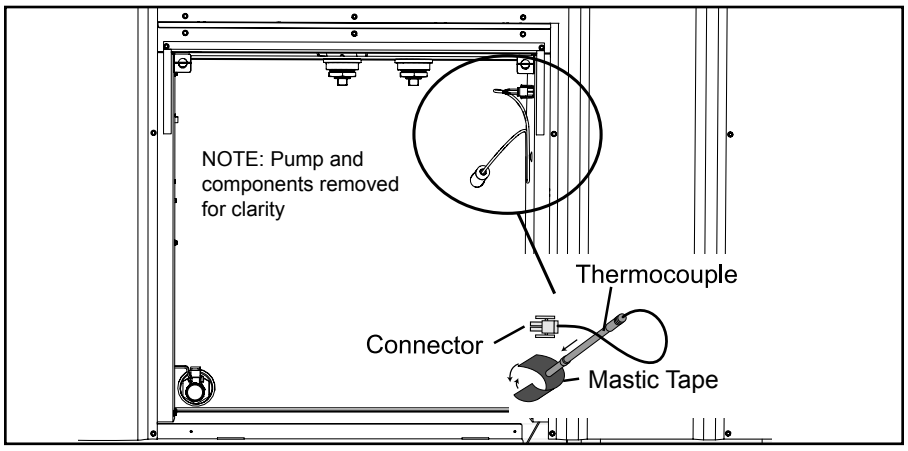
THERMOCOUPLE

1. Disconnect power to the outdoor furnace.

⚠ WARNING

Do not proceed without testing that power is disconnected. Make sure the power cannot be reconnected while replacing the thermocouple.

2. Remove the pump access cover.
3. Disconnect the thermocouple connector; then remove the mastic tape from the thermocouple.
4. Remove the thermocouple.
5. Install the new thermocouple until the stop collar contacts the thermocouple tube.



6. Secure the thermocouple with the mastic tape; then connect the thermocouple connector.
7. Install the pump access cover; then connect power to the furnace.

HEAT EXCHANGER DOOR INSULATION

NOTE: Insulation for the heat exchanger door is not standard fiberglass insulation. Use only the correct insulation when replacing or damage could occur. Contact your Central Boiler dealer for replacement insulation.

1. Press the **Power** button on the FireStar combustion controller to turn it off.
2. Remove all wood, coals and ash from the firebox and allow the firebox to cool thoroughly.

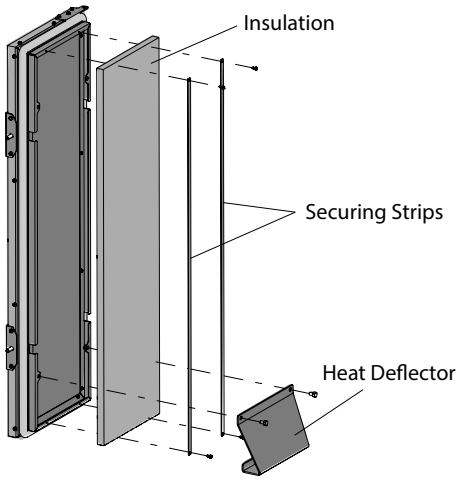
⚠ WARNING

Remove all wood, coals and ash from the firebox and allow the firebox to cool thoroughly before replacing the heat exchanger door insulation.

3. Remove the heat exchanger access cover from the back of the furnace.
4. Carefully undo both latches on the heat exchanger door; then slowly open the door making sure to stand clear of the opening.

⚠ CAUTION

Open the heat exchanger door slowly and stand off to the side when opening it.



5. Swing the door open far enough to gain access to the inside of the door.
6. Wearing proper protective gear, use a brush or small broom to clean off any accumulated ash from the inside of the door.

7. Remove the heat deflector from the bottom of the door.
8. Remove the hardware and securing strips.
9. Carefully remove the insulation paying close attention to how the insulation is installed in the door and tucked into the edges of the door. This will aid in installation of the new insulation.
10. Before installing the new insulation, place it over the opening to make sure it is the correct size.
11. Place the new insulation inside the heat exchanger door with the reflective side facing out (toward you). Be careful not to tear the reflective material. Ensure that the edges of the new insulation are tucked into the edges of the door.
12. Install the securing strips. It may be necessary to adjust the insulation being careful not to tear it, after the securing strips are installed.
13. Install the heat deflector.
14. Check the insulation again to ensure that it is properly secured and attached to the inside of the heat exchanger door.
15. Carefully close and latch the heat exchanger door.

NOTE: The first few times the heat exchanger door is opened and closed after installing new insulation, it could seem more difficult to secure the latches. This is normal and once the insulation settles, securing the latches will be easier.

16. Install the heat exchanger access cover.

HEAT EXCHANGER ACCESS COVER INSULATION

NOTE: Be sure to check the temperature range for the spray adhesive. It may be necessary to replace the heat exchanger access cover insulation indoors to allow it to cure properly.

1. Remove the heat exchanger access cover from the back of the furnace.
2. Lay the cover on a piece of cardboard on a flat surface; then, wearing proper protective equipment, use a scraper to remove the insulation and any adhesive from the cover.
3. Test fit the new piece of insulation.
4. Using a good quality spray adhesive, follow the instructions on the can and apply the necessary amount to the inside of the cover.
5. Install the insulation in the cover, pressing down in multiple spots to ensure complete contact with the adhesive. Make sure the insulation is tucked all the way into the top of the cover.

6. Leave the cover on the flat surface until the adhesive cures according the adhesive manufacturer's instructions.

7. After the adhesive has cured, check to ensure the insulation has properly bonded to the cover; then install the heat exchanger access cover on the furnace.

COMBUSTION AIR TUBE / FRONT AIR CHANNEL

Press the **Power** ⏻ button on the FireStar combustion controller to turn it off.

⚠ CAUTION

Be sure to turn off the FireStar combustion controller before doing this procedure.

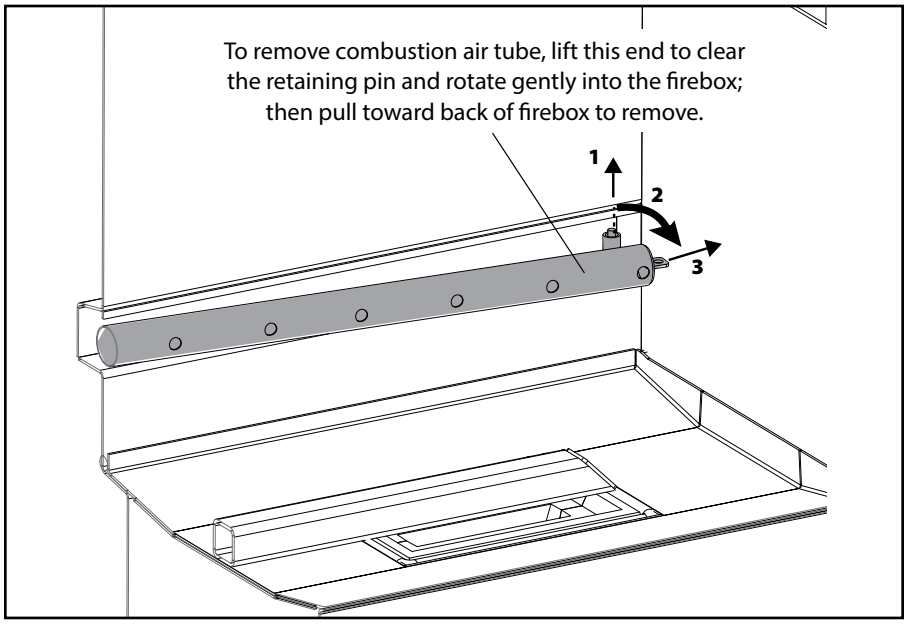
⚠ WARNING

Remove all wood, coals and ash from the firebox and allow the firebox to cool thoroughly before working inside the firebox.

Combustion Air Tube

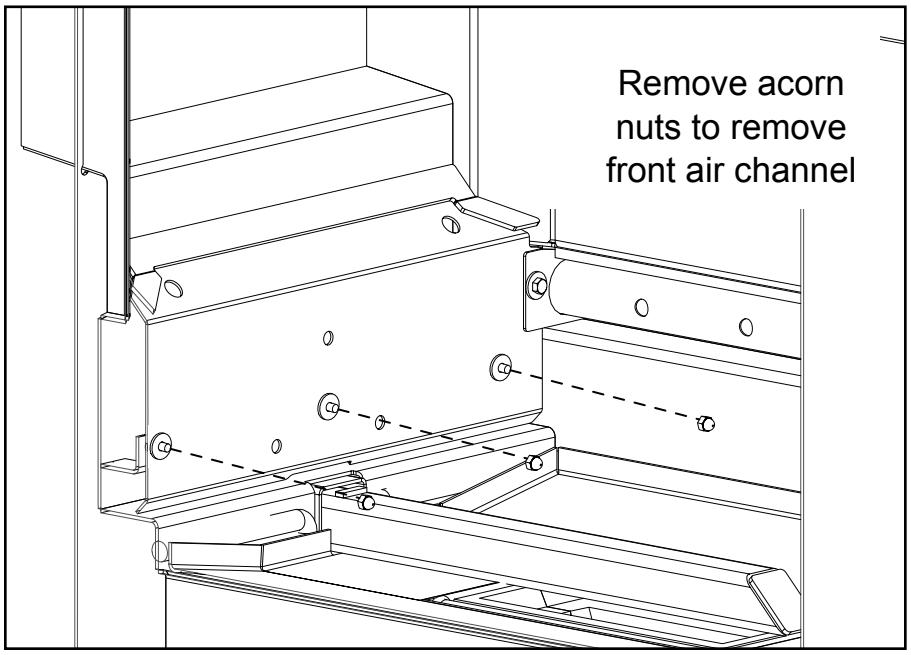
1. Lift the end of the tube closest to the back of the firebox up off of the retaining pin, then in and toward the back of the firebox. Install by reversing this procedure.

NOTE: If there is a large amount of buildup on the exterior of the combustion air tube, it may be necessary to first remove the buildup to make removal easier.



Front Air Channel

1. Remove the acorn nuts securing the front air channel and remove. Remove any ash or deposits from behind the air channel in the wall of the firebox.

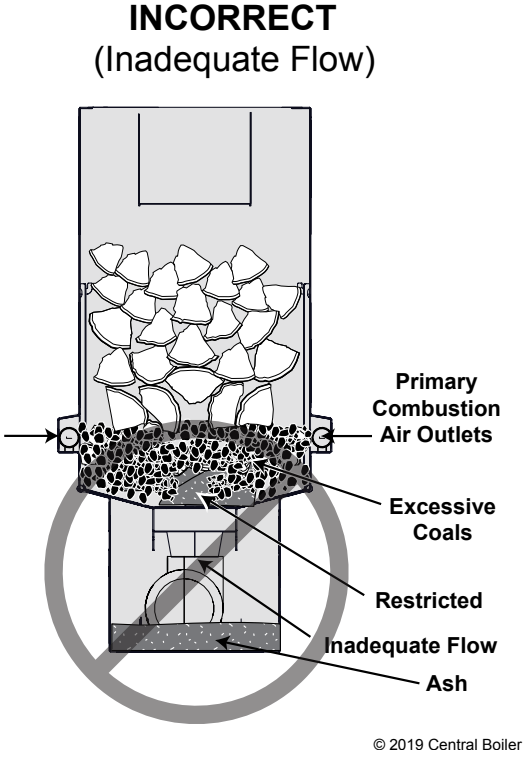


2. Install the new air channel. Apply a high-temperature, anti-seize compound to the stud threads; then secure with the acorn nuts and tighten securely.

TROUBLESHOOTING

GENERAL TROUBLESHOOTING INFORMATION

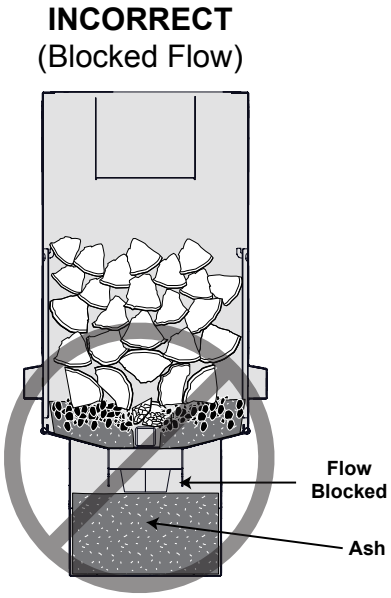
If the outdoor furnace is not operating the way it should, first review the information found in the Operation Instructions section, particularly the Adding Wood section.



Is the Reaction Chamber full of ash?

The Reaction Chamber is where final combustion occurs. It is important that the Reaction Chamber remain unobstructed to allow final combustion to occur. It is not designed to be an ash collection area, although over time ash will gradually accumulate in the Reaction Chamber.

If ash builds up in the Reaction Chamber to a level that obstructs flow, the performance of the outdoor furnace will be affected, so the ash must be removed. A good rule is to clean the Reaction Chamber before it becomes 1/2 full (approximately 5" or 13 cm deep in any area of the Reaction Chamber).



Are the air outlets plugged?

Primary combustion air is provided through the combustion air outlets in the firebox.If the air outlets are restricted or plugged, the furnace will not operate correctly. If it appears the combustion air outlets are plugged or restricted, refer to the Maintenance Sections for the Combustion Air Tubes and Air Charge Tube and Refractory. If after cleaning each combustion air outlet, air flow is still blocked, inspect the primary combustion air elbow. Refer to the Maintenance Section for Primary Air Elbow.

NOTE: If there is creosote buildup in the primary air elbow, it is caused by operating the furnace incorrectly. It is important to follow the recommended operation and maintenance procedures (see Adding Wood section).

Is there creosote and/or ash inside the airbox?

Creosote, ash, or even coals in the airbox is an indication that the outdoor furnace has not been maintained and/or operated properly. Especially important to the operation and efficiency of the outdoor furnace is unrestricted air flow throughout the entire system. Refer to Adding Wood for a detailed explanation of how to operate and maintain your Classic Edge.

One or more combustion air outlets are covered - If the level of coals and ash in the firebox is allowed to accumulate over the combustion air outlets, normal air flow can be blocked and could force coals and ash back into the airbox. Remove enough ash so the combustion air outlets are not covered. Review the Adding Wood section for more information.

TROUBLESHOOTING OTHER SITUATIONS

A. OUTDOOR FURNACE IS NOT OPERATING CORRECTLY

Review the information in the Adding Wood section, starting at step 5.

1. **Out of wood** - Add wood as necessary. Use correctly sized, seasoned wood.
2. **Mixing channel (area directly below the charge tube) or Fusion Combustor obstructed** - Inspect and clean as required.
3. **Combustion air outlets obstructed** - Clean as required to prevent the combustion air outlets from being obstructed.
4. **Combustion air fan obstructed or not running** - Check the screen over the fan inlet and the inside of the fan for any obstructions.
5. **Airbox leaking** - The airbox cover must be properly secured. Determine the cause and correct.
6. **Primary air actuator motor closed** - If the primary air actuator motor is not operating properly, determine the cause and correct.
7. **Reaction Chamber, heat exchanger or the chimney plugged** - If the Reaction Chamber, heat exchanger or chimney are plugged, determine the cause and correct.
8. **Door open** - If the display on the controller indicates Door Open, close the firebox door. Make sure the firebox door is properly latched and check the condition of the firebox door seal. If it is not sealing properly (indicated by a uniform indentation), replace the seal.
9. **Low water** - If the display on the controller indicates Low Water, the system senses a low water condition. Check the water level at the sight gauge and, if necessary, add water according to the Water Quality and Maintenance section. If adding water does not correct the problem, contact your Central Boiler dealer.

NOTE: If water needs to be added, it is very important to identify the cause of water loss and correct immediately. A leaky system or overheating commonly leads to dilution of the corrosion inhibitor and water jacket corrosion.

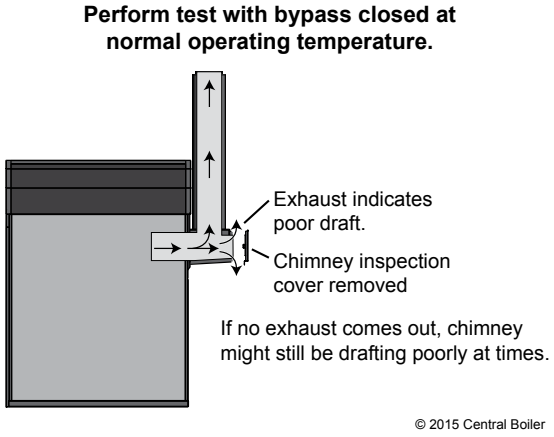
10. **Low water temperature for too long a period of time** - The display on the controller will indicate Fire Out and the controller will shut down the furnace if the water temperature has been too low for too long. Determine the cause of the water temperature being too low.
11. **Alarm condition** - Refer to the FireStar Combustion Controller Operation Manual.
12. **Chimney not drafting properly** - Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other factors. Draft occurs when the temperature in the chimney is high enough to cause a negative pressure that "pulls" the exhaust up and out the chimney.

    Proper draft is necessary for the Classic Edge to operate optimally. Too much draft may cause excessive temperatures in the appliance. Inadequate draft may cause backpuffing and plugging of the chimney.

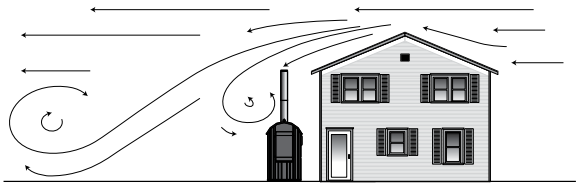
    If poor draft is suspected, perform the following test: with the outdoor furnace and chimney at normal operating temperature, loosen the chimney inspection cover and pull it back about an inch. If exhaust comes out from around the cover, pressure in the chimney may be incorrect and adding more chimney sections may be required. However, due to many variables, even if exhaust does not come out from around the cover, the chimney might still not be drafting properly at all times. Due to a number of variables, poor draft can be an intermittent problem.

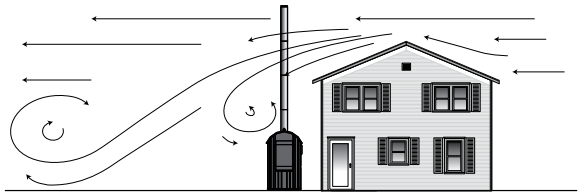
NOTE: A qualified installer may perform the following test to check for proper draft. Before performing the test, the outdoor furnace should be completely cleaned to ensure nothing obstructs exhaust flow through the system. Fire the furnace and allow it to reach normal operating temperature before performing the test.

- Drill a hole in the chimney inspection cover; then with the outdoor furnace and chimney at normal operating temperature, use a manometer to check draft. If flue draft is less than -0.05 in. WC (-12.45 Pa) add more chimney sections.
- After the test, fill the hole in the chimney inspection cover with high-temp silicone.



- If a spark arrestor is being used, make sure it is clean and unobstructed.
- Objects like buildings and trees in close proximity or nearby terrain (e.g., hills, valleys, etc.) can adversely affect air flow in the chimney. Adding chimney sections may overcome these factors.





B. FIRE GOES OUT OR KEEPS GOING OUT

Review the information in the Adding Wood section, starting at step 5.

C. BUILDING IS LOSING TEMPERATURE

Review the information in the Adding Wood section, starting at step 5.

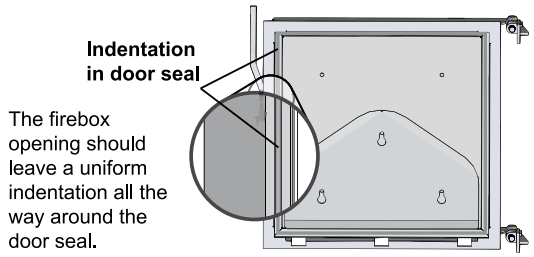
1. **Circulation valve(s) closed** - Be sure the proper valves in the system are open to allow circulation.
2. **Circuit breaker off** - If there is a circuit breaker that supplies power to the outdoor furnace, check that it is on.
3. **Circuit breaker off** - Check that the circuit breaker switch (located in the pump compartment) is on. If the circuit breaker has tripped, determine the cause before resetting it.
4. **Circulation pump(s) not operating** - Check that circulation pumps are operating. If not, disconnect power to the pump. Close valves at the pump. Disassemble the pump and try to turn the pump shaft. If the shaft is stuck, replace the pump cartridge. Replace only the cartridge whenever possible. If necessary, replace the pump. Follow instructions supplied with the pump.
5. **Air in system** - Check for air in the water lines or heat exchangers. If you hear a gurgling sound in a heat exchanger, air is present in the system. Shut off the pump, wait 15 seconds and start the pump. If it is necessary to force air from lines, refer to Initial Start-up Procedures.
6. **Building(s) poorly insulated or uninsulated** - Poorly insulated or uninsulated buildings, buildings with uninsulated or poorly insulated ceilings, or a lack of proper insulation under radiant flooring can cause excessive fuel consumption and or heating problems.
7. **Supply and return lines installed incorrectly** - Make sure the hot supply line is connected to the correct fitting on the outdoor furnace and heat exchanger.
8. **Circulation pump(s) installed backwards** - Check that pump flow direction is correct. If not, shut off power to pump. If the flow is not in the correct direction, disconnect pump from water line and reverse pump mounting to correct flow direction. If the pump is not mounted on the outdoor furnace, check for proper pump mounting location.
9. **Underground supply and return lines insulated poorly** - Heat loss from poorly insulated underground supply and return lines is often indicated by an unusually high amount of snow melting above the lines when the ground temperature is 10º F (-12˚C) or colder.
10. **Supply and return lines uninsulated** - Uninsulated supply and return lines in areas that are not intended to be heated (unheated crawl spaces, under mobile homes, etc.) may cause excessive heat loss. Insulate the supply and return lines.
12. **Poor water quality** - Water with high amounts of solids, sand or dirt can create deposits inside the wall of heat exchanger components, reducing the amount of heat output. If this condition is suspected, contact your Central Boiler dealer.
13. **New construction with radiant in-floor heat** - Bringing a cold concrete slab up to temperature the first time will take a considerable amount of time and wood; once warm, wood consumption will be reduced if the concrete slab and building are insulated properly.
14. **Heat load too large** - Re-evaluate the system and match heat load to the outdoor furnace.

D. SMOKE COMING FROM BETWEEN FIREBOX DOOR AND FRONT OF THE DOOR FRAME

1. **Door seal faulty or door frame obstructed** - If there is smoke coming from between the firebox door and the front of the door frame for more than a short time after reloading, scrape the face and surface area of the door frame to remove any deposits. Check the condition of the firebox door seal and replace if necessary.
2. **Door hinges and/or latch need adjusting** - Adjust the hinges and/or latch bearing.

E. OUTDOOR FURNACE IS OVERHEATING

1. **Air entering through the firebox door or smoke coming out of the firebox door when the door is closed** - Make sure the firebox door is properly latched and check the condition of the firebox door seal. If it is not sealing properly (indicated by a uniform indentation), replace the seal. If firebox door does not close tightly, adjust using the appropriate procedure (see Owner Serviceable Items).



NOTE: If the outdoor furnace is operated with the door open, the firebox door seal may be damaged.

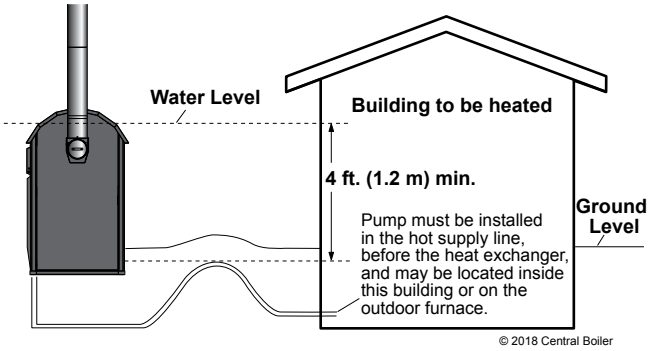
2. **Actuator motor and/or air regulating disc stuck open or obstructed** - Remove any obstructions. Lubricate the chain with a high temperature dry film lubricant rated for chains. Be careful not to get lubricant on the actuator motor or motor shaft. If replacement is necessary, refer to Air Regulating Disc Gaps for the factory settings for the air regulating discs.

NOTE: If the outdoor furnace loses water from boiling, the problem should be identified and repaired immediately. Under normal operation, little or no water needs to be added. Adding water to the furnace may cause corrosion if not immediately treated with 1650XL Inhibitor Plus to the proper pH and nitrite levels. In addition, the amount of dissolved solids in the system (due to adding additional water) can cause problems.

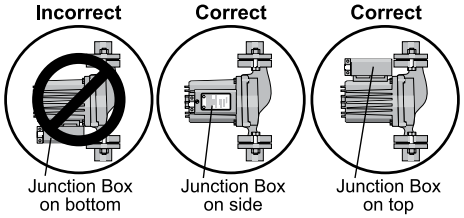
3. **Water is not circulating** - Check to make sure the pump is operating and water is circulating continuously through the supply and return lines to keep water temperature uniform in the outdoor furnace.
4. **Circulation valve(s) closed** - Be sure the proper valves in the system are open to allow circulation.
5. **Pulse set to run too long and/or too often in a low heat draw situation** - Increase the time between idle pulses of air and/or decrease the amount of time the pulse is provided (see FireStar operating instructions).
6. **FireStar combustion controller set incorrectly** - Refer to FireStar Combustion Controller Operation Manual.

F. FREQUENT PUMP TROUBLE OR POOR WATER CIRCULATION

1. **Pump mounted incorrectly** - If the pump is not mounted on the outdoor furnace, it must be mounted at a minimum of four feet lower than the top water level in the outdoor furnace.



Make sure the pump motor is installed in a horizontal position. The junction box must not be located below the pump motor. If necessary, remove the four screws and rotate the pump body.



2. **Water will not circulate** - If the system has been drained and refilled, or if the system has been opened for any reason (e.g., replacement of pump, adding heat exchangers, repairing a leak), the system must be purged (see Initial Start-up Procedures).
3. **Poor water quality** - Water with high amounts of solids, sand or dirt can cause frequent pump failure. Use softened and/or filtered water.
4. **Deposits in water lines/heat exchanger walls** - If water high in silica or other mineral content has been used, material deposits may build up on the insides of the supply and return lines and on the heat exchanger walls. If this occurs, the system will need to be drained and then cleaned using Sludge Conditioner (p/n 166). The system must then be refilled with the proper amount of 1650XL Inhibitor Plus (p/n 1650) and fresh water.

G. BURNING AN EXCESSIVE AMOUNT OF WOOD

1. **High volume water heating** - High volume water heating (e.g., car wash, swimming pool, etc.) will require high wood consumption.
2. **Excessive heat loss** - See items 6-10 of Building is Losing Temperature.
3. **Supply and return line heat loss** - If not using ThermoPEX, supply and return lines buried in a wet, low-lying area may cause a large heat loss that will greatly increase wood consumption.
4. **High heat demand** - Concrete slabs (with radiant heat) that are poorly insulated or are exposed to water or cold outside temperatures will require increased wood consumption (see Hydronic Installations section). Bringing a cold concrete slab up to temperature the first time will take a considerable amount of time and wood; once warm, wood consumption will be reduced if the concrete slab and building are insulated properly. The following will also have a high heat demand: poorly insulated buildings, buildings with large amounts of glass windows/doors, buildings with overhead doors, greenhouses, uninsulated crawl spaces, outdoor air infiltration and air leaking through foundation.

H. VISIBLE EXHAUST COMING FROM CHIMNEY

Review the information in the Adding Wood section, starting at step 5.

There are conditions related to outside temperatures, humidity, fuel moisture, burn rate and other factors that can cause steam to be visible in the exhaust plume of combustion equipment, whether it is wood, gas or oil.

Seeing a white exhaust plume with moisture present is normal under many conditions and is not suggestive of poor combustion or high emissions.

Opacity is the amount of light which is blocked in an exhaust plume. It is a measurement that is usually stated as a percentage. For example, an opacity of 0% means that all light passes through while an opacity of 100% means that no light can pass through. Opacity measurements give an indication of the concentration of particles in an exhaust plume.

To read opacity correctly, observations should be made only when:

- The sun is shining and behind you,
- You are at least three times the distance of the chimney height away from the furnace, and
- The plume is traveling perpendicular to your position.

The observation should be conducted looking at the point of the plume where condensed water vapor (steam) is not present. Do not observe the plume itself but rather look through it at a contrasting background (such as green leaves or trees). There are many other important factors as well.

The amount of visible emissions can be reduced by burning seasoned wood, by making sure that your chimney meets the recommendations in this owner's manual and by loading the firebox to match your heat load. Once the water content of the wood has evaporated, the emissions become very transparent.

1. **Too much ash in firebox** - Refer to Routine Maintenance for ash removal.

I. CORROSION IS PRESENT - CALL DEALER

NOTE: To reduce condensation in the firebox, it is not recommended to set the temperature below 185˚F (85˚C).

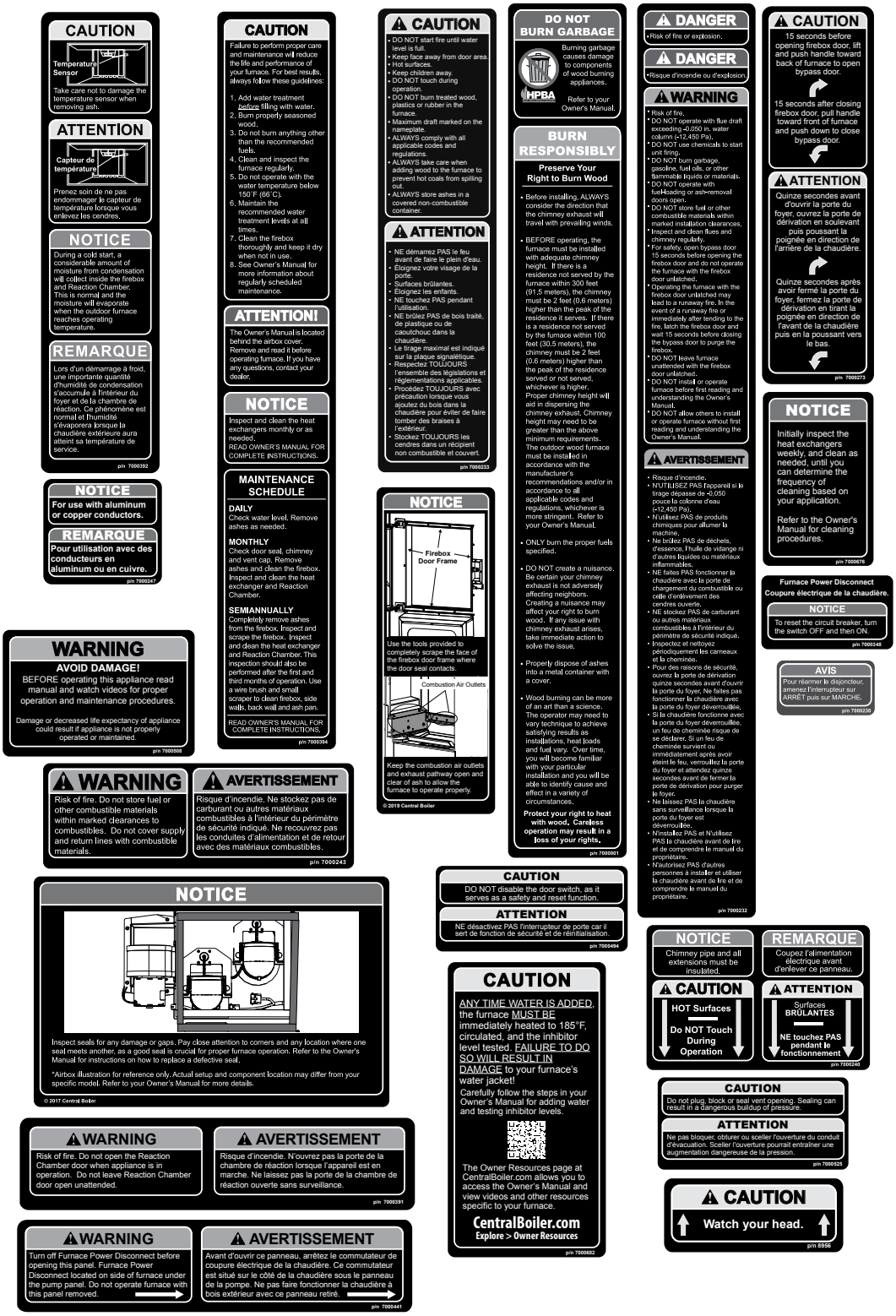
1. **Burning garbage or plastic** -Do not burn garbage or plastic. It is likely unlawful and may damage the firebox in a very short period of time.

NOTE: Chloride or sulfurous gases can be generated if plastic or rubber is burned and will mix with the moisture from the wood to form hydrochloric or sulfuric acids in the firebox, creating corrosion.

2. **Firebox wasn't cleaned out at the end of the heating season** - Be sure to follow the post-heating season maintenance schedule which includes scraping out firebox and removing all ash.
3. **Cleaning rod not run through ash bed prior to loading wood** - It is important that you push the cleaning rod back and forth through the ash bed each time prior to loading wood to allow air flow and prevent the ashes from accumulating moisture. See Operating Instructions for more details.

GENERAL INFORMATION

Make note of these precautionary statements, also found on the outdoor furnace.



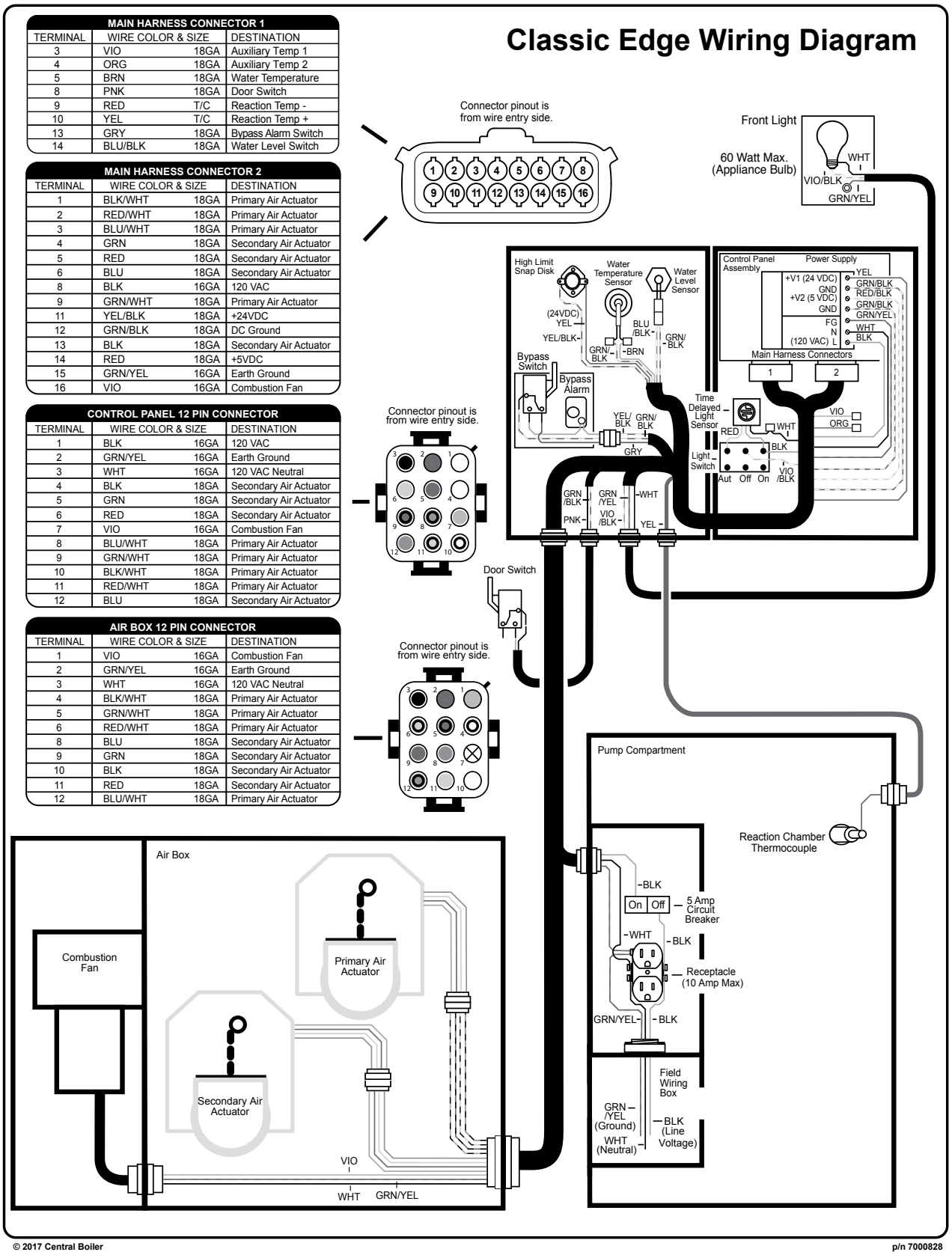
WIRING DIAGRAM

MAIN HARNESS CONNECTOR 1			
TERMINAL	WIRE COLOR & SIZE		DESTINATION
3	VIO	18GA	Auxiliary Temp 1
4	ORG	18GA	Auxiliary Temp 2
5	BRN	18GA	Water Temperature
8	PNK	18GA	Door Switch
9	RED	T/C	Reaction Temp -
10	YEL	T/C	Reaction Temp +
13	GRY	18GA	Bypass Alarm Switch
14	BLU/BLK	18GA	Water Level Switch

MAIN HARNESS CONNECTOR 2			
TERMINAL	WIRE COLOR & SIZE		DESTINATION
1	BLK/WHT	18GA	Primary Air Actuator
2	RED/WHT	18GA	Primary Air Actuator
3	BLU/WHT	18GA	Primary Air Actuator
4	GRN	18GA	Secondary Air Actuator
5	RED	18GA	Secondary Air Actuator
6	BLU	18GA	Secondary Air Actuator
8	BLK	16GA	120 VAC
9	GRN/WHT	18GA	Primary Air Actuator
11	YEL/BLK	18GA	+24VDC
12	GRN/BLK	18GA	DC Ground
13	BLK	18GA	Secondary Air Actuator
14	RED	18GA	+5VDC
15	GRN/YEL	16GA	Earth Ground
16	VIO	16GA	Combustion Fan

CONTROL PANEL 12 PIN CONNECTOR			
TERMINAL	WIRE COLOR & SIZE		DESTINATION
1	BLK	16GA	120 VAC
2	GRN/YEL	16GA	Earth Ground
3	WHT	16GA	120 VAC Neutral
4	BLK	18GA	Secondary Air Actuator
5	GRN	18GA	Secondary Air Actuator
6	RED	18GA	Secondary Air Actuator
7	VIO	16GA	Combustion Fan
8	BLU/WHT	18GA	Primary Air Actuator
9	GRN/WHT	18GA	Primary Air Actuator
10	BLK/WHT	18GA	Primary Air Actuator
11	RED/WHT	18GA	Primary Air Actuator
12	BLU	18GA	Secondary Air Actuator

AIR BOX 12 PIN CONNECTOR			
TERMINAL	WIRE COLOR & SIZE		DESTINATION
1	VIO	16GA	Combustion Fan
2	GRN/YEL	16GA	Earth Ground
3	WHT	16GA	120 VAC Neutral
4	BLK/WHT	18GA	Primary Air Actuator
5	GRN/WHT	18GA	Primary Air Actuator
6	RED/WHT	18GA	Primary Air Actuator
8	BLU	18GA	Secondary Air Actuator
9	GRN	18GA	Secondary Air Actuator
10	BLK	18GA	Secondary Air Actuator
11	RED	18GA	Secondary Air Actuator
12	BLU/WHT	18GA	Primary Air Actuator



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p/n 7000828

WATER SAMPLE INFORMATION - TITANIUM SERIES MODELS

NOTE: It is your responsibility as owner to ensure that your water sample information is accurate and that you submit your samples on a timely basis as required by the warranty for your stainless steel outdoor furnace. Failure to do so will result in a one year warranty.

WATER SAMPLE LABEL INFORMATION

Use the Water Sample Kit provided in your owner's packet or include the water sample label information below when mailing water samples to Central Boiler.

NAME: _____

ADDRESS: _____

CITY: _____STATE:_____ZIP: _____

EMAIL: _____

PHONE: _____ FURNACE SERIAL # _____

DEALER: _____

DATE SAMPLE COLLECTED: _____

☐ NO ANTIFREEZE ADDED ☐ ANTIFREEZE ADDED

Please check ONE box

FOR LAB USE ONLY:

Moly pH Ni Date

MAILING LABEL

Use the Water Sample Kit provided in your owner's packet or send water samples to Central Boiler, Attn: Water Quality Department, 20502 160th Street, Greenbush, MN 56726.

FROM _____

_____

_____

CENTRAL BOILER, INC.
ATTN: WATER QUALITY DEPARTMENT
20502 160th Street
Greenbush, MN 56726

LIMITED WARRANTY - CLASSIC EDGE TITANIUM SERIES MODELS

Central Boiler, Inc. ("Central Boiler") warrants to the original owner, except (a) parts manufactured by others and excluded from warranty coverage below; and (b) parts or items specified below as covered by a limited one year warranty, Central Boiler Classic, Classic Edge and E-Classic Titanium Series furnaces against defects in workmanship and against corrosion failure of the firebox/water jacket assembly for a period of TWENTY-FIVE (25) YEARS from the date of original retail purchase, provided that the Limited Warranty Registration Form is completed and sent to Central Boiler within ten (10) days of the original owner taking possession of the furnace and the original owner strictly complies with the instructions for maintenance and water treatment contained in the Owner's Manual; otherwise this Limited Warranty shall be for a period of ONE (1) YEAR from the date of manufacture or one year from original retail purchase, if proof of purchase date can be provided.

If a failure of a warranty covered part occurs that is caused by a defect in workmanship or corrosion, at its option Central Boiler will (1) repair or replace (using new or refurbished replacement parts) the defective or failed part based on the date of original retail purchase at the following prorated scale:

First – Fifth year: Parts and labor will be covered at 100%
Sixth year: Parts will be covered at 70%
Seventh year: Parts will be covered at 60%
Eighth year: Parts will be covered at 50%
Ninth year: Parts will be covered at 40%
Tenth – Twentieth year: Parts will be covered at 15%
Twenty-first – Twenty-fifth: Parts will be covered at 10%

(2) exchange the furnace with a comparable model furnace that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original furnace, or (3) provide a discount off the retail purchase price of a new Central Boiler furnace of comparable model based on the pro-rated scale: Years 1-5 100%, years 6-7 at 50%, years 8-10 at 40%, years 11-15 at 30% and years 16-25 at 10%. A replacement furnace/part assumes the remaining warranty of the original furnace/part or ninety (90) days from the date of replacement or repair, whichever provides longer coverage. If a furnace or part is qualified for replacement under the provisions of this limited warranty, at Central Boiler's discretion, the furnace or part may be required to be returned to Central Boiler for inspection and recycling or disposal.

Because maintaining the corrosion inhibitor at a proper level is imperative to preventing corrosion failures, to qualify for the 25 year warranty the operator must comply with the instructions in the owner's manual for maintenance and water treatment and send a furnace water sample when the furnace is initially put into service and once each year thereafter to confirm proper maintenance and water treatment. No warranty claim can be approved unless the furnace registration and the required water test verifications are on file at Central Boiler.

Parts Manufactured By Others. Parts that are factory-installed by Central Boiler, but are manufactured by others, may be covered by their own manufacturer's warranty and are not covered by this limited warranty, except the FireStar™ combustion controller on the Classic, Classic Edge and E-Classic Titanium Series furnace is warranted against defects in workmanship for a period of two (2) years from the date of original retail purchase, provided that the Limited Warranty Registration Form is completed and sent to Central Boiler within ten (10) days of the original owner taking possession of the furnace; otherwise this limited warranty shall be for a period of ONE (1) YEAR from the date of original retail purchase. This limited warranty covers the controller part only; service calls, mileage, and labor to diagnose the problem and install a new part are not covered.

Parts Covered by a Limited One Year Warranty. The following parts are covered by a limited warranty for workmanship defects for one year: gaskets, seals, heat shields, paint, charge tube, firebox ash pan, combustors, aquastats, actuators, heat refractory, and firebrick. This limited warranty covers the part only; service calls, mileage, and labor to diagnose the problem and install a new part are not covered.

EXCLUSIONS AND LIMITATIONS - This Limited Warranty applies only to Central Boiler Classic, Classic Edge and E-Classic Titanium Series outdoor furnaces. This limited warranty covers only those defects or corrosion failures that arise as a result of normal use of the outdoor furnace and does not cover any other defects or problems, including those that arise as a result of: (a) improper maintenance (b) operation outside the furnace's specifications (see owner's manual), accident, abuse, misuse, misapplication, or parts that are not factory-installed; (c) service performed by anyone other than Central Boiler unless authorized by Central Boiler in writing; (d) modifications undertaken without the written permission of Central Boiler; or (e) if any Central Boiler serial number has been removed or defaced. This limited corrosion warranty will be void if the owner fails to maintain the proper amount of corrosion inhibitor in the system, fails to send water samples to Central Boiler as required, or burns materials in the firebox other than natural wood. This limited warranty excludes the cost of shipping, labor to remove or reinstall the furnace, plumbing labor and/or parts and the cost of alternative heat if the furnace is out of service for repairs. Warranty excludes replacement of water, inhibitors or other additives, and parts used in the system whether or not mounted on the furnace, such as pumps, valves, and piping.

Central Boiler is not liable for damage or repairs required as a consequence of faulty installations or applications by others or any event of force majeure. Central Boiler is not liable for incidents or accidents which can be prevented by the owner or that occur from the operation of the outdoor furnace. A backup heating system should be in place to prevent damage in case of failure to refuel the outdoor furnace or in the event that mechanical failure of the outdoor furnace or system occurs. Heat replacement representations found in Central Boiler promotional information should be used only as a guideline. Heat loss for all applications with all weather extremes and other heat variables must be considered when sizing an outdoor furnace for different applications.

THIS LIMITED WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. CENTRAL BOILER SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF CENTRAL BOILER CANNOT LAWFULLY DISCLAIM IMPLIED WARRANTIES UNDER THIS LIMITED WARRANTY, ALL SUCH WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY. No Central Boiler dealer or employee is authorized to make any modification, extension, or addition to this limited warranty. CENTRAL BOILER IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages or exclusions or limitations on the duration of implied warranties or conditions, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by state or province.

OBTAINING WARRANTY SERVICE - To obtain warranty service, contact the Central Boiler dealer from whom you purchased your furnace or contact Central Boiler by telephone (800-248-4681) or mail (20502 160th Street, Greenbush, MN 56726). Please provide the dealer's name, original date of sale, model number and serial number in all communications. Central Boiler reserves the right to require the warranty service to be performed at a Central Boiler facility when deemed necessary by Central Boiler. All corrosion repairs will be performed at Central Boiler unless authorized by Central Boiler in writing.

Design Changes. Central Boiler reserves the right to change and improve the product design for improved performance without assuming responsibility to upgrade previously sold products.

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Section 4

Test Data by Run

Hydronic Heating Appliances - Test Method 28 WHH
Conditioning

Manufacturer:	Central Boiler
Model:	Edge 560
Tracking No.:	2374
Project No.:	0117WB038E
Test Date:	June 27, 2019
Technician:	B. Davis
Operation Category:	CAT I
Stove Weight (lb):	1778.5
Water Weight (lb):	1631

Elapsed Time (hr)	Flue Gas Temp (degrees F)
0	288.0
1	299.0
2	307.0
3	291.0
4	308.0
5	315.0
6	318.0
7	317.0
8	328.0
9	131.4
10	139.8
11	861.9
12	882.3
13	529.0
14	318.0
15	244.1
16	296.1
17	364.7
18	289.2
19	221.7
20	418.4
21	277.0
22	221.2
23	734.8
24	329.3
25	243.4
26	291.4
27	354.9
28	257.0
29	211.4
30	378.8
31	260.1
32	209.7
33	420.1
34	273.3
35	215.5
36	792.0
37	304.4
38	231.0
39	196.4
40	389.8
41	268.2
42	217.3
43	551.7
44	332.3
45	244.5
46	204.9
47	807.4
48	230.3
49	144.6
50	238.3

Run 1

Hydronic Heating Appliances
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run: 1
Test Date: September 17, 2019

Burn Rate	**11.98 kg/hr dry**
Average Tunnel Temperature	114 degrees F
Average Gas Velocity in Dilution Tunnel - vs	9.6 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	24287 dscf/hour
Average Delta p	0.022 inches H20
Average Delta H	1.33 inches H20
Total Time of Test	287 minutes

PARTICULATE EMISSIONS RESULTS

First Hour:	**3.23** g/hr
	0.28 g/kg
	0.04 lb/mmBTU output
Complete Run:	**9.96** g/hr
	0.83 g/kg
	0.11 lb/mmBTU output

	SAMPLE TRAIN 1	SAMPLE TRAIN 2	AMBIENT SAMPLE TRAIN
Total Sample Volume - Vm	45.98 cubic feet	44.59 cubic feet	64.43 cubic feet
Average Gas Meter Temperature	85 degrees F	84 degrees F	73 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	45.0 dscf	42.8 dscf	62.9 dscf
Total Particulates - mn	18.3 mg	18.1 mg	0.3 mg
Particulate Concentration (dry-standard)	0.00041 grams/dscf	0.00042 grams/dscf	0.000005 grams/dscf
Particulate Emissions	46.72 grams	48.56 grams	
Difference from Average	0.92 grams	0.92 grams	

Results Are Acceptable

AVERAGE

Total Sample Volume - Vm	45.28 cubic feet
Average Gas Meter Temperature	84 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	43.9 dscf
Particulate Concentration (dry-standard)	0.00041 grams/dscf
Particulate Emissions	47.64 grams
7.5% of the average particulate emissions	3.57 grams

ADDITIONAL ACCEPTANCE CRITERIA

Boiler Water Return Temperature >120 °F	**Acceptable**
Proportional Rate Variation >80%	**Acceptable**
90% of PR Values between 90-110%	**Not Acceptable**

See proportional rate verification

SAMPLE TRAIN 1 - FIRST HOUR

Total Sample Volume - Vm	9.56 cubic feet
Average Gas Meter Temperature	80 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	9.42 dscf
Total Particulates - mn	1.3 mg
Particulate Concentration (dry-standard)	0.00014 grams/dscf
Particulate Emissions	3.23 grams
Burn Rate	11.47 (dry kg/hr)
Heat Output Rate	193445 BTU/hr

Hydronic Heating Appliances
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run #: 1
Date: 9/17/19

Equipment Numbers:

TRAIN 1 (First Hour emissions)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
B. Front filter catch	Filter	D897	118.2	116.9	1.3
C. Rear filter catch	Filter				0.0
D. Probe catch*	Probe				0.0
E. Filter seals catch*	Seals				0.0

Sub-Total | Total Particulate, mg: | 1.3

TRAIN 1

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch (remainder)	Filter	D894	134.8	119.5	15.3
B. Rear filter catch	Filter	D898	118.7	118.0	0.7
C. Probe catch*	Probe	21	114393.4	114392.8	0.6
D. Filter seals catch*	Seals	R875	3572.5	3572.1	0.4

Sub-Total | Total Particulate, mg: | 17.0

Total Particulate, mg: | 18.3

TRAIN 2

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch	Filter	D895	133.7	117.8	15.9
B. Rear filter catch	Filter	D896	119.3	118.8	0.5
C. Probe catch*	Probe	24	114128.5	114126.8	1.7
D. Filter seals catch*	Seals	R876	3290.3	3290.6	0.0

Total Particulate, mg: | 18.1

AMBIENT

Sample Component	Reagent	Filter # or Probe #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch*	Filter	D899	118.0	117.7	0.3

Total Particulate, mg: | 0.3

*Any particulate catch that results in a negative number, is assumed to be zero

Component	Equations:
A. Front filter catch	Final (mg) - Tare (mg) = Particulate, mg
B. Rear filter catch	Final (mg) - Tare (mg) = Particulate, mg
C. Probe catch	Final (mg) - Tare (mg) = Particulate, mg

Hydronic Heating Appliances
Fuel Moisture

Manufacturer:	Central Boiler
Model:	Edge 560
Tracking No.:	2374
Project No.:	0117WB038E
Technician:	B. Davis
Run #:	1
Test Date:	September 17, 2019

Wet Weight (lb)	% Moisture				
10.5	18.8	19.2	20.6	18.3	18.6
9.6	21.3	18.6	20.3	18.4	18.7
10.5	21.9	21	23.8	22.6	23.8
11.4	22.4	21.9	20.1	18.9	19.5
11.2	22	22	20.6	18.4	18.2
8.8	23.8	18.7	18.9	20	19.2
8.9	20.3	19	18.7	18.3	18.8
8.7	21.1	18.6	18.4	20	19.7
11	18.4	19.8	19.2	19.4	18.8
10.8	19.9	18.3	19.5	23.8	19.1
10	18.3	19.1	20	19.7	18.7
9.6	18.3	18.8	21	19.7	18.7
10.9	21.3	18.8	18.7	18.2	19.0
11	20.1	18.6	18.8	19.2	18.9
8.4	19.4	18.8	18.9	18.7	19.6

Total Weight of Load (lb): 151.3

Total Moisture of Load (%): 19.7

Equipment Numbers:

Hydronic Heating Appliances
Test Data

Run: 1

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Test Date: September 17, 2019
Technician: B. Davis
Beginning Clock Time: 16:26
Recording Interval: 1 min.
Total Sampling Time: 287 min.

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Pt.9	Pt.10	Pt.11	Pt.12	Center	
Initial dP	0.017	0.021	0.023	0.025	0.025	0.024	0.026	0.023	0.024	0.024	0.022	0.020	0.026	"H2O
Initial Temp.	110	111	111	111	111	111	113	113	113	112	112	111	110	oF

Air Velocity: Initial: <50 Final: <50 V_{strav} 10.42 ft/sec
Scale Audit: Pre: 10.0 Post: 10.0 Induced Draft: 0 V_{scent} 11.12 ft/sec
Pitot Tube Leak Test: Pre: 0 Post: 0 % Smoke Capture: 100 F_p 0.937
Flue Pipe Cleaned Prior to First Test in Series: Date: 9/17/2019

PM Control Module: 335, 336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.178 "H2O
Pitot Tube Cp: 0.99

	(1)	(2)	(amb)
Meter Box Y Factor:	1.009	0.99	0.988

Barometric Pressure:	Begin	Middle	End	Average
	29.83	29.83	29.83	29.83 "Hg

Tunnel Velocity: 9.57 ft/sec.
Intial Tunnel Flow: 416.4 scfm
Average Tunnel Flow: 404.8 scfm
Tunnel Area: 0.785 ft2
Post-Test Leak Check (1): 0.000 cfm @ 6 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ 6 in. Hg
Fuel Moisture (dry basis %): 19.7
Total Particulate (1): 18.3
Total Particulate (2): 18.1

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
0	0.002	0.000	0.000			1.14	0.90	0.26	77	77	73	1.87	1.20	104	0.023			151.3		3.13	15.5	89.3	156.4	139.2	65.9	155.3	279	73	73	73		1.001	26.098	
1	0.156	0.155		0.15	0.16	1.36	1.11	0.26	77	77	73	1.92	1.30	97	0.030	82	85	150.6	0.70	3.47	15.5	93.9	161.5	141.6	66.0	159.8	259.87497	74	73	73		1.001	28.854	2711
2	0.317	0.312		0.16	0.16	1.36	1.10	0.26	77	77	73	1.92	1.30	95	0.027	90	90	149.6	0.97	3.40	15.5	91.5	158.3	140.0	66.0	157.5	280.10889	75	74	73		1.001	28.280	2590
3	0.477	0.470		0.16	0.16	1.36	1.10	0.26	77	77	73	1.92	1.40	105	0.028	89	90	149.3	0.36	3.85	15.6	88.9	156.9	135.9	66.0	154.9	299.31036	77	75	73		1.001	32.087	2855
4	0.637	0.626		0.16	0.16	1.36	1.10	0.26	77	77	73	1.94	1.40	109	0.025	94	94	148.7	0.62	3.78	15.6	93.8	161.5	140.0	66.0	159.8	307.84921	78	76	73		1.001	31.441	2954
5	0.796	0.782		0.16	0.16	1.35	1.10	0.26	77	77	73	1.92	1.40	111	0.027	90	91	148.0	0.62	3.83	15.6	92.4	159.9	139.0	66.0	158.4	309.81958	78	77	73		1.001	31.924	2953
6	0.956	0.939		0.16	0.16	1.36	1.09	0.26	77	77	73	1.92	1.40	111	0.024	96	97	147.6	0.47	3.93	15.7	94.0	161.7	140.1	66.0	160.0	310.35284	79	77	73		1.001	32.733	3080
7	1.115	1.095		0.16	0.16	1.36	1.09	0.26	77	77	73	1.95	1.40	111	0.023	98	99	147.0	0.58	3.87	15.5	91.4	159.4	137.7	66.0	157.3	311.34012	79	78	73		1.001	32.248	2949
8	1.275	1.251		0.16	0.16	1.35	1.09	0.26	77	77	73	1.93	1.40	111	0.020	105	106	146.3	0.72	3.87	15.6	93.2	161.2	139.3	66.0	159.2	312.13425	80	78	73		1.001	32.245	3010
9	1.434	1.407		0.16	0.16	1.36	1.09	0.26	77	77	73	1.93	1.40	111	0.016	117	118	145.7	0.51	3.81	15.5	94.0	161.6	140.3	66.0	160.0	312.92893	80	79	73		1.001	31.760	2990
10	1.594	1.563		0.16	0.16	1.35	1.09	0.26	77	77	73	1.94	1.40	107	0.025	94	94	145.4	0.37	3.80	15.5	94.7	162.6	140.6	66.0	160.7	296.26749	80	78	73		1.001	31.598	2997
11	1.754	1.719		0.16	0.16	1.34	1.08	0.26	78	77	73	1.93	1.40	108	0.020	105	106	144.7	0.71	3.85	15.6	93.1	160.7	139.5	66.0	159.1	308.06247	80	79	73		1.001	32.083	2989
12	1.912	1.874		0.16	0.16	1.34	1.08	0.26	78	78	73	1.92	1.40	109	0.026	91	92	144.1	0.52	3.76	15.6	91.9	159.9	138.4	66.1	158.0	291.22327	80	79	73		1.001	31.313	2881
13	2.071	2.030		0.16	0.16	1.33	1.07	0.26	78	78	73	1.92	1.40	104	0.020	104	105	143.8	0.35	3.88	15.5	94.4	162.1	140.7	66.1	160.5	299.08408	81	79	73		1.001	32.292	3053
14	2.230	2.184		0.16	0.15	1.33	1.07	0.26	78	78	73	1.93	1.40	109	0.019	107	107	143.2	0.55	3.76	15.5	93.9	162.0	139.9	66.1	160.0	301.87763	81	79	73		1.001	31.273	2939
15	2.388	2.340		0.16	0.16	1.34	1.07	0.26	78	78	73	1.93	1.40	104	0.026	91	92	142.6	0.63	3.91	15.5	93.9	162.0	139.9	66.1	160.0	291.82251	81	79	73		1.001	32.569	3062
16	2.547	2.494		0.16	0.15	1.34	1.07	0.26	78	78	73	1.92	1.40	107	0.024	95	95	142.2	0.44	3.83	15.6	92.8	160.6	139.2	66.1	158.9	305.13059	81	79	73		1.001	31.920	2965
17	2.706	2.649		0.16	0.16	1.34	1.07	0.26	78	78	73	1.93	1.40	105	0.026	91	92	141.8	0.40	3.86	15.6	91.9	159.7	138.7	66.1	158.1	284.99323	81	79	73		1.001	32.092	2954
18	2.865	2.803		0.16	0.15	1.34	1.06	0.26	79	78	73	1.94	1.40	101	0.026	91	91	141.2	0.54	3.86	15.6	92.5	160.8	138.4	66.1	158.6	295.34784	81	79	73		1.001	32.117	2973
19	3.024	2.958		0.16	0.16	1.33	1.06	0.26	79	79	73	1.93	1.40	107	0.023	97	97	140.7	0.53	3.85	15.6	93.4	161.4	139.4	66.1	159.5	289.73447	81	80	73		1.001	32.092	2999
20	3.183	3.112		0.16	0.15	1.33	1.06	0.26	79	79	73	1.92	1.40	101	0.023	96	96	140.3	0.45	3.91	15.5	92.5	160.1	139.2	66.1	158.6	281.71469	81	79	73		1.001	32.571	3016
21	3.342	3.267		0.16	0.16	1.32	1.06	0.26	79	79	73	1.92	1.40	104	0.025	93	93	139.8	0.44	4.03	15.5	92.4	160.5	138.7	66.1	158.5	299.16217	81	80	73		1.001	33.535	3102
22	3.500	3.421		0.16	0.15	1.33	1.07	0.26	79	79	73	1.93	1.40	104	0.026	90	91	139.4	0.40	3.85	15.5	92.3	160.5	138.4	66.1	158.4	281.12671	81	80	73		1.001	32.073	2964
23	3.659	3.576		0.16	0.16	1.33	1.05	0.26	79	79	73	1.94	1.40	101	0.025	92	93	139.0	0.42	3.74	15.6	90.7	159.2	137.0	66.1	156.8	291.23996	81	80	73		1.001	31.097	2823
24	3.817	3.731		0.16	0.16	1.33	1.06	0.26	79	79	73	1.92	1.40	106	0.025	92	93	138.2	0.81	3.83	15.6	90.6	158.6	137.3	66.1	156.7	300.724	81	80	73		1.001	31.922	2896
25	3.976	3.884		0.16	0.15	1.34	1.06	0.26	80	79	73	1.92	1.40	103	0.025	92	92	138.0	0.17	4.57	15.5	90.5	159.6	134.4	66.1	156.6	279.36404	81	80	73		1.001	38.069	3450
26	4.135	4.040		0.16	0.16	1.33	1.06	0.26	80	80	73	1.94	1.40	102	0.026	91	92	137.4	0.58	4.75	15.5	89.0	158.4	132.9	66.1	155.1	294.22842	81	80	73		1.001	39.524	3523
27	4.295	4.194		0.16	0.15	1.32	1.06	0.26	80	80	73	1.95	1.40	107	0.026	92	91	136.9	0.48	4.55	15.6	91.9	160.9	135.7	66.1	157.9	302.02319	81	80	73		1.001	37.910	3487
28	4.454	4.349		0.16	0.16	1.34	1.06	0.26	80	80	73	1.94	1.40	103	0.026	91	91	136.4	0.57	3.00	15.6	92.5	158.6	143.2	66.1	158.6	279.75815	81	79	73		1.001	24.958	2311
29	4.613	4.503		0.16	0.15	1.33	1.06	0.26	80	80	73	1.95	1.40	103	0.025	92	92	136.3	0.10	3.72	15.5	86.7	153.9	136.1	66.1	152.8	297.1358	81	80	73		1.001	30.949	2685
30	4.772	4.657		0.16	0.15	1.32	1.06	0.26	80	80	73	1.95	1.40	106	0.023	97	96	135.5	0.82	3.72	15.6	92.5	160.3	139.4	66.1	158.7	285.28958	81	79	73		1.001	30.994	2872
31	4.930	4.812		0.16	0.16	1.33	1.06	0.26	81	80	73	1.94	1.40	100	0.026	90	91	135.0	0.44	4.03	15.6	92.3	160.1	138.1	66.1	158.4	287.24982	80	79	73		1.001	33.539	3098
32	5.090	4.966		0.16	0.15	1.33	1.05	0.26	81	81	73	1.94	1.40	105	0.015	120	119	134.6	0.46	4.03	15.6	92.2	160.6	137.6	66.1	158.3	282.84357	80	79	73		1.001	33.539	3098
33	5.249	5.122		0.16	0.16	1.33	1.06	0.26	81	81	73	1.93	1.40	100	0.024	94	95	134.3	0.23	4.18	15.5	87.5	154.8	134.6	66.1	153.6	278.78958	80	79	73		1.001	34.830	3051
34	5.408	5.276		0.16	0.15	1.34	1.06	0.26	81	81	73	1.93	1.40	104	0.026	91	90	133.7	0.65	4.03	15.6	90.0	158.3	135.7	66.1	156.1	294.56461	80	79	73		1.001	33.537	3022
35	5.567	5.431		0.16	0.16	1.34	1.06	0.26	81	81	73	1.94	1.40	102	0.026	90	91	133.3	0.39	4.05	15.6	88.0	156.3	134.3	66.1	154.0	276.0687	80	79	73		1.001	33.730	2971
36	5.727	5.585		0.16	0.15	1.33	1.06	0.26	81	81	73	1.95	1.40	103	0.026	91	90	132.7	0.59	4.09	15.5	91.1	159.3	136.8	66.0	157.2	295.42194	80	79	73		1.001	34.022	3104
37	5.887	5.740		0.16	0.16	1.34	1.06	0.26	81	81	73	1.94	1.40	107	0.026	91	91	132.1	0.58	3.95	15.6	91.1	159.4	136.6	66.0	157.1	302.66763	80	79	73		1.001	32.888	3000
38	6.047	5.893		0.16	0.15	1.33	1.06	0.26	82	81	73	1.94	1.40	106	0.026	91	90	131.9	0.25	4.13	15.6	89.8	158.2	135.6	66.0	155.9	285.71732	80	79	73		1.001	34.342	3089
39	6.206	6.048		0.16	0.16	1.33	1.05	0.26	82	82	73	1.96	1.40	104	0.026	90	91	131.4	0.48	4.22	15.6	89.3	156.9	135.8	66.0	155.4	298.64053	80	80	73		1.001	35.156	3144
40	6.366	6.202		0.16	0.15	1.33	1.06	0.26	82	82	73	1.93	1.40	105	0.026	91	90	130.9	0.48	4.16	15.5	89.1	157.5	134.9	66.1	155.2	289.84863	80	79	73		1.001	34.661	3092
41	6.525	6.356		0.16	0.15	1.33	1.05	0.26	82	82	73	1.95	1.40	105	0.026	90	90	130.4	0.53	4.17	15.4	86.8	154.6	133.6	66.1	152.9	284.47202	80	79	73		1.001	34.729	3019
42	6.684	6.511		0.16	0.16	1.33	1.05	0.26	82	82	73	1.95	1.40	105	0.017	112	112	129.9	0.43	4.16	15.6	88.9	157.0	135.0	66.1	154.9	287.35568	80	80	73		1.001	34.666	3085
43	6.844	6.664		0.16	0.15	1.33	1.05	0.26	82	82	73	1.95	1.40	104	0.025	93	91	129.5	0.39	4.05	15.5	89.3	157.8	135.2	66.0	155.4	297.73462	80	80	73		1.001	33.696	3014
44	7.004	6.819		0.16	0.16	1.33	1.05	0.26	82	82	73	1.94	1.40	106	0.025	93	93	128.9	0.67	4.05	15.6	90.8	159.2	136.4	66.0	156.9	285.25296	80	79	73		1.001	33.696	3064
45	7.163	6.972		0.16	0.15	1.34	1.05	0.26	82	82	73	1.96	1.40	105	0.025	92	91	128.5	0.42	4.01	15.5	87.0	154.9	133.6	66.0	153.0	302.19843	80	80	73		1.001	33.377	2908
46	7.323	7.126		0.16	0.15	1.34	1.04	0.26	83	82	73	1.97	1.40	108	0.025	93	92	128.1	0.33	4.07	15.5	87.5	155.9	133.8	66.0	153.5	294.8317	81	80	73		1.001	33.911	2970

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
47	7.482	7.281		0.16	0.15	1.33	1.05	0.26	83	83	73	1.97	1.40	106	0.027	89	89	127.4	0.78	4.22	15.6	90.2	158.5	135.7	66.0	156.2	303.12418	81	80	73		1.001	35.159	3174
48	7.642	7.434		0.16	0.15	1.34	1.05	0.26	83	83	73	1.97	1.40	106	0.007	175	173	126.9	0.43	4.44	15.6	90.5	159.1	135.4	66.0	156.5	287.6376	81	80	73		1.001	36.939	3347
49	7.803	7.587		0.16	0.15	1.33	1.01	0.26	83	83	73	1.96	1.50	106	0.028	88	86	126.4	0.53	4.36	15.5	83.9	151.9	130.6	66.0	149.9	303.58917	81	80	73		1.001	36.288	3049
50	7.963	7.739		0.16	0.15	1.33	1.04	0.26	83	83	73	1.95	1.50	105	0.026	91	89	126.0	0.40	4.26	15.6	87.6	155.4	133.8	66.0	153.6	290.54816	80	80	73		1.001	35.475	3112
51	8.122	7.893		0.16	0.15	1.33	1.04	0.26	83	83	73	1.97	1.50	106	0.022	98	98	125.4	0.55	4.28	15.6	90.6	158.9	135.5	66.0	156.5	304.85812	81	80	73		1.001	35.650	3232
52	8.282	8.047		0.16	0.15	1.32	1.04	0.26	83	83	73	1.95	1.50	108	0.022	99	98	124.8	0.60	4.33	15.6	90.5	159.0	135.4	66.0	156.4	289.77402	81	80	73		1.001	36.013	3262
53	8.442	8.199		0.16	0.15	1.32	1.02	0.26	83	83	73	1.96	1.50	105	0.025	93	91	124.5	0.39	4.28	15.6	89.0	157.4	134.2	66.0	154.9	301.95242	81	80	73		1.001	35.613	3172
54	8.601	8.350		0.16	0.15	1.33	1.02	0.26	83	83	73	1.98	1.50	108	0.027	89	87	123.9	0.56	4.26	15.6	86.1	154.5	132.1	66.0	152.1	309.23218	81	80	73		1.001	35.481	3059
55	8.761	8.503		0.16	0.15	1.33	1.04	0.26	83	83	73	1.97	1.50	109	0.024	95	94	123.6	0.30	4.24	15.5	88.5	156.9	134.0	66.0	154.5	292.20963	81	80	73		1.001	35.319	3129
56	8.921	8.655		0.16	0.15	1.32	1.04	0.26	84	83	73	1.97	1.40	102	0.027	89	87	123.1	0.46	4.18	15.6	88.3	157.1	133.5	65.9	154.2	292.42709	80	80	73		1.001	34.833	3079
57	9.080	8.810		0.16	0.16	1.33	1.04	0.26	84	83	73	1.96	1.50	107	0.023	96	97	122.6	0.55	4.42	15.6	89.4	157.9	134.5	65.9	155.3	302.92081	81	80	73		1.001	36.789	3293
58	9.240	8.963		0.16	0.15	1.33	1.04	0.26	84	84	73	1.97	1.50	109	0.026	91	90	122.1	0.51	4.41	15.5	88.7	157.1	134.0	65.9	154.7	291.20813	81	80	73		1.001	36.753	3265
59	9.400	9.117		0.16	0.15	1.33	1.04	0.26	84	84	73	1.98	1.50	104	0.023	96	96	121.4	0.69	4.28	15.5	88.8	157.2	134.1	65.9	154.7	296.66962	81	80	73		1.001	35.603	3164
60	9.559	9.271		0.16	0.15	1.33	1.04	0.26	84	84	73	1.98	1.50	108	0.023	96	96	121.0	0.36	4.22	15.6	87.9	156.5	133.2	65.9	153.8	293.68823	81	80	73		1.001	35.155	3094
61	9.721	9.424		0.16	0.15	1.33	1.04	0.26	84	84	73	1.96	1.50	105	0.026	92	89	120.7	0.30	4.30	15.5	87.2	155.4	133.0	65.9	153.1	299.77133	80	80	73		1.001	35.803	3127
62	9.882	9.578		0.16	0.15	1.33	1.04	0.26	84	84	73	1.95	1.50	108	0.007	176	174	120.2	0.48	4.16	15.5	85.0	153.7	131.0	65.9	150.9	305.57864	81	80	73		1.001	34.669	2950
63	10.042	9.731		0.16	0.15	1.34	1.04	0.26	84	84	73	1.95	1.50	109	0.021	101	100	119.6	0.64	4.47	15.5	88.1	156.6	133.5	65.9	154.0	299.1521	81	80	73		1.001	37.255	3285
64	10.203	9.885		0.16	0.15	1.33	1.03	0.26	84	84	73	1.95	1.50	105	0.025	93	92	119.1	0.49	4.19	15.4	88.8	157.2	134.1	65.9	154.7	302.50403	81	80	73		1.001	34.871	3101
65	10.364	10.038		0.16	0.15	1.34	1.02	0.26	84	84	73	1.96	1.50	109	0.026	92	90	118.6	0.50	4.38	15.5	82.2	150.1	129.3	65.9	148.1	292.9314	81	80	73		1.001	36.427	2999
66	10.524	10.189		0.16	0.15	1.34	1.02	0.26	84	84	73	1.97	1.50	106	0.024	95	92	118.1	0.47	4.49	15.5	88.6	156.9	134.0	65.9	154.4	305.06836	81	80	73		1.001	37.420	3318
67	10.684	10.342		0.16	0.15	1.34	1.02	0.26	84	84	73	1.97	1.50	110	0.020	104	102	117.5	0.64	4.22	15.6	87.9	156.5	133.3	65.9	153.8	310.36472	81	80	73		1.001	35.152	3094
68	10.844	10.494		0.16	0.15	1.34	1.02	0.26	84	84	73	1.96	1.50	106	0.026	91	89	117.2	0.26	4.40	15.5	88.0	156.2	133.7	65.9	153.9	303.13199	81	80	73		1.001	36.609	3227
69	11.005	10.645		0.16	0.15	1.34	1.02	0.26	85	84	73	1.96	1.50	109	0.027	90	87	116.6	0.68	4.28	15.5	84.5	152.5	131.0	65.8	150.4	307.24875	81	80	73		1.001	35.637	3016
70	11.165	10.798		0.16	0.15	1.33	1.02	0.26	85	84	73	1.97	1.50	110	0.027	89	88	116.2	0.37	4.25	15.6	86.6	155.1	132.1	65.8	152.5	308.4137	81	80	73		1.001	35.372	3067
71	11.325	10.951		0.16	0.15	1.33	1.03	0.26	85	84	73	1.97	1.50	110	0.027	89	88	115.5	0.71	4.24	15.5	87.8	156.2	133.2	65.8	153.6	295.65472	81	80	73		1.001	35.315	3104
72	11.485	11.103		0.16	0.15	1.34	1.02	0.26	85	85	73	1.97	1.50	106	0.026	91	89	115.2	0.29	4.32	15.6	85.6	153.6	131.7	65.8	151.4	303.58301	80	80	73		1.001	35.967	3081
73	11.645	11.256		0.16	0.15	1.33	1.02	0.26	85	85	73	1.97	1.50	109	0.025	93	91	114.6	0.59	4.30	15.5	86.9	155.4	132.4	65.8	152.8	296.94345	80	80	73		1.001	35.802	3116
74	11.806	11.408		0.16	0.15	1.33	1.02	0.26	85	85	73	1.98	1.50	106	0.026	91	89	114.2	0.41	4.26	15.6	86.6	154.7	132.6	65.8	152.5	303.91892	80	80	73		1.001	35.480	3078
75	11.966	11.560		0.16	0.15	1.33	1.02	0.26	85	85	73	1.97	1.50	105	0.020	103	101	113.7	0.45	4.26	15.5	88.1	156.4	133.4	65.8	153.9	284.88107	80	80	73		1.001	35.479	3128
76	12.126	11.713		0.16	0.15	1.33	1.01	0.26	85	85	73	1.98	1.50	106	0.025	92	91	113.2	0.50	4.42	15.5	86.1	154.0	132.2	65.8	152.0	283.53131	80	80	73		1.001	36.782	3172
77	12.286	11.864		0.16	0.15	1.33	1.02	0.26	85	85	73	1.99	1.50	105	0.025	92	90	112.9	0.38	4.26	15.5	84.0	152.2	130.3	65.8	149.9	288.1759	80	80	73		1.001	35.450	2983
78	12.446	12.016		0.16	0.15	1.33	1.01	0.26	85	85	73	1.97	1.50	103	0.025	92	90	112.5	0.31	4.13	15.6	85.5	153.9	131.4	65.8	151.3	290.70987	80	80	73		1.001	34.342	2939
79	12.606	12.169		0.16	0.15	1.33	1.01	0.26	85	85	73	1.97	1.50	102	0.025	92	91	112.1	0.48	4.26	15.5	85.5	153.1	131.8	65.8	151.3	288.45227	80	79	73		1.001	35.478	3036
80	12.767	12.324		0.16	0.15	1.34	1.10	0.26	85	85	73	1.98	1.60	105	0.026	91	90	111.7	0.38	4.24	15.5	82.8	151.1	129.2	65.8	148.5	281.47711	80	79	73		1.001	35.318	2926
81	12.927	12.483		0.16	0.16	1.33	1.09	0.26	85	85	73	1.97	1.70	104	0.026	90	93	111.1	0.58	4.48	15.6	84.6	153.1	130.1	65.8	150.3	292.19186	80	80	73		1.001	37.260	3155
82	13.088	12.640		0.16	0.16	1.34	1.09	0.26	85	85	73	1.97	1.60	102	0.024	95	95	110.8	0.34	4.47	15.5	84.8	152.9	130.5	65.8	150.5	284.58829	79	79	73		1.001	37.246	3162
83	13.249	12.798		0.16	0.16	1.34	1.10	0.26	85	85	73	1.96	1.60	105	0.026	91	92	110.2	0.56	4.63	15.5	84.2	153.3	129.3	65.8	150.0	280.8017	80	79	73		1.001	38.522	3249
84	13.409	12.956		0.16	0.16	1.33	1.08	0.26	85	85	73	1.96	1.60	105	0.023	96	98	109.8	0.41	4.44	15.6	82.6	151.0	128.6	65.7	148.3	291.27307	80	80	73		1.001	36.934	3053
85	13.569	13.114		0.16	0.16	1.34	1.09	0.26	85	85	73	1.97	1.60	104	0.022	98	100	109.2	0.57	4.36	15.5	83.6	152.0	129.4	65.7	149.4	299.4902	80	79	73		1.001	36.290	3039
86	13.730	13.273		0.16	0.16	1.34	1.10	0.26	85	85	73	1.97	1.60	105	0.026	91	93	108.5	0.68	4.59	15.6	85.1	153.7	130.3	65.7	150.8	291.04596	80	79	73		1.001	38.232	3258
87	13.890	13.430		0.16	0.16	1.33	1.08	0.26	85	85	73	1.97	1.60	107	0.024	94	95	108.2	0.34	4.46	15.6	85.2	153.5	130.6	65.7	150.9	306.65579	80	80	73		1.001	37.100	3166
88	14.050	13.588		0.16	0.16	1.33	1.09	0.26	85	85	73	1.98	1.60	106	0.025	92	94	107.8	0.41	4.38	15.4	81.4	149.8	127.7	65.7	147.1	299.02237	80	79	73		1.001	36.454	2970
89	14.210	13.745		0.16	0.16	1.33	1.08	0.26	85	85	73	1.99	1.70	108	0.025	93	94	107.2	0.54	4.71	15.5	81.3	150.0	127.0	65.7	146.9	308.16065	80	80	73		1.001	39.203	3189
90	14.370	13.902		0.16	0.16	1.33	1.09	0.26	85	85	73	1.98	1.70	110	0.024	95	96	106.6	0.64	4.57	15.5	84.7	153.5	129.7	65.7	150.4	311.19861	80	80	73		1.001	38.073	3230
91	14.531	14.061		0.16	0.16	1.33	1.09	0.26	85	85	73	1.99	1.70	111	0.023	97	99	106.1	0.52	4.71	15.6	85.2	153.8	130.1	65.6	150.9	300.39011	80	80	73		1.001	39.205	3345
92	14.691	14.218		0.16	0.16	1.33	1.09	0.26	85	85	73	1.98	1.60	109	0.017	112	114	105.6	0.50	4.61	15.4	82.2	150.2	128.1	65.6	147.8	299.97379	80	80	73		1.001	38.394	3159
93	14.851	14.376		0.16	0.16	1.33	1.08	0.26	85	85	73	1.99	1.70	109	0.025	93	94	105.1	0.50	4.51	15.6	84.3	153.2	129.2	65.6	149.9	308.03033	80	80	73		1.001	37.581	3172
94	15.011	14.533		0.16	0.16	1.33	1.08	0.26	85	85	73	2.00	1.70	111	0.022	99	100	104.5	0.58	4.61	15.6	82.7	151.3	128.2	65.6	148.3	311.98721	80	80	73		1.001	38.397	3180
95	15.172	14.690		0.16	0.16	1.34	1.08	0.26	85	85	73	1.99	1.70	112	0.024	95	96	103.9	0.56	4.67	15.5	81.7	150.5	127.3	65.6	147.3	314.03207	81	80	73		1.001	38.880	3181
96	15.332	14.847		0.16	0.16	1.34	1.08	0.26	85	85	73	1.98	1.70	113	0.024	95	96	103.3	0.65	4.52	15.5	84.6	152.9	129.7	65.6	150.1	315.87058	81	80	73		1.001	37.591	3183
97	15.493	15.004		0.16	0.16	1.33	1.08	0.26	85	85	73	2.00	1.70	113	0.024	96	96	102.7	0.62	4.52	15.5	82.7	150.8	128.3	65.5	148.2	316.78326	81	81	73		1.001	37.595	3112
98	15.652	15.161		0.16	0.16	1.33	1.07	0.26	85	85	73	1.99	1.70	113	0.018	109	111	102.3	0.37	4.59	15.5	85.2	153.8	129.8	65.5	150.7	316.99634	81	81	73		1.001	38.189	3256
99	15.813	15.317		0.16	0.16	1.33	1.07	0.26	86	85	73	2.01	1.70	113	0.021	102	102	101.6	0.67	4.58	15.6	83.8	152.6	128.7	65.5	149.3	316.22531	81	81	73		1.001	38.116	3199
100	15.973	15.473		0.16	0.16	1.33	1.07	0.26	85	85	73	2.00	1.70	114	0.022	99	100	101.0	0.61	4.63	15.5	86.0	154.3	130.7	65.5	151.5	317.81223	81	81	73		1.001	38.558	3321
101	16.134	15.629		0.16	0.16	1.33	1.07	0.26	86	85	73	1.99	1.70	114	0.021	102	102	100.6	0.42	4.57	15.6	80.3	148.5	126.3	65.5	145.8	317.74323	82	81	73		1.001	38.076	3061
102	16.294	15.786		0.16	0.16	1.33	1.06	0.26	86	85	73	2.01	1.70	115	0.021	101	103	99.7	0.89	4.57	15.6	84.2	153.0	128.9	65.5	149.7	323.5004	82	81	73		1.001	38.076	3211
103	16.453	15.941		0.16	0.16	1.33	1.07	0.26	86	85	73	2.02	1.70	117	0.018	109	110	99.0	0.71	4.48	15.5	83.7	152.1	128.8	65.5	149.1	327.55191	82	82	73		1.001	37.269	3122
104	16.613	16.098		0.16	0.16	1.33	1.08	0.26	86	85	73	2.01	1.70	118	0.021	102	103	98.5	0.50	4.57	15.5	86.2	154.6	130.7	65.5	151.7	325.71884	82	82	73		1.001	38.076	3286
105	16.773	16.255		0.16	0.16	1.32	1.08	0.26	86	85	73	2.00	1.70	118	0.016	117	118	98.1	0.43	4.51	15.6	83.3	152.2	128.2	65.4	148.7	328.26148	82	82	73		1.001	37.543	3131
106	16.933	16.413		0.16	0.16	1.32	1.08	0.26	86	85	73	2.00	1.70	118	0.024	95	97	97.3	0.82	4.62	15.5	84.8	153.4	129.6	65.4	150.3	328.73438	83	82	73		1.001	38.444	3265
107	17.093	16.569		0.16	0.16	1.32	1.08	0.26	86	85	73	2.01	1.70	117	0.024	95	96	96.6	0.66	4.46	15.6	86.4	154.9	130.8	65.4	151.8	325.84296	83	82	73		1.001	37.130	3211
108	17.253	16.727		0.16	0.16	1.32	1.08	0.26	86	85	73	2.01	1.70	117	0.024	95	97	96.1	0.51	4.48	15.5	86.7	155.0	131.1	65.4	152.1	323.48309	83	82	73		1.001	37.267	3234

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
109	17.413	16.883		0.16	0.16	1.32	1.08	0.26	86	85	73	2.02	1.70	116	0.024	95	96	95.4	0.72	4.40	15.5	85.6	153.4	130.6	65.4	151.0	322.93686	83	82	73		1.001	36.616	3138
110	17.572	17.040		0.16	0.16	1.32	1.07	0.26	86	85	73	2.01	1.70	118	0.025	93	94	94.8	0.60	4.63	15.5	83.6	152.3	128.3	65.4	149.0	328.95456	83	83	73		1.001	38.559	3226
111	17.732	17.196		0.16	0.16	1.33	1.07	0.26	86	85	73	2.02	1.70	118	0.025	93	94	94.2	0.55	4.57	15.5	83.4	151.3	128.8	65.4	148.8	323.49884	83	83	73		1.001	38.075	3180
112	17.891	17.353		0.16	0.16	1.32	1.07	0.26	86	85	73	2.02	1.70	117	0.023	97	98	93.7	0.54	4.71	15.5	85.8	153.8	130.6	65.4	151.2	323.10016	83	83	73		1.001	39.205	3366
113	18.051	17.509		0.16	0.16	1.32	1.07	0.26	86	85	73	2.03	1.70	118	0.017	113	114	93.0	0.66	4.55	15.5	83.8	152.3	129.0	65.4	149.3	326.1918	83	83	73		1.001	37.886	3180
114	18.211	17.666		0.16	0.16	1.31	1.07	0.26	86	85	73	2.01	1.70	118	0.018	110	111	92.3	0.70	4.29	15.5	83.3	151.4	128.9	65.4	148.7	325.68039	83	83	73		1.001	35.729	2979
115	18.371	17.821		0.16	0.16	1.32	1.06	0.26	86	85	73	2.03	1.70	119	0.020	104	104	91.6	0.69	4.32	15.6	84.5	152.6	129.7	65.4	149.9	322.93707	83	83	73		1.001	35.970	3042
116	18.530	17.978		0.16	0.16	1.31	1.06	0.26	86	85	73	2.04	1.70	118	0.023	97	98	91.1	0.50	4.38	15.6	87.0	155.2	131.8	65.4	152.4	320.01645	83	83	73		1.001	36.456	3176
117	18.690	18.134		0.16	0.16	1.31	1.07	0.26	86	85	73	2.03	1.70	118	0.020	104	105	90.6	0.59	4.34	15.6	87.3	155.2	132.0	65.4	152.7	320.68323	83	83	73		1.001	36.133	3159
118	18.848	18.291		0.16	0.16	1.30	1.07	0.26	86	85	73	2.03	1.70	118	0.021	100	103	89.8	0.73	4.36	15.4	85.6	153.9	130.7	65.4	151.0	321.43637	83	83	73		1.001	36.292	3112
119	19.007	18.447		0.16	0.16	1.31	1.07	0.26	86	85	73	2.02	1.70	118	0.020	104	105	89.2	0.62	4.38	15.5	84.8	153.3	129.9	65.4	150.2	321.05689	83	83	73		1.001	36.464	3097
120	19.166	18.604		0.16	0.16	1.32	1.08	0.26	86	85	73	2.02	1.70	118	0.021	101	103	88.5	0.67	4.31	15.5	88.1	155.7	132.9	65.4	153.4	319.69269	83	83	73		1.001	35.876	3163
121	19.325	18.761		0.16	0.16	1.32	1.07	0.26	86	85	73	2.06	1.70	118	0.018	109	111	88.2	0.38	4.36	15.6	81.5	149.7	127.6	65.4	146.9	317.68445	83	83	73		1.001	36.293	2961
122	19.485	18.917		0.16	0.16	1.31	1.07	0.26	86	85	73	2.02	1.70	118	0.018	110	111	87.4	0.74	4.30	15.5	85.6	153.5	131.0	65.4	151.0	315.60553	83	83	73		1.001	35.809	3070
123	19.644	19.074		0.16	0.16	1.32	1.07	0.26	86	85	73	2.05	1.70	118	0.019	106	108	86.7	0.68	4.40	15.5	88.3	156.4	132.9	65.4	153.7	314.56464	83	83	73		1.001	36.622	3239
124	19.804	19.230		0.16	0.16	1.32	1.07	0.26	86	85	73	2.04	1.70	118	0.017	113	114	86.0	0.71	4.40	15.5	84.6	152.1	130.4	65.4	150.0	315.07639	83	83	73		1.001	36.615	3101
125	19.963	19.387		0.16	0.16	1.30	1.07	0.26	86	85	73	2.05	1.70	118	0.020	104	106	85.5	0.51	4.46	15.5	83.9	151.7	129.7	65.4	149.2	315.28351	83	83	73		1.001	37.105	3115
126	20.122	19.542		0.16	0.16	1.30	1.08	0.26	86	85	73	2.05	1.70	118	0.016	116	117	84.9	0.66	4.34	15.5	85.0	153.0	130.4	65.4	150.4	317.15686	83	83	73		1.001	36.161	3077
127	20.281	19.700		0.16	0.16	1.30	1.07	0.26	86	85	73	2.06	1.70	118	0.021	101	104	84.0	0.87	4.43	15.5	84.4	152.9	129.6	65.4	149.8	323.15195	83	83	73		1.001	36.883	3118
128	20.440	19.856		0.16	0.16	1.30	1.07	0.26	86	85	73	2.05	1.70	118	0.019	106	108	83.5	0.47	4.24	15.5	83.6	152.0	128.9	65.4	148.9	325.65613	83	83	73		1.001	35.322	2955
129	20.598	20.013		0.16	0.16	1.30	1.07	0.26	86	85	73	2.09	1.70	118	0.017	112	114	82.9	0.64	4.51	15.5	84.2	152.0	129.8	65.4	149.5	327.88998	83	83	73		1.001	37.589	3167
130	20.757	20.169		0.16	0.16	1.31	1.07	0.26	86	85	73	2.05	1.70	119	0.020	104	105	81.9	0.99	4.30	15.5	87.8	156.0	132.4	65.4	153.2	329.75272	83	83	73		1.001	35.810	3149
131	20.915	20.326		0.16	0.16	1.30	1.07	0.26	86	85	73	2.11	1.70	119	0.017	112	115	81.2	0.71	4.40	15.5	87.2	155.5	131.8	65.4	152.6	331.21466	84	83	73		1.001	36.620	3197
132	21.074	20.481		0.16	0.16	1.31	1.07	0.26	86	85	73	2.07	1.70	119	0.019	106	107	80.5	0.70	4.30	15.5	88.2	155.9	133.0	65.4	153.6	331.54962	84	83	73		1.001	35.817	3163
133	21.234	20.638		0.16	0.16	1.30	1.07	0.26	86	85	73	2.11	1.70	119	0.021	102	103	79.9	0.57	4.45	15.5	87.5	155.9	132.1	65.4	152.9	330.78449	84	83	73		1.001	37.009	3243
134	21.392	20.794		0.16	0.16	1.30	1.06	0.26	86	85	73	2.06	1.70	119	0.018	109	111	79.4	0.52	4.23	15.6	87.5	154.9	132.8	65.4	152.9	328.62494	83	83	73		1.001	35.183	3082
135	21.550	20.950		0.16	0.16	1.29	1.06	0.26	86	85	73	2.04	1.70	119	0.020	103	105	78.7	0.69	4.36	15.5	88.7	156.7	133.2	65.4	154.1	327.92987	83	83	73		1.001	36.294	3224
136	21.708	21.106		0.16	0.16	1.30	1.06	0.26	86	85	73	2.08	1.70	118	0.022	98	100	78.1	0.55	4.44	15.6	82.3	150.6	128.0	65.4	147.6	326.892	83	83	73		1.001	36.942	3043
137	21.867	21.262		0.16	0.16	1.30	1.07	0.26	86	85	73	2.06	1.70	118	0.017	112	114	77.6	0.57	4.26	15.6	86.0	154.4	130.7	65.4	151.4	327.10562	83	83	73		1.001	35.486	3056
138	22.025	21.418		0.16	0.16	1.30	1.07	0.26	86	85	73	2.12	1.70	118	0.023	96	98	76.9	0.70	4.44	15.5	89.5	157.5	133.9	65.3	154.8	327.64606	83	83	73		1.001	36.941	3310
139	22.183	21.574		0.16	0.16	1.31	1.07	0.26	86	85	73	2.07	1.70	118	0.022	98	100	76.2	0.61	4.35	15.6	89.7	157.5	134.2	65.3	155.1	327.40717	83	83	73		1.001	36.209	3252
140	22.343	21.730		0.16	0.16	1.30	1.06	0.26	86	85	73	2.08	1.70	118	0.021	102	102	75.6	0.64	4.23	15.5	85.2	153.2	130.5	65.4	150.6	327.35727	83	83	73		1.001	35.182	3001
141	22.501	21.886		0.16	0.16	1.30	1.06	0.26	86	85	73	2.07	1.70	118	0.019	106	108	74.9	0.68	4.26	15.6	88.3	156.6	132.7	65.3	153.6	327.07483	83	83	73		1.001	35.483	3137
142	22.660	22.042		0.16	0.16	1.29	1.06	0.26	86	85	72	2.06	1.70	118	0.025	93	94	74.3	0.64	4.24	15.6	89.3	157.5	133.6	65.3	154.7	328.73288	83	83	72		1.001	35.323	3159
143	22.817	22.197		0.16	0.15	1.29	1.06	0.26	86	85	73	2.07	1.70	118	0.012	132	135	73.7	0.56	4.26	15.7	86.5	153.7	131.9	65.3	151.8	330.0708	83	83	73		1.001	35.485	3071
144	22.976	22.353		0.16	0.16	1.29	1.06	0.26	86	85	72	2.06	1.70	119	0.019	106	108	73.0	0.73	4.38	15.5	87.8	155.9	132.4	65.3	153.1	331.44327	83	83	72		1.001	36.457	3204
145	23.134	22.509		0.16	0.16	1.30	1.06	0.26	86	85	72	2.07	1.70	119	0.026	90	92	72.5	0.48	4.47	15.6	89.4	157.5	133.6	65.3	154.7	331.73642	83	83	72		1.001	37.242	3333
146	23.292	22.664		0.16	0.16	1.30	1.05	0.26	86	85	72	2.09	1.70	119	0.022	98	99	71.9	0.64	4.32	15.5	88.3	156.6	132.6	65.3	153.6	331.45932	83	83	72		1.001	35.972	3180
147	23.451	22.819		0.16	0.15	1.30	1.05	0.26	86	85	72	2.10	1.70	119	0.020	104	104	71.1	0.76	4.40	15.5	88.8	156.8	133.2	65.3	154.1	331.64621	83	83	72		1.001	36.623	3255
148	23.610	22.973		0.16	0.15	1.29	1.05	0.26	86	85	72	2.12	1.70	119	0.020	104	104	70.4	0.67	4.44	15.6	89.0	157.2	133.3	65.3	154.3	331.56747	83	83	72		1.001	36.943	3292
149	23.767	23.129		0.16	0.16	1.29	1.05	0.26	86	85	72	2.08	1.70	119	0.017	111	114	69.9	0.58	4.38	15.5	87.1	154.8	132.1	65.3	152.4	331.45325	83	83	72		1.001	36.461	3178
150	23.925	23.282		0.16	0.15	1.29	1.04	0.26	86	85	73	2.09	1.80	119	0.019	106	106	69.2	0.68	4.54	15.5	89.8	157.3	134.4	65.3	155.1	331.26242	83	84	73		1.001	37.757	3396
151	24.083	23.437		0.16	0.16	1.30	1.03	0.26	86	85	72	2.10	1.80	119	0.020	103	104	68.5	0.71	4.35	15.6	90.1	158.4	134.1	65.3	155.4	331.81873	83	84	72		1.001	36.220	3269
152	24.241	23.591		0.16	0.15	1.29	1.04	0.26	86	85	73	2.09	1.80	119	0.022	98	99	67.8	0.62	4.45	15.6	90.2	158.2	134.3	65.3	155.5	332.11444	83	84	73		1.001	37.034	3343
153	24.399	23.745		0.16	0.15	1.29	1.03	0.26	86	85	73	2.11	1.80	119	0.018	109	109	67.1	0.76	4.36	15.5	91.1	159.1	135.1	65.3	156.5	330.94165	83	84	73		1.001	36.297	3312
154	24.557	23.899		0.16	0.15	1.28	1.03	0.26	86	85	73	2.09	1.80	119	0.019	106	106	66.6	0.47	4.32	15.5	87.0	155.0	131.8	65.3	152.3	329.44928	83	84	73		1.001	35.972	3133
155	24.715	24.051		0.16	0.15	1.29	1.02	0.26	86	85	72	2.09	1.80	119	0.018	109	108	65.9	0.67	4.36	15.4	88.0	155.2	133.1	65.3	153.3	328.6246	83	84	72		1.001	36.295	3197
156	24.873	24.204		0.16	0.15	1.28	1.01	0.26	86	85	73	2.10	1.80	119	0.019	106	106	65.3	0.60	4.34	15.6	89.2	157.5	133.4	65.3	154.5	329.94611	83	84	73		1.001	36.134	3228
157	25.030	24.356		0.16	0.15	1.29	1.02	0.26	86	85	72	2.07	1.80	119	0.018	108	108	64.6	0.70	4.30	15.6	88.8	157.0	133.0	65.3	154.1	332.13165	84	84	72		1.001	35.808	3184
158	25.188	24.509		0.16	0.15	1.29	1.01	0.26	86	85	72	2.12	1.80	119	0.018	109	109	64.1	0.52	4.06	15.6	90.2	158.0	134.9	65.3	155.5	333.02145	84	84	72		1.001	33.780	3052
159	25.345	24.661		0.16	0.15	1.29	1.00	0.26	86	85	72	2.14	1.90	120	0.018	108	108	63.1	0.97	4.20	15.5	88.1	155.7	133.3	65.3	153.4	332.77896	84	84	72		1.001	34.939	3081
160	25.504	24.812		0.16	0.15	1.29	1.01	0.26	86	85	72	2.09	1.80	119	0.019	106	104	62.6	0.53	4.32	15.5	90.9	158.4	135.6	65.3	156.2	332.36118	84	84	72		1.001	35.969	3274
161	25.662	24.964		0.16	0.15	1.30	1.01	0.26	86	85	72	2.10	1.80	119	0.019	106	105	62.0	0.61	4.20	15.5	90.2	157.6	135.3	65.3	155.5	331.18973	84	84	72		1.001	34.995	3161
162	25.820	25.116		0.16	0.15	1.29	0.99	0.26	86	85	72	2.11	1.90	119	0.020	103	102	61.3	0.66	4.24	15.6	90.7	157.9	135.8	65.3	156.0	330.92648	83	84	72		1.001	35.325	3208
163	25.977	25.267		0.16	0.15	1.29	1.00	0.26	86	85	72	2.09	1.90	119	0.019	105	104	60.7	0.67	4.11	15.6	90.6	158.2	135.3	65.3	155.9	330.98773	83	83	72		1.001	34.215	3104
164	26.135	25.417		0.16	0.15	1.29	1.00	0.26	86	85	73	2.13	1.90	119	0.019	106	104	60.0	0.69	4.08	15.6	92.4	159.8	137.1	65.3	157.7	331.71603	83	83	73		1.001	33.972	3141
165	26.292	25.568		0.16	0.15	1.29	0.99	0.26	86	85	73	2.09	1.90	119	0.019	105	104	59.4	0.57	4.05	15.5	91.8	159.7	136.1	65.3	157.1	333.15964	83	83	73		1.001	33.709	3096
166	26.451	25.720		0.16	0.15	1.29	1.01	0.26	86	85	73	2.08	1.90	120	0.017	113	111	58.8	0.56	4.01	15.6	89.9	157.9	134.6	65.3	155.2	333.5278	83	83	73		1.001	33.385	3005
167	26.611	25.875		0.16	0.16	1.32	1.06	0.26	86	85	72	2.11	2.00	119	0.020	104	104	58.1	0.70	4.18	15.6	91.8	159.7	136.2	65.3	157.1	332.69684	84	83	72		1.001	34.838	3201
168	26.770	26.032		0.16	0.16	1.27	1.07	0.26	85	85	73	2.31	2.00	119	0.018	109	111	57.5	0.62	4.09	15.5	91.8	159.3	136.4	65.3	157.1	330.43222	83	83	73		1.001	34.034	3128
169	26.925	26.188		0.16	0.16	1.24	1.07	0.26	85	85	73	2.33	2.00	119	0.017	110	114	56.9	0.61	4.08	15.5	90.8	158.3	135.6	65.3	156.1	328.15723	83	83	73		1.001	33.995	3090
170	27.082	26.345		0.16	0.16	1.37	1.06	0.26	86	85	72	2.42	2.00	119	0.020	102	106	56.4	0.46	4.05	15.5	86.8	154.5	132.6	65.3	152.2	325.88501	83	83	72		1.001	33.688	2929

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
171	27.245	26.500		0.16	0.16	1.36	1.05	0.26	86	85	73	2.41	2.00	119	0.019	109	107	55.7	0.75	4.15	15.5	93.2	160.7	137.7	65.3	158.5	325.18558	83	83	73		1.001	34.518	3221
172	27.407	26.656		0.16	0.16	1.36	1.06	0.26	86	85	72	2.39	2.00	119	0.018	111	111	55.1	0.56	4.07	15.5	92.2	160.2	136.4	65.3	157.5	325.1239	83	83	72		1.001	33.871	3127
173	27.569	26.811		0.16	0.16	1.36	1.05	0.26	85	85	72	2.40	2.00	119	0.018	112	110	54.5	0.65	4.01	15.6	90.7	158.6	135.2	65.3	156.0	326.09488	83	83	72		1.001	33.383	3031
174	27.731	26.967		0.16	0.16	1.36	1.05	0.26	86	85	73	2.44	2.10	119	0.019	108	108	54.0	0.52	4.07	15.6	87.9	154.8	133.8	65.3	153.2	325.37192	83	83	73		1.001	33.869	2982
175	27.893	27.121		0.16	0.15	1.37	1.04	0.26	85	85	73	2.39	2.10	118	0.020	106	104	53.2	0.73	4.30	15.5	93.5	161.3	137.6	65.3	158.8	323.87616	83	83	73		1.001	35.786	3351
176	28.055	27.277		0.16	0.16	1.36	1.04	0.26	85	85	73	2.39	2.10	118	0.018	111	111	52.6	0.60	4.24	15.6	94.4	162.1	138.3	65.3	159.7	320.84876	83	83	73		1.001	35.326	3338
177	28.218	27.431		0.16	0.15	1.37	1.04	0.26	85	85	73	2.41	2.10	118	0.018	112	109	52.2	0.46	3.95	15.5	89.2	156.3	134.8	65.3	154.5	319.6965	83	83	73		1.001	32.895	2938
178	28.380	27.586		0.16	0.15	1.36	1.03	0.26	86	85	73	2.42	2.10	117	0.019	108	107	51.6	0.59	4.11	15.5	91.5	159.4	136.2	65.3	156.8	321.80164	83	83	73		1.001	34.191	3131
179	28.543	27.740		0.16	0.15	1.36	1.05	0.26	85	85	73	2.41	2.10	118	0.017	115	112	51.0	0.59	4.09	15.6	91.3	159.3	136.0	65.3	156.6	323.58691	83	83	73		1.001	34.022	3109
180	28.706	27.896		0.16	0.16	1.36	1.04	0.26	85	85	72	2.40	2.10	118	0.020	106	105	50.2	0.77	3.85	15.6	90.3	156.6	136.4	65.3	155.7	323.80698	83	82	72		1.001	32.054	2898
181	28.868	28.050		0.16	0.15	1.36	1.03	0.26	86	85	73	2.40	2.20	118	0.019	108	106	49.8	0.42	3.90	15.5	92.1	159.5	137.2	65.3	157.4	324.83719	83	82	73		1.001	32.448	2992
182	29.031	28.204		0.16	0.15	1.36	1.02	0.26	86	85	73	2.43	2.20	118	0.023	99	97	49.1	0.66	4.03	15.5	93.6	160.9	138.4	65.4	158.9	326.89417	83	82	73		1.001	33.545	3143
183	29.193	28.358		0.16	0.15	1.37	1.01	0.26	86	85	73	2.39	2.20	118	0.023	98	97	48.5	0.69	3.99	15.7	90.7	158.0	136.1	65.4	156.1	325.80716	83	82	73		1.001	33.217	3017
184	29.356	28.510		0.16	0.15	1.37	1.06	0.26	86	85	72	2.39	2.30	118	0.024	97	93	47.9	0.51	3.89	15.6	92.4	160.3	137.2	65.4	157.8	325.94815	82	82	72		1.001	32.415	2999
185	29.519	28.666		0.16	0.16	1.37	1.06	0.26	86	85	73	2.38	2.40	118	0.021	104	102	47.3	0.61	4.14	15.6	94.7	162.3	139.1	65.4	160.1	326.20569	82	82	73		1.001	34.509	3273
186	29.682	28.822		0.16	0.16	1.39	1.05	0.26	86	85	73	2.33	2.40	118	0.021	104	102	46.7	0.66	3.85	15.6	90.5	157.6	136.2	65.4	155.9	325.9614	82	82	73		1.001	32.087	2906
187	29.845	28.977		0.16	0.16	1.38	1.04	0.26	86	85	73	2.39	2.40	118	0.019	109	107	46.2	0.49	4.03	15.5	93.8	161.3	138.8	65.4	159.1	325.9165	82	82	73		1.001	33.542	3149
188	30.008	29.131		0.16	0.15	1.39	1.04	0.26	86	85	72	2.38	2.40	118	0.026	93	91	45.5	0.71	3.91	15.6	94.0	161.6	138.8	65.4	159.4	325.22202	82	82	72		1.001	32.571	3066
189	30.172	29.285		0.16	0.15	1.39	1.02	0.26	86	85	72	2.35	2.50	118	0.017	116	112	44.9	0.52	3.95	15.6	93.0	160.7	137.9	65.4	158.4	326.78778	82	82	72		1.001	32.896	3064
190	30.335	29.439		0.16	0.15	1.40	1.02	0.26	86	85	72	2.36	2.50	118	0.018	112	109	43.9	1.05	3.85	15.5	94.3	161.6	139.3	65.4	159.7	327.73026	82	82	72		1.001	32.092	3029
191	30.500	29.591		0.16	0.15	1.39	0.99	0.26	86	85	72	2.33	2.60	119	0.019	110	105	43.6	0.25	3.91	15.5	95.5	163.3	139.9	65.4	160.9	333.82465	83	82	72		1.001	32.573	3115
192	30.664	29.737		0.16	0.15	1.39	0.90	0.26	86	85	72	2.35	3.00	119	0.018	113	104	43.0	0.67	3.97	15.5	96.4	163.6	141.0	65.4	161.8	336.2128	83	82	72		1.001	33.060	3191
193	30.828	29.891		0.16	0.15	1.39	1.05	0.26	86	85	72	2.33	3.60	119	0.023	100	97	42.3	0.67	3.93	15.6	96.5	164.0	140.9	65.4	161.9	336.56686	83	82	72		1.001	32.733	3163
194	30.993	30.045		0.16	0.15	1.40	1.07	0.26	86	85	73	2.35	5.00	120	0.025	96	93	41.5	0.76	3.97	15.5	96.5	164.0	140.9	65.4	162.0	337.51123	83	82	73		1.001	33.057	3195
195	31.155	30.202		0.16	0.16	1.38	1.05	0.26	86	85	73	2.35	5.20	120	0.015	122	122	41.0	0.55	3.99	15.5	97.1	164.6	141.3	65.4	162.5	337.20487	83	82	73		1.001	33.218	3228
196	31.319	30.356		0.16	0.15	1.39	1.07	0.26	86	85	73	2.30	5.00	120	0.024	98	95	40.4	0.60	3.93	15.6	96.5	164.2	140.8	65.4	162.0	336.2959	83	82	73		1.001	32.688	3159
197	31.482	30.517		0.16	0.16	1.37	1.16	0.26	86	85	72	2.31	4.50	120	0.024	97	99	39.8	0.59	3.90	15.5	97.4	165.0	141.6	65.4	162.9	335.2305	83	82	72		1.001	32.467	3168
198	31.645	30.685		0.16	0.17	1.39	1.28	0.26	86	85	72	2.29	3.90	120	0.023	99	106	39.1	0.67	4.07	15.5	97.7	165.1	141.9	65.4	163.1	334.56238	83	82	72		1.001	33.864	3312
199	31.808	30.852		0.16	0.17	1.39	1.08	0.26	86	85	73	2.29	3.00	120	0.023	99	105	38.7	0.46	4.03	15.6	94.9	162.7	139.5	65.4	160.3	334.3862	83	82	73		1.001	33.541	3186
200	31.972	31.011		0.16	0.16	1.39	1.14	0.26	86	85	72	2.27	2.70	119	0.024	98	98	38.2	0.52	4.09	15.6	97.4	165.0	141.6	65.5	162.8	333.3486	83	82	72		1.001	34.022	3317
201	32.136	31.175		0.16	0.16	1.40	1.11	0.26	86	85	72	2.27	2.40	119	0.021	104	108	37.6	0.52	3.91	15.5	96.6	164.1	141.2	65.5	162.1	332.59973	83	82	72		1.001	32.536	3147
202	32.296	31.336		0.16	0.16	1.32	1.13	0.26	86	85	73	2.19	2.30	119	0.022	99	103	37.1	0.51	3.84	15.5	97.2	164.5	142.0	65.5	162.7	332.21378	83	82	73		1.001	31.970	3111
203	32.456	31.499		0.16	0.16	1.33	1.14	0.26	86	85	73	2.24	2.30	119	0.021	102	107	36.4	0.72	3.91	15.5	92.7	160.5	138.0	65.5	158.1	331.80939	83	82	73		1.001	32.570	3022
204	32.616	31.661		0.16	0.16	1.33	1.08	0.26	86	85	73	2.21	2.20	119	0.023	97	102	35.9	0.53	3.89	15.5	97.0	164.9	141.5	65.5	162.5	332.85541	83	82	73		1.001	32.403	3148
205	32.777	31.818		0.16	0.16	1.33	1.08	0.26	86	85	72	2.20	2.20	119	0.022	100	101	35.4	0.52	3.72	15.5	98.6	166.0	143.0	65.5	164.1	333.37061	83	81	72		1.001	30.951	3057
206	32.938	31.977		0.16	0.16	1.34	1.08	0.26	86	85	72	2.20	2.20	119	0.022	100	102	34.6	0.71	3.64	15.5	96.1	162.4	142.3	65.5	161.6	333.4639	83	81	72		1.001	30.301	2915
207	33.098	32.134		0.16	0.16	1.33	1.08	0.26	86	85	72	2.19	2.20	119	0.020	104	106	34.2	0.43	3.79	15.5	97.7	165.0	142.6	65.5	163.2	333.50443	83	81	72		1.001	31.552	3088
208	33.259	32.292		0.16	0.16	1.33	1.08	0.26	86	85	72	2.19	2.20	119	0.021	102	104	33.6	0.59	3.85	15.5	98.8	166.3	143.3	65.5	164.3	333.43146	83	81	72		1.001	32.080	3174
209	33.420	32.450		0.16	0.16	1.33	1.08	0.26	86	85	73	2.23	2.20	118	0.023	98	99	33.0	0.61	3.78	15.5	99.2	166.6	143.7	65.5	164.7	333.1601	83	81	73		1.001	31.435	3123
210	33.581	32.607		0.16	0.16	1.34	1.08	0.26	86	85	72	2.19	2.20	118	0.022	100	101	32.6	0.44	3.78	15.5	98.9	165.6	143.9	65.5	164.4	332.71582	82	81	72		1.001	31.441	3114
211	33.742	32.765		0.16	0.16	1.34	1.07	0.26	86	85	72	2.23	2.20	118	0.018	111	112	32.2	0.39	3.82	15.6	99.9	167.2	144.1	65.5	165.4	333.03751	83	81	72		1.001	31.764	3176
212	33.902	32.921		0.16	0.16	1.34	1.07	0.26	86	85	72	2.20	2.20	118	0.021	102	102	31.7	0.49	3.70	15.6	96.3	164.3	140.9	65.5	161.9	333.8468	83	81	72		1.001	30.787	2970
213	34.063	33.078		0.16	0.16	1.34	1.06	0.26	86	85	73	2.21	2.30	118	0.020	105	106	31.0	0.70	3.72	15.5	97.2	163.7	142.8	65.5	162.7	334.09396	83	81	73		1.001	30.949	3011
214	34.224	33.233		0.16	0.15	1.34	1.06	0.26	86	85	72	2.19	2.30	119	0.020	105	104	30.7	0.27	3.76	15.6	99.7	166.8	144.4	65.5	165.2	334.22275	82	81	72		1.001	31.278	3123
215	34.385	33.390		0.16	0.16	1.33	1.05	0.26	86	85	73	2.19	2.30	118	0.024	96	96	30.1	0.65	3.80	15.6	97.2	164.5	142.3	65.5	162.8	333.34036	82	81	73		1.001	31.602	3077
216	34.546	33.545		0.16	0.16	1.33	1.05	0.26	86	85	72	2.21	2.30	118	0.022	100	99	29.6	0.43	3.74	15.5	100.6	168.0	144.9	65.5	166.1	332.93152	82	81	72		1.001	31.109	3133
217	34.707	33.700		0.16	0.16	1.34	1.05	0.26	86	85	73	2.17	2.30	118	0.021	102	102	29.2	0.45	3.85	15.6	100.1	167.6	144.5	65.5	165.6	332.96732	82	81	73		1.001	32.078	3215
218	34.868	33.855		0.16	0.15	1.34	1.04	0.26	86	85	72	2.18	2.30	118	0.020	105	104	28.5	0.68	3.90	15.5	99.4	166.6	144.1	65.5	164.9	332.59338	82	81	72		1.001	32.449	3229
219	35.029	34.010		0.16	0.16	1.34	1.03	0.26	86	85	72	2.20	2.30	118	0.017	114	113	28.0	0.48	3.76	15.6	100.1	167.2	144.6	65.5	165.6	335.12811	82	81	72		1.001	31.277	3133
220	35.190	34.163		0.16	0.15	1.34	1.02	0.26	86	85	72	2.18	2.40	118	0.023	98	96	27.6	0.45	3.80	15.6	101.1	168.5	145.3	65.5	166.6	336.85608	82	81	72		1.001	31.597	3199
221	35.352	34.315		0.16	0.15	1.34	1.01	0.26	86	85	72	2.17	2.40	119	0.021	103	100	27.0	0.63	3.83	15.6	99.1	166.4	143.7	65.5	164.6	338.2981	82	81	72		1.001	31.922	3168
222	35.513	34.467		0.16	0.15	1.34	0.99	0.26	86	85	72	2.18	2.50	119	0.022	100	98	26.5	0.51	3.80	15.6	98.6	166.2	143.1	65.5	164.1	338.97684	82	81	72		1.001	31.596	3118
223	35.674	34.618		0.16	0.15	1.34	0.98	0.26	86	85	73	2.19	2.50	119	0.023	98	95	25.9	0.51	3.74	15.6	100.8	168.5	144.9	65.5	166.3	338.21405	82	81	73		1.001	31.119	3140
224	35.835	34.766		0.16	0.15	1.34	0.98	0.26	86	85	72	2.15	2.60	118	0.021	102	97	25.5	0.42	3.83	15.6	100.3	167.5	144.8	65.5	165.8	339.53476	82	81	72		1.001	31.924	3204
225	35.996	34.921		0.16	0.16	1.34	1.04	0.26	86	85	73	2.18	2.70	119	0.024	96	95	24.8	0.69	3.83	15.5	101.6	169.3	145.6	65.5	167.2	339.53769	82	81	73		1.001	31.928	3249
226	36.157	35.076		0.16	0.16	1.34	1.04	0.26	86	85	73	2.17	2.70	119	0.019	108	107	24.5	0.33	3.80	15.6	102.4	169.7	146.5	65.6	168.0	339.43198	82	80	73		1.001	31.601	3240
227	36.318	35.231		0.16	0.16	1.35	1.09	0.26	86	85	73	2.16	2.90	119	0.022	100	99	24.0	0.53	3.70	15.5	101.8	169.1	146.1	65.6	167.4	339.47394	82	80	73		1.001	30.789	3139
228	36.479	35.389		0.16	0.16	1.35	1.09	0.26	86	85	73	2.15	2.90	119	0.020	105	106	23.6	0.35	3.74	15.6	102.4	169.8	146.5	65.6	168.0	339.86783	82	80	73		1.001	31.114	3191
229	36.641	35.548		0.16	0.16	1.35	1.08	0.26	86	85	73	2.17	2.90	119	0.020	106	107	23.1	0.55	3.75	15.6	102.3	169.6	146.3	65.6	167.9	340.71359	82	80	73		1.001	31.236	3199
230	36.802	35.705		0.16	0.16	1.35	1.06	0.26	86	85	73	2.18	3.00	119	0.024	96	96	22.5	0.58	3.76	15.5	101.8	168.9	146.3	65.6	167.4	339.93979	82	80	73		1.001	31.277	3189
231	36.963	35.860		0.16	0.16	1.35	1.01	0.26	86	85	73	2.21	3.20	119	0.022	100	99	22.0	0.44	3.82	15.5	102.1	169.6	146.1	65.6	167.7	339.32181	82	80	73		1.001	31.764	3248
232	37.125	36.015		0.16	0.16	1.35	1.05	0.26	86	85	73	2.21	3.40	119	0.023	99	97	21.6	0.47	3.72	15.6	103.2	170.7	147.0	65.6	168.8	339.09448	82	81	73		1.001	30.953	3198

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
233	37.286	36.170		0.16	0.16	1.34	1.03	0.26	86	85	73	2.19	3.50	119	0.023	98	97	21.0	0.56	3.70	15.4	103.1	170.6	147.0	65.6	168.7	338.66153	82	80	73		1.001	30.796	3180
234	37.447	36.323		0.16	0.15	1.34	1.03	0.26	86	85	73	2.21	3.50	119	0.024	96	94	20.6	0.43	3.79	15.5	102.6	169.7	146.8	65.6	168.2	338.51129	82	80	73		1.001	31.549	3240
235	37.608	36.477		0.16	0.15	1.34	1.03	0.26	86	85	73	2.17	3.50	119	0.024	96	95	20.1	0.45	3.70	15.5	103.0	170.0	147.2	65.6	168.6	338.68268	82	80	73		1.001	30.823	3178
236	37.769	36.633		0.16	0.16	1.34	1.05	0.26	86	85	73	2.18	3.40	119	0.024	96	96	19.6	0.47	3.80	15.5	103.6	171.4	147.2	65.6	169.3	338.888	82	80	73		1.001	31.601	3278
237	37.930	36.789		0.16	0.16	1.34	1.07	0.26	86	85	73	2.21	3.30	119	0.022	100	100	19.2	0.44	3.72	15.6	100.8	167.5	145.7	65.6	166.4	339.16791	82	80	73		1.001	30.953	3125
238	38.091	36.946		0.16	0.16	1.34	1.08	0.26	86	85	72	2.19	3.30	119	0.025	94	94	18.8	0.40	3.85	15.6	104.6	172.2	148.0	65.6	170.3	339.14877	82	80	72		1.001	32.083	3361
239	38.252	37.103		0.16	0.16	1.35	1.08	0.26	86	85	73	2.14	3.30	120	0.024	96	97	18.3	0.55	3.74	15.5	103.3	170.5	147.8	65.6	168.9	337.8295	82	80	73		1.001	31.103	3215
240	38.413	37.261		0.16	0.16	1.35	1.08	0.26	86	85	73	2.18	3.30	119	0.024	96	97	17.9	0.31	3.55	15.5	102.7	170.3	147.5	65.6	168.4	337.58276	81	80	73		1.001	29.590	3043
241	38.575	37.419		0.16	0.16	1.35	1.08	0.26	86	85	72	2.19	3.30	119	0.023	99	99	17.6	0.37	3.43	15.5	103.7	170.4	149.1	65.7	169.4	336.82901	81	80	72		1.001	28.524	2962
242	38.736	37.576		0.16	0.16	1.35	1.08	0.26	86	85	73	2.18	3.30	119	0.023	98	99	17.0	0.56	3.52	15.5	105.3	172.5	150.0	65.7	170.9	335.49524	81	80	73		1.001	29.334	3091
243	38.897	37.735		0.16	0.16	1.35	1.08	0.26	86	85	72	2.19	3.30	119	0.024	96	98	16.6	0.39	3.66	15.6	105.1	172.1	149.9	65.7	170.8	334.32132	81	79	72		1.001	30.464	3206
244	39.059	37.891		0.16	0.16	1.35	1.07	0.26	86	85	72	2.21	3.30	118	0.025	94	94	16.2	0.39	3.47	15.5	104.6	171.8	149.4	65.7	170.3	333.12347	81	79	72		1.001	28.854	3021
245	39.220	38.049		0.16	0.16	1.35	1.08	0.26	86	85	72	2.18	3.30	118	0.024	96	97	15.9	0.34	3.52	15.5	103.0	170.4	148.1	65.7	168.6	331.69846	81	79	72		1.001	29.305	3021
246	39.381	38.206		0.16	0.16	1.35	1.07	0.26	86	85	72	2.15	3.30	118	0.021	102	103	15.5	0.34	3.56	15.6	105.7	173.0	150.5	65.7	171.4	331.63031	81	79	72		1.001	29.653	3138
247	39.543	38.363		0.16	0.16	1.35	1.07	0.26	85	85	72	2.19	3.30	118	0.023	99	98	15.1	0.41	3.52	15.5	102.7	169.9	148.2	65.7	168.4	332.7861	81	79	72		1.001	29.328	3016
248	39.704	38.520		0.16	0.16	1.35	1.04	0.26	86	85	72	2.21	3.40	118	0.021	102	103	14.6	0.50	3.41	15.6	104.8	171.9	150.0	65.7	170.5	336.73856	80	79	72		1.001	28.359	2975
249	39.865	38.672		0.16	0.15	1.35	0.99	0.26	86	85	72	2.15	3.70	118	0.023	98	95	14.1	0.52	3.47	15.5	105.7	173.0	150.6	65.7	171.4	339.92242	80	79	72		1.001	28.858	3053
250	40.026	38.825		0.16	0.15	1.35	1.05	0.26	86	85	72	2.19	3.90	117	0.023	98	96	13.7	0.44	3.43	15.6	105.6	172.9	150.5	65.7	171.3	336.4458	80	79	72		1.001	28.534	3017
251	40.188	38.981		0.16	0.16	1.35	1.05	0.26	86	85	73	2.18	3.90	117	0.017	114	114	13.3	0.35	3.48	15.5	103.7	170.5	149.3	65.7	169.5	334.0065	80	79	73		1.001	29.007	3013
252	40.349	39.136		0.16	0.16	1.35	1.05	0.26	86	85	72	2.19	3.90	116	0.025	94	93	12.8	0.49	3.52	15.5	105.7	173.2	150.6	65.7	171.4	335.55762	80	79	72		1.001	29.329	3105
253	40.510	39.293		0.16	0.16	1.35	1.05	0.26	85	85	72	2.14	3.90	116	0.023	98	98	12.5	0.34	3.37	15.6	106.7	174.1	151.4	65.7	172.5	337.55887	80	79	72		1.001	28.034	2996
254	40.671	39.447		0.16	0.15	1.35	1.04	0.26	86	85	72	2.19	3.90	117	0.024	96	94	12.0	0.47	3.60	15.6	107.0	174.2	151.8	65.7	172.8	338.78195	80	79	72		1.001	29.974	3212
255	40.832	39.603		0.16	0.16	1.34	1.03	0.26	86	85	72	2.17	4.00	117	0.024	96	96	11.7	0.34	3.60	15.6	104.4	171.2	149.9	65.7	170.1	339.52887	80	79	72		1.001	29.960	3131
256	40.993	39.759		0.16	0.16	1.34	1.08	0.26	86	85	72	2.20	4.10	117	0.023	98	98	11.2	0.48	3.35	15.6	107.3	174.6	152.2	65.7	173.1	337.8902	80	79	72		1.001	27.909	2999
257	41.154	39.917		0.16	0.16	1.34	1.07	0.26	85	85	72	2.19	4.10	117	0.024	96	97	10.8	0.41	3.47	15.5	107.8	175.0	152.7	65.8	173.6	337.00369	80	79	72		1.001	28.848	3114
258	41.315	40.074		0.16	0.16	1.35	1.07	0.26	86	85	72	2.16	4.10	116	0.021	102	103	10.4	0.43	3.45	15.5	106.9	173.9	152.1	65.8	172.6	335.7579	80	79	72		1.001	28.690	3070
259	41.477	40.231		0.16	0.16	1.34	1.07	0.26	85	85	72	2.18	4.10	116	0.019	108	108	9.9	0.45	3.41	15.5	107.4	174.5	152.4	65.8	173.2	338.22568	80	79	72		1.001	28.365	3051
260	41.638	40.389		0.16	0.16	1.35	1.07	0.26	85	85	72	2.19	4.10	116	0.022	100	101	9.6	0.32	3.41	15.6	105.1	171.8	150.7	65.8	170.8	337.24789	80	79	72		1.001	28.359	2983
261	41.799	40.546		0.16	0.16	1.34	1.07	0.26	86	85	72	2.20	4.10	117	0.019	108	108	9.2	0.38	3.41	15.6	107.8	174.8	152.8	65.8	173.6	340.17261	80	79	72		1.001	28.402	3065
262	41.960	40.704		0.16	0.16	1.34	1.07	0.26	86	85	73	2.18	4.10	117	0.019	108	109	8.8	0.46	3.45	15.5	107.7	174.2	153.1	65.8	173.5	339.62759	80	78	73		1.001	28.690	3093
263	42.121	40.860		0.16	0.16	1.35	1.08	0.26	86	85	72	2.17	4.10	118	0.019	108	108	8.5	0.27	3.45	15.6	107.9	175.1	152.7	65.8	173.7	338.4585	80	78	72		1.001	28.686	3099
264	42.282	41.019		0.16	0.16	1.34	1.08	0.26	85	85	72	2.19	4.10	117	0.021	102	104	8.1	0.39	3.45	15.5	108.6	175.8	153.5	65.8	174.5	340.68222	80	78	72		1.001	28.687	3120
265	42.443	41.176		0.16	0.16	1.34	1.07	0.26	85	85	72	2.20	4.10	118	0.020	105	106	7.7	0.42	3.37	15.6	109.3	176.5	153.8	65.8	175.1	343.29251	80	78	72		1.001	28.039	3067
266	42.605	41.333		0.16	0.16	1.34	1.07	0.26	86	85	73	2.19	4.10	119	0.018	111	111	7.3	0.43	3.49	15.5	109.6	176.9	154.1	65.8	175.4	343.7515	80	79	73		1.001	29.033	3186
267	42.765	41.490		0.16	0.16	1.34	1.07	0.26	85	85	73	2.20	4.10	119	0.021	102	103	6.8	0.44	3.44	15.5	109.3	176.7	153.9	65.8	175.1	343.69467	80	78	73		1.001	28.661	3137
268	42.926	41.647		0.16	0.16	1.34	1.07	0.26	86	85	72	2.18	4.10	119	0.022	100	101	6.5	0.30	3.48	15.5	109.8	176.8	154.4	65.8	175.6	342.42084	80	79	72		1.001	29.004	3187
269	43.087	41.805		0.16	0.16	1.34	1.06	0.26	86	85	72	2.21	4.10	119	0.020	105	106	6.2	0.34	3.39	15.6	110.2	177.5	154.7	65.8	176.1	340.94772	80	79	72		1.001	28.194	3111
270	43.248	41.961		0.16	0.16	1.33	1.07	0.26	86	85	72	2.19	4.10	119	0.023	98	98	5.8	0.42	3.43	15.6	109.5	176.9	154.0	65.8	175.3	339.96024	80	79	72		1.001	28.519	3125
271	43.409	42.118		0.16	0.16	1.33	1.05	0.26	86	85	72	2.19	4.20	119	0.021	102	103	5.3	0.42	3.48	15.5	109.2	176.6	153.8	65.8	175.1	343.23425	80	79	72		1.001	29.001	3172
272	43.570	42.273		0.16	0.16	1.33	1.04	0.26	86	85	73	2.19	4.30	119	0.023	98	97	5.0	0.29	3.38	15.5	109.8	176.9	154.7	65.8	175.7	342.9169	80	79	73		1.001	28.136	3094
273	43.731	42.428		0.16	0.15	1.33	1.04	0.26	86	85	72	2.21	4.30	117	0.021	102	102	4.7	0.35	3.48	15.5	109.5	176.7	154.4	65.8	175.4	339.4534	80	79	72		1.001	29.009	3181
274	43.892	42.582		0.16	0.15	1.33	1.03	0.26	86	85	72	2.19	4.30	117	0.021	102	101	4.3	0.35	3.39	15.5	109.7	177.0	154.4	65.9	175.6	337.55597	79	79	72		1.001	28.196	3097
275	44.053	42.737		0.16	0.16	1.34	1.03	0.26	86	85	72	2.18	4.30	116	0.023	98	97	3.9	0.40	3.54	15.5	109.9	177.3	154.5	65.9	175.8	338.54327	79	79	72		1.001	29.496	3245
276	44.214	42.891		0.16	0.15	1.34	1.02	0.26	86	85	72	2.20	4.30	116	0.023	98	96	3.7	0.26	3.43	15.6	109.6	176.5	154.6	65.9	175.4	336.26621	79	79	72		1.001	28.527	3129
277	44.374	43.043		0.16	0.15	1.34	1.01	0.26	86	85	72	2.18	4.40	116	0.020	104	102	3.3	0.36	3.40	15.5	109.9	177.5	154.5	65.9	175.8	340.64648	79	79	72		1.001	28.330	3119
278	44.535	43.196		0.16	0.15	1.34	1.01	0.26	86	85	72	2.18	4.40	118	0.021	102	100	2.7	0.60	3.33	15.5	111.0	178.4	155.6	65.9	176.9	343.53507	79	79	72		1.001	27.726	3083
279	44.696	43.351		0.16	0.16	1.34	1.05	0.26	86	85	72	2.21	4.50	119	0.021	102	102	2.5	0.26	3.45	15.6	111.0	178.4	155.5	65.9	176.9	343.828	79	79	72		1.001	28.681	3188
280	44.857	43.507		0.16	0.16	1.34	1.05	0.26	86	85	72	2.18	4.60	119	0.020	105	105	2.1	0.36	3.39	15.5	111.5	178.8	156.0	65.9	177.4	342.84772	79	79	72		1.001	28.194	3148
281	45.017	43.662		0.16	0.16	1.33	1.05	0.26	86	85	73	2.19	4.60	119	0.020	104	104	1.7	0.37	3.35	15.5	111.4	178.7	155.8	65.9	177.2	341.44162	79	79	73		1.001	27.870	3107
282	45.178	43.818		0.16	0.16	1.34	1.04	0.26	86	85	72	2.23	4.60	119	0.022	100	100	1.4	0.32	3.39	15.5	110.4	177.7	155.1	65.9	176.3	341.08191	79	79	72		1.001	28.206	3118
283	45.339	43.973		0.16	0.16	1.34	1.04	0.26	86	85	72	2.17	4.60	119	0.023	98	97	1.1	0.37	3.41	15.6	111.0	178.3	155.4	65.9	176.8	341.10742	79	79	72		1.001	28.386	3154
284	45.499	44.128		0.16	0.16	1.34	1.02	0.26	86	85	72	2.20	4.70	119	0.021	102	102	0.5	0.51	3.46	15.5	112.2	179.0	156.7	65.9	178.0	343.07755	79	80	72		1.001	28.840	3238
285	45.660	44.282		0.16	0.15	1.34	1.02	0.26	86	85	72	2.20	4.70	119	0.021	102	101	0.1	0.40	3.37	15.6	112.2	179.1	156.8	65.9	178.1	343.81198	79	80	72		1.001	28.034	3149
286	45.821	44.435		0.16	0.15	1.34	1.02	0.26	86	85	72	2.19	4.80	119	0.019	108	106	0.1	0.02	3.48	15.5	112.7	180.0	156.9	65.9	178.6	342.10617	79	80	72		1.001	29.003	3272
287	45.982	44.589	64.433	0.16	0.15	1.34	1.02	0.26	86	85	72	2.20	4.80	119	0.018	111	109	0.1	0.02	3.41	15.6	112.3	179.8	156.5	65.9	178.1	337.02091	79	80	72		1.001	28.364	3188
	45.980	44.589	64.433			1.33	1.06	0.26	85	84	73			114	0.022					4.03	15.54	93.5	161.3	138.7	65.7	159.2		81.39	80.69		#DIV/0!			3117
																															TOTAL:			894632

TF_{avg}	168.146
TI_{avg}	147.818

Manufacturer: Central Boiler
Model: Edge 560
Date: 09/17/19
Run: 1
Control #: 2374
Test Duration: 287
Output Category: IV

Technicians: _____

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	81.4%	87.6%
Combustion Efficiency	98.3%	98.3%
Heat Transfer Efficiency	83%	89.2%

Output Rate (kJ/h)	194,157	184,179	**(Btu/h)**
Burn Rate (kg/h)	12.00	26.44	**(lb/h)**
Input (kJ/h)	238,601	226,339	**(Btu/h)**

Test Load Weight (dry kg)	57.39	126.49	**dry lb**
MC wet (%)	16.4		
MC dry (%)	19.62		
Particulate (g)	47.64		
CO (g)	1,447		
Test Duration (h)	4.78		

Emissions	**Particulate**	**CO**
g/MJ Output	0.05	1.56
g/kg Dry Fuel	0.83	25.21
g/h	9.96	302.46
lb/MM Btu Output	0.12	3.62

Air/Fuel Ratio (A/F)	8.20

VERSION: **2.2** **12/14/2009**

Manufacturer:	Central Boiler			**Appliance Type:**	Non-Cat	(Cat, Non-
Model:	Edge 560					
Date:	9/17/2019			**Temp. Units**	F	(F or C)
Run:	1			**Weight Units**	lb	(kg or lb)
Control #:	2374					
Test Duration:	287					
Output Category:	IV			**Fuel Data**		
					D. Fir	
Wood Moisture (% wet):		16.40		**HHV**	19,887	kj/kg
Load Weight (lb wet):		151.30		**%C**	50	
Burn Rate (dry kg/h):		11.99		**%H**	6.6	
Total Particulate Emissions:		47.64	g	**%O**	42.9	
				%ASH	0.5	

	Averages	**0.28**	**14.64**	**#DIV/0!**	**319.80**	**72.69**

					Temp. (ºF)	
Elapsed	**Fuel Weight**	**Flue Gas Composition (%)**			**Flue**	**Room**
Time (min)	**Remaining (lb)**	**CO**	**CO_2**	**O_2**	**Gas**	**Temp**
0	151.3	0.0	14.1		279	73
1	150.6	0.1	4.7		260	73
2	149.6	0.0	4.7		280	73
3	149.3	0.5	17.9		299	73
4	148.7	0.0	16.9		308	73
5	148.0	0.0	16.6		310	73
6	147.6	0.0	16.1		310	73
7	147.0	0.0	16.2		311	73
8	146.3	0.0	16.2		312	73
9	145.7	0.0	16.5		313	73
10	145.4	0.0	16.9		296	73
11	144.7	0.0	17.1		308	73
12	144.1	0.0	17.3		291	73
13	143.8	0.0	18.4		299	73
14	143.2	0.0	16.2		302	73
15	142.6	0.0	17.7		292	73
16	142.2	0.0	16.6		305	73
17	141.8	0.0	17.2		285	73
18	141.2	0.0	18.2		295	73
19	140.7	0.0	16.3		290	73
20	140.3	0.0	18.8		282	73
21	139.8	0.0	16.9		299	73
22	139.4	0.0	16.7		281	73
23	139.0	0.0	18.0		291	73

24	138.2	0.0	15.8		301	73
25	138.0	0.0	16.8		279	73
26	137.4	0.0	17.6		294	73
27	136.9	0.0	16.0		302	73
28	136.4	0.0	16.8		280	73
29	136.3	0.0	17.5		297	73
30	135.5	0.0	16.1		285	73
31	135.0	0.0	18.0		287	73
32	134.6	0.0	15.7		283	73
33	134.3	0.0	17.7		279	73
34	133.7	0.0	16.1		295	73
35	133.3	0.0	16.1		276	73
36	132.7	0.0	17.3		295	73
37	132.1	0.0	15.8		303	73
38	131.9	0.0	16.4		286	73
39	131.4	0.0	17.4		299	73
40	130.9	0.0	16.1		290	73
41	130.4	0.0	17.0		284	73
42	129.9	0.0	17.0		287	73
43	129.5	0.0	17.1		298	73
44	128.9	0.0	16.0		285	73
45	128.5	0.0	17.4		302	73
46	128.1	0.0	16.2		295	73
47	127.4	0.0	17.1		303	73
48	126.9	0.0	15.9		288	73
49	126.4	0.0	16.9		304	73
50	126.0	0.0	16.0		291	73
51	125.4	0.0	16.7		305	73
52	124.8	0.0	15.9		290	73
53	124.5	0.0	16.7		302	73
54	123.9	0.0	15.6		309	73
55	123.6	0.0	16.0		292	73
56	123.1	0.0	17.0		292	73
57	122.6	0.0	15.3		303	73
58	122.1	0.0	15.5		291	73
59	121.4	0.0	16.8		297	73
60	121.0	0.0	15.4		294	73
61	120.7	0.0	16.0		300	73
62	120.2	0.0	15.4		306	73
63	119.6	0.0	15.7		299	73
64	119.1	0.0	16.4		303	73
65	118.6	0.0	15.4		293	73
66	118.1	0.0	16.3		305	73

67	117.5	0.0	15.2		310	73
68	117.2	0.1	15.4		303	73
69	116.6	0.1	15.0		307	73
70	116.2	0.1	15.2		308	73
71	115.5	0.1	15.4		296	73
72	115.2	0.0	16.8		304	73
73	114.6	0.1	15.6		297	73
74	114.2	0.0	16.4		304	73
75	113.7	0.1	15.4		285	73
76	113.2	0.0	16.4		284	73
77	112.9	0.0	16.3		288	73
78	112.5	0.0	16.4		291	73
79	112.1	0.0	16.0		288	73
80	111.7	0.0	15.6		281	73
81	111.1	0.0	16.4		292	73
82	110.8	0.1	15.9		285	73
83	110.2	0.0	15.8		281	73
84	109.8	0.0	16.1		291	73
85	109.2	0.0	15.9		299	73
86	108.5	0.1	15.6		291	73
87	108.2	0.0	15.7		307	73
88	107.8	0.1	15.5		299	73
89	107.2	0.1	15.5		308	73
90	106.6	0.1	15.0		311	73
91	106.1	0.1	14.8		300	73
92	105.6	0.0	15.5		300	73
93	105.1	0.1	14.8		308	73
94	104.5	0.2	14.1		312	73
95	103.9	0.1	14.6		314	73
96	103.3	0.1	14.5		316	73
97	102.7	0.1	14.5		317	73
98	102.3	0.1	14.3		317	73
99	101.6	0.1	14.3		316	73
100	101.0	0.1	14.1		318	73
101	100.6	0.1	14.1		318	73
102	99.7	0.2	13.4		324	73
103	99.0	0.1	14.3		328	73
104	98.5	0.1	14.6		326	73
105	98.1	0.2	13.9		328	73
106	97.3	0.3	14.2		329	73
107	96.6	0.1	14.8		326	73
108	96.1	0.2	14.1		323	73
109	95.4	0.2	13.9		323	73

110	94.8	0.2	13.7		329	73
111	94.2	0.1	14.9		323	73
112	93.7	0.4	13.2		323	73
113	93.0	0.5	13.2		326	73
114	92.3	0.4	13.9		326	73
115	91.6	0.6	13.4		323	73
116	91.1	0.8	12.6		320	73
117	90.6	1.1	12.2		321	73
118	89.8	0.7	13.2		321	73
119	89.2	0.9	13.0		321	73
120	88.5	1.3	12.5		320	73
121	88.2	1.3	12.5		318	73
122	87.4	1.5	12.1		316	73
123	86.7	1.7	11.9		315	73
124	86.0	2.0	11.8		315	73
125	85.5	2.0	12.1		315	73
126	84.9	2.1	11.9		317	73
127	84.0	0.7	13.8		323	73
128	83.5	0.1	15.7		326	73
129	82.9	0.2	15.3		328	73
130	81.9	0.2	15.6		330	73
131	81.2	0.2	15.7		331	73
132	80.5	0.2	15.6		332	73
133	79.9	0.3	15.3		331	73
134	79.4	0.3	14.7		329	73
135	78.7	0.3	14.4		328	73
136	78.1	0.4	14.4		327	73
137	77.6	0.4	14.3		327	73
138	76.9	0.2	14.4		328	73
139	76.2	0.2	14.4		327	73
140	75.6	0.2	14.3		327	73
141	74.9	0.1	14.4		327	73
142	74.3	0.2	14.3		329	72
143	73.7	0.1	14.7		330	73
144	73.0	0.1	14.7		331	72
145	72.5	0.1	14.8		332	72
146	71.9	0.1	14.8		331	72
147	71.1	0.1	14.7		332	72
148	70.4	0.1	14.7		332	72
149	69.9	0.1	14.7		331	72
150	69.2	0.1	14.6		331	73
151	68.5	0.0	14.7		332	72
152	67.8	0.0	15.0		332	73

153	67.1	0.0	15.1		331	73
154	66.6	0.0	15.1		329	73
155	65.9	0.1	15.1		329	72
156	65.3	0.0	15.2		330	73
157	64.6	0.0	15.1		332	72
158	64.1	0.0	15.2		333	72
159	63.1	0.1	14.8		333	72
160	62.6	0.1	14.7		332	72
161	62.0	0.1	14.3		331	72
162	61.3	0.2	14.1		331	72
163	60.7	0.2	14.1		331	72
164	60.0	0.2	13.9		332	73
165	59.4	0.1	14.3		333	73
166	58.8	0.2	14.4		334	73
167	58.1	0.3	14.2		333	72
168	57.5	0.4	13.9		330	73
169	56.9	0.8	13.2		328	73
170	56.4	1.1	12.8		326	72
171	55.7	1.3	12.4		325	73
172	55.1	1.3	12.7		325	72
173	54.5	1.4	12.9		326	72
174	54.0	1.2	13.2		325	73
175	53.2	1.3	13.1		324	73
176	52.6	1.3	12.7		321	73
177	52.2	1.6	12.0		320	73
178	51.6	1.6	12.0		322	73
179	51.0	1.4	12.8		324	73
180	50.2	1.5	12.9		324	72
181	49.8	1.5	13.0		325	73
182	49.1	1.2	13.6		327	73
183	48.5	1.0	13.7		326	73
184	47.9	0.8	13.6		326	72
185	47.3	0.7	13.4		326	73
186	46.7	0.6	13.3		326	73
187	46.2	0.5	13.5		326	73
188	45.5	0.6	13.2		325	72
189	44.9	0.7	13.0		327	72
190	43.9	0.5	13.8		328	72
191	43.6	0.8	13.3		334	72
192	43.0	0.0	16.6		336	72
193	42.3	0.1	15.8		337	72
194	41.5	0.1	15.4		338	73
195	41.0	0.1	15.2		337	73

196	40.4	0.2	14.7		336	73
197	39.8	0.4	14.2		335	72
198	39.1	0.4	14.0		335	72
199	38.7	0.3	13.9		334	73
200	38.2	0.3	13.8		333	72
201	37.6	0.2	13.9		333	72
202	37.1	0.2	13.9		332	73
203	36.4	0.2	13.9		332	73
204	35.9	0.1	13.9		333	73
205	35.4	0.1	13.9		333	72
206	34.6	0.1	14.0		333	72
207	34.2	0.1	14.1		334	72
208	33.6	0.1	14.0		333	72
209	33.0	0.1	13.9		333	73
210	32.6	0.2	13.8		333	72
211	32.2	0.2	13.7		333	72
212	31.7	0.1	14.1		334	72
213	31.0	0.1	14.0		334	73
214	30.7	0.1	14.0		334	72
215	30.1	0.1	13.9		333	73
216	29.6	0.1	13.8		333	72
217	29.2	0.1	13.7		333	73
218	28.5	0.2	13.7		333	72
219	28.0	0.1	14.0		335	72
220	27.6	0.0	15.2		337	72
221	27.0	0.0	15.1		338	72
222	26.5	0.0	15.0		339	72
223	25.9	0.0	15.0		338	73
224	25.5	0.0	14.7		340	72
225	24.8	0.1	14.9		340	73
226	24.5	0.1	14.6		339	73
227	24.0	0.1	14.5		339	73
228	23.6	0.1	14.4		340	73
229	23.1	0.1	14.3		341	73
230	22.5	0.1	14.6		340	73
231	22.0	0.0	14.7		339	73
232	21.6	0.0	14.6		339	73
233	21.0	0.0	14.3		339	73
234	20.6	0.1	14.0		339	73
235	20.1	0.1	13.9		339	73
236	19.6	0.1	14.2		339	73
237	19.2	0.1	14.0		339	73
238	18.8	0.1	13.9		339	72

239	18.3	0.1	13.8		338	73
240	17.9	0.1	13.6		338	73
241	17.6	0.2	13.3		337	72
242	17.0	0.3	13.1		335	73
243	16.6	0.5	12.8		334	72
244	16.2	0.4	12.8		333	72
245	15.9	0.5	12.6		332	72
246	15.5	0.8	12.1		332	72
247	15.1	1.0	12.0		333	72
248	14.6	0.3	14.1		337	72
249	14.1	0.0	15.4		340	72
250	13.7	0.0	15.4		336	72
251	13.3	0.0	14.7		334	73
252	12.8	0.0	14.3		336	72
253	12.5	0.0	14.7		338	72
254	12.0	0.1	14.8		339	72
255	11.7	0.0	14.7		340	72
256	11.2	0.0	15.1		338	72
257	10.8	0.0	14.6		337	72
258	10.4	0.0	14.6		336	72
259	9.9	0.0	14.4		338	72
260	9.6	0.0	14.9		337	72
261	9.2	0.0	14.5		340	72
262	8.8	0.1	14.5		340	73
263	8.5	0.1	14.3		338	72
264	8.1	0.1	13.8		341	72
265	7.7	0.2	14.0		343	72
266	7.3	0.3	13.7		344	73
267	6.8	0.5	13.4		344	73
268	6.5	0.8	13.0		342	72
269	6.2	1.0	12.7		341	72
270	5.8	1.4	12.3		340	72
271	5.3	1.6	12.1		343	72
272	5.0	0.2	14.7		343	73
273	4.7	0.1	14.2		339	72
274	4.3	0.1	14.0		338	72
275	3.9	0.1	13.7		339	72
276	3.7	0.3	13.8		336	72
277	3.3	0.3	13.2		341	72
278	2.7	0.6	13.5		344	72
279	2.5	0.7	13.2		344	72
280	2.1	0.9	12.8		343	72
281	1.7	1.0	12.6		341	73

282	1.4	1.4	12.1		341	72
283	1.1	1.3	12.1		341	72
284	0.5	0.6	13.1		343	72
285	0.1	0.5	13.3		344	72
286	0.1	0.5	13.2		342	72
287	0.1	0.8	12.6		337	72

Run 1
Proportional Rate verification

Test data was edited by changing recording interval from 1 minute to 10 minutes. This was done to demonstrate maximum data points outside of the 90 to 110 percent proportionate rate specification.

Hydronic Heating Appliances
Test Data

Run: 1

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Test Date: September 17, 2019
Technician: B. Davis
Beginning Clock Time: 16:26
Recording Interval: 10 min.
Total Sampling Time: 287 min.

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Pt.9	Pt.10	Pt.11	Pt.12	Center	
Initial dP	0.017	0.021	0.023	0.025	0.025	0.024	0.026	0.023	0.024	0.024	0.022	0.020	0.026	"H2O
Initial Temp.	110	111	111	111	111	111	113	113	113	112	112	111	110	oF

Air Velocity: Initial: <50 Final: <50 V_{strav} 10.42 ft/sec
Scale Audit: Pre: 10.0 Post: 10.0 Induced Draft: 0 V_{scent} 11.12 ft/sec
Pitot Tube Leak Test: Pre: 0 Post: 0 % Smoke Capture: 100 F_p 0.937
Flue Pipe Cleaned Prior to First Test in Series: Date: 9/17/2019

PM Control Module: 335, 336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.178 "H2O
Pitot Tube Cp: 0.99

Meter Box Y Factor: (1) 1.009, (2) 0.99, (amb) 0.988

Barometric Pressure:

Begin	Middle	End	Average
29.83	29.83	29.83	29.83 "Hg

Tunnel Velocity: 9.70 ft/sec.
Intial Tunnel Flow: 416.4 scfm
Average Tunnel Flow: 410.1 scfm
Tunnel Area: 0.785 ft2
Post-Test Leak Check (1): 0.000 cfm @ 6 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ 6 in. Hg
Fuel Moisture (dry basis %): 19.7
Total Particulate (1): 18.3
Total Particulate (2): 18.1

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
0	0.000	0.000	0.000			1.14	0.90	0.26	77	77	77	1.87	1.20	104	0.023			151.3															
10	1.594	1.563		0.16	0.16	1.35	1.09	0.26	77	77	77	1.94	1.40	107	0.025	95	96		151.30												1.001	0.000	0
20	3.183	3.112		0.16	0.15	1.33	1.06	0.26	79	79	77	1.92	1.40	101	0.023	98	98		0.00												1.001	0.000	0
30	4.772	4.657		0.16	0.15	1.32	1.06	0.26	80	80	77	1.95	1.40	106	0.023	98	98		0.00												1.001	0.000	0
40	6.366	6.202		0.16	0.15	1.33	1.06	0.26	82	82	77	1.93	1.40	105	0.026	92	92		0.00												1.001	0.000	0
50	7.963	7.739		0.16	0.15	1.33	1.04	0.26	83	83	77	1.95	1.50	105	0.024	96	95		0.00												1.001	0.000	0
60	9.559	9.271		0.16	0.15	1.33	1.04	0.26	84	84	77	1.98	1.50	108	0.023	98	97		0.00												1.001	0.000	0
70	11.165	10.798		0.16	0.15	1.33	1.02	0.26	85	84	77	1.97	1.50	110	0.027	91	89		0.00												1.001	0.000	0
80	12.767	12.324		0.16	0.15	1.34	1.10	0.26	85	85	77	1.98	1.60	105	0.026	92	90		0.00												1.001	0.000	0
90	14.370	13.902		0.16	0.16	1.33	1.09	0.26	85	85	77	1.98	1.70	110	0.024	96	97		0.00												1.001	0.000	0
100	15.973	15.473		0.16	0.16	1.33	1.07	0.26	85	85	77	2.00	1.70	114	0.022	101	102		0.00												1.001	0.000	0
110	17.572	17.040		0.16	0.16	1.32	1.07	0.26	86	85	77	2.01	1.70	118	0.025	94	95		0.00												1.001	0.000	0
120	19.166	18.604		0.16	0.16	1.32	1.08	0.26	86	85	77	2.02	1.70	118	0.021	103	104		0.00												1.001	0.000	0
130	20.757	20.169		0.16	0.16	1.31	1.07	0.26	86	85	77	2.05	1.70	119	0.020	105	107		0.00												1.001	0.000	0
140	22.343	21.730		0.16	0.16	1.30	1.06	0.26	86	85	77	2.08	1.70	118	0.021	102	104		0.00												1.001	0.000	0
150	23.925	23.282		0.16	0.16	1.29	1.04	0.26	86	85	77	2.09	1.80	119	0.019	107	109		0.00												1.001	0.000	0
160	25.504	24.812		0.16	0.15	1.29	1.01	0.26	86	85	77	2.09	1.80	119	0.019	107	107		0.00												1.001	0.000	0
170	27.082	26.345		0.16	0.15	1.37	1.06	0.26	86	85	77	2.42	2.00	119	0.020	104	105		0.00												1.001	0.000	0
180	28.706	27.896		0.16	0.16	1.36	1.04	0.26	85	85	77	2.40	2.10	118	0.020	107	106		0.00												1.001	0.000	0
190	30.335	29.439		0.16	0.15	1.40	1.02	0.26	86	85	77	2.36	2.50	118	0.018	113	111		0.00												1.001	0.000	0
200	31.972	31.011		0.16	0.16	1.39	1.14	0.26	86	85	77	2.27	2.70	119	0.024	99	98		0.00												1.001	0.000	0
210	33.581	32.607		0.16	0.16	1.34	1.08	0.26	86	85	77	2.19	2.20	118	0.022	101	104		0.00												1.001	0.000	0
220	35.190	34.163		0.16	0.16	1.34	1.02	0.26	86	85	77	2.18	2.40	118	0.023	99	99		0.00												1.001	0.000	0
230	36.802	35.705		0.16	0.15	1.35	1.06	0.26	86	85	77	2.18	3.00	119	0.024	97	96		0.00												1.001	0.000	0
240	38.413	37.261		0.16	0.16	1.35	1.08	0.26	86	85	77	2.18	3.30	119	0.024	97	97		0.00												1.001	0.000	0
250	40.026	38.825		0.16	0.16	1.35	1.05	0.26	86	85	77	2.19	3.90	117	0.023	99	99		0.00												1.001	0.000	0
260	41.638	40.389		0.16	0.16	1.35	1.07	0.26	85	85	77	2.19	4.10	116	0.022	101	101		0.00												1.001	0.000	0
270	43.248	41.961		0.16	0.16	1.33	1.07	0.26	86	85	77	2.19	4.10	119	0.023	99	100		0.00												1.001	0.000	0
280	44.857	43.507		0.16	0.15	1.34	1.05	0.26	86	85	77	2.18	4.60	119	0.020	106	105		0.00												1.001	0.000	0
287	45.982	44.589	64.433	0.11	0.11	1.34	1.02	0.26	86	85	77	2.20	4.80	119	0.018	112	111		0.00												1.001	0.000	0
	45.982	44.589	64.433			1.33	1.05	0.26	84	84	77			114	0.022					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			0
																														TOTAL:			0

TF_{avg} 0.000
TI_{avg} 0.000

Hydronic Heating Appliances
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run: 1
Test Date: September 17, 2019

Average Tunnel Temperature	114 degrees F
Average Gas Velocity in Dilution Tunnel - vs	9.7 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	24608 dscf/hour
Average Delta p	0.022 inches H20
Average Delta H	1.33 inches H20
Total Time of Test	287 minutes

PARTICULATE EMISSIONS RESULTS

First Hour:	**#DIV/0!** g/hr
	#DIV/0! g/kg
	#DIV/0! lb/mmBTU output
Complete Run:	**10.09** g/hr
	0.84 g/kg
	#DIV/0! lb/mmBTU output

	SAMPLE TRAIN 1	SAMPLE TRAIN 2	AMBIENT SAMPLE TRAIN
Total Sample Volume - Vm	45.98 cubic feet	44.59 cubic feet	64.43 cubic feet
Average Gas Meter Temperature	84 degrees F	84 degrees F	77 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	45.0 dscf	42.8 dscf	62.4 dscf
Total Particulates - mn	18.3 mg	18.1 mg	0.3 mg
Particulate Concentration (dry-standard)	0.00041 grams/dscf	0.00042 grams/dscf	0.000005 grams/dscf
Particulate Emissions	47.32 grams	49.19 grams	
Difference from Average	0.94 grams	0.94 grams	

Results Are Acceptable

AVERAGE

Total Sample Volume - Vm	45.29 cubic feet
Average Gas Meter Temperature	84 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	43.9 dscf
Particulate Concentration (dry-standard)	0.00041 grams/dscf
Particulate Emissions	48.25 grams
7.5% of the average particulate emissions	3.62 grams

ADDITIONAL ACCEPTANCE CRITERIA

Boiler Water Return Temperature >120 °F	
Proportional Rate Variation >80%	**Acceptable**
90% of PR Values between 90-110%	**Acceptable**

SAMPLE TRAIN 1 - FIRST HOUR

Total Sample Volume - Vm	0.00 cubic feet
Average Gas Meter Temperature	84 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	0.00 dscf
Total Particulates - mn	1.3 mg
Particulate Concentration (dry-standard)	#DIV/0! grams/dscf
Particulate Emissions	#DIV/0! grams
Burn Rate	57.31 (dry kg/hr)
Heat Output Rate	0 BTU/hr

Run 2

Hydronic Heating Appliances
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run: 2
Test Date: September 18, 2019

Burn Rate	**5.33 kg/hr dry**
Average Tunnel Temperature	90 degrees F
Average Gas Velocity in Dilution Tunnel - vs	10.5 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	27872 dscf/hour
Average Delta p	0.025 inches H20
Average Delta H	1.31 inches H20
Total Time of Test	660 minutes

PARTICULATE EMISSIONS RESULTS

First Hour:	**1.75** g/hr **0.48** g/kg **0.04** lb/mmBTU output
Complete Run:	**4.84** g/hr **0.91** g/kg **0.12** lb/mmBTU output

	SAMPLE TRAIN 1	SAMPLE TRAIN 2	AMBIENT SAMPLE TRAIN
Total Sample Volume - Vm	105.15 cubic feet	103.90 cubic feet	155.50 cubic feet
Average Gas Meter Temperature	85 degrees F	85 degrees F	72 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	103.4 dscf	100.2 dscf	152.9 dscf
Total Particulates - mn	17.7 mg	17.8 mg	0.1 mg
Particulate Concentration (dry-standard)	0.00017 grams/dscf	0.00018 grams/dscf	0.000001 grams/dscf
Particulate Emissions	52.31 grams	54.27 grams	
Difference from Average	0.98 grams	0.98 grams	

Results Are Acceptable

AVERAGE

Total Sample Volume - Vm	104.52 cubic feet
Average Gas Meter Temperature	85 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	101.8 dscf
Particulate Concentration (dry-standard)	0.00017 grams/dscf
Particulate Emissions	53.29 grams
7.5% of the average particulate emissions	4.00 grams

ADDITIONAL ACCEPTANCE CRITERIA

Boiler Water Return Temperature >120 °F	**Acceptable**
Proportional Rate Variation >80%	**Acceptable**
90% of PR Values between 90-110%	**Acceptable**

SAMPLE TRAIN 1 - FIRST HOUR

Total Sample Volume - Vm	9.54 cubic feet
Average Gas Meter Temperature	80 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	9.45 dscf
Total Particulates - mn	0.6 mg
Particulate Concentration (dry-standard)	0.00006 grams/dscf
Particulate Emissions	1.75 grams
Burn Rate	3.63 (dry kg/hr)
Heat Output Rate	86162 BTU/hr

Hydronic Heating Appliances
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run #: 2
Date: 9/18/19

Equipment Numbers:

TRAIN 1 (First Hour emissions)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
B. Front filter catch	Filter	D900	118.6	118.0	0.6
C. Rear filter catch	Filter				0.0
D. Probe catch*	Probe				0.0
E. Filter seals catch*	Seals				0.0

Sub-Total | Total Particulate, mg: | 0.6

TRAIN 1 (Post First Hour Change-out)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
B. Front filter catch (remainder)	Filter	D901	132.5	117.7	14.8
C. Rear filter catch	Filter	D902	118.6	118.0	0.6
D. Probe catch*	Probe	20	114254.4	114253.6	0.8
E. Filter seals catch*	Seals	R877	3471.4	3470.5	0.9

Sub-Total | Total Particulate, mg: | 17.1

Train 1 Aggregate | Total Particulate, mg: | 17.7

TRAIN 2

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch	Filter	D903	132.8	117.8	15.0
B. Rear filter catch	Filter	D905	118.0	117.1	0.9
C. Probe catch*	Probe	37	114466.0	114464.8	1.2
D. Filter seals catch*	Seals	R878	3386.1	3385.4	0.7

Total Particulate, mg: | 17.8

AMBIENT

Sample Component	Reagent	Filter # or Probe #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch*	Filter	D906	117.0	116.9	0.1

Total Particulate, mg: | 0.1

*Particulate catch that results in a negative number, is assumed to be zero for probes and seals, negative numbers for filters are assumed to be part of the seal weight.

Component	Equations:
A. Front filter catch	Final (mg) - Tare (mg) = Particulate, mg
B. Rear filter catch	Final (mg) - Tare (mg) = Particulate, mg
C. Probe catch	Final (mg) - Tare (mg) = Particulate, mg

Hydronic Heating Appliances
Fuel Moisture

Manufacturer:	Central Boiler
Model:	Edge 560
Tracking No.:	2374
Project No.:	0117WB038E
Technician:	B. Davis
Run #:	2
Test Date:	September 18, 2019

Wet Weight (lb)	% Moisture				
11.6	19.3	19.2	21.9	22	22.7
9.3	20.2	18.8	18.7	18.7	18.6
11.4	20.5	18.8	18.3	18.8	19.6
10.7	21.7	18.7	19.1	18.8	19
10.3	18.7	19.8	18.7	18.6	19.7
10.6	22.3	19	20.5	18.8	20.2
10.2	20.6	18.8	18.6	18.7	19
13.6	20	18.7	18.8	19.1	18.6
10.9	21.3	18.6	19.2	22.2	22.3
8.1	20	18.4	18.7	18.4	19.4
10.9	18	19.8	18.8	19.8	20.6
8.7	21.4	18.3	19.1	19.4	20.2
9.9	18.3	19.1	18.2	18.7	19
10.2	23.3	19.1	22.8	22	22.3
8.2	18.9	19.6	18.7	18.6	19.8

Total Weight of Load (lb): 154.6

Total Moisture of Load (%): 19.7

Equipment Numbers:

Hydronic Heating Appliances
Test Data

Run: 2

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Test Date: September 18, 2019
Technician: B. Davis

Beginning Clock Time: 15:51
Recording Interval: 1 min.
Total Sampling Time: 660 min.

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Pt.9	Pt.10	Pt.11	Pt.12	Center	
Initial dP	0.021	0.023	0.022	0.022	0.024	0.022	0.023	0.023	0.024	0.023	0.024	0.021	0.024	"H2O
Initial Temp.	77	77	77	77	77	77	77	77	77	77	77	77	77	oF

Air Velocity: Initial: <50 Final: <50 10.06 ft/sec
Scale Audit: Pre: 10.0 Post: 10.0 Induced Draft: 0 V_{scent} 10.35 ft/sec
Pitot Tube Leak Test: Pre: 0 Post: 0 % Smoke Capture: 100 F_p 0.972
Flue Pipe Cleaned Prior to First Test in Series: Date: 9/17/2019

PM Control Module: 428A/B
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.180 "H2O
Pitot Tube Cp: 0.99

	(1)	(2)	(amb)
Meter Box Y Factor:	1.009	0.99	0.988

Barometric Pressure:

Begin	Middle	End	Average	
29.96	29.99	30.02	29.99	"Hg

Tunnel Velocity: 10.45 ft/sec.
Intial Tunnel Flow: 444.0 scfm
Average Tunnel Flow: 464.5 scfm
Tunnel Area: 0.785 ft2
Post-Test Leak Check (1): 0.000 cfm @ 7 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ 8 in. Hg
Fuel Moisture (dry basis %): 19.7
Total Particulate (1): 17.7
Total Particulate (2): 17.8

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
0	0.001	0.000	0			1.06	0.59	0.26	77	76	72	1.94	1.4	112.00	0.024			154.6		1.63	15.5841045	103.1	171.1	161.2	67.6	170.6	281	72	72	72		1.001	13.584	
1	0.159	0.160		0.16	0.16	1.38	1.11	0.26	77	76	72	1.98	1.4	99	0.026	100	103	153.1	1.50	1.66	15.6168613	104.1	172.2	162.3	67.6	171.7	287.15189	73	69	72		1.001	13.776	1436
2	0.317	0.318		0.16	0.16	1.34	1.07	0.26	77	76	73	1.98	1.4	99	0.024	104	106	152.2	0.87	1.60	15.6323118	103.8	171.5	161.9	67.6	171.5	312.64572	74	73	73		1.001	13.340	1387
3	0.476	0.477		0.16	0.16	1.33	1.08	0.26	77	77	72	1.99	1.4	109	0.024	106	107	151.4	0.85	1.69	15.6419573	104.7	172.7	162.7	67.6	172.3	323.15747	76	75	72		1.001	14.102	1478
4	0.634	0.634		0.16	0.16	1.33	1.08	0.26	77	77	73	1.98	1.4	112	0.026	101	102	150.9	0.48	1.67	15.5563765	107.8	176.0	165.4	67.6	175.3	324.90253	77	76	73		1.001	13.879	1497
5	0.793	0.791		0.16	0.16	1.34	1.08	0.26	77	77	72	1.98	1.4	113	0.028	98	98	150.3	0.63	1.62	15.5557861	109.1	176.9	166.7	67.6	176.7	325.85587	78	77	72		1.001	13.468	1472
6	0.951	0.950		0.16	0.16	1.33	1.07	0.26	77	77	73	2	1.4	113	0.029	96	98	149.5	0.75	1.66	15.6214476	109.8	177.8	167.3	67.6	177.4	326.91028	78	78	73		1.001	13.788	1516
7	1.109	1.106		0.16	0.16	1.33	1.08	0.26	77	77	73	2	1.4	113	0.025	104	103	148.9	0.64	1.56	15.594142	110.5	178.4	168.6	67.5	178.0	327.75278	79	78	73		1.001	12.983	1436
8	1.268	1.264		0.16	0.16	1.32	1.07	0.26	77	77	72	2	1.4	113	0.026	102	103	148.2	0.71	1.52	15.669838	111.4	179.1	169.7	67.5	178.9	328.64533	79	79	72		1.001	12.658	1411
9	1.425	1.420		0.16	0.16	1.33	1.07	0.26	77	77	72	1.99	1.4	114	0.028	97	98	147.6	0.53	1.50	15.5841541	112.2	180.0	170.4	67.5	179.7	323.73123	80	79	72		1.001	12.500	1404
10	1.583	1.578		0.16	0.16	1.32	1.07	0.26	77	77	73	1.98	1.4	111	0.026	101	102	147.2	0.47	1.25	15.5730009	112.8	180.7	172.4	67.5	180.3	315.55176	80	79	73		1.001	10.394	1174
11	1.740	1.734		0.16	0.16	1.33	1.07	0.26	77	77	73	1.98	1.4	109	0.026	101	101	147.0	0.14	1.25	15.5941525	113.3	181.2	173.3	67.5	180.8	284.22003	79	79	73		1.001	10.395	1179
12	1.898	1.891		0.16	0.16	1.32	1.06	0.26	77	77	73	1.98	1.4	93	0.026	100	100	146.9	0.13	1.23	15.612771	113.5	181.3	173.6	67.6	181.1	268.0405	77	77	73		1.001	10.236	1164
13	2.056	2.048		0.16	0.16	1.32	1.06	0.26	77	77	73	1.98	1.4	87	0.027	97	98	146.7	0.24	1.54	15.5577517	113.6	181.3	172.2	67.6	181.2	259.62744	77	76	73		1.001	12.822	1458
14	2.215	2.204		0.16	0.16	1.32	1.06	0.26	78	77	73	1.95	1.4	84	0.023	106	105	146.7	-0.08	1.44	15.6127214	113.0	180.9	171.6	67.7	180.6	249.37329	76	75	73		1.001	12.009	1358
15	2.373	2.361		0.16	0.16	1.31	1.05	0.26	78	78	73	1.95	1.4	83	0.026	99	99	146.7	0.02	1.58	15.5043812	112.8	180.6	171.0	67.7	180.5	240.1154	77	74	73		1.001	13.146	1484
16	2.531	2.518		0.16	0.16	1.31	1.05	0.26	78	78	73	1.94	1.4	82	0.026	99	99	146.8	-0.09	1.66	15.51717	112.4	180.5	170.0	67.8	180.2	232.59697	76	75	73		1.001	13.792	1552
17	2.689	2.675		0.16	0.16	1.32	1.06	0.26	78	78	72	1.93	1.4	81	0.023	105	105	146.8	-0.01	1.58	15.5687218	111.7	179.5	170.0	67.8	179.5	226.71613	76	75	72		1.001	13.145	1470
18	2.847	2.832		0.16	0.16	1.32	1.06	0.26	78	78	72	1.95	1.4	81	0.024	102	103	146.9	-0.03	1.58	15.5841808	110.8	178.7	169.2	67.8	178.7	221.78465	75	74	72		1.001	13.144	1459
19	3.005	2.990		0.16	0.16	1.32	1.06	0.26	78	78	72	1.97	1.4	80	0.023	105	106	146.8	0.07	1.48	15.6040297	110.1	178.3	168.5	67.8	177.9	218.05008	75	74	72		1.001	12.338	1360
20	3.164	3.146		0.16	0.16	1.32	1.06	0.26	78	78	73	1.93	1.4	80	0.027	97	96	146.7	0.12	1.54	15.6310043	109.8	177.7	168.6	67.8	177.6	216.6738	75	74	73		1.001	12.828	1410
21	3.323	3.305		0.16	0.16	1.32	1.06	0.26	79	79	73	1.95	1.4	78	0.026	99	100	147.0	-0.31	1.60	15.5363674	108.9	176.8	167.2	67.8	176.7	213.76434	75	73	73		1.001	13.335	1454
22	3.481	3.462		0.16	0.16	1.32	1.06	0.26	79	79	73	1.93	1.4	78	0.025	100	100	147.1	-0.11	1.60	15.5458755	108.2	176.2	166.4	67.7	176.0	210.07646	75	73	73		1.001	13.309	1442
23	3.640	3.619		0.16	0.16	1.31	1.07	0.26	79	79	73	1.94	1.4	78	0.024	103	103	147.1	0.02	1.54	15.5988579	107.8	175.8	166.0	67.7	175.5	206.39157	74	73	73		1.001	12.799	1382
24	3.798	3.777		0.16	0.16	1.32	1.06	0.26	79	79	73	1.94	1.4	78	0.025	100	101	146.9	0.21	1.56	15.5557995	108.2	176.1	166.3	67.6	175.9	202.66325	74	73	73		1.001	12.984	1407
25	3.957	3.935		0.16	0.16	1.32	1.07	0.26	79	79	72	1.93	1.4	77	0.029	93	94	146.9	-0.03	1.66	15.5840912	107.7	175.5	165.8	67.6	175.4	198.72958	74	73	72		1.001	13.830	1492
26	4.115	4.094		0.16	0.16	1.32	1.07	0.26	79	79	73	1.92	1.4	77	0.027	96	98	146.9	-0.02	1.70	15.583086	106.7	174.6	164.8	67.6	174.3	195.26639	74	72	73		1.001	14.117	1508
27	4.274	4.251		0.16	0.16	1.32	1.06	0.26	80	80	73	1.94	1.4	77	0.026	98	98	147.1	-0.16	1.53	15.6320839	106.1	173.8	164.4	67.6	173.6	191.74777	74	72	73		1.001	12.733	1352
28	4.433	4.410		0.16	0.16	1.32	1.06	0.26	80	80	73	1.92	1.4	77	0.026	98	99	147.1	-0.02	1.71	15.4786139	106.1	173.7	164.1	67.5	173.6	188.46301	74	72	73		1.001	14.191	1508
29	4.592	4.567		0.16	0.16	1.31	1.07	0.26	80	80	73	1.92	1.4	77	0.026	98	98	147.2	-0.14	1.74	15.5326986	105.7	173.4	163.6	67.5	173.2	185.34598	74	72	73		1.001	14.512	1536
30	4.752	4.725		0.16	0.16	1.33	1.07	0.26	80	80	73	1.94	1.4	77	0.023	105	105	147.1	0.14	1.64	15.5941753	105.3	173.0	163.3	67.5	172.8	182.16771	74	72	73		1.001	13.632	1437
31	4.910	4.884		0.16	0.16	1.31	1.06	0.26	80	80	73	1.92	1.4	77	0.025	100	101	147.0	0.13	1.70	15.5277662	104.8	172.5	163.2	67.5	172.3	179.09912	74	73	73		1.001	14.118	1481
32	5.069	5.042		0.16	0.16	1.31	1.07	0.26	80	80	73	1.92	1.4	77	0.020	112	113	147.2	-0.28	1.64	15.6224613	103.9	171.5	161.9	67.5	171.4	176.37721	74	73	73		1.001	13.631	1418
33	5.228	5.201		0.16	0.16	1.32	1.07	0.26	80	80	73	1.93	1.4	77	0.023	105	106	147.3	-0.04	1.64	15.6040888	103.6	171.5	161.7	67.5	171.1	173.4772	74	73	73		1.001	13.628	1414
34	5.387	5.358		0.16	0.16	1.32	1.06	0.26	81	80	73	1.93	1.4	77	0.022	107	107	147.0	0.24	1.71	15.5783625	103.6	171.5	161.7	67.5	171.1	170.90854	74	73	73		1.001	14.274	1480
35	5.546	5.517		0.16	0.16	1.33	1.07	0.26	81	81	73	1.92	1.4	77	0.023	104	106	147.4	-0.32	1.62	15.612875	103.0	170.7	161.1	67.5	170.4	168.3338	74	73	73		1.001	13.468	1388
36	5.706	5.676		0.16	0.16	1.33	1.07	0.26	81	81	73	1.93	1.4	77	0.025	101	101	147.2	0.10	1.66	15.5274906	102.1	169.7	160.3	67.5	169.6	165.87549	74	73	73		1.001	13.793	1410
37	5.865	5.833		0.16	0.16	1.32	1.07	0.26	81	81	73	1.92	1.4	77	0.025	100	100	147.3	0.00	1.58	15.5680723	102.0	169.5	160.3	67.5	169.5	163.21132	74	73	73		1.001	13.142	1342
38	6.024	5.992		0.16	0.16	1.32	1.07	0.26	81	81	73	1.92	1.4	77	0.025	100	101	147.4	-0.13	1.60	15.6222744	101.7	169.4	159.9	67.5	169.2	160.91013	74	73	73		1.001	13.307	1355
39	6.185	6.151		0.16	0.16	1.33	1.07	0.26	81	81	73	1.92	1.4	77	0.026	99	99	147.4	-0.05	1.56	15.6138887	101.2	169.0	159.4	67.5	168.6	158.65845	74	73	73		1.001	12.982	1315
40	6.344	6.309		0.16	0.16	1.32	1.07	0.26	81	81	73	1.92	1.4	77	0.023	104	105	147.3	0.10	1.68	15.6224823	100.0	167.5	158.3	67.4	167.4	156.47817	74	73	73		1.001	13.949	1397
41	6.503	6.468		0.16	0.16	1.32	1.07	0.26	81	81	73	1.92	1.4	77	0.025	100	101	147.4	-0.07	1.68	15.5841761	99.1	166.8	157.5	67.4	166.5	154.34612	74	73	73		1.001	13.953	1384
42	6.663	6.626		0.16	0.16	1.32	1.07	0.26	82	82	73	1.92	1.4	77	0.024	103	102	147.4	0.03	1.62	15.5468149	99.0	166.7	157.4	67.4	166.4	152.29463	74	73	73		1.001	13.469	1335
43	6.822	6.785		0.16	0.16	1.32	1.07	0.26	82	82	73	1.93	1.4	77	0.025	100	101	147.4	-0.07	1.68	15.6040277	99.1	166.6	157.4	67.4	166.5	150.16341	74	73	73		1.001	13.955	1384
44	6.982	6.944		0.16	0.16	1.32	1.07	0.26	82	82	74	1.94	1.4	77	0.025	101	101	147.5	-0.06	1.64	15.5657358	98.2	165.8	156.6	67.4	165.6	148.13358	74	74	74		1.001	13.634	1340
45	7.142	7.102		0.16	0.16	1.32	1.07	0.26	82	82	73	1.93	1.4	77	0.023	105	105	147.5	0.00	1.54	15.5669146	97.8	165.3	156.2	67.4	165.1	146.1611	74	74	73		1.001	12.821	1255
46	7.301	7.262		0.16	0.16	1.32	1.07	0.26	82	82	73	1.93	1.4	77	0.027	96	98	147.4	0.06	1.72	15.5281734	97.4	164.9	155.8	67.4	164.7	144.22356	74	74	73		1.001	14.278	1392
47	7.461	7.420		0.16	0.16	1.33	1.07	0.26	82	82	73	1.92	1.4	77	0.026	99	98	147.5	-0.08	1.58	15.5839462	97.2	164.7	155.7	67.4	164.6	142.43382	74	74	73		1.001	13.144	1279
48	7.621	7.579		0.16	0.16	1.33	1.07	0.26	82	82	74	1.92	1.4	77	0.027	97	97	147.5	0.02	1.70	15.594162	96.5	164.0	155.0	67.4	163.9	140.5889	74	74	74		1.001	14.113	1363
49	7.780	7.738		0.16	0.16	1.32	1.07	0.26	82	82	73	1.92	1.4	77	0.025	100	101	147.5	-0.02	1.70	15.609251	95.5	163.0	154.1	67.4	162.9	138.97488	74	74	73		1.001	14.114	1350

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF										Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
50	7.940	7.896		0.16	0.16	1.33	1.07	0.26	82	82	73	1.92	1.4	77	0.023	105	105	147.5	0.03	1.66	15.6438341	94.9	162.5	153.5	67.4	162.3	137.33832	74	74	73		1.001	13.790	1311
51	8.101	8.055		0.16	0.16	1.33	1.07	0.26	83	83	73	1.94	1.4	77	0.026	99	99	147.7	-0.20	1.60	15.6039944	94.6	162.3	153.1	67.4	162.0	135.84641	74	74	73		1.001	13.305	1260
52	8.261	8.214		0.16	0.16	1.32	1.07	0.26	83	83	73	1.92	1.4	76	0.007	189	190	147.7	0.00	1.73	15.6424122	94.5	161.9	153.1	67.4	161.8	134.47516	74	74	73		1.001	14.439	1366
53	8.420	8.373		0.16	0.16	1.32	1.07	0.26	83	83	73	1.93	1.4	77	0.026	98	99	147.6	0.09	1.64	15.6211681	94.1	161.5	152.7	67.4	161.4	132.77425	74	74	73		1.001	13.624	1283
54	8.580	8.532		0.16	0.16	1.32	1.07	0.26	83	83	73	1.94	1.4	76	0.025	100	101	147.6	-0.01	1.72	15.516983	93.5	160.9	152.0	67.4	160.8	131.42633	74	74	73		1.001	14.277	1336
55	8.740	8.691		0.16	0.16	1.32	1.07	0.26	83	83	73	1.92	1.4	76	0.027	96	97	147.5	0.08	1.70	15.6893597	92.7	160.3	151.3	67.3	160.0	130.14497	74	74	73		1.001	14.117	1310
56	8.900	8.849		0.16	0.16	1.32	1.08	0.26	83	83	73	1.93	1.4	76	0.026	98	98	147.5	-0.01	1.73	15.5483904	92.1	159.7	150.7	67.3	159.5	161.3093	74	74	73		1.001	14.439	1332
57	9.060	9.009		0.16	0.16	1.32	1.06	0.26	83	83	73	1.93	1.4	81	0.024	103	104	147.0	0.56	1.75	15.5363541	91.8	159.2	150.5	67.3	159.1	194.14609	74	74	73		1.001	14.596	1341
58	9.219	9.166		0.16	0.16	1.32	1.06	0.26	83	83	73	1.93	1.4	86	0.024	103	103	146.4	0.58	1.71	15.5841923	91.4	158.8	150.2	67.3	158.8	217.11606	75	75	73		1.001	14.274	1306
59	9.379	9.325		0.16	0.16	1.32	1.07	0.26	83	83	73	1.94	1.4	90	0.023	106	106	145.7	0.64	1.75	15.6866426	90.2	157.8	148.9	67.4	157.6	241.36287	75	75	73		1.001	14.596	1319
60	9.538	9.483		0.16	0.16	1.33	1.06	0.26	83	83	73	1.95	1.4	94	0.027	97	98	145.0	0.73	1.75	15.5937424	90.4	158.0	148.7	67.4	157.8	268.26218	76	76	73		1.001	14.597	1322
61	9.698	9.641		0.16	0.16	1.32	1.06	0.26	83	83	73	1.94	1.4	99	0.026	100	100	144.2	0.84	1.81	15.622117	90.6	158.3	148.8	67.4	158.0	289.92279	76	77	73		1.001	15.079	1368
62	9.857	9.799		0.16	0.16	1.36	1.06	0.26	83	83	73	1.88	1.4	103	0.027	98	99	143.5	0.72	1.81	15.597682	91.9	159.6	150.0	67.4	159.3	300.88171	75	77	73		1.001	15.086	1388
63	10.019	9.956		0.16	0.16	1.32	1.07	0.26	84	84	73	1.95	1.4	106	0.026	102	100	142.7	0.78	1.79	15.5747833	92.0	159.8	150.2	67.4	159.4	309.13989	76	78	73		1.001	14.922	1375
64	10.178	10.115		0.16	0.16	1.33	1.07	0.26	84	84	73	1.97	1.4	109	0.025	102	104	142.1	0.61	1.81	15.5737314	92.9	161.0	150.7	67.4	160.3	313.12552	78	79	73		1.001	15.098	1404
65	10.338	10.271		0.16	0.16	1.32	1.06	0.26	84	84	73	1.96	1.4	110	0.026	101	100	141.3	0.73	1.77	15.489089	96.0	163.9	153.6	67.4	163.4	316.23846	79	79	73		1.001	14.752	1418
66	10.497	10.429		0.16	0.16	1.32	1.06	0.26	84	84	73	1.96	1.4	111	0.026	101	101	140.4	0.97	1.81	15.5749168	97.3	165.0	154.6	67.4	164.7	320.09091	80	80	73		1.001	15.091	1470
67	10.656	10.586		0.16	0.16	1.31	1.06	0.26	84	84	73	1.98	1.4	112	0.025	103	103	139.8	0.56	1.79	15.6510115	97.9	165.9	155.2	67.4	165.4	323.64029	80	81	73		1.001	14.917	1463
68	10.815	10.743		0.16	0.16	1.32	1.06	0.26	84	84	74	1.98	1.4	113	0.025	103	103	139.0	0.81	1.81	15.6221752	98.8	166.5	156.0	67.4	166.2	322.90952	81	81	74		1.001	15.098	1493
69	10.974	10.900		0.16	0.16	1.32	1.05	0.26	84	84	73	1.97	1.4	113	0.025	103	103	138.2	0.82	1.85	15.5813236	99.7	167.5	156.8	67.4	167.1	325.49387	81	81	73		1.001	15.434	1541
70	11.132	11.057		0.16	0.16	1.32	1.06	0.26	84	84	73	1.97	1.4	114	0.024	104	105	137.4	0.73	1.84	15.6892853	100.9	168.7	157.9	67.4	168.3	323.94367	81	82	73		1.001	15.286	1544
71	11.291	11.214		0.16	0.16	1.32	1.05	0.26	84	84	73	1.97	1.4	114	0.027	99	99	136.7	0.73	1.78	15.6223488	101.5	169.3	158.4	67.4	168.9	325.37509	82	82	73		1.001	14.805	1504
72	11.450	11.370		0.16	0.16	1.32	1.05	0.26	84	84	73	1.97	1.5	114	0.025	103	102	136.0	0.67	1.88	15.5521803	102.4	170.2	159.2	67.4	169.8	324.20654	82	82	73		1.001	15.626	1601
73	11.610	11.527		0.16	0.16	1.33	1.05	0.26	84	84	73	1.98	1.5	114	0.025	104	103	135.4	0.63	1.89	15.608161	102.9	170.7	159.7	67.4	170.3	325.26511	82	82	73		1.001	15.721	1619
74	11.769	11.683		0.16	0.16	1.32	1.05	0.26	84	84	73	1.99	1.5	114	0.022	110	109	134.7	0.73	1.86	15.6322041	103.6	171.4	160.4	67.4	171.1	325.94132	82	82	73		1.001	15.457	1604
75	11.928	11.840		0.16	0.16	1.32	1.05	0.26	84	84	73	1.99	1.5	114	0.024	105	105	134.0	0.65	1.85	15.5861349	104.6	172.4	161.2	67.5	172.1	325.69434	82	82	73		1.001	15.363	1609
76	12.087	11.995		0.16	0.15	1.31	1.04	0.26	84	84	73	1.99	1.5	114	0.025	103	101	133.5	0.52	1.85	15.642498	105.2	173.0	161.8	67.5	172.7	326.7883	83	83	73		1.001	15.406	1623
77	12.245	12.152		0.16	0.16	1.31	1.04	0.26	85	85	73	1.99	1.50	115	0.025	102	103	132.9	0.65	1.83	15.6799698	106.1	173.9	162.6	67.5	173.6	327.36005	83	83	73		1.001	15.215	1616
78	12.404	12.307		0.16	0.16	1.32	1.04	0.26	85	85	73	1.99	1.50	115	0.025	103	101	132.1	0.76	1.83	15.5978956	106.8	174.6	163.3	67.5	174.2	330.08066	83	83	73		1.001	15.248	1630
79	12.562	12.464		0.16	0.16	1.32	1.04	0.26	85	85	73	1.98	1.50	116	0.021	112	112	131.5	0.65	1.85	15.5939045	107.6	175.4	164.0	67.5	175.1	330.71005	83	83	73		1.001	15.398	1659
80	12.721	12.619		0.16	0.15	1.32	1.04	0.26	85	85	73	2.00	1.50	116	0.026	101	100	130.9	0.53	1.77	15.6507549	108.7	176.4	164.9	67.5	176.1	331.03323	83	83	73		1.001	14.756	1605
81	12.880	12.775		0.16	0.16	1.32	1.03	0.26	85	85	73	1.99	1.50	116	0.024	105	104	130.1	0.78	1.77	15.5970459	109.1	176.9	165.7	67.5	176.6	332.43381	83	83	73		1.001	14.758	1612
82	13.039	12.929		0.16	0.15	1.31	1.03	0.26	85	85	73	1.99	1.50	117	0.023	107	105	129.3	0.82	1.71	15.5274553	110.1	177.9	166.6	67.5	177.6	333.1409	83	83	73		1.001	14.270	1573
83	13.197	13.084		0.16	0.15	1.31	1.03	0.26	85	85	73	1.99	1.50	117	0.026	100	100	128.4	0.89	1.33	15.6188631	111.2	179.1	170.5	67.5	178.7	332.42087	83	83	73		1.001	11.034	1229
84	13.356	13.239		0.16	0.16	1.31	1.02	0.26	85	85	74	2.00	1.50	117	0.023	107	106	127.9	0.51	1.36	15.5838022	112.3	180.1	171.5	67.5	179.8	336.14163	83	83	74		1.001	11.359	1277
85	13.514	13.394		0.16	0.15	1.31	1.02	0.26	85	85	73	2.00	1.50	118	0.024	105	104	127.3	0.59	1.36	15.617774	113.3	181.2	172.4	67.5	180.8	334.25845	83	83	73		1.001	11.356	1288
86	13.672	13.548		0.16	0.15	1.31	1.03	0.26	85	85	73	2.02	1.50	117	0.023	107	105	127.0	0.38	1.35	15.565855	114.1	181.9	173.2	67.6	181.7	296.33289	83	83	73		1.001	11.201	1280
87	13.831	13.704		0.16	0.16	1.32	1.03	0.26	85	85	74	1.99	1.50	99	0.026	99	99	126.8	0.17	1.40	15.543273	114.3	182.2	173.4	67.6	181.9	274.5585	81	81	74		1.001	11.682	1337
88	13.990	13.859		0.16	0.15	1.31	1.03	0.26	85	85	74	1.97	1.50	92	0.024	103	101	126.7	0.08	1.66	15.531189	114.2	181.9	171.0	67.6	181.7	265.32352	81	80	74		1.001	13.789	1576
89	14.149	14.014		0.16	0.15	1.31	1.03	0.26	85	85	74	1.96	1.50	87	0.025	100	99	126.6	0.12	1.60	15.6324854	113.8	181.5	170.9	67.6	181.3	256.06659	80	80	74		1.001	13.303	1516
90	14.309	14.170		0.16	0.16	1.32	1.03	0.26	85	85	74	1.97	1.50	85	0.026	99	97	126.5	0.12	1.66	15.6003323	113.4	181.2	170.6	67.6	180.9	244.84139	80	79	74		1.001	13.788	1565
91	14.469	14.325		0.16	0.15	1.32	1.03	0.26	85	85	74	1.97	1.50	85	0.019	116	113	126.5	-0.03	1.66	15.583992	113.1	180.8	170.4	67.6	180.7	237.19397	79	79	74		1.001	13.783	1561
92	14.628	14.481		0.16	0.16	1.32	1.03	0.26	85	85	73	1.96	1.50	84	0.026	98	97	126.4	0.05	1.56	15.6035318	113.2	181.0	171.3	67.5	180.8	230.73187	78	78	73		1.001	12.979	1471
93	14.788	14.636		0.16	0.15	1.31	1.03	0.26	85	85	74	1.96	1.50	83	0.025	101	99	126.4	0.07	1.52	15.642108	113.0	180.7	171.1	67.6	180.6	225.70212	77	77	74		1.001	12.652	1431
94	14.948	14.793		0.16	0.16	1.31	1.03	0.26	85	85	74	1.95	1.50	82	0.025	100	100	126.5	-0.12	1.56	15.5662451	112.5	180.3	170.6	67.6	180.0	220.98749	77	77	74		1.001	12.975	1461
95	15.107	14.948		0.16	0.16	1.31	1.03	0.26	85	85	73	1.95	1.50	82	0.023	104	103	126.4	0.11	1.46	15.6130333	112.1	179.9	170.2	67.6	179.6	221.03943	76	76	73		1.001	12.169	1365
96	15.267	15.104		0.16	0.16	1.32	1.03	0.26	85	85	74	1.96	1.50	80	0.025	100	99	126.5	-0.13	1.52	15.6414299	111.5	179.3	169.8	67.6	179.1	218.66141	75	75	74		1.001	12.651	1412
97	15.427	15.260		0.16	0.16	1.32	1.03	0.26	85	85	74	1.96	1.50	80	0.026	98	97	126.4	0.13	1.60	15.556715	111.2	178.9	169.4	67.6	178.8	215.17427	75	75	74		1.001	13.287	1479
98	15.587	15.417		0.16	0.16	1.32	1.04	0.26	85	85	74	1.95	1.40	79	0.022	107	106	126.5	-0.09	1.62	15.5938234	110.6	178.4	168.9	67.6	178.2	211.45107	75	75	74		1.001	13.447	1489
99	15.748	15.573		0.16	0.16	1.32	1.04	0.26	85	85	74	1.94	1.40	79	0.024	103	101	126.4	0.03	1.52	15.6993208	110.3	178.1	168.6	67.6	177.9	207.42461	75	75	74		1.001	12.634	1395
100	15.908	15.731		0.16	0.16	1.33	1.05	0.26	86	86	74	1.94	1.40	79	0.023	104	104	126.4	-0.02	1.58	15.571228	109.8	177.4	168.1	67.6	177.4	203.91884	75	75	74		1.001	13.123	1442
101	16.068	15.889		0.16	0.16	1.32	1.05	0.26	86	85	74	1.94	1.40	79	0.024	102	102	126.5	-0.10	1.52	15.6128349	108.9	176.6	167.3	67.6	176.5	200.30742	75	75	74		1.001	12.650	1380
102	16.228	16.046		0.16	0.16	1.33	1.06	0.26	86	86	74	1.95	1.40	78	0.026	98	97	126.6	-0.02	1.53	15.5843592	108.5	176.2	167.0	67.6	176.1	196.88373	75	75	74		1.001	12.748	1385
103	16.388	16.205		0.16	0.16	1.33	1.06	0.26	86	86	74	1.94	1.40	78	0.025	100	100	126.5	0.01	1.52	15.6323051	107.4	175.1	166.0	67.6	175.0	193.34378	75	75	74		1.001	12.652	1361
104	16.549	16.362		0.16	0.16	1.33	1.06	0.26	86	86	74	1.95	1.40	78	0.023	105	103	126.7	-0.12	1.51	15.6705427	106.5	174.3	165.2	67.6	174.1	190.0602	75	75	74		1.001	12.544	1338
105	16.709	16.520		0.16	0.16	1.32	1.06	0.26	86	86	74	1.95	1.40	78	0.025	100	100	126.6	0.02	1.54	15.5240612	106.0	173.7	164.6	67.6	173.6	186.67749	75	75	74		1.001	12.814	1360
106	16.870	16.679		0.16	0.16	1.32	1.06	0.26	86	86	74	1.94	1.40	78	0.026	99	98	126.7	-0.09	1.58	15.5465517	106.2	174.0	164.6	67.6	173.8	183.72215	75	75	74		1.001	13.137	1397
107	17.030	16.837		0.16	0.16	1.32	1.06	0.26	86	86	74	1.95	1.40	78	0.024	102	102	126.7	0.02	1.58	15.5200157	105.9	173.6	164.3	67.6	173.5	180.71385	75	75	74		1.001	13.135	1393
108	17.191	16.997		0.16	0.16	1.32	1.06	0.26	86	86	74	1.93	1.40	78	0.027	97	97	126.7	0.06	1.52	15.5841179	105.3	173.0	163.7	67.6	172.8	177.86	75	75	74		1.001	12.652	1333
109	17.351	17.155		0.16	0.16	1.32	1.07	0.26	86	86	74	1.95	1.40	78	0.024	102	102	126.7	-0.07	1.54	15.5660038	104.3	172.1	162.8	67.6	171.9	174.87466	75	75	74		1.001	12.812	1338
110	17.511	17.313		0.16	0.16	1.32	1.07	0.26	86	86	74	1.94	1.40	78	0.024	102	102	126.8	-0.02	1.56	15.6216507	104.0	171.7	162.5	67.6	171.5	172.21111	75	75	74		1.001	12.973	1350
111	17.672	17.473		0.16	0.16	1.32	1.07	0.26	86	86	74	1.95	1.40	78	0.024	103	103	126.9	-0.12	1.48	15.5961628	103.3	171.0	161.9	67.6	170.8	169.53261	75	75	74		1.001	12.328	1275

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
112	17.832	17.631		0.16	0.16	1.32	1.07	0.26	86	86	74	1.95	1.40	78	0.025	100	100	127.0	-0.09	1.56	15.6513929	103.3	171.2	161.9	67.6	170.9	167.5159	75	75	74		1.001	12.975	1342
113	17.992	17.791		0.16	0.16	1.32	1.07	0.26	86	86	74	1.95	1.40	78	0.025	100	101	126.9	0.09	1.44	15.5939932	103.1	170.8	162.1	67.6	170.7	164.89987	75	75	74		1.001	12.006	1239
114	18.153	17.950		0.16	0.16	1.32	1.07	0.26	86	86	74	1.94	1.40	78	0.023	105	105	126.9	-0.07	1.58	15.6417246	102.4	170.2	160.9	67.6	170.0	162.32031	75	75	74		1.001	13.135	1347
115	18.313	18.109		0.16	0.16	1.33	1.07	0.26	86	86	74	1.94	1.40	78	0.023	104	105	127.0	-0.09	1.66	15.4910736	101.5	169.4	159.9	67.6	169.2	160.33243	75	75	74		1.001	13.781	1401
116	18.474	18.269		0.16	0.16	1.33	1.07	0.26	86	86	74	1.93	1.40	77	0.023	105	105	126.9	0.14	1.62	15.5838928	101.2	169.0	159.5	67.6	168.8	157.87398	75	75	74		1.001	13.460	1363
117	18.634	18.428		0.16	0.16	1.33	1.07	0.26	86	86	74	1.95	1.40	77	0.026	98	98	126.8	0.08	1.70	15.612999	100.5	168.3	159.0	67.6	168.1	155.77101	75	75	74		1.001	14.111	1420
118	18.794	18.587		0.16	0.16	1.33	1.07	0.26	86	86	74	1.94	1.40	77	0.021	109	109	127.0	-0.18	1.66	15.5729923	100.6	168.1	159.1	67.6	168.2	153.58302	75	75	74		1.001	13.782	1388
119	18.955	18.747		0.16	0.16	1.32	1.07	0.26	86	86	74	1.95	1.40	77	0.024	103	103	127.2	-0.21	1.62	15.6798792	99.9	167.8	158.4	67.6	167.5	151.63895	75	75	74		1.001	13.462	1347
120	19.115	18.906		0.16	0.16	1.33	1.07	0.26	86	86	74	1.95	1.40	77	0.023	104	105	127.2	0.03	1.68	15.5558453	99.6	167.5	158.1	67.6	167.2	149.68416	75	74	74		1.001	13.942	1390
121	19.276	19.065		0.16	0.16	1.33	1.07	0.26	86	86	74	1.95	1.40	77	0.027	97	97	127.0	0.18	1.66	15.5562344	98.9	166.7	157.4	67.6	166.4	147.74736	75	74	74		1.001	13.784	1364
122	19.436	19.225		0.16	0.16	1.33	1.07	0.26	86	86	74	1.95	1.40	77	0.024	102	103	127.1	-0.12	1.66	15.5558805	99.0	166.7	157.5	67.6	166.5	145.7377	75	74	74		1.001	13.782	1366
123	19.597	19.384		0.16	0.16	1.33	1.07	0.26	86	86	74	1.93	1.40	77	0.024	103	102	127.1	-0.03	1.64	15.509141	98.6	166.4	157.2	67.6	166.2	143.9035	75	74	74		1.001	13.627	1346
124	19.757	19.543		0.16	0.16	1.33	1.08	0.26	86	86	74	1.93	1.40	77	0.024	102	102	127.1	0.08	1.58	15.6800327	97.7	165.3	156.3	67.6	165.2	142.11768	74	74	74		1.001	13.136	1284
125	19.918	19.703		0.16	0.16	1.33	1.07	0.26	86	86	74	1.93	1.40	77	0.025	100	101	127.2	-0.12	1.69	15.5842638	97.0	164.6	155.7	67.6	164.5	140.43794	74	74	74		1.001	14.107	1369
126	20.079	19.862		0.16	0.16	1.33	1.07	0.26	86	86	73	1.93	1.40	77	0.023	105	105	127.1	0.11	1.60	15.596343	96.3	164.0	155.0	67.6	163.8	138.81627	74	74	73		1.001	13.290	1281
127	20.240	20.022		0.16	0.16	1.33	1.08	0.26	86	86	74	1.93	1.40	77	0.025	100	101	127.2	-0.17	1.79	15.5939045	96.3	164.1	155.0	67.6	163.8	137.248	74	74	74		1.001	14.907	1437
128	20.401	20.181		0.16	0.16	1.33	1.07	0.26	86	86	73	1.93	1.40	77	0.025	100	100	127.3	-0.08	1.85	15.6037464	95.5	163.3	153.8	67.6	163.1	135.58183	74	74	73		1.001	15.386	1471
129	20.561	20.340		0.16	0.16	1.33	1.07	0.26	86	86	74	1.95	1.40	77	0.026	98	98	127.2	0.15	1.71	15.595437	95.4	163.2	153.7	67.6	163.0	134.04706	74	74	74		1.001	14.249	1361
130	20.722	20.500		0.16	0.16	1.33	1.08	0.26	86	86	73	1.95	1.40	77	0.023	105	105	127.3	-0.14	1.78	15.5458841	94.7	162.5	153.0	67.6	162.3	132.52278	74	74	73		1.001	14.802	1404
131	20.882	20.660		0.16	0.16	1.33	1.07	0.26	86	86	73	1.95	1.40	77	0.028	94	95	127.4	-0.05	1.76	15.5748444	93.6	161.5	152.0	67.6	161.2	131.08817	74	74	73		1.001	14.650	1373
132	21.043	20.819		0.16	0.16	1.33	1.08	0.26	86	86	73	1.94	1.40	77	0.027	97	97	127.2	0.17	1.72	15.5856838	92.9	160.6	151.5	67.6	160.5	129.5966	74	74	73		1.001	14.308	1331
133	21.204	20.979		0.16	0.16	1.33	1.07	0.26	86	86	74	1.94	1.40	77	0.026	98	99	127.3	-0.06	1.73	15.6707392	92.3	160.0	150.9	67.6	159.9	129.30344	74	74	74		1.001	14.432	1334
134	21.364	21.138		0.16	0.16	1.32	1.07	0.26	86	86	73	1.95	1.40	77	0.026	98	98	126.9	0.36	1.73	15.5657692	92.1	159.7	150.6	67.6	159.6	174.70665	74	74	73		1.001	14.432	1330
135	21.525	21.297		0.16	0.16	1.32	1.06	0.26	86	86	73	1.94	1.40	87	0.025	101	101	126.6	0.33	1.79	15.5585833	91.4	159.0	149.8	67.6	159.0	199.22282	75	75	73		1.001	14.913	1365
136	21.685	21.456		0.16	0.16	1.32	1.07	0.26	86	86	73	1.96	1.40	89	0.025	101	101	126.0	0.54	1.79	15.7377024	90.1	157.9	148.6	67.6	157.6	218.77936	75	76	73		1.001	14.910	1344
137	21.845	21.614		0.16	0.16	1.32	1.07	0.26	86	86	74	1.96	1.40	91	0.023	105	105	125.5	0.51	1.81	15.6467209	89.6	157.4	148.0	67.5	157.1	238.18378	75	76	74		1.001	15.075	1352
138	22.005	21.772		0.16	0.16	1.33	1.07	0.26	86	86	73	1.95	1.40	94	0.025	101	101	124.9	0.64	1.89	15.5406513	90.0	157.8	148.4	67.5	157.5	256.45929	76	76	73		1.001	15.724	1417
139	22.165	21.931		0.16	0.16	1.32	1.06	0.26	86	86	74	1.95	1.40	97	0.023	106	107	124.3	0.57	1.83	15.4985552	90.2	158.0	148.7	67.5	157.8	273.34912	76	76	74		1.001	15.238	1376
140	22.325	22.089		0.16	0.16	1.33	1.07	0.26	86	86	73	1.96	1.40	100	0.026	100	100	123.6	0.72	1.83	15.6178894	90.6	158.6	148.9	67.5	158.1	288.05481	77	77	73		1.001	15.238	1382
141	22.485	22.248		0.16	0.16	1.33	1.07	0.26	86	86	73	1.97	1.40	104	0.026	100	101	122.7	0.85	1.91	15.5858955	90.2	158.3	148.6	67.5	157.8	299.54135	77	78	73		1.001	15.884	1435
142	22.645	22.405		0.16	0.16	1.33	1.07	0.26	86	86	73	1.98	1.40	108	0.028	97	96	122.0	0.73	1.83	15.6894407	91.2	159.3	149.4	67.6	158.8	308.74802	78	79	73		1.001	15.237	1392
143	22.804	22.563		0.16	0.16	1.33	1.07	0.26	86	86	73	1.98	1.40	110	0.024	104	105	121.3	0.75	1.89	15.6223516	92.5	160.5	150.6	67.5	160.0	314.02478	79	80	73		1.001	15.725	1456
144	22.965	22.721		0.16	0.16	1.33	1.06	0.26	86	86	73	1.97	1.40	112	0.027	100	99	120.5	0.78	1.91	15.6129837	94.0	161.8	151.9	67.5	161.5	318.51096	79	80	73		1.001	15.882	1494
145	23.125	22.879		0.16	0.16	1.33	1.06	0.26	86	86	73	1.97	1.40	113	0.026	101	101	119.7	0.82	1.83	15.6420898	94.6	162.5	152.3	67.5	162.1	322.89774	80	81	73		1.001	15.236	1442
146	23.284	23.037		0.16	0.16	1.32	1.06	0.26	86	86	73	1.99	1.40	115	0.026	101	101	118.7	0.95	1.89	15.6804495	95.5	163.4	153.2	67.5	163.1	327.0726	80	81	73		1.001	15.720	1504
147	23.443	23.193		0.16	0.16	1.32	1.06	0.26	86	86	73	2.00	1.50	116	0.024	105	104	118.1	0.59	1.83	15.5014763	96.3	164.3	153.9	67.5	163.9	330.5907	81	82	73		1.001	15.237	1469
148	23.603	23.351		0.16	0.16	1.31	1.05	0.26	86	86	73	2.00	1.50	117	0.026	101	101	117.2	0.89	1.87	15.6129446	97.7	165.6	155.2	67.5	165.2	333.02634	81	82	73		1.001	15.558	1522
149	23.761	23.507		0.16	0.16	1.32	1.05	0.26	86	86	73	2.00	1.50	118	0.025	102	102	116.4	0.78	1.79	15.5843811	98.4	166.1	155.8	67.5	165.9	335.10162	82	83	73		1.001	14.910	1469
150	23.920	23.665		0.16	0.16	1.31	1.05	0.26	86	86	73	2.00	1.50	119	0.027	99	100	115.6	0.84	1.83	15.6891479	98.8	166.8	156.2	67.5	166.4	337.34345	82	83	73		1.001	15.234	1507
151	24.079	23.821		0.16	0.16	1.32	1.05	0.26	86	86	73	2.00	1.50	119	0.025	103	102	114.9	0.74	1.81	15.5713654	99.6	167.4	156.9	67.5	167.2	338.57501	83	83	73		1.001	15.075	1504
152	24.238	23.978		0.16	0.16	1.31	1.05	0.26	86	86	73	2.01	1.50	119	0.027	99	99	114.1	0.77	1.85	15.6421165	101.3	169.2	158.5	67.5	168.8	339.79263	83	83	73		1.001	15.396	1562
153	24.397	24.133		0.16	0.15	1.32	1.04	0.26	86	86	73	2.00	1.50	120	0.024	105	104	113.3	0.82	1.83	15.5941658	102.6	170.5	159.5	67.5	170.1	340.71759	83	84	73		1.001	15.237	1565
154	24.556	24.290		0.16	0.16	1.31	1.04	0.26	87	86	73	2.01	1.50	120	0.026	101	101	112.6	0.71	1.83	15.6606293	103.7	171.6	160.5	67.5	171.2	341.37735	83	84	73		1.001	15.237	1582
155	24.715	24.445		0.16	0.16	1.31	1.03	0.26	87	86	73	2.02	1.50	120	0.024	105	104	111.8	0.75	1.83	15.667798	104.7	172.7	161.4	67.5	172.2	341.96314	83	84	73		1.001	15.237	1597
156	24.874	24.601		0.16	0.16	1.31	1.03	0.26	87	86	73	2.00	1.50	121	0.024	105	104	111.0	0.81	1.83	15.6323929	105.8	173.7	162.5	67.5	173.3	337.93085	83	84	73		1.001	15.236	1613
157	25.033	24.756		0.16	0.16	1.31	1.03	0.26	87	86	73	2.01	1.50	119	0.024	105	104	110.5	0.55	1.93	15.6319742	105.6	173.3	162.2	67.5	173.1	340.16614	83	84	73		1.001	16.044	1695
158	25.191	24.912		0.16	0.16	1.31	1.03	0.26	87	86	73	2.02	1.50	120	0.026	100	100	109.6	0.87	1.91	15.6894703	105.9	173.8	162.5	67.5	173.4	340.58701	83	84	73		1.001	15.877	1683
159	25.350	25.067		0.16	0.16	1.31	1.03	0.26	87	86	73	2.00	1.50	120	0.028	97	96	108.9	0.71	1.83	15.555809	107.6	175.6	164.0	67.5	175.1	337.93884	83	84	73		1.001	15.233	1642
160	25.509	25.223		0.16	0.16	1.31	1.03	0.26	87	86	73	2.02	1.50	119	0.022	110	109	108.2	0.64	1.81	15.5949078	109.4	177.3	165.7	67.5	176.9	340.88571	83	84	73		1.001	15.071	1651
161	25.667	25.377		0.16	0.15	1.31	1.03	0.26	87	86	73	2.02	1.50	120	0.028	97	95	107.6	0.61	1.89	15.5558901	110.4	178.1	166.9	67.5	177.9	344.01038	83	84	73		1.001	15.719	1737
162	25.827	25.532		0.16	0.16	1.31	1.03	0.26	87	86	73	2.02	1.50	120	0.023	108	106	106.9	0.71	1.69	15.5558882	110.8	178.6	167.9	67.5	178.3	341.79871	83	84	73		1.001	14.104	1565
163	25.986	25.685		0.16	0.15	1.30	1.00	0.26	87	86	73	2.02	1.60	120	0.025	103	100	106.2	0.72	1.67	15.5659409	111.4	179.2	168.4	67.5	178.9	343.00394	83	84	73		1.001	13.937	1554
164	26.145	25.839		0.16	0.15	1.31	0.99	0.26	87	86	73	2.02	1.60	120	0.027	99	97	105.7	0.53	1.64	15.5584726	112.0	179.5	169.0	67.5	179.5	346.30655	83	84	73		1.001	13.631	1528
165	26.303	25.992		0.16	0.15	1.30	0.99	0.26	87	86	73	2.01	1.60	121	0.025	102	100	104.9	0.81	1.68	15.6422005	112.4	180.2	169.4	67.5	179.9	347.45895	83	84	73		1.001	13.946	1569
166	26.462	26.144		0.16	0.15	1.31	1.00	0.26	87	86	73	2.01	1.60	121	0.026	101	98	104.3	0.51	1.67	15.6130714	114.1	181.9	170.9	67.5	181.6	312.55161	83	84	73		1.001	13.920	1590
167	26.621	26.298		0.16	0.15	1.31	1.01	0.26	87	86	73	2.00	1.50	104	0.027	98	96	104.1	0.29	0.92	15.5558805	115.4	183.8	178.4	67.6	183.0	286.24667	81	82	73		1.001	7.624	881
168	26.779	26.452		0.16	0.15	1.32	1.01	0.26	87	86	73	2.00	1.50	95	0.026	98	97	103.8	0.25	1.68	15.6024408	116.8	184.6	173.9	67.6	184.4	273.14044	80	81	73		1.001	14.014	1639
169	26.939	26.606		0.16	0.15	1.32	1.00	0.26	87	86	73	2.00	1.50	90	0.024	103	100	103.6	0.26	1.70	15.5747051	116.4	184.1	173.2	67.5	183.9	262.68219	80	80	73		1.001	14.174	1652
170	27.098	26.760		0.16	0.15	1.32	1.01	0.26	87	86	73	2.00	1.50	88	0.024	102	100	103.4	0.14	1.59	15.5708847	116.2	183.9	173.5	67.4	183.7	250.95866	79	80	73		1.001	13.203	1536
171	27.258	26.913		0.16	0.15	1.31	1.01	0.26	87	86	73	1.98	1.50	87	0.024	103	99	103.2	0.22	1.32	15.6226034	116.3	184.0	175.5	67.5	183.8	242.42783	79	80	73		1.001	10.988	1279
172	27.418	27.069		0.16	0.16	1.31	1.00	0.26	87	86	73	1.98	1.50	85	0.025	100	99	103.1	0.07	1.36	15.575038	116.1	184.0	175.4	67.6	183.7	235.91184	79	79	73		1.001	11.350	1320
173	27.578	27.222		0.16	0.15	1.32	1.02	0.26	87	86	73	1.98	1.50	84	0.023	105	101	103.2	-0.04	1.46	15.5659065	115.9	183.6	174.4	67.6	183.4	230.5882	78	79	73		1.001	12.161	1411

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
174	27.738	27.378		0.16	0.16	1.32	1.01	0.26	87	86	73	1.98	1.50	83	0.022	107	106	102.9	0.23	1.48	15.6704617	115.8	183.7	174.3	67.6	183.4	225.57994	77	78	73		1.001	12.325	1429
175	27.898	27.532		0.16	0.15	1.32	1.02	0.26	87	86	73	1.97	1.50	83	0.026	98	96	103.1	-0.14	1.46	15.6223173	115.6	183.4	174.1	67.5	183.1	225.7963	77	77	73		1.001	12.158	1407
176	28.058	27.687		0.16	0.16	1.31	1.01	0.26	87	86	73	1.96	1.50	81	0.024	102	100	102.8	0.26	1.48	15.5749006	115.3	183.0	173.8	67.5	182.8	224.43019	76	77	73		1.001	12.321	1422
177	28.218	27.842		0.16	0.15	1.31	1.02	0.26	87	86	73	1.97	1.50	80	0.026	98	96	102.9	-0.14	1.44	15.5657473	114.9	182.7	173.5	67.5	182.5	221.13324	75	76	73		1.001	12.001	1381
178	28.378	27.998		0.16	0.16	1.32	1.01	0.26	87	86	73	1.98	1.50	79	0.026	98	97	103.0	-0.08	1.48	15.5541754	114.7	182.4	173.3	67.5	182.3	217.31352	75	75	73		1.001	12.323	1416
179	28.538	28.153		0.16	0.15	1.32	1.03	0.26	87	86	73	1.97	1.50	79	0.027	96	94	102.9	0.17	1.52	15.5459747	114.1	181.7	172.7	67.6	181.6	213.16925	74	75	73		1.001	12.646	1444
180	28.698	28.310		0.16	0.16	1.31	1.02	0.26	87	86	73	1.97	1.50	79	0.027	96	95	102.9	-0.08	1.42	15.5841894	113.8	181.6	172.5	67.6	181.4	209.49478	74	74	73		1.001	11.840	1349
181	28.858	28.465		0.16	0.16	1.32	1.03	0.26	87	86	73	1.96	1.50	79	0.025	100	98	103.0	-0.04	1.36	15.5905428	113.2	180.9	172.0	67.6	180.8	205.74478	73	74	73		1.001	11.355	1287
182	29.019	28.622		0.16	0.16	1.32	1.03	0.26	87	86	73	1.97	1.50	78	0.024	102	101	102.8	0.14	1.48	15.6041403	112.6	180.4	171.3	67.6	180.1	202.25465	73	74	73		1.001	12.324	1389
183	29.179	28.778		0.16	0.16	1.33	1.05	0.26	87	86	73	1.95	1.50	78	0.026	98	97	102.9	-0.08	1.38	15.603899	112.1	179.9	171.0	67.6	179.7	198.60893	73	74	73		1.001	11.515	1293
184	29.339	28.936		0.16	0.16	1.33	1.05	0.26	87	86	74	1.97	1.40	78	0.026	98	98	103.0	-0.06	1.52	15.5927191	111.6	179.4	170.5	67.6	179.2	194.87743	73	74	74		1.001	12.650	1413
185	29.500	29.093		0.16	0.16	1.33	1.05	0.26	87	86	74	1.97	1.40	78	0.026	98	97	103.0	-0.05	1.38	15.7374096	110.9	178.4	169.8	67.6	178.5	191.32724	73	74	74		1.001	11.520	1279
186	29.660	29.252		0.16	0.16	1.32	1.05	0.26	87	86	73	1.96	1.40	78	0.026	98	98	103.1	-0.07	1.42	15.642333	110.2	178.0	169.2	67.6	177.8	188.32658	73	74	73		1.001	11.843	1306
187	29.821	29.409		0.16	0.16	1.33	1.06	0.26	87	86	73	1.96	1.40	78	0.024	102	101	103.1	0.05	1.33	15.6049242	109.5	177.1	168.5	67.6	177.0	185.42316	73	74	73		1.001	11.034	1209
188	29.982	29.567		0.16	0.16	1.33	1.06	0.26	87	86	73	1.95	1.40	78	0.023	105	104	103.1	-0.09	1.52	15.6304617	108.9	176.8	168.0	67.5	176.5	182.32515	73	74	73		1.001	12.655	1380
189	30.142	29.726		0.16	0.16	1.33	1.06	0.26	87	86	73	1.96	1.40	78	0.024	102	102	103.1	0.08	1.42	15.6421938	108.8	176.5	167.8	67.5	176.3	179.5295	73	74	73		1.001	11.855	1291
190	30.303	29.884		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	78	0.024	102	102	103.1	0.01	1.47	15.5742292	108.4	176.1	167.6	67.6	176.0	176.99547	73	74	73		1.001	12.247	1330
191	30.464	30.044		0.16	0.16	1.32	1.07	0.26	87	86	73	1.95	1.40	78	0.023	105	105	103.2	-0.14	1.42	15.6994648	108.5	176.3	167.5	67.5	176.0	174.33829	73	74	73		1.001	11.802	1282
192	30.625	30.202		0.16	0.16	1.33	1.07	0.26	87	86	73	1.95	1.40	78	0.023	105	104	103.2	0.02	1.48	15.5659294	108.1	175.8	167.2	67.6	175.7	171.7787	73	74	73		1.001	12.291	1330
193	30.785	30.361		0.16	0.16	1.33	1.07	0.26	87	86	73	1.95	1.40	77	0.027	96	97	103.2	-0.03	1.48	15.5911131	107.4	175.2	166.6	67.6	175.0	168.96088	73	74	73		1.001	12.286	1321
194	30.946	30.520		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	77	0.026	98	98	103.3	-0.05	1.47	15.5745449	106.7	174.4	165.9	67.6	174.3	166.39084	73	74	73		1.001	12.237	1308
195	31.107	30.678		0.16	0.16	1.33	1.06	0.26	87	86	73	1.96	1.40	77	0.025	100	100	103.2	0.09	1.48	15.4895935	105.9	173.5	165.2	67.6	173.4	164.1445	73	74	73		1.001	12.322	1306
196	31.267	30.837		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	77	0.023	104	105	103.3	-0.11	1.46	15.594182	105.4	173.0	164.7	67.6	173.0	161.75719	73	74	73		1.001	12.162	1284
197	31.428	30.996		0.16	0.16	1.32	1.07	0.26	87	86	73	1.96	1.40	77	0.024	102	102	103.4	-0.10	1.46	15.5631018	105.6	173.5	164.9	67.6	173.1	159.4404	73	74	73		1.001	12.168	1286
198	31.588	31.155		0.16	0.16	1.32	1.07	0.26	87	86	73	1.94	1.40	77	0.026	98	98	103.4	-0.03	1.40	15.5993853	105.2	173.1	164.5	67.6	172.8	157.31335	73	74	73		1.001	11.678	1230
199	31.749	31.315		0.16	0.16	1.32	1.07	0.26	87	86	73	1.95	1.40	77	0.025	100	101	103.5	-0.06	1.46	15.5076036	104.9	172.7	164.2	67.6	172.4	155.14734	73	74	73		1.001	12.163	1277
200	31.909	31.474		0.16	0.16	1.32	1.07	0.26	87	86	73	1.95	1.40	77	0.025	100	100	103.3	0.16	1.38	15.632226	104.5	172.4	163.9	67.6	172.1	153.04382	73	74	73		1.001	11.517	1205
201	32.070	31.632		0.16	0.16	1.32	1.07	0.26	87	86	73	1.95	1.40	77	0.026	98	98	103.3	-0.03	1.52	15.5269861	103.8	171.5	163.2	67.6	171.4	151.02672	73	74	73		1.001	12.652	1314
202	32.231	31.793		0.16	0.16	1.32	1.07	0.26	87	86	73	1.95	1.40	77	0.025	100	102	103.4	-0.11	1.44	15.6023102	103.6	171.5	163.1	67.6	171.2	149.15549	73	74	73		1.001	12.003	1245
203	32.391	31.951		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	77	0.026	98	98	103.5	-0.04	1.62	15.6515684	103.4	171.0	162.0	67.6	171.0	147.28073	73	74	73		1.001	13.457	1392
204	32.552	32.110		0.16	0.16	1.33	1.07	0.26	87	86	73	1.95	1.40	77	0.024	102	102	103.4	0.06	1.62	15.603879	102.5	170.3	161.1	67.6	170.1	145.25441	73	74	73		1.001	13.457	1381
205	32.712	32.270		0.16	0.16	1.33	1.07	0.26	87	86	73	1.95	1.40	77	0.026	98	99	103.5	-0.12	1.52	15.5699997	101.3	169.0	160.0	67.6	169.0	143.46266	73	74	73		1.001	12.648	1283
206	32.873	32.429		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	77	0.026	98	98	103.5	0.05	1.56	15.6223421	100.9	168.7	159.7	67.6	168.5	141.57655	73	74	73		1.001	12.972	1311
207	33.034	32.588		0.16	0.16	1.33	1.07	0.26	87	86	73	1.95	1.40	77	0.024	102	102	103.5	0.00	1.48	15.4974852	100.7	168.5	159.5	67.6	168.3	140.12715	73	74	73		1.001	12.325	1242
208	33.194	32.748		0.16	0.16	1.33	1.07	0.26	87	86	73	1.94	1.40	77	0.024	102	103	103.7	-0.16	1.60	15.6325579	100.5	168.4	159.3	67.6	168.1	138.54085	73	74	73		1.001	13.299	1338
209	33.355	32.907		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	77	0.026	98	98	103.7	0.00	1.60	15.6322489	99.8	167.5	158.7	67.6	167.4	137.19336	73	74	73		1.001	13.295	1329
210	33.516	33.066		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	77	0.025	100	100	103.7	-0.02	1.58	15.5947294	99.1	166.8	158.0	67.6	166.7	135.46581	73	74	73		1.001	13.135	1303
211	33.676	33.226		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	76	0.027	96	97	103.6	0.11	1.62	15.5459614	98.5	166.3	157.5	67.6	166.2	134.04382	73	74	73		1.001	13.459	1328
212	33.837	33.385		0.16	0.16	1.33	1.07	0.26	87	86	73	1.96	1.40	76	0.027	96	96	103.7	-0.16	1.58	15.6041269	98.1	165.8	157.1	67.6	165.7	132.66795	73	74	73		1.001	13.138	1290
213	33.998	33.545		0.16	0.16	1.33	1.07	0.26	87	86	73	1.95	1.40	76	0.024	102	103	103.8	-0.10	1.58	15.5821772	97.9	166.0	156.9	67.6	165.5	131.41173	73	74	73		1.001	13.138	1287
214	34.159	33.704		0.16	0.16	1.33	1.07	0.26	87	86	73	1.94	1.40	76	0.026	98	98	103.7	0.13	1.52	15.6605263	97.4	165.1	156.5	67.6	165.1	130.27251	73	74	73		1.001	12.649	1234
215	34.320	33.863		0.16	0.16	1.33	1.07	0.26	87	86	73	1.94	1.40	76	0.027	96	96	103.6	0.05	1.64	15.6043386	97.0	164.8	155.5	67.6	164.7	128.5014	73	74	73		1.001	13.632	1324
216	34.481	34.023		0.16	0.16	1.32	1.07	0.26	87	86	73	1.96	1.40	76	0.023	104	105	103.7	-0.04	1.79	15.5565748	96.2	163.8	154.6	67.6	163.8	127.2319	74	74	73		1.001	14.920	1436
217	34.642	34.182		0.16	0.16	1.33	1.07	0.26	87	86	73	1.94	1.40	76	0.023	104	104	103.8	-0.12	1.72	15.5939226	95.4	163.3	153.8	67.6	163.0	125.85826	74	74	73		1.001	14.288	1364
218	34.802	34.341		0.16	0.16	1.33	1.07	0.26	87	86	73	1.94	1.40	76	0.026	98	98	103.8	0.05	1.59	15.6422968	95.2	163.0	153.7	67.6	162.8	124.74966	74	74	73		1.001	13.262	1264
219	34.963	34.501		0.16	0.16	1.33	1.07	0.26	87	86	73	1.94	1.40	76	0.026	98	99	103.8	-0.05	1.68	15.6130486	95.0	162.7	153.5	67.6	162.6	123.75179	74	74	73		1.001	13.974	1329
220	35.124	34.659		0.16	0.16	1.33	1.07	0.26	86	86	73	1.95	1.40	76	0.026	98	98	103.8	-0.03	1.76	15.5658646	94.2	162.0	152.6	67.6	161.9	122.5503	73	74	73		1.001	14.685	1386
221	35.284	34.819		0.16	0.16	1.32	1.07	0.26	86	86	73	1.96	1.40	76	0.025	100	101	103.8	0.04	1.73	15.5929089	93.2	161.0	151.6	67.6	160.8	121.19545	73	74	73		1.001	14.429	1346
222	35.445	34.979		0.16	0.16	1.32	1.07	0.26	86	86	73	1.94	1.40	76	0.026	98	99	103.8	-0.03	1.80	15.565731	92.4	160.2	150.9	67.6	160.0	120.23582	74	74	73		1.001	14.964	1385
223	35.606	35.137		0.16	0.16	1.32	1.07	0.26	86	86	73	1.96	1.40	76	0.024	102	102	103.8	0.01	1.78	15.5748806	91.8	159.5	150.3	67.6	159.5	146.2954	74	74	73		1.001	14.832	1364
224	35.767	35.297		0.16	0.16	1.32	1.07	0.26	86	86	73	1.96	1.40	78	0.027	97	97	103.3	0.49	1.73	15.6131325	91.7	159.5	150.1	67.6	159.3	181.68124	74	74	73		1.001	14.419	1323
225	35.927	35.456		0.16	0.16	1.32	1.06	0.26	86	86	73	1.97	1.40	88	0.026	99	99	102.9	0.47	1.83	15.6420832	91.0	158.9	149.6	67.6	158.6	205.06702	75	75	73		1.001	15.200	1385
226	36.087	35.614		0.16	0.16	1.32	1.06	0.26	86	86	73	1.96	1.40	89	0.027	97	97	102.5	0.37	1.71	15.5943222	90.2	157.8	148.9	67.6	157.8	220.48506	75	75	73		1.001	14.268	1288
227	36.247	35.773		0.16	0.16	1.32	1.07	0.26	86	86	73	1.97	1.40	91	0.026	99	100	102.0	0.47	1.73	15.6688795	89.5	157.6	148.3	67.6	157.2	234.09842	75	75	73		1.001	14.429	1294
228	36.408	35.931		0.16	0.16	1.32	1.07	0.26	86	86	73	1.98	1.40	93	0.025	102	101	101.5	0.56	1.68	15.6128817	89.8	157.8	148.5	67.6	157.5	245.05901	75	75	73		1.001	13.945	1254
229	36.568	36.089		0.16	0.16	1.32	1.07	0.26	86	86	73	1.96	1.40	95	0.027	98	98	101.0	0.43	1.73	15.5932856	89.8	157.5	148.5	67.6	157.5	258.66348	75	76	73		1.001	14.427	1298
230	36.728	36.249		0.16	0.16	1.33	1.06	0.26	86	86	73	1.98	1.40	98	0.027	98	99	100.4	0.59	1.81	15.6225901	89.5	157.4	148.2	67.6	157.1	272.92194	76	76	73		1.001	15.075	1351
231	36.888	36.406		0.16	0.16	1.33	1.07	0.26	86	86	73	1.96	1.40	100	0.025	102	101	99.7	0.76	1.77	15.5559282	90.4	158.1	149.0	67.6	158.0	284.82782	76	76	73		1.001	14.755	1335
232	37.048	36.565		0.16	0.16	1.33	1.07	0.26	86	86	73	1.98	1.40	103	0.027	98	99	99.1	0.56	1.79	15.5499496	90.3	158.2	148.9	67.6	157.9	299.06049	77	77	73		1.001	14.916	1348
233	37.208	36.722		0.16	0.16	1.33	1.06	0.26	86	86	73	1.97	1.40	106	0.027	99	98	98.3	0.78	1.83	15.5897875	91.3	159.2	149.8	67.6	158.9	310.55081	77	78	73		1.001	15.240	1393
234	37.367	36.880		0.16	0.16	1.33	1.07	0.26	86	86	73	2.00	1.40	109	0.027	98	99	97.5	0.83	1.75	15.622633	91.6	159.4	150.1	67.6	159.2	318.41049	78	79	73		1.001	14.591	1338
235	37.528	37.038		0.16	0.16	1.33	1.06	0.26	86	86	73	2.00	1.40	112	0.025	104	103	96.8	0.70	1.79	15.670351	92.8	160.9	151.1	67.6	160.4	322.51721	79	80	73		1.001	14.913	1385

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
236	37.688	37.196		0.16	0.16	1.32	1.06	0.26	86	86	73	2.01	1.50	113	0.026	101	101	95.9	0.92	1.81	15.6079922	94.5	162.3	152.8	67.6	162.1	327.04739	80	80	73		1.001	15.076	1427
237	37.847	37.353		0.16	0.16	1.32	1.05	0.26	86	86	73	2.01	1.50	115	0.026	101	101	95.1	0.74	1.77	15.6041899	95.1	163.1	153.2	67.6	162.7	331.58212	80	81	73		1.001	14.758	1405
238	38.006	37.510		0.16	0.16	1.32	1.05	0.26	86	86	73	2.00	1.50	116	0.027	99	99	94.4	0.74	1.81	15.604023	95.2	163.2	153.3	67.6	162.8	314.12299	81	81	73		1.001	15.081	1438
239	38.165	37.668		0.16	0.16	1.31	1.05	0.26	86	86	73	2.00	1.50	112	0.028	97	97	93.8	0.64	1.81	15.6129112	96.9	164.9	154.9	67.6	164.5	322.33304	81	81	73		1.001	15.075	1463
240	38.324	37.824		0.16	0.16	1.31	1.05	0.26	86	86	73	2.01	1.50	113	0.028	97	96	93.2	0.57	1.79	15.5834913	98.4	166.3	156.2	67.6	166.0	325.56937	81	82	73		1.001	14.913	1469
241	38.483	37.981		0.16	0.16	1.32	1.05	0.26	86	86	73	2.02	1.50	115	0.027	99	99	92.2	0.97	1.73	15.6994486	99.1	167.0	156.8	67.6	166.7	329.38626	81	82	73		1.001	14.428	1432
242	38.642	38.137		0.16	0.16	1.31	1.04	0.26	86	86	73	2.02	1.50	116	0.027	99	98	91.6	0.59	1.69	15.6321926	99.4	167.4	157.0	67.6	167.0	332.06134	82	82	73		1.001	14.102	1403
243	38.801	38.294		0.16	0.16	1.32	1.05	0.26	86	86	73	2.02	1.50	117	0.027	99	99	90.8	0.83	1.79	15.6039085	100.3	168.4	157.9	67.6	167.9	334.01474	82	83	73		1.001	14.911	1497
244	38.960	38.449		0.16	0.16	1.31	1.04	0.26	86	86	73	2.03	1.50	117	0.026	101	99	90.2	0.61	1.79	15.5559034	101.2	169.1	158.8	67.6	168.9	335.88528	82	83	73		1.001	14.909	1511
245	39.119	38.606		0.16	0.16	1.31	1.04	0.26	86	86	73	2.02	1.50	118	0.026	101	101	89.3	0.87	1.77	15.5464115	103.2	171.1	160.6	67.6	170.8	332.92825	83	83	73		1.001	14.752	1524
246	39.278	38.761		0.16	0.16	1.31	1.04	0.26	86	86	73	2.04	1.50	117	0.027	99	98	88.7	0.59	1.77	15.5812807	104.7	172.7	161.9	67.6	172.2	335.75208	83	83	73		1.001	14.749	1545
247	39.437	38.917		0.16	0.16	1.30	1.04	0.26	86	86	73	2.03	1.50	118	0.028	97	96	87.9	0.84	1.75	15.5744591	105.3	173.2	162.4	67.6	172.9	337.07639	83	84	73		1.001	14.588	1538
248	39.595	39.072		0.16	0.16	1.31	1.03	0.26	86	86	73	2.03	1.50	118	0.026	100	99	87.2	0.65	1.79	15.6315365	106.4	174.3	163.4	67.6	174.0	338.27499	83	84	73		1.001	14.909	1589
249	39.753	39.228		0.16	0.16	1.30	1.03	0.26	86	86	73	2.02	1.50	119	0.028	97	97	86.3	0.90	1.71	15.6006317	107.1	175.0	164.0	67.6	174.7	340.5213	83	84	73		1.001	14.267	1530
250	39.911	39.382		0.16	0.15	1.31	1.03	0.26	86	86	73	2.02	1.50	119	0.027	98	97	85.9	0.48	1.81	15.4790449	107.9	175.8	164.7	67.6	175.5	342.36466	83	84	73		1.001	15.076	1629
251	40.070	39.538		0.16	0.16	1.31	1.02	0.26	86	86	73	2.03	1.50	120	0.026	101	100	85.1	0.77	1.77	15.6988583	107.9	175.6	164.7	67.6	175.4	324.51938	83	84	73		1.001	14.755	1593
252	40.229	39.692		0.16	0.15	1.31	1.02	0.26	86	86	73	2.02	1.50	114	0.028	97	95	84.5	0.61	1.89	15.5918541	108.3	176.1	165.0	67.5	175.8	317.03479	83	84	73		1.001	15.722	1705
253	40.388	39.847		0.16	0.16	1.30	1.01	0.26	86	86	73	2.02	1.50	110	0.028	97	95	83.9	0.63	1.77	15.5730305	109.3	177.0	166.0	67.5	176.8	329.27768	83	84	73		1.001	14.754	1614
254	40.547	40.000		0.16	0.15	1.31	1.01	0.26	86	86	73	2.03	1.60	115	0.027	99	96	83.0	0.83	1.79	15.5659313	109.6	177.4	166.1	67.5	177.1	336.88559	83	84	73		1.001	14.904	1635
255	40.705	40.155		0.16	0.16	1.30	1.05	0.26	86	86	73	2.04	1.60	118	0.027	98	98	82.5	0.50	1.85	15.5459719	110.3	178.2	166.7	67.5	177.8	328.06381	83	84	73		1.001	15.391	1699
256	40.863	40.311		0.16	0.16	1.30	1.04	0.26	86	86	73	2.03	1.70	114	0.029	95	94	81.9	0.62	1.81	15.5364799	112.5	180.7	168.8	67.5	180.0	327.65924	83	84	73		1.001	15.079	1698
257	41.022	40.469		0.16	0.16	1.30	1.05	0.26	86	86	73	2.04	1.60	114	0.028	97	97	81.4	0.52	1.77	15.6169472	114.3	182.0	170.5	67.5	181.8	294.56201	83	84	73		1.001	14.751	1688
258	41.180	40.626		0.16	0.16	1.30	1.06	0.26	86	86	73	2.03	1.60	99	0.029	93	94	81.0	0.34	1.75	15.5559082	114.1	181.9	170.2	67.5	181.6	272.48428	80	81	73		1.001	14.605	1668
259	41.339	40.785		0.16	0.16	1.30	1.06	0.26	86	86	73	2.01	1.60	92	0.027	97	98	80.9	0.11	1.89	15.5479574	114.0	181.7	170.2	67.5	181.5	261.25894	80	80	73		1.001	15.698	1791
260	41.498	40.942		0.16	0.16	1.31	1.06	0.26	86	86	73	2.01	1.60	88	0.026	98	98	80.5	0.47	1.81	15.5405073	114.1	182.0	170.1	67.5	181.6	251.76909	79	79	73		1.001	15.077	1722
261	41.658	41.101		0.16	0.16	1.31	1.07	0.26	86	86	73	2.00	1.60	86	0.028	95	96	80.4	0.05	1.79	15.5747681	113.9	181.6	170.0	67.5	181.4	241.64145	78	79	73		1.001	14.927	1702
262	41.818	41.260		0.16	0.16	1.31	1.06	0.26	86	86	73	2.00	1.60	85	0.027	97	97	80.4	0.00	1.63	15.5721426	113.6	181.4	170.1	67.5	181.1	234.27843	77	78	73		1.001	13.584	1545
263	41.977	41.418		0.16	0.16	1.32	1.08	0.26	86	86	73	2.01	1.60	83	0.030	91	92	80.1	0.34	1.64	15.5942745	113.5	181.1	170.3	67.5	181.0	227.91519	77	78	73		1.001	13.678	1554
264	42.137	41.578		0.16	0.16	1.31	1.08	0.26	86	86	73	2	1.6	83	0.027	97	98	80.1	0.00	1.57	15.4990129	112.9	180.6	170.4	67.5	180.4	223.33235	77	78	73		1.001	13.091	1479
265	42.296	41.738		0.16	0.16	1.31	1.07	0.26	86	86	73	1.99	1.6	82	0.028	94	96	80.1	-0.04	1.59	15.6203814	112.7	180.3	170.3	67.5	180.2	218.66972	77	77	73		1.001	13.253	1496
266	42.455	41.897		0.16	0.16	1.31	1.08	0.26	87	86	73	2	1.6	81	0.026	97	99	80.1	0.00	1.39	15.5659313	111.9	179.5	171.0	67.5	179.4	218.76602	76	76	73		1.001	11.552	1294
267	42.615	42.058		0.16	0.16	1.31	1.08	0.26	87	86	73	1.98	1.6	79	0.017	121	123	80.0	0.13	1.33	15.5745602	111.7	179.3	171.0	67.5	179.2	216.49551	75	76	73		1.001	11.031	1233
268	42.775	42.217		0.16	0.16	1.31	1.08	0.26	86	86	73	1.97	1.5	78	0.029	93	93	80.0	0.01	1.31	15.6514893	111.3	179.1	170.7	67.5	178.8	213.72932	75	75	73		1.001	10.868	1211
269	42.934	42.377		0.16	0.16	1.32	1.09	0.26	87	86	73	1.98	1.5	78	0.029	92	94	80.2	-0.18	1.73	15.5559101	110.8	178.4	168.1	67.5	178.3	210.03134	74	75	73		1.001	14.428	1601
270	43.095	42.538		0.16	0.16	1.32	1.09	0.26	86	86	73	1.97	1.5	78	0.027	97	98	80.1	0.07	1.67	15.5659676	110.1	177.8	167.4	67.5	177.5	206.1312	74	74	73		1.001	13.941	1536
271	43.255	42.698		0.16	0.16	1.32	1.08	0.26	87	86	73	1.98	1.5	78	0.027	96	97	80.2	-0.07	1.66	15.6283569	108.8	176.5	166.3	67.5	176.3	202.2802	73	74	73		1.001	13.785	1502
272	43.415	42.859		0.16	0.16	1.32	1.09	0.26	86	86	73	1.97	1.5	78	0.028	94	96	80.2	-0.02	1.71	15.5275402	107.7	175.6	165.3	67.5	175.2	198.5903	73	73	73		1.001	14.266	1538
273	43.575	43.020		0.16	0.16	1.33	1.10	0.26	86	86	73	1.97	1.5	77	0.029	93	94	80.3	-0.07	1.50	15.5365276	107.6	175.2	166.1	67.5	175.0	194.96489	72	73	73		1.001	12.486	1345
274	43.736	43.182		0.16	0.16	1.32	1.10	0.26	86	86	73	1.97	1.5	77	0.026	98	100	80.1	0.13	1.58	15.5971842	107.7	175.4	166.2	67.5	175.2	191.87553	72	73	73		1.001	13.134	1417
275	43.897	43.342		0.16	0.16	1.32	1.10	0.26	86	86	73	1.96	1.5	77	0.026	98	99	80.2	-0.09	1.48	15.5370665	107.8	175.6	166.2	67.5	175.3	188.65025	72	73	73		1.001	12.326	1330
276	44.057	43.504		0.16	0.16	1.32	1.10	0.26	86	86	73	1.97	1.5	77	0.025	100	102	80.2	-0.02	1.56	15.6041651	107.1	174.7	165.6	67.5	174.6	185.15787	72	73	73		1.001	12.970	1391
277	44.218	43.666		0.16	0.16	1.32	1.11	0.26	86	86	73	1.96	1.5	77	0.025	100	102	80.3	-0.06	1.56	15.5659246	107.0	174.6	165.6	67.5	174.5	182.1832	72	73	73		1.001	12.975	1390
278	44.378	43.828		0.16	0.16	1.32	1.11	0.26	86	86	73	1.96	1.5	77	0.023	104	107	80.3	-0.01	1.60	15.642272	106.5	174.2	165.1	67.5	174.0	179.21141	72	73	73		1.001	13.294	1418
279	44.538	43.990		0.16	0.16	1.32	1.11	0.26	86	86	73	1.97	1.5	77	0.021	109	112	80.3	0.00	1.46	15.6293278	105.7	173.3	164.3	67.5	173.2	176.23898	72	73	73		1.001	12.162	1287
280	44.699	44.152		0.16	0.16	1.32	1.12	0.26	86	86	73	1.97	1.5	77	0.027	97	98	80.5	-0.19	1.40	15.5748892	105.3	172.9	164.1	67.5	172.8	173.61946	72	73	73		1.001	11.683	1232
281	44.859	44.315		0.16	0.16	1.32	1.12	0.26	86	86	73	1.96	1.5	77	0.027	96	99	80.4	0.12	1.54	15.5281286	104.9	172.5	163.6	67.5	172.4	170.84702	72	73	73		1.001	12.807	1345
282	45.019	44.479		0.16	0.16	1.32	1.12	0.26	86	86	73	1.97	1.5	77	0.028	94	98	80.4	-0.06	1.56	15.7252522	104.7	172.4	163.4	67.5	172.2	168.27063	72	73	73		1.001	12.970	1360
283	45.179	44.641		0.16	0.16	1.32	1.12	0.26	86	86	73	1.97	1.5	77	0.028	94	97	80.4	0.07	1.62	15.6225653	104.3	172.0	163.1	67.5	171.8	165.82011	72	73	73		1.001	13.455	1405
284	45.340	44.802		0.16	0.16	1.32	1.07	0.26	86	86	73	1.95	1.4	77	0.029	93	94	80.5	-0.14	1.54	15.6222363	103.8	171.4	162.6	67.5	171.3	163.24504	72	73	73		1.001	12.805	1331
285	45.500	44.961		0.16	0.16	1.32	1.07	0.26	86	86	73	1.97	1.4	76	0.025	100	100	80.5	0.01	1.46	15.5941954	103.6	171.1	162.5	67.5	171.1	160.88983	72	73	73		1.001	12.149	1260
286	45.661	45.121		0.16	0.16	1.32	1.07	0.26	86	86	73	1.95	1.4	76	0.026	98	99	80.5	0.01	1.58	15.6687603	103.0	170.5	161.9	67.5	170.4	158.61948	72	73	73		1.001	13.144	1355
287	45.821	45.280		0.16	0.16	1.33	1.07	0.26	86	86	73	1.97	1.4	76	0.028	94	95	80.5	0.01	1.54	15.69944	102.2	169.8	160.6	67.5	169.7	156.23666	72	73	73		1.001	12.850	1315
288	45.982	45.440		0.16	0.16	1.33	1.07	0.26	86	86	73	1.96	1.4	76	0.030	92	92	80.5	-0.01	1.48	15.6321964	102.1	169.8	160.6	67.5	169.6	154.12019	72	73	73		1.001	12.358	1264
289	46.142	45.599		0.16	0.16	1.33	1.07	0.26	86	86	73	1.97	1.4	76	0.026	98	98	80.6	-0.08	1.45	15.5818663	101.8	169.5	160.3	67.5	169.2	152.09436	73	73	73		1.001	12.040	1227
290	46.303	45.758		0.16	0.16	1.33	1.07	0.26	86	86	73	1.97	1.4	76	0.028	95	95	80.7	-0.13	1.68	15.6895113	101.4	169.0	159.4	67.5	168.9	149.99045	73	73	73		1.001	13.954	1417
291	46.464	45.919		0.16	0.16	1.32	1.07	0.26	86	86	73	1.97	1.4	76	0.028	95	96	80.7	0.01	1.72	15.6224184	100.7	168.3	158.7	67.5	168.2	148.02925	73	73	73		1.001	14.336	1446
292	46.624	46.077		0.16	0.16	1.33	1.07	0.26	86	86	73	1.96	1.4	76	0.028	94	94	80.6	0.05	1.70	15.6322079	99.8	167.5	157.9	67.5	167.2	146.22562	73	73	73		1.001	14.109	1409
293	46.785	46.237		0.16	0.16	1.33	1.07	0.26	86	86	73	1.96	1.4	76	0.026	98	99	80.7	-0.04	1.66	15.5526543	99.3	167.0	157.4	67.5	166.8	144.45078	73	73	73		1.001	13.782	1370
294	46.945	46.397		0.16	0.16	1.33	1.07	0.26	86	86	73	1.97	1.4	76	0.028	94	95	80.7	-0.03	1.68	15.5748377	98.6	166.2	156.7	67.4	166.0	142.52011	73	73	73		1.001	13.945	1376
295	47.106	46.556		0.16	0.16	1.33	1.08	0.26	86	86	73	1.95	1.4	76	0.026	98	98	80.7	0.01	1.64	15.6128502	98.4	166.2	156.7	67.4	165.9	140.87912	73	73	73		1.001	13.622	1343
296	47.267	46.715		0.16	0.16	1.32	1.08	0.26	86	86	73	1.97	1.4	76	0.028	95	95	80.7	0.06	1.68	15.5364599	98.3	166.0	156.5	67.5	165.7	139.07169	73	73	73		1.001	13.946	1372
297	47.428	46.875		0.16	0.16	1.32	1.07	0.26	86	86	73	1.96	1.4	76	0.027	97	97	80.8	-0.13	1.71	15.6121454	97.6	165.4	155.9	67.5	165.1	137.43622	73	73	73		1.001	14.269	1394

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
298	47.589	47.034		0.16	0.16	1.33	1.07	0.26	86	86	73	1.97	1.4	76	0.027	97	96	80.8	-0.01	1.60	15.5558701	96.9	164.4	155.2	67.5	164.3	135.78508	73	73	73		1.001	13.298	1290
299	47.749	47.194		0.16	0.16	1.33	1.07	0.26	86	86	72	1.96	1.4	76	0.029	93	94	80.8	0.01	1.73	15.612999	96.3	164.0	154.7	67.5	163.8	134.26311	73	73	72		1.001	14.432	1392
300	47.910	47.354		0.16	0.16	1.33	1.07	0.26	86	86	73	1.97	1.4	76	0.027	97	97	80.9	-0.13	1.66	15.6040792	95.5	163.1	154.0	67.5	163.0	132.83366	73	73	73		1.001	13.784	1318
301	48.070	47.513		0.16	0.16	1.33	1.08	0.26	86	86	72	1.95	1.4	76	0.027	96	96	80.7	0.19	1.56	15.5656137	95.4	163.2	153.9	67.5	162.9	131.29445	73	73	72		1.001	12.975	1240
302	48.231	47.672		0.16	0.16	1.31	1.08	0.26	86	86	73	1.97	1.4	76	0.025	100	100	80.9	-0.19	1.66	15.5748062	95.2	162.9	153.7	67.5	162.6	129.82275	73	73	73		1.001	13.786	1313
303	48.392	47.832		0.16	0.16	1.32	1.07	0.26	86	86	73	1.97	1.4	76	0.024	102	103	80.9	-0.01	1.71	15.5915518	94.3	161.9	152.6	67.5	161.8	128.56607	73	73	73		1.001	14.272	1348
304	48.552	47.991		0.16	0.16	1.32	1.07	0.26	86	86	72	1.97	1.4	76	0.027	96	96	80.9	0.07	1.73	15.5744076	93.6	161.2	152.0	67.5	161.1	127.36195	73	73	72		1.001	14.433	1353
305	48.713	48.151		0.16	0.16	1.32	1.08	0.26	86	86	72	1.97	1.4	75	0.026	98	99	81.0	-0.10	1.83	15.5842638	92.8	160.4	151.2	67.5	160.3	125.97862	73	73	72		1.001	15.242	1416
306	48.873	48.311		0.16	0.16	1.32	1.07	0.26	86	86	72	1.96	1.4	75	0.026	98	99	81.1	-0.10	1.68	15.5459633	92.2	159.8	150.7	67.5	159.6	124.54465	73	73	72		1.001	13.947	1287
307	49.033	48.470		0.16	0.16	1.32	1.07	0.26	86	86	72	1.97	1.4	75	0.027	96	96	80.7	0.37	1.79	15.6696281	92.0	159.7	150.5	67.5	159.4	169.65027	73	73	72		1.001	14.919	1374
308	49.194	48.630		0.16	0.16	1.32	1.07	0.26	86	86	72	1.96	1.4	86	0.028	96	96	80.2	0.44	1.64	15.637907	91.8	159.4	150.3	67.5	159.2	199.86191	74	74	72		1.001	13.625	1252
309	49.354	48.788		0.16	0.16	1.33	1.06	0.26	86	86	72	1.97	1.4	88	0.026	99	99	79.9	0.36	1.75	15.5843344	91.3	158.9	149.9	67.5	158.8	217.17989	74	75	72		1.001	14.594	1334
310	49.514	48.947		0.16	0.16	1.32	1.07	0.26	86	86	72	1.97	1.4	90	0.027	97	98	79.4	0.48	1.77	15.650178	90.3	157.8	149.0	67.5	157.8	228.42238	74	75	72		1.001	14.755	1334
311	49.674	49.106		0.16	0.16	1.32	1.07	0.26	86	86	72	1.98	1.4	91	0.028	96	96	78.8	0.57	1.81	15.594265	89.9	157.8	148.7	67.5	157.4	243.68506	75	75	72		1.001	15.078	1358
312	49.834	49.264		0.16	0.16	1.33	1.07	0.26	86	86	72	1.99	1.4	94	0.027	98	97	78.4	0.40	1.79	15.5844603	90.5	158.1	149.0	67.5	158.0	260.08853	75	75	72		1.001	14.916	1351
313	49.994	49.422		0.16	0.16	1.33	1.07	0.26	86	86	72	1.99	1.4	97	0.027	98	98	78.0	0.39	1.81	15.5460958	90.3	158.1	148.7	67.5	157.8	273.03131	75	75	72		1.001	15.084	1363
314	50.154	49.581		0.16	0.16	1.33	1.06	0.26	86	86	72	1.99	1.4	99	0.028	96	97	77.4	0.65	1.83	15.5748644	90.4	158.2	148.7	67.5	157.9	284.10959	76	76	72		1.001	15.240	1380
315	50.314	49.739		0.16	0.16	1.33	1.07	0.26	86	86	72	1.99	1.4	102	0.028	96	96	76.8	0.55	1.83	15.5243807	90.5	158.3	148.9	67.5	158.0	294.84317	76	76	72		1.001	15.241	1382
316	50.474	49.898		0.16	0.16	1.32	1.06	0.26	86	86	72	1.99	1.4	104	0.027	98	99	76.3	0.53	1.85	15.6010914	91.0	158.7	149.3	67.5	158.4	304.189	77	77	72		1.001	15.404	1403
317	50.634	50.055		0.16	0.16	1.33	1.07	0.26	86	86	72	2	1.4	107	0.029	95	95	75.7	0.58	1.85	15.6222095	91.6	159.5	149.7	67.4	159.1	311.45212	77	77	72		1.001	15.404	1413
318	50.794	50.214		0.16	0.16	1.32	1.07	0.26	86	86	72	2.01	1.4	109	0.027	99	99	75.1	0.61	1.89	15.6224508	92.9	160.5	150.9	67.4	160.3	318.2753	77	78	72		1.001	15.733	1463
319	50.953	50.372		0.16	0.16	1.32	1.06	0.26	86	86	72	2.01	1.5	111	0.027	98	99	74.4	0.70	1.83	15.594243	93.9	161.7	151.8	67.4	161.3	322.04645	78	78	72		1.001	15.253	1434
320	51.113	50.529		0.16	0.16	1.31	1.06	0.26	86	86	72	2	1.5	111	0.029	96	95	73.9	0.51	1.87	15.5839596	95.0	162.7	152.8	67.4	162.4	326.43604	78	78	72		1.001	15.569	1481
321	51.272	50.688		0.16	0.16	1.31	1.06	0.26	86	86	72	2	1.5	113	0.028	97	98	73.2	0.76	1.85	15.6225138	95.6	163.5	153.5	67.5	163.1	330.664	78	79	72		1.001	15.395	1474
322	51.431	50.845		0.16	0.16	1.32	1.06	0.26	86	86	72	2.01	1.5	114	0.026	101	100	72.6	0.54	1.87	15.6122732	96.4	164.4	154.1	67.5	163.9	334.4191	79	79	72		1.001	15.582	1504
323	51.590	51.003		0.16	0.16	1.32	1.06	0.26	86	86	72	2.01	1.5	115	0.027	99	99	71.8	0.80	1.83	15.6225815	97.5	165.2	155.1	67.5	165.0	337.71164	79	80	72		1.001	15.242	1488
324	51.749	51.160		0.16	0.16	1.32	1.06	0.26	86	86	72	2.01	1.5	116	0.027	99	99	71.2	0.58	1.73	15.6128054	98.9	166.8	156.3	67.5	166.4	341.56421	80	80	72		1.001	14.431	1429
325	51.908	51.317		0.16	0.16	1.32	1.06	0.26	86	86	72	2	1.5	117	0.029	95	95	70.5	0.79	1.79	15.6083841	99.4	167.2	157.1	67.5	166.9	343.17767	80	80	72		1.001	14.879	1481
326	52.068	51.474		0.16	0.16	1.32	1.05	0.26	86	86	72	2.01	1.5	117	0.029	96	95	69.9	0.56	1.83	15.6461687	100.4	168.2	157.5	67.5	167.8	325.33081	80	81	72		1.001	15.238	1531
327	52.228	51.631		0.16	0.16	1.32	1.06	0.26	86	86	72	2.01	1.5	112	0.028	97	97	69.4	0.46	1.77	15.4894352	101.4	169.1	158.6	67.5	168.9	304.68521	80	81	72		1.001	14.769	1500
328	52.386	51.789		0.16	0.16	1.32	1.05	0.26	86	86	72	2.02	1.5	105	0.027	97	98	68.7	0.76	1.82	15.5942202	101.7	169.5	158.8	67.4	169.2	325.01038	80	80	72		1.001	15.159	1544
329	52.545	51.945		0.16	0.16	1.31	1.05	0.26	86	86	72	2.01	1.5	111	0.029	95	94	67.8	0.86	1.81	15.6575737	103.0	170.7	159.9	67.4	170.4	335.43799	81	81	72		1.001	15.081	1555
330	52.704	52.102		0.16	0.16	1.31	1.05	0.26	86	86	72	2.03	1.5	114	0.028	97	97	67.3	0.47	1.82	15.5745287	105.1	173.0	161.9	67.4	172.5	312.50052	81	81	72		1.001	15.133	1592
331	52.863	52.258		0.16	0.16	1.31	1.05	0.26	86	86	72	2.01	1.5	108	0.028	96	96	66.6	0.72	1.77	15.5748644	107.0	174.8	163.5	67.4	174.5	311.84302	81	81	72		1.001	14.761	1582
332	53.022	52.416		0.16	0.16	1.31	1.04	0.26	86	86	72	2.03	1.5	106	0.027	98	98	66.1	0.54	1.73	15.7071247	107.5	175.2	164.3	67.4	174.9	330.90469	81	81	72		1.001	14.433	1554
333	53.181	52.572		0.16	0.16	1.31	1.04	0.26	86	86	72	2.04	1.5	113	0.027	99	98	65.3	0.75	1.81	15.6324024	107.6	175.3	164.3	67.4	175.0	328.27606	81	82	72		1.001	15.079	1624
334	53.339	52.729		0.16	0.16	1.32	1.05	0.26	86	86	72	2.03	1.5	114	0.028	96	97	64.6	0.78	1.66	15.7182913	108.1	175.7	165.3	67.4	175.5	307.16525	81	81	72		1.001	13.786	1492
335	53.499	52.884		0.16	0.16	1.31	1.04	0.26	86	86	72	2.03	1.5	106	0.029	95	93	64.1	0.47	1.77	15.6448412	107.7	175.4	164.9	67.4	175.1	314.37131	81	81	72		1.001	14.755	1591
336	53.658	53.041		0.16	0.16	1.30	1.04	0.26	86	86	72	2.04	1.50	107	0.028	96	96	63.5	0.56	1.69	15.5842867	108.5	176.2	165.7	67.4	175.9	320.73517	81	81	72		1.001	14.106	1533
337	53.816	53.196		0.16	0.16	1.31	1.04	0.26	86	86	72	2.04	1.50	111	0.029	94	94	62.7	0.82	1.75	15.6421442	111.7	179.6	168.6	67.4	179.1	316.95969	81	81	72		1.001	14.591	1632
338	53.975	53.353		0.16	0.16	1.30	1.04	0.26	86	86	72	2.02	1.50	109	0.028	96	96	62.3	0.39	1.73	15.5615463	112.5	180.1	169.3	67.4	179.9	320.14285	81	81	72		1.001	14.430	1625
339	54.133	53.508		0.16	0.16	1.31	1.04	0.26	86	86	72	2.02	1.50	109	0.027	98	97	61.9	0.44	1.68	15.5659094	113.0	180.7	169.7	67.4	180.4	286.1058	81	81	72		1.001	13.948	1578
340	54.292	53.664		0.16	0.16	1.31	1.03	0.26	86	86	72	2.02	1.50	94	0.029	94	93	61.8	0.11	1.68	15.5659723	113.1	180.8	169.8	67.4	180.5	268.54126	79	79	72		1.001	13.947	1579
341	54.451	53.819		0.16	0.16	1.32	1.03	0.26	86	86	72	2.00	1.50	89	0.027	97	95	61.4	0.40	1.71	15.6410379	113.3	181.0	170.1	67.4	180.7	258.08777	79	79	72		1.001	14.270	1619
342	54.610	53.975		0.16	0.16	1.31	1.02	0.26	86	86	72	2.02	1.50	85	0.026	98	97	61.2	0.13	1.69	15.5364847	113.1	180.8	169.8	67.4	180.5	248.04056	79	79	72		1.001	14.108	1597
343	54.770	54.129		0.16	0.15	1.31	1.01	0.26	86	86	72	2.01	1.50	85	0.027	97	94	61.1	0.14	1.73	15.5661526	113.0	180.7	169.7	67.4	180.4	239.23689	78	78	72		1.001	14.430	1632
344	54.930	54.285		0.16	0.16	1.32	1.02	0.26	86	86	72	2.00	1.50	83	0.029	93	92	61.0	0.11	1.73	15.5560455	112.9	180.5	169.6	67.4	180.3	232.48006	77	78	72		1.001	14.432	1631
345	55.089	54.439		0.16	0.15	1.32	1.03	0.26	86	86	72	2.00	1.50	82	0.026	98	96	60.9	0.07	1.73	15.6422615	112.3	179.8	169.0	67.4	179.7	226.79863	77	77	72		1.001	14.433	1623
346	55.249	54.596		0.16	0.16	1.32	1.03	0.26	86	86	72	1.99	1.50	81	0.026	98	97	60.8	0.10	1.62	15.6510811	112.0	179.5	168.8	67.4	179.4	222.17337	76	76	72		1.001	13.464	1510
347	55.409	54.751		0.16	0.16	1.31	1.03	0.26	86	86	72	2.00	1.50	80	0.025	100	98	60.8	0.03	1.05	15.4960861	112.0	179.7	173.6	67.4	179.4	218.74565	75	76	72		1.001	8.768	983
348	55.569	54.908		0.16	0.16	1.31	1.03	0.26	86	86	72	1.98	1.50	80	0.026	98	97	60.6	0.17	1.07	15.6994734	112.4	180.2	174.0	67.4	179.8	217.88353	75	75	72		1.001	8.926	1004
349	55.728	55.063		0.16	0.16	1.31	1.03	0.26	86	86	72	1.98	1.50	78	0.027	96	94	60.7	-0.07	1.09	15.507534	112.5	180.2	174.0	67.4	179.9	214.81384	74	75	72		1.001	9.086	1023
350	55.888	55.220		0.16	0.16	1.32	1.03	0.26	86	86	72	1.98	1.50	78	0.029	93	92	60.7	0.04	1.05	15.5564737	112.5	180.2	174.1	67.4	180.0	210.96417	74	74	72		1.001	8.763	987
351	56.048	55.376		0.16	0.16	1.32	1.04	0.26	86	86	72	1.98	1.50	77	0.028	94	93	60.6	0.06	1.03	15.6322327	112.2	179.9	173.8	67.4	179.7	207.31134	73	74	72		1.001	8.603	967
352	56.208	55.534		0.16	0.16	1.32	1.04	0.26	86	86	72	1.99	1.50	77	0.027	96	96	60.6	-0.04	1.68	15.660553	112.3	179.9	173.8	67.5	179.7	203.40381	73	74	72		1.001	13.948	1568
353	56.368	55.690		0.16	0.16	1.32	1.04	0.26	86	86	72	1.97	1.50	77	0.027	96	95	60.7	-0.10	1.79	15.5916805	111.1	178.6	168.0	67.4	178.6	199.56528	73	74	72		1.001	14.920	1660
354	56.528	55.848		0.16	0.16	1.33	1.05	0.26	86	86	72	1.99	1.50	77	0.028	94	94	60.8	-0.11	1.68	15.5654583	110.7	178.2	167.6	67.4	178.1	196.09053	73	73	72		1.001	13.946	1546
355	56.688	56.005		0.16	0.16	1.32	1.05	0.26	86	86	72	1.97	1.40	77	0.026	98	97	60.8	0.04	1.64	15.5762396	109.9	177.5	166.8	67.4	177.3	192.52066	73	73	72		1.001	13.620	1498
356	56.848	56.163		0.16	0.16	1.32	1.05	0.26	86	86	72	1.97	1.40	77	0.027	96	96	60.9	-0.05	1.73	15.6512775	109.0	176.8	166.3	67.4	176.4	188.95709	73	73	72		1.001	14.429	1574
357	57.009	56.321		0.16	0.16	1.32	1.05	0.26	86	86	72	1.97	1.40	77	0.027	97	96	60.7	0.12	1.69	15.5942202	108.3	175.9	165.6	67.4	175.6	185.92432	73	74	72		1.001	14.102	1529
358	57.169	56.479		0.16	0.16	1.33	1.06	0.26	86	86	72	1.97	1.40	76	0.028	94	94	60.8	-0.07	1.73	15.6039238	107.5	175.0	164.9	67.3	174.8	182.75798	73	74	72		1.001	14.434	1553
359	57.330	56.638		0.16	0.16	1.31	1.06	0.26	86	86	72	1.96	1.40	76	0.026	98	98	60.8	-0.02	1.64	15.5980177	106.8	174.2	164.3	67.3	174.1	179.72984	73	73	72		1.001	13.622	1456

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
360	57.490	56.796		0.16	0.16	1.32	1.06	0.26	86	86	72	1.97	1.40	76	0.026	98	98	61.0	-0.17	1.64	15.5942583	105.7	173.3	163.3	67.3	173.1	176.8519	73	73	72		1.001	13.622	1442
361	57.650	56.954		0.16	0.16	1.32	1.06	0.26	86	86	72	1.97	1.40	76	0.027	96	96	60.9	0.10	1.58	15.660573	106.0	173.6	163.6	67.4	173.4	174.09453	73	73	72		1.001	13.139	1394
362	57.810	57.113		0.16	0.16	1.32	1.06	0.26	86	86	72	1.98	1.40	76	0.028	94	95	61.1	-0.25	1.64	15.5657873	105.8	173.3	163.3	67.4	173.1	171.46904	73	73	72		1.001	13.622	1442
363	57.970	57.271		0.16	0.16	1.32	1.07	0.26	86	86	72	1.98	1.40	76	0.023	104	104	61.1	0.08	1.64	15.6220427	105.0	172.6	162.7	67.4	172.4	168.61279	73	73	72		1.001	13.623	1432
364	58.131	57.431		0.16	0.16	1.31	1.07	0.26	86	86	72	1.98	1.40	76	0.021	109	110	61.0	0.09	1.70	15.6421804	104.8	172.3	162.5	67.4	172.2	166.11202	73	73	72		1.001	14.110	1480
365	58.291	57.590		0.16	0.16	1.32	1.06	0.26	86	86	72	1.97	1.40	76	0.020	111	112	61.2	-0.19	1.68	15.5842285	104.7	172.1	162.4	67.3	172.0	163.75699	73	73	72		1.001	13.949	1462
366	58.451	57.748		0.16	0.16	1.32	1.07	0.26	86	86	72	1.97	1.40	76	0.016	125	124	61.2	-0.02	1.73	15.5364265	103.8	171.2	161.6	67.3	171.1	161.19139	73	73	72		1.001	14.435	1500
367	58.611	57.908		0.16	0.16	1.32	1.07	0.26	86	86	72	1.97	1.40	76	0.023	104	105	61.0	0.14	1.64	15.6213913	102.7	170.3	160.5	67.3	170.1	158.85317	73	73	72		1.001	13.626	1401
368	58.771	58.067		0.16	0.16	1.32	1.07	0.26	86	86	72	1.98	1.40	76	0.027	96	96	61.2	-0.19	1.71	15.594121	102.0	169.5	160.0	67.3	169.4	156.56668	73	73	72		1.001	14.274	1458
369	58.932	58.226		0.16	0.16	1.32	1.07	0.26	86	86	72	1.97	1.40	76	0.022	107	107	61.1	0.15	1.70	15.6606569	102.3	170.0	160.2	67.3	169.6	154.46123	73	73	72		1.001	14.116	1446
370	59.092	58.386		0.16	0.16	1.32	1.07	0.26	86	86	72	1.97	1.40	75	0.022	106	107	61.1	-0.05	1.70	15.6132269	102.2	169.7	160.0	67.3	169.5	152.38936	73	73	72		1.001	14.113	1443
371	59.252	58.544		0.16	0.16	1.33	1.06	0.26	86	86	72	1.97	1.40	75	0.026	98	98	61.2	-0.12	1.62	15.5914955	101.7	169.0	159.7	67.3	169.0	150.59325	73	73	72		1.001	13.466	1371
372	59.412	58.703		0.16	0.16	1.32	1.07	0.26	86	85	72	1.96	1.40	75	0.026	98	98	61.2	0.03	1.70	15.5364399	100.9	168.3	158.9	67.3	168.2	148.34255	73	73	72		1.001	14.113	1425
373	59.573	58.863		0.16	0.16	1.33	1.07	0.26	86	85	72	1.96	1.40	75	0.026	98	99	61.2	-0.01	1.62	15.5558472	99.4	166.8	157.6	67.4	166.8	146.2854	73	73	72		1.001	13.465	1341
374	59.733	59.022		0.16	0.16	1.32	1.07	0.26	86	85	72	1.96	1.40	75	0.024	102	102	61.2	0.05	1.62	15.6555843	99.4	166.9	157.6	67.4	166.7	144.53929	73	73	72		1.001	13.468	1340
375	59.893	59.181		0.16	0.16	1.32	1.07	0.26	86	85	72	1.97	1.40	75	0.022	106	107	61.3	-0.09	1.62	15.5743914	99.3	166.6	157.5	67.4	166.6	142.84493	73	73	72		1.001	13.467	1338
376	60.054	59.341		0.16	0.16	1.32	1.06	0.26	86	86	72	1.97	1.40	75	0.023	105	105	61.3	-0.06	1.68	15.6799536	98.7	166.3	157.0	67.4	166.1	141.01222	73	73	72		1.001	13.950	1379
377	60.214	59.499		0.16	0.16	1.32	1.07	0.26	86	85	72	1.98	1.40	75	0.025	100	100	61.4	-0.09	1.70	15.6336889	98.1	165.7	156.9	67.4	165.5	139.1599	73	73	72		1.001	14.112	1387
378	60.375	59.659		0.16	0.16	1.32	1.07	0.26	86	85	72	1.96	1.40	75	0.024	102	103	61.5	-0.05	1.68	15.5458508	97.7	165.3	156.0	67.4	165.1	137.45589	73	73	72		1.001	13.952	1364
379	60.535	59.818		0.16	0.16	1.32	1.07	0.26	86	85	72	1.97	1.40	75	0.026	98	98	61.5	-0.03	1.64	15.6039667	97.1	164.6	155.6	67.4	164.5	135.76718	73	73	72		1.001	13.629	1325
380	60.696	59.977		0.16	0.16	1.33	1.07	0.26	86	85	72	1.98	1.40	75	0.025	100	100	61.4	0.13	1.73	15.6379528	97.0	164.6	155.5	67.4	164.4	134.41139	73	73	72		1.001	14.437	1402
381	60.856	60.137		0.16	0.16	1.33	1.07	0.26	86	85	72	1.98	1.40	75	0.026	98	99	61.4	-0.05	1.69	15.5458479	96.6	164.3	155.1	67.5	164.0	132.9292	73	73	72		1.001	14.104	1363
382	61.016	60.295		0.16	0.16	1.32	1.07	0.26	86	85	72	1.97	1.40	75	0.027	96	96	61.5	-0.04	1.59	15.5658712	96.2	163.8	154.8	67.5	163.7	131.41066	73	73	72		1.001	13.272	1278
383	61.176	60.454		0.16	0.16	1.32	1.07	0.26	86	85	72	1.96	1.40	75	0.027	96	97	61.5	0.01	1.73	15.6080208	95.6	163.2	154.2	67.4	163.1	130.01082	73	73	72		1.001	14.406	1379
384	61.337	60.614		0.16	0.16	1.32	1.07	0.26	86	85	72	1.96	1.40	75	0.026	98	99	61.4	0.03	1.73	15.6224957	95.1	162.6	153.7	67.4	162.5	128.58426	73	73	72		1.001	14.438	1375
385	61.497	60.773		0.16	0.16	1.32	1.07	0.26	86	85	72	1.98	1.40	75	0.024	102	102	61.5	-0.10	1.58	15.4659376	94.6	161.9	153.2	67.4	162.0	127.20818	73	73	72		1.001	13.162	1246
386	61.657	60.932		0.16	0.16	1.32	1.07	0.26	86	85	72	1.97	1.40	75	0.026	98	98	61.6	-0.04	1.60	15.6391153	94.5	162.2	153.1	67.4	161.8	126.0875	73	73	72		1.001	13.323	1260
387	61.817	61.091		0.16	0.16	1.33	1.07	0.26	86	85	72	1.98	1.40	75	0.026	98	98	61.5	0.11	1.65	15.5656452	93.8	161.2	152.5	67.3	161.2	124.87155	73	73	72		1.001	13.740	1291
388	61.978	61.250		0.16	0.16	1.32	1.07	0.26	86	85	72	1.98	1.40	75	0.027	96	97	61.6	-0.10	1.60	15.5458527	93.3	160.8	152.0	67.3	160.6	123.44792	73	73	72		1.001	13.303	1243
389	62.138	61.410		0.16	0.16	1.33	1.07	0.26	86	85	72	1.98	1.40	75	0.027	96	97	61.5	0.05	1.57	15.5939817	92.7	160.0	151.5	67.3	160.0	122.32271	73	73	72		1.001	13.096	1215
390	62.298	61.569		0.16	0.16	1.33	1.07	0.26	86	85	72	1.97	1.40	75	0.028	94	95	61.5	-0.03	1.64	15.651021	92.3	159.6	151.1	67.3	159.6	146.99757	73	73	72		1.001	13.640	1260
391	62.459	61.728		0.16	0.16	1.32	1.07	0.26	86	85	72	1.99	1.40	78	0.027	97	97	61.2	0.38	1.65	15.5939684	91.6	159.3	150.5	67.3	159.0	187.82991	73	73	72		1.001	13.752	1262
392	62.619	61.887		0.16	0.16	1.32	1.06	0.26	86	85	72	1.98	1.40	87	0.026	99	99	60.7	0.51	1.64	15.6195545	90.8	158.3	149.7	67.3	158.1	215.46458	74	74	72		1.001	13.619	1238
393	62.779	62.045		0.16	0.16	1.32	1.06	0.26	86	85	71	1.99	1.40	88	0.028	95	95	60.2	0.41	1.60	15.5274687	90.1	157.7	149.1	67.3	157.5	238.90331	74	74	71		1.001	13.325	1202
394	62.939	62.203		0.16	0.16	1.33	1.07	0.26	86	85	72	2.00	1.40	92	0.028	96	96	59.6	0.59	1.69	15.5842533	90.5	158.0	149.5	67.3	157.8	260.30875	74	74	72		1.001	14.100	1277
395	63.099	62.362		0.16	0.16	1.32	1.07	0.26	86	85	72	1.99	1.40	96	0.026	100	100	59.2	0.41	1.66	15.5655642	90.4	157.9	149.4	67.3	157.8	278.00665	74	75	72		1.001	13.791	1249
396	63.259	62.520		0.16	0.16	1.33	1.07	0.26	86	85	72	1.98	1.40	99	0.027	98	98	58.7	0.51	1.66	15.6413708	91.0	158.6	149.8	67.3	158.4	291.26077	75	75	72		1.001	13.792	1257
397	63.419	62.680		0.16	0.16	1.33	1.07	0.26	86	85	72	2.00	1.40	103	0.026	100	102	58.3	0.47	1.85	15.4984951	91.1	158.7	149.8	67.3	158.4	301.08679	75	75	72		1.001	15.409	1406
398	63.578	62.837		0.16	0.16	1.32	1.07	0.26	86	85	72	2.00	1.40	105	0.027	98	98	57.6	0.65	1.75	15.6599874	91.7	159.4	150.3	67.3	159.1	309.95303	75	76	72		1.001	14.596	1341
399	63.738	62.995		0.16	0.16	1.32	1.07	0.26	86	85	72	2.01	1.40	107	0.027	99	99	57.0	0.58	1.81	15.5744095	92.3	159.9	150.8	67.3	159.6	319.30646	76	76	72		1.001	15.087	1394
400	63.897	63.153		0.16	0.16	1.32	1.06	0.26	86	85	72	2.01	1.50	109	0.027	98	99	56.4	0.62	1.77	15.6607809	93.8	161.3	152.3	67.3	161.1	326.46558	76	77	72		1.001	14.761	1386
401	64.057	63.311		0.16	0.16	1.32	1.07	0.26	86	85	72	2.01	1.50	111	0.027	99	99	55.7	0.73	1.75	15.5940313	94.2	161.8	152.5	67.3	161.5	332.4082	77	77	72		1.001	14.599	1376
402	64.216	63.469		0.16	0.16	1.32	1.06	0.26	86	85	72	2.02	1.50	113	0.026	100	101	55.0	0.65	1.66	15.6209879	95.4	163.0	153.6	67.3	162.7	338.02527	77	78	72		1.001	13.787	1316
403	64.375	63.626		0.16	0.16	1.32	1.06	0.26	86	85	72	2.02	1.50	114	0.027	99	99	54.4	0.66	1.77	15.6499796	96.2	163.9	154.4	67.4	163.5	344.39371	78	78	72		1.001	14.758	1421
404	64.534	63.784		0.16	0.16	1.32	1.06	0.26	86	85	72	2.01	1.50	116	0.028	97	98	53.6	0.82	1.64	15.6130352	97.6	165.5	155.8	67.4	165.0	349.58124	78	79	72		1.001	13.627	1332
405	64.693	63.940		0.16	0.16	1.32	1.06	0.26	86	85	72	2.02	1.50	118	0.027	99	98	52.8	0.74	1.62	15.5943012	98.4	166.1	156.4	67.4	165.8	343.75201	79	80	72		1.001	13.468	1327
406	64.853	64.098		0.16	0.16	1.32	1.06	0.26	86	85	72	2.04	1.50	118	0.026	102	102	52.2	0.60	1.68	15.6183939	99.7	167.7	157.6	67.4	167.0	318.45441	79	80	72		1.001	13.954	1393
407	65.012	64.255		0.16	0.16	1.32	1.05	0.26	86	85	72	2.03	1.50	109	0.025	102	102	51.5	0.68	1.70	15.5746307	102.2	170.0	159.9	67.3	169.6	324.13098	79	80	72		1.001	14.117	1445
408	65.170	64.412		0.16	0.16	1.31	1.05	0.26	86	85	72	2.03	1.50	111	0.027	98	98	50.8	0.79	1.72	15.5274658	103.8	171.4	161.2	67.3	171.1	332.42224	79	80	72		1.001	14.275	1483
409	65.329	64.569		0.16	0.16	1.31	1.05	0.26	86	85	72	2.03	1.50	112	0.027	99	99	50.2	0.55	1.73	15.6039944	104.5	172.3	161.9	67.3	171.8	319.24277	80	81	72		1.001	14.436	1511
410	65.487	64.725		0.16	0.16	1.31	1.05	0.26	85	85	72	2.04	1.50	109	0.026	100	100	49.5	0.69	1.68	15.5841722	105.6	173.3	162.9	67.3	172.9	308.65131	80	80	72		1.001	13.949	1475
411	65.645	64.882		0.16	0.16	1.31	1.04	0.26	85	85	72	2.04	1.50	106	0.027	98	98	49.0	0.54	1.70	15.6320953	106.3	174.0	163.5	67.3	173.6	303.86511	80	80	72		1.001	14.111	1502
412	65.804	65.038		0.16	0.16	1.31	1.04	0.26	85	85	72	2.02	1.50	104	0.029	95	94	48.5	0.51	1.77	15.6609049	107.1	174.6	164.2	67.3	174.4	300.73691	80	80	72		1.001	14.762	1583
413	65.963	65.195		0.16	0.16	1.31	1.04	0.26	85	85	72	2.03	1.50	103	0.027	98	98	47.8	0.71	1.64	15.6103554	107.7	175.3	164.8	67.3	175.0	317.68073	79	80	72		1.001	13.629	1469
414	66.122	65.350		0.16	0.16	1.31	1.04	0.26	86	85	72	2.04	1.50	107	0.026	100	99	47.2	0.58	1.77	15.6510458	108.5	176.2	165.5	67.3	175.8	320.92218	80	81	72		1.001	14.761	1603
415	66.281	65.507		0.16	0.16	1.31	1.03	0.26	85	85	72	2.05	1.50	108	0.026	100	100	46.6	0.59	1.73	15.6441946	109.5	177.1	166.4	67.3	176.8	319.79511	80	81	72		1.001	14.437	1583
416	66.440	65.662		0.16	0.16	1.30	1.03	0.26	85	85	72	2.04	1.50	107	0.025	102	101	46.2	0.43	1.62	15.6321249	110.4	177.9	167.3	67.3	177.7	312.15747	80	80	72		1.001	13.467	1488
417	66.598	65.818		0.16	0.16	1.31	1.03	0.26	85	85	72	2.03	1.50	106	0.026	99	99	45.3	0.88	1.70	15.5613365	111.0	178.7	167.7	67.3	178.3	305.79126	80	80	72		1.001	14.115	1568
418	66.757	65.973		0.16	0.16	1.30	1.03	0.26	85	85	72	2.03	1.50	104	0.027	98	97	44.8	0.53	1.79	15.6605959	111.8	179.4	168.5	67.3	179.1	302.95349	80	80	72		1.001	14.925	1670
419	66.914	66.129		0.16	0.16	1.31	1.03	0.26	85	85	72	2.04	1.50	103	0.028	95	95	44.4	0.38	1.64	15.5840502	112.4	180.0	169.0	67.3	179.7	290.34988	80	80	72		1.001	13.629	1534
420	67.073	66.285		0.16	0.16	1.31	1.04	0.26	85	85	71	2.04	1.50	98	0.024	103	103	44.0	0.34	1.70	15.5750971	112.6	180.1	169.2	67.3	179.9	267.5246	79	79	71		1.001	14.117	1591
421	67.232	66.441		0.16	0.16	1.31	1.02	0.26	85	85	72	2.02	1.50	89	0.027	97	96	43.7	0.34	1.71	15.6233988	112.1	179.7	168.7	67.3	179.4	254.90271	77	78	72		1.001	14.271	1601

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
422	67.392	66.596		0.16	0.16	1.30	1.03	0.26	85	85	72	2.02	1.50	85	0.027	97	95	43.6	0.14	1.70	15.6131363	111.5	178.9	168.2	67.3	178.8	246.21783	77	77	72		1.001	14.113	1575
423	67.551	66.753		0.16	0.16	1.31	1.03	0.26	85	85	72	2.03	1.50	83	0.027	96	96	43.5	0.03	1.65	15.5748854	111.0	178.5	167.8	67.3	178.3	238.07733	76	77	72		1.001	13.752	1529
424	67.710	66.908		0.16	0.16	1.31	1.01	0.26	85	85	72	2.03	1.50	83	0.028	94	93	43.3	0.24	1.77	15.581048	111.3	178.7	168.1	67.3	178.6	230.93495	76	77	72		1.001	14.720	1641
425	67.869	67.063		0.16	0.16	1.30	1.01	0.26	85	85	71	2.01	1.50	81	0.029	93	91	43.2	0.11	1.77	15.5558538	111.0	178.5	167.8	67.3	178.3	225.17633	76	76	71		1.001	14.764	1641
426	68.028	67.217		0.16	0.15	1.31	1.01	0.26	85	85	71	2.01	1.50	80	0.026	98	96	43.1	0.10	1.77	15.5087824	110.4	178.0	167.1	67.3	177.7	220.21611	75	76	71		1.001	14.692	1624
427	68.188	67.372		0.16	0.16	1.31	1.01	0.26	85	85	71	2.01	1.50	80	0.026	98	96	43.1	0.02	1.84	15.678277	110.6	178.3	167.4	67.3	177.9	216.0072	75	75	71		1.001	15.300	1695
428	68.347	67.527		0.16	0.16	1.32	1.02	0.26	85	85	72	2.01	1.50	79	0.026	98	96	43.0	0.05	1.75	15.6421909	110.2	177.7	167.0	67.3	177.5	213.03166	74	75	72		1.001	14.598	1610
429	68.506	67.681		0.16	0.15	1.32	1.01	0.26	85	85	71	1.99	1.50	78	0.028	94	92	43.0	-0.04	1.65	15.5759192	110.0	177.7	166.8	67.3	177.3	210.83247	74	74	71		1.001	13.723	1511
430	68.666	67.837		0.16	0.16	1.32	1.01	0.26	85	85	71	2.01	1.50	77	0.026	98	97	43.1	-0.10	1.71	15.5765238	109.7	177.1	166.5	67.3	176.9	207.35918	73	74	71		1.001	14.197	1559
431	68.826	67.992		0.16	0.16	1.32	1.02	0.26	85	85	71	1.99	1.50	76	0.026	98	96	43.0	0.11	1.66	15.5364132	109.3	176.5	166.2	67.3	176.5	203.74077	73	73	71		1.001	13.796	1509
432	68.986	68.148		0.16	0.16	1.31	1.03	0.26	85	85	71	1.99	1.50	76	0.028	94	93	43.0	0.05	1.67	15.6224213	108.3	176.0	165.3	67.3	175.6	199.80299	72	73	71		1.001	13.938	1512
433	69.146	68.303		0.16	0.16	1.32	1.03	0.26	85	85	71	2.00	1.50	76	0.026	98	96	42.9	0.06	1.66	15.5693731	108.1	175.6	165.1	67.3	175.3	195.99722	72	73	71		1.001	13.791	1492
434	69.306	68.460		0.16	0.16	1.32	1.04	0.26	85	85	71	2.00	1.50	76	0.027	96	95	43.1	-0.16	1.71	15.5655012	107.7	175.2	164.8	67.3	175.0	192.74765	72	73	71		1.001	14.274	1539
435	69.466	68.617		0.16	0.16	1.32	1.04	0.26	85	85	71	1.99	1.50	76	0.026	98	97	43.2	-0.09	1.73	15.6038065	107.2	174.7	164.3	67.3	174.5	189.27237	72	73	71		1.001	14.439	1550
436	69.625	68.773		0.16	0.16	1.32	1.04	0.26	85	85	71	1.99	1.50	76	0.027	96	95	43.1	0.04	1.67	15.5475492	107.0	174.5	164.1	67.3	174.2	185.92949	72	73	71		1.001	13.875	1486
437	69.785	68.931		0.16	0.16	1.31	1.04	0.26	85	85	71	1.99	1.50	76	0.027	96	96	43.2	-0.01	1.68	15.5744905	106.3	173.7	163.4	67.3	173.5	182.84154	72	73	71		1.001	13.953	1484
438	69.945	69.088		0.16	0.16	1.31	1.05	0.26	85	85	71	1.98	1.50	76	0.028	94	94	43.0	0.15	1.77	15.5561247	106.1	173.6	163.3	67.2	173.3	179.65967	72	73	71		1.001	14.764	1568
439	70.105	69.246		0.16	0.16	1.32	1.05	0.26	85	85	71	1.99	1.40	75	0.024	102	102	43.1	-0.08	1.72	15.6064205	105.7	173.1	162.9	67.2	172.9	176.8923	72	73	71		1.001	14.277	1511
440	70.265	69.403		0.16	0.16	1.32	1.06	0.26	85	85	71	1.99	1.40	75	0.026	98	97	43.3	-0.20	1.66	15.6511173	104.8	172.1	162.1	67.2	172.1	174.0101	72	73	71		1.001	13.788	1447
441	70.424	69.563		0.16	0.16	1.33	1.06	0.26	85	85	71	2.00	1.40	75	0.026	97	99	43.2	0.13	1.77	15.718298	104.4	172.0	161.7	67.2	171.6	171.32115	72	73	71		1.001	14.764	1543
442	70.584	69.721		0.16	0.16	1.32	1.06	0.26	85	85	71	2.00	1.40	75	0.026	98	98	43.2	-0.02	1.70	15.6160049	105.0	172.6	162.3	67.3	172.3	168.71252	72	73	71		1.001	14.117	1485
443	70.744	69.879		0.16	0.16	1.32	1.06	0.26	85	85	71	1.98	1.40	75	0.027	96	96	43.2	-0.04	1.70	15.5705767	104.4	171.8	161.7	67.2	171.6	166.02766	72	72	71		1.001	14.116	1475
444	70.904	70.038		0.16	0.16	1.32	1.06	0.26	85	85	71	1.99	1.40	75	0.024	102	102	43.3	-0.09	1.72	15.5838499	103.3	170.6	160.7	67.2	170.5	163.33246	72	73	71		1.001	14.279	1476
445	71.064	70.197		0.16	0.16	1.32	1.06	0.26	85	85	71	1.98	1.40	75	0.028	94	95	43.3	0.02	1.77	15.6512232	102.3	169.8	159.8	67.2	169.6	160.97543	72	73	71		1.001	14.762	1512
446	71.224	70.356		0.16	0.16	1.32	1.07	0.26	85	85	71	1.99	1.40	75	0.027	96	97	43.3	-0.04	1.64	15.5713158	102.0	169.7	159.5	67.2	169.2	158.79967	72	73	71		1.001	13.628	1392
447	71.385	70.515		0.16	0.16	1.32	1.06	0.26	85	85	71	1.97	1.40	75	0.027	97	97	43.4	-0.07	1.64	15.5363808	102.0	169.5	159.6	67.2	169.3	156.5009	72	73	71		1.001	13.629	1392
448	71.545	70.673		0.16	0.16	1.32	1.06	0.26	85	85	71	1.99	1.40	75	0.028	94	94	43.3	0.07	1.66	15.6605415	101.3	168.7	158.8	67.2	168.5	154.25853	72	72	71		1.001	13.797	1399
449	71.705	70.833		0.16	0.16	1.32	1.07	0.26	85	85	71	1.98	1.40	75	0.026	98	99	43.3	0.01	1.70	15.5772982	101.0	168.3	158.6	67.2	168.2	152.02588	72	72	71		1.001	14.117	1427
450	71.865	70.991		0.16	0.16	1.32	1.07	0.26	85	85	71	1.99	1.40	75	0.024	102	102	43.4	-0.13	1.72	15.6037779	100.5	167.9	158.1	67.2	167.7	149.91051	72	72	71		1.001	14.280	1436
451	72.025	71.150		0.16	0.16	1.32	1.07	0.26	85	85	71	1.98	1.40	75	0.028	94	95	43.4	0.00	1.72	15.6508942	99.4	166.7	157.2	67.2	166.6	147.91388	72	72	71		1.001	14.282	1421
452	72.185	71.310		0.16	0.16	1.32	1.07	0.26	85	85	71	1.98	1.40	75	0.026	98	99	43.5	-0.01	1.73	15.6025295	98.9	166.2	156.7	67.2	166.1	145.99629	72	72	71		1.001	14.441	1430
453	72.345	71.468		0.16	0.16	1.32	1.07	0.26	85	85	71	1.98	1.40	75	0.027	96	96	43.5	-0.03	1.72	15.6223021	98.6	166.0	156.5	67.2	165.8	144.21129	72	72	71		1.001	14.279	1410
454	72.505	71.627		0.16	0.16	1.32	1.07	0.26	85	85	71	1.98	1.40	75	0.027	96	97	43.5	0.00	1.79	15.6417065	98.3	165.6	156.2	67.2	165.5	142.43131	72	72	71		1.001	14.927	1469
455	72.665	71.787		0.16	0.16	1.32	1.06	0.26	85	85	72	1.98	1.40	75	0.027	96	97	43.5	-0.02	1.79	15.5808754	98.1	165.4	156.0	67.2	165.3	140.53859	72	72	72		1.001	14.927	1466
456	72.825	71.945		0.16	0.16	1.32	1.07	0.26	85	85	71	1.97	1.40	75	0.029	93	93	43.6	-0.10	1.64	15.6038094	97.4	164.9	155.3	67.2	164.6	138.72209	72	72	71		1.001	13.634	1330
457	72.985	72.105		0.16	0.16	1.32	1.07	0.26	85	85	71	1.97	1.40	75	0.026	98	99	43.5	0.07	1.70	15.6420221	97.2	164.6	155.1	67.2	164.4	137.00746	72	72	71		1.001	14.118	1374
458	73.145	72.263		0.16	0.16	1.32	1.07	0.26	85	85	71	1.98	1.40	75	0.029	93	93	43.6	-0.04	1.72	15.6437645	97.1	164.4	155.0	67.2	164.2	135.35204	72	72	71		1.001	14.278	1387
459	73.305	72.423		0.16	0.16	1.33	1.07	0.26	85	85	71	1.99	1.40	75	0.026	98	99	43.6	0.02	1.66	15.5281782	96.1	163.5	154.1	67.2	163.3	133.71349	72	72	71		1.001	13.795	1327
460	73.465	72.582		0.16	0.16	1.33	1.07	0.26	85	85	71	1.99	1.40	75	0.028	94	95	43.6	-0.06	1.68	15.6705093	95.4	162.8	153.5	67.2	162.6	132.15364	72	72	71		1.001	13.953	1333
461	73.626	72.741		0.16	0.16	1.32	1.07	0.26	85	85	71	1.99	1.40	74	0.027	97	96	43.7	-0.04	1.70	15.6222277	95.1	162.8	153.2	67.2	162.3	130.90044	72	72	71		1.001	14.119	1344
462	73.786	72.900		0.16	0.16	1.33	1.07	0.26	85	85	71	1.99	1.40	74	0.026	98	98	43.6	0.05	1.73	15.5658216	94.9	162.2	153.2	67.2	162.1	129.31189	72	72	71		1.001	14.438	1372
463	73.947	73.060		0.16	0.16	1.32	1.07	0.26	85	85	71	1.99	1.40	74	0.027	97	97	43.6	0.01	1.75	15.5796337	94.3	161.5	152.6	67.2	161.5	128.14061	72	72	71		1.001	14.584	1377
464	74.107	73.218		0.16	0.16	1.32	1.07	0.26	85	85	71	1.97	1.40	74	0.025	100	100	43.6	0.01	1.71	15.6324558	93.6	161.1	151.9	67.2	160.8	126.74448	72	72	71		1.001	14.269	1338
465	74.267	73.377		0.16	0.16	1.33	1.07	0.26	85	85	71	1.98	1.40	74	0.026	98	98	43.7	-0.12	1.66	15.7087107	93.1	160.6	151.4	67.2	160.3	125.20742	72	72	71		1.001	13.822	1288
466	74.427	73.537		0.16	0.16	1.32	1.06	0.26	85	85	71	1.98	1.40	74	0.025	100	101	43.7	0.02	1.78	15.626606	92.8	160.2	151.2	67.2	160.0	124.31283	72	72	71		1.001	14.797	1375
467	74.587	73.695		0.16	0.16	1.32	1.07	0.26	85	85	71	1.99	1.40	74	0.026	98	98	43.6	0.12	1.81	15.6126995	92.4	159.8	150.9	67.2	159.6	162.17723	72	72	71		1.001	15.043	1392
468	74.747	73.855		0.16	0.16	1.31	1.06	0.26	85	85	71	1.99	1.40	83	0.027	97	98	43.2	0.39	1.71	15.6702385	91.8	159.1	150.2	67.2	159.0	196.36064	73	73	71		1.001	14.229	1308
469	74.906	74.012		0.16	0.16	1.31	1.06	0.26	85	85	71	1.99	1.40	86	0.025	100	100	42.7	0.46	1.69	15.6893559	90.7	158.1	149.2	67.2	157.9	220.06662	73	74	71		1.001	14.066	1277
470	75.066	74.170		0.16	0.16	1.31	1.06	0.26	85	85	71	2.00	1.40	88	0.028	95	95	42.3	0.40	1.66	15.5366926	90.4	157.7	149.0	67.2	157.5	242.48854	73	74	71		1.001	13.851	1253
471	75.225	74.329		0.16	0.16	1.32	1.06	0.26	85	85	71	2.01	1.40	91	0.027	97	98	41.8	0.51	1.77	15.7376757	90.8	158.2	149.3	67.2	157.9	264.41153	73	74	71		1.001	14.721	1337
472	75.384	74.487		0.16	0.16	1.33	1.07	0.26	85	85	71	2.01	1.40	95	0.028	95	96	41.4	0.42	1.74	15.5941172	90.6	158.0	149.2	67.2	157.8	281.02121	73	74	71		1.001	14.444	1310
473	75.544	74.646		0.16	0.16	1.32	1.07	0.26	85	85	71	2.01	1.40	98	0.025	102	102	41.1	0.33	1.75	15.6630211	91.2	158.6	149.8	67.2	158.4	293.22104	73	74	71		1.001	14.605	1334
474	75.703	74.803		0.16	0.16	1.33	1.06	0.26	85	85	71	2.00	1.40	101	0.025	102	101	40.7	0.39	1.72	15.6473408	92.2	159.6	150.6	67.2	159.3	300.53717	74	74	71		1.001	14.283	1318
475	75.863	74.961		0.16	0.16	1.33	1.07	0.26	85	85	71	2.01	1.40	103	0.025	102	102	40.1	0.53	1.68	15.6320486	92.1	159.5	150.6	67.2	159.3	306.27701	74	74	71		1.001	13.957	1287
476	76.023	75.120		0.16	0.16	1.33	1.07	0.26	85	85	71	2.01	1.40	105	0.026	101	101	39.6	0.49	1.77	15.706007	93.4	160.8	151.8	67.2	160.6	311.81186	74	75	71		1.001	14.767	1382
477	76.183	75.278		0.16	0.16	1.32	1.07	0.26	85	85	71	2.01	1.40	107	0.026	101	101	39.2	0.41	1.66	15.7374754	93.9	161.5	152.1	67.2	161.1	315.4498	75	75	71		1.001	13.795	1297
478	76.342	75.437		0.16	0.16	1.32	1.07	0.26	85	85	71	2.01	1.40	108	0.023	107	108	38.7	0.56	1.70	15.5747271	94.5	162.1	152.8	67.2	161.7	317.27652	75	75	71		1.001	14.119	1336
479	76.501	75.594		0.16	0.16	1.31	1.07	0.26	85	85	71	2.00	1.40	109	0.026	100	100	38.4	0.27	1.72	15.6129131	95.4	163.1	153.5	67.2	162.6	319.17419	75	76	71		1.001	14.285	1365
480	76.660	75.752		0.16	0.16	1.32	1.07	0.26	85	84	71	2.00	1.50	109	0.025	102	103	37.8	0.60	1.74	15.6224756	96.4	164.0	154.4	67.2	163.5	321.4711	75	76	71		1.001	14.444	1393
481	76.819	75.910		0.16	0.16	1.32	1.06	0.26	85	84	71	2.00	1.50	110	0.027	99	99	37.3	0.49	1.79	15.6799488	97.5	164.8	155.4	67.2	164.6	325.96533	75	76	71		1.001	14.927	1457
482	76.978	76.067		0.16	0.16	1.32	1.06	0.26	85	84	71	2.01	1.50	111	0.022	109	109	36.8	0.55	1.81	15.6799173	98.1	165.4	156.0	67.2	165.3	332.3588	76	77	71		1.001	15.091	1482
483	77.137	76.225		0.16	0.16	1.32	1.06	0.26	85	84	71	2.01	1.50	113	0.024	105	105	36.1	0.63	1.74	15.5837908	99.1	166.5	156.9	67.2	166.3	337.25253	76	77	71		1.001	14.443	1433

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
484	77.296	76.382		0.16	0.16	1.32	1.06	0.26	85	84	71	2.04	1.50	114	0.027	99	99	35.4	0.69	1.72	15.5851946	100.3	168.0	157.9	67.2	167.5	337.05115	77	78	71		1.001	14.281	1434
485	77.455	76.540		0.16	0.16	1.32	1.05	0.26	85	84	71	2.02	1.50	114	0.025	103	103	34.8	0.63	1.75	15.6660156	102.2	169.8	159.6	67.2	169.3	339.73807	77	78	71		1.001	14.600	1493
486	77.614	76.696		0.16	0.16	1.31	1.05	0.26	85	84	71	2.03	1.50	115	0.025	103	102	34.3	0.46	1.66	15.555829	104.8	172.5	162.0	67.2	172.0	339.51184	77	78	71		1.001	13.798	1448
487	77.773	76.854		0.16	0.16	1.31	1.05	0.26	85	84	71	2.03	1.50	116	0.025	103	104	33.7	0.61	1.66	15.5771246	105.4	172.8	162.6	67.2	172.6	340.97681	77	78	71		1.001	13.796	1456
488	77.931	77.010		0.16	0.16	1.30	1.05	0.26	85	84	71	2.05	1.50	116	0.026	100	100	33.0	0.71	1.77	15.630991	105.2	172.6	162.3	67.2	172.3	342.83014	78	79	71		1.001	14.765	1555
489	78.089	77.166		0.16	0.16	1.31	1.05	0.26	85	84	71	2.05	1.50	116	0.027	98	98	32.3	0.70	1.74	15.5557642	105.4	172.9	162.7	67.2	172.6	333.17026	78	79	71		1.001	14.442	1524
490	78.247	77.322		0.16	0.16	1.31	1.05	0.26	85	84	71	2.04	1.50	114	0.026	100	100	32.0	0.28	1.77	15.6704798	107.1	174.8	164.2	67.2	174.3	327.68674	78	79	71		1.001	14.766	1583
491	78.405	77.479		0.16	0.16	1.31	1.04	0.26	85	84	71	2.04	1.50	110	0.026	100	100	31.4	0.61	1.60	15.636404	108.6	176.5	165.6	67.2	175.8	327.15256	78	79	71		1.001	13.308	1447
492	78.564	77.635		0.16	0.16	1.30	1.04	0.26	85	84	71	2.05	1.50	110	0.026	100	100	30.5	0.93	1.52	15.5840549	110.7	178.4	168.6	67.2	177.8	338.62042	78	79	71		1.001	12.662	1403
493	78.722	77.791		0.16	0.16	1.30	1.04	0.26	85	84	71	2.06	1.50	114	0.026	100	100	30.2	0.35	1.54	15.612668	111.4	178.8	169.3	67.2	178.6	336.1178	78	79	71		1.001	12.824	1430
494	78.880	77.947		0.16	0.16	1.30	1.04	0.26	85	84	71	2.05	1.50	114	0.025	102	102	29.6	0.52	1.50	15.6694975	111.4	178.9	169.2	67.2	178.5	329.52881	78	79	71		1.001	12.500	1394
495	79.038	78.103		0.16	0.16	1.30	1.04	0.26	85	84	71	2.05	1.50	110	0.024	104	104	29.1	0.51	1.52	15.6321316	111.4	178.9	169.2	67.2	178.6	341.39743	78	80	71		1.001	12.660	1412
496	79.196	78.259		0.16	0.16	1.30	1.03	0.26	85	84	71	2.05	1.50	114	0.027	98	98	28.6	0.54	1.54	15.689333	112.9	180.4	170.7	67.2	180.1	326.86987	78	79	71		1.001	12.822	1450
497	79.353	78.415		0.16	0.16	1.31	1.04	0.26	85	84	71	2.05	1.50	109	0.025	101	102	28.3	0.32	1.56	15.5747051	113.5	181.1	171.2	67.2	180.7	293.88525	78	79	71		1.001	12.987	1476
498	79.512	78.571		0.16	0.16	1.30	1.04	0.26	85	84	71	2.04	1.50	93	0.025	101	100	27.9	0.34	1.54	15.5999823	114.8	182.5	172.4	67.2	181.9	275.99887	78	78	71		1.001	12.809	1472
499	79.671	78.727		0.16	0.16	1.30	1.04	0.26	85	84	71	2.03	1.50	88	0.027	97	96	27.8	0.10	1.52	15.603138	115.9	183.3	173.4	67.2	183.1	265.65225	77	78	71		1.001	12.657	1469
500	79.830	78.885		0.16	0.16	1.30	1.03	0.26	85	84	71	2.05	1.50	84	0.025	100	101	27.6	0.25	1.49	15.6220293	115.6	182.9	173.2	67.2	182.8	255.48763	76	77	71		1.001	12.370	1432
501	79.988	79.040		0.16	0.16	1.29	1.03	0.26	85	84	71	2.04	1.50	84	0.025	99	99	27.4	0.13	1.54	15.5075207	115.3	182.7	172.8	67.2	182.5	245.94525	76	76	71		1.001	12.800	1478
502	80.146	79.197		0.16	0.16	1.30	1.03	0.26	85	84	71	2.04	1.50	82	0.025	99	100	27.4	0.05	1.58	15.6198854	115.1	182.5	172.7	67.2	182.3	238.71175	75	76	71		1.001	13.190	1520
503	80.305	79.353		0.16	0.16	1.30	1.04	0.26	85	84	71	2.03	1.50	81	0.023	104	103	27.1	0.25	1.48	15.6164131	114.8	182.0	172.4	67.2	181.9	232.43347	74	75	71		1.001	12.334	1417
504	80.463	79.510		0.16	0.16	1.31	1.03	0.26	85	84	71	2.03	1.50	81	0.025	99	100	27.2	-0.11	1.54	15.5939636	114.2	181.7	171.8	67.2	181.3	227.25305	74	75	71		1.001	12.833	1467
505	80.622	79.666		0.16	0.16	1.31	1.04	0.26	85	84	71	2.04	1.50	80	0.024	102	101	27.0	0.20	1.54	15.5683699	113.5	180.8	171.1	67.2	180.6	223.42577	74	75	71		1.001	12.790	1453
506	80.781	79.824		0.16	0.16	1.31	1.04	0.26	85	84	71	2.01	1.50	79	0.024	102	102	27.3	-0.26	1.54	15.5745811	113.3	180.4	170.9	67.2	180.4	222.70017	73	75	71		1.001	12.823	1454
507	80.940	79.980		0.16	0.16	1.31	1.04	0.26	85	84	71	2.01	1.50	77	0.024	101	101	27.1	0.18	1.58	15.6139612	112.4	179.8	170.1	67.2	179.5	219.8447	73	75	71		1.001	13.148	1479
508	81.100	80.138		0.16	0.16	1.31	1.05	0.26	85	84	71	2.03	1.50	77	0.025	100	100	27.2	-0.04	1.54	15.6320591	112.1	179.5	169.8	67.2	179.2	216.02628	73	74	71		1.001	12.825	1439
509	81.258	80.295		0.16	0.16	1.30	1.05	0.26	85	84	71	2.02	1.50	76	0.026	97	97	27.1	0.04	1.60	15.5557184	112.1	179.5	169.9	67.2	179.3	212.17471	73	74	71		1.001	13.311	1494
510	81.418	80.453		0.16	0.16	1.30	1.05	0.26	85	84	71	2.01	1.40	76	0.026	98	98	27.1	0.07	1.48	15.5840416	112.3	179.6	170.1	67.2	179.5	207.93791	73	74	71		1.001	12.340	1388
511	81.576	80.611		0.16	0.16	1.30	1.05	0.26	85	84	71	2.01	1.40	76	0.025	99	100	27.1	-0.03	1.50	15.5295057	111.8	179.0	169.6	67.2	178.9	204.07826	73	74	71		1.001	12.501	1399
512	81.735	80.768		0.16	0.16	1.30	1.06	0.26	85	84	71	2.01	1.40	76	0.024	101	101	27.1	0.01	1.54	15.6741152	111.2	178.5	169.1	67.2	178.3	200.33128	73	74	71		1.001	12.824	1428
513	81.894	80.927		0.16	0.16	1.31	1.06	0.26	85	84	71	2.02	1.40	76	0.025	99	101	27.1	0.02	1.56	15.6520796	110.4	177.8	168.4	67.2	177.6	196.67139	73	74	71		1.001	12.987	1436
514	82.053	81.085		0.16	0.16	1.31	1.06	0.26	85	84	71	2.02	1.40	76	0.026	97	98	27.2	-0.13	1.44	15.5457535	110.2	177.7	168.3	67.1	177.3	193.13605	73	74	71		1.001	12.017	1326
515	82.213	81.243		0.16	0.16	1.31	1.06	0.26	85	84	71	2.01	1.40	75	0.025	100	100	27.2	-0.05	1.56	15.6421776	110.9	178.2	168.9	67.2	178.1	189.73817	73	74	71		1.001	12.989	1443
516	82.372	81.401		0.16	0.16	1.31	1.06	0.26	84	84	71	2.00	1.40	75	0.025	99	100	27.1	0.14	1.54	15.5954733	110.0	177.4	167.9	67.1	177.2	186.22823	73	73	71		1.001	12.829	1413
517	82.532	81.559		0.16	0.16	1.30	1.06	0.26	84	84	71	2.00	1.40	75	0.024	102	102	27.2	-0.09	1.54	15.6037169	108.9	176.1	166.9	67.1	176.0	183.32715	72	73	71		1.001	12.827	1399
518	82.691	81.718		0.16	0.16	1.31	1.05	0.26	84	84	71	2.00	1.40	75	0.024	101	103	27.3	-0.08	1.42	15.6320009	108.5	175.8	166.5	67.1	175.6	180.21257	72	73	71		1.001	11.855	1287
519	82.850	81.875		0.16	0.16	1.31	1.05	0.26	84	84	71	2.01	1.40	75	0.024	101	101	27.2	0.10	1.44	15.5542116	108.5	175.9	166.6	67.2	175.7	177.46336	72	73	71		1.001	12.020	1306
520	83.009	82.033		0.16	0.16	1.31	1.05	0.26	84	84	71	2.01	1.40	75	0.025	99	100	27.2	-0.08	1.46	15.6108332	108.2	175.5	166.3	67.1	175.4	174.67677	72	73	71		1.001	12.181	1320
521	83.168	82.191		0.16	0.16	1.31	1.05	0.26	84	84	71	2.02	1.40	75	0.024	101	102	27.2	0.02	1.68	15.5838432	107.4	174.7	164.9	67.2	174.6	171.86601	72	73	71		1.001	13.961	1502
522	83.327	82.349		0.16	0.16	1.31	1.05	0.26	84	84	71	2.00	1.40	75	0.025	99	100	27.2	0.04	1.58	15.6338825	106.7	173.9	164.2	67.1	173.8	169.0614	72	73	71		1.001	13.150	1404
523	83.486	82.508		0.16	0.16	1.31	1.05	0.26	84	84	71	2.01	1.40	75	0.026	97	99	27.3	-0.13	1.64	15.5167818	106.5	173.8	164.0	67.1	173.6	166.57631	72	73	71		1.001	13.637	1454
524	83.645	82.665		0.16	0.16	1.31	1.06	0.26	84	84	71	2.02	1.40	75	0.025	99	99	27.3	-0.01	1.54	15.6223221	106.5	173.7	164.0	67.1	173.6	163.8355	72	73	71		1.001	12.828	1368
525	83.804	82.824		0.16	0.16	1.31	1.05	0.26	84	84	71	2.02	1.40	75	0.026	97	99	27.5	-0.14	1.64	15.6159534	105.7	173.2	163.3	67.1	172.9	161.384	72	73	71		1.001	13.644	1444
526	83.964	82.981		0.16	0.16	1.31	1.06	0.26	84	84	71	2	1.4	75	0.023	104	103	27.4	0.05	1.70	15.641139	105.4	172.8	163.1	67.1	172.6	158.97565	72	73	71		1.001	14.111	1489
527	84.124	83.139		0.16	0.16	1.31	1.06	0.26	84	84	71	2.01	1.4	74	0.024	102	102	27.5	-0.08	1.56	15.6320305	104.8	171.9	162.5	67.1	171.9	156.72197	72	72	71		1.001	12.989	1363
528	84.283	83.298		0.16	0.16	1.31	1.05	0.26	84	84	71	2.01	1.4	74	0.025	99	100	27.5	-0.01	1.58	15.7180204	104.3	171.6	162.0	67.1	171.4	154.29036	72	72	71		1.001	13.170	1375
529	84.442	83.455		0.16	0.16	1.3	1.06	0.26	84	84	71	2.02	1.4	74	0.024	101	101	27.4	0.13	1.66	15.6126633	103.8	171.1	161.6	67.1	170.9	152.50517	72	72	71		1.001	13.802	1434
530	84.601	83.614		0.16	0.16	1.3	1.05	0.26	84	84	71	2.01	1.4	74	0.024	101	102	27.5	-0.14	1.56	15.4983997	103.0	170.5	160.9	67.1	170.2	150.21956	72	72	71		1.001	12.991	1340
531	84.760	83.772		0.16	0.16	1.31	1.06	0.26	84	84	71	2	1.4	74	0.025	99	100	27.5	-0.01	1.57	15.6705561	102.3	169.6	160.2	67.2	169.5	148.19423	72	72	71		1.001	13.043	1336
532	84.919	83.930		0.16	0.16	1.31	1.06	0.26	84	84	71	2.02	1.4	74	0.024	101	102	27.6	-0.10	1.63	15.6629171	101.7	169.1	159.6	67.1	168.8	146.42238	72	72	71		1.001	13.564	1381
533	85.078	84.088		0.16	0.16	1.31	1.05	0.26	84	84	71	2	1.4	74	0.026	97	98	27.7	-0.05	1.71	15.6323566	101.8	169.1	159.7	67.2	168.9	144.44444	72	72	71		1.001	14.195	1446
534	85.237	84.246		0.16	0.16	1.31	1.05	0.26	84	84	71	2.02	1.4	74	0.025	99	100	27.7	-0.06	1.61	15.5098906	101.1	168.4	159.2	67.2	168.3	142.59552	72	72	71		1.001	13.432	1360
535	85.396	84.404		0.16	0.16	1.31	1.06	0.26	84	84	70	2.01	1.4	74	0.023	103	104	27.5	0.27	1.58	15.5557394	101.0	168.4	159.0	67.2	168.1	140.87535	72	72	70		1.001	13.157	1330
536	85.556	84.562		0.16	0.16	1.31	1.05	0.26	84	84	70	2	1.4	74	0.023	104	104	27.7	-0.24	1.62	15.5557232	100.6	167.9	158.6	67.2	167.7	139.29634	72	72	70		1.001	13.480	1357
537	85.716	84.720		0.16	0.16	1.3	1.06	0.26	84	84	71	2.02	1.4	74	0.023	104	104	27.6	0.11	1.68	15.5274096	100.1	167.3	158.2	67.1	167.2	137.4454	72	72	71		1.001	13.964	1399
538	85.875	84.878		0.16	0.16	1.31	1.05	0.26	84	84	71	2.02	1.4	74	0.023	103	104	27.8	-0.21	1.70	15.5744009	99.6	166.8	157.7	67.1	166.7	135.73308	72	72	71		1.001	14.124	1408
539	86.034	85.036		0.16	0.16	1.3	1.06	0.26	84	84	71	2	1.4	74	0.025	99	100	27.7	0.08	1.66	15.6319218	99.3	166.4	157.5	67.1	166.4	134.08957	72	72	71		1.001	13.800	1372
540	86.193	85.195		0.16	0.16	1.31	1.06	0.26	84	84	70	2.02	1.4	74	0.022	106	107	27.6	0.13	1.64	15.6285782	98.3	165.5	156.6	67.1	165.4	132.49881	72	72	70		1.001	13.643	1343
541	86.352	85.352		0.16	0.16	1.31	1.06	0.26	84	84	70	2.02	1.4	74	0.022	106	106	27.8	-0.23	1.74	15.6258392	97.4	164.7	155.7	67.1	164.5	130.98554	72	72	70		1.001	14.450	1409
542	86.511	85.511		0.16	0.16	1.31	1.05	0.26	84	84	70	2.01	1.4	74	0.024	101	102	27.7	0.07	1.56	15.5655441	96.6	163.9	155.0	67.1	163.7	129.55595	71	72	70		1.001	12.995	1257
543	86.670	85.668		0.16	0.16	1.31	1.06	0.26	84	84	70	2.02	1.4	74	0.023	103	103	27.9	-0.12	1.56	15.6037979	96.4	163.9	154.8	67.1	163.5	128.3754	71	72	70		1.001	12.992	1255
544	86.829	85.826		0.16	0.16	1.31	1.06	0.26	84	84	70	2.01	1.4	74	0.024	101	102	27.8	0.10	1.68	15.6054926	96.4	163.6	154.8	67.1	163.4	126.96279	71	72	70		1.001	13.966	1347
545	86.988	85.985		0.16	0.16	1.31	1.05	0.26	84	84	70	2.02	1.4	74	0.025	99	100	27.8	0.01	1.70	15.5518312	96.0	163.3	154.5	67.1	163.1	125.52384	71	72	70		1.001	14.129	1358

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
546	87.148	86.143		0.16	0.16	1.31	1.06	0.26	84	84	71	2	1.4	74	0.024	102	102	27.9	-0.13	1.68	15.6462841	95.7	163.0	154.2	67.1	162.8	124.79096	71	72	71		1.001	13.965	1338
547	87.307	86.302		0.16	0.16	1.31	1.06	0.26	84	84	70	2	1.4	73	0.022	106	107	27.9	-0.03	1.66	15.6286316	95.2	162.5	153.7	67.1	162.3	123.0994	71	72	70		1.001	13.806	1316
548	87.466	86.459		0.16	0.16	1.31	1.05	0.26	84	84	70	2.01	1.4	73	0.024	101	101	27.9	0.01	1.68	15.622304	94.8	161.9	153.3	67.1	161.9	121.87621	71	72	70		1.001	13.965	1325
549	87.626	86.617		0.16	0.16	1.3	1.05	0.26	84	84	70	2.02	1.4	73	0.022	106	106	27.9	0.03	1.68	15.5362864	94.3	161.7	152.8	67.1	161.4	120.7624	71	72	70		1.001	13.965	1318
550	87.784	86.776		0.16	0.16	1.3	1.05	0.26	84	84	70	2.02	1.4	74	0.021	108	110	28.0	-0.13	1.70	15.650444	93.3	160.3	151.9	67.1	160.3	119.55292	71	72	70		1.001	14.129	1319
551	87.944	86.933		0.16	0.16	1.31	1.06	0.26	84	84	70	2.01	1.4	73	0.023	104	103	28.0	0.00	1.54	15.5273495	92.3	159.5	151.0	67.1	159.4	134.69701	71	72	70		1.001	12.833	1186
552	88.103	87.092		0.16	0.16	1.31	1.06	0.26	84	84	70	2.01	1.4	73	0.025	99	100	27.6	0.45	1.72	15.5657654	91.9	159.1	150.7	67.1	159.0	174.63475	71	72	70		1.001	14.285	1314
553	88.261	87.249		0.16	0.16	1.31	1.05	0.26	84	84	70	2.04	1.5	85	0.023	104	104	27.3	0.26	1.66	15.5699654	91.5	158.8	150.4	67.1	158.6	203.52177	72	73	70		1.001	13.801	1265
554	88.420	87.407		0.16	0.16	1.31	1.05	0.26	84	84	70	2.03	1.5	86	0.024	102	103	26.8	0.49	1.70	15.6707392	90.9	158.1	149.8	67.1	158.0	224.54181	73	73	70		1.001	14.125	1285
555	88.579	87.564		0.16	0.16	1.31	1.05	0.26	84	84	70	2.04	1.5	88	0.024	103	103	26.3	0.50	1.68	15.6323118	90.7	158.2	149.7	67.1	157.8	244.77771	73	73	70		1.001	13.967	1269
556	88.738	87.722		0.16	0.16	1.31	1.05	0.26	84	84	70	2.03	1.5	91	0.026	99	99	25.9	0.45	1.64	15.6367645	91.1	158.5	150.0	67.1	158.2	262.59341	73	73	70		1.001	13.644	1245
557	88.897	87.879		0.16	0.16	1.31	1.06	0.26	84	84	70	2.02	1.5	94	0.025	101	101	25.4	0.44	1.60	15.6149797	91.6	159.0	150.5	67.1	158.7	278.71524	73	73	70		1.001	13.323	1222
558	89.055	88.036		0.16	0.16	1.32	1.07	0.26	84	84	70	2.01	1.4	97	0.024	103	103	25.0	0.44	1.58	15.5940332	91.5	159.0	150.4	67.1	158.6	290.55319	73	73	70		1.001	13.156	1206
559	89.214	88.195		0.16	0.16	1.32	1.06	0.26	84	84	70	2.02	1.4	100	0.025	102	103	24.6	0.38	1.64	15.5709887	92.5	159.9	151.3	67.1	159.6	298.40323	73	73	70		1.001	13.646	1264
560	89.373	88.353		0.16	0.16	1.32	1.07	0.26	84	84	70	2.01	1.4	102	0.026	100	100	24.1	0.49	1.62	15.6911602	93.3	160.9	152.0	67.1	160.4	304.75934	73	74	70		1.001	13.478	1259
561	89.532	88.511		0.16	0.16	1.33	1.07	0.26	84	84	70	2.01	1.4	104	0.023	106	107	23.8	0.30	1.68	15.6798325	93.5	160.7	152.2	67.1	160.6	310.38791	74	74	70		1.001	13.960	1307
562	89.691	88.669		0.16	0.16	1.32	1.06	0.26	84	84	70	2.02	1.4	106	0.024	104	105	23.3	0.55	1.52	15.5860443	94.5	162.0	153.1	67.1	161.6	313.49738	74	74	70		1.001	12.688	1200
563	89.850	88.826		0.16	0.16	1.32	1.07	0.26	84	84	70	2.03	1.4	107	0.024	104	104	22.9	0.37	1.64	15.6127939	95.7	163.0	154.1	67.1	162.8	315.57718	74	75	70		1.001	13.648	1307
564	90.009	88.985		0.16	0.16	1.31	1.06	0.26	84	84	70	2.02	1.5	108	0.025	102	104	22.6	0.28	1.68	15.6128569	95.6	163.0	154.0	67.1	162.6	316.67966	74	75	70		1.001	13.968	1336
565	90.168	89.142		0.16	0.16	1.32	1.06	0.26	84	84	70	2.01	1.5	109	0.024	105	104	22.0	0.59	1.56	15.6587439	97.5	165.0	155.8	67.1	164.5	319.84137	75	75	70		1.001	12.961	1265
566	90.327	89.300		0.16	0.16	1.3	1.06	0.26	84	84	70	2.04	1.5	109	0.022	109	110	21.4	0.62	1.65	15.5904408	98.0	165.3	156.2	67.1	165.0	323.41687	75	75	70		1.001	13.758	1350
567	90.485	89.457		0.16	0.16	1.31	1.06	0.26	84	84	70	2.02	1.5	110	0.023	106	107	21.1	0.27	1.72	15.598876	98.6	166.1	156.9	67.1	165.7	325.53043	75	76	70		1.001	14.291	1411
568	90.644	89.614		0.16	0.16	1.31	1.06	0.26	84	84	70	2.04	1.5	111	0.024	105	105	20.6	0.50	1.61	15.6126633	100.0	167.4	158.1	67.1	167.1	327.49133	75	76	70		1.001	13.435	1345
569	90.802	89.772		0.16	0.16	1.3	1.05	0.26	84	84	70	2.03	1.5	112	0.023	106	108	20.2	0.45	1.64	15.6316872	101.1	168.4	159.1	67.1	168.1	330.5535	75	76	70		1.001	13.635	1380
570	90.960	89.929		0.16	0.16	1.31	1.05	0.26	84	84	70	2.04	1.5	113	0.022	109	109	19.7	0.53	1.72	15.6507998	101.4	168.9	159.3	67.1	168.5	333.22968	76	76	70		1.001	14.315	1453
571	91.119	90.086		0.16	0.16	1.3	1.05	0.26	84	84	70	2.04	1.5	114	0.024	105	105	19.1	0.58	1.60	15.5840616	103.2	170.8	161.1	67.1	170.3	335.11453	76	77	70		1.001	13.320	1376
572	91.277	90.242		0.16	0.16	1.3	1.05	0.26	84	84	70	2.06	1.5	114	0.022	109	109	18.6	0.48	1.68	15.6248369	103.8	171.3	161.5	67.1	170.9	338.62793	76	77	70		1.001	13.987	1453
573	91.434	90.399		0.16	0.16	1.29	1.04	0.26	84	84	70	2.07	1.5	115	0.024	104	105	18.1	0.45	1.58	15.5273199	105.5	173.2	163.1	67.1	172.6	341.0159	76	77	70		1.001	13.154	1390
574	91.591	90.554		0.16	0.16	1.29	1.04	0.26	84	83	70	2.08	1.5	116	0.024	104	104	17.6	0.57	1.60	15.5743961	106.1	173.5	163.6	67.1	173.2	342.71036	76	77	70		1.001	13.326	1416
575	91.748	90.711		0.16	0.16	1.29	1.04	0.26	84	84	70	2.08	1.5	116	0.024	104	105	17.2	0.39	1.66	15.5938463	107.2	174.7	164.6	67.1	174.3	344.69687	77	78	70		1.001	13.808	1482
576	91.905	90.866		0.16	0.16	1.29	1.04	0.26	84	83	70	2.09	1.5	117	0.024	104	104	16.6	0.60	1.62	15.6516809	108.2	175.5	165.5	67.1	175.2	347.13525	77	78	70		1.001	13.480	1460
577	92.063	91.022		0.16	0.16	1.28	1.03	0.26	84	83	70	2.1	1.5	117	0.024	105	105	16.1	0.52	1.62	15.5007353	109.0	176.3	166.3	67.1	176.1	345.97745	77	78	70		1.001	13.478	1471
578	92.220	91.177		0.16	0.16	1.27	1.03	0.26	84	83	70	2.09	1.5	117	0.023	106	106	15.6	0.52	1.58	15.5273037	110.4	177.9	167.5	67.1	177.5	347.75726	77	78	70		1.001	13.153	1454
579	92.376	91.333		0.16	0.16	1.28	1.02	0.26	84	83	70	2.12	1.5	117	0.022	108	109	15.0	0.58	1.60	15.5744505	112.7	180.4	169.7	67.1	179.8	350.12866	77	78	70		1.001	13.316	1503
580	92.532	91.487		0.16	0.15	1.28	1.02	0.26	84	83	70	2.13	1.5	118	0.024	103	103	14.6	0.33	1.58	15.5920858	113.7	180.9	170.6	67.1	180.8	319.96686	77	78	70		1.001	13.155	1498
581	92.689	91.643		0.16	0.16	1.29	1.03	0.26	84	83	70	2.08	1.5	102	0.023	105	106	14.3	0.30	1.58	15.5840454	112.7	179.9	169.7	67.1	179.8	291.96826	77	78	70		1.001	13.153	1484
582	92.847	91.798		0.16	0.16	1.28	1.02	0.26	84	83	70	2.09	1.5	91	0.023	104	104	14.2	0.18	1.58	15.650775	112.9	180.5	169.8	67.1	180.0	278.95093	76	77	70		1.001	13.157	1487
583	93.004	91.954		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.5	86	0.025	99	100	14.1	0.02	1.70	15.6866827	113.9	181.3	170.8	67.1	181.0	268.74136	75	77	70		1.001	14.126	1611
584	93.161	92.109		0.16	0.16	1.28	1.03	0.26	84	83	70	2.09	1.5	83	0.024	101	101	13.8	0.31	1.68	15.5273333	114.1	181.3	170.9	67.1	181.2	256.65454	75	76	70		1.001	13.967	1595
585	93.317	92.265		0.16	0.16	1.28	1.02	0.26	84	83	70	2.08	1.5	83	0.025	98	100	13.9	-0.05	1.62	15.5172911	113.7	181.0	170.6	67.1	180.8	247.34996	75	76	70		1.001	13.482	1535
586	93.474	92.421		0.16	0.16	1.28	1.03	0.26	84	83	70	2.1	1.5	81	0.024	101	101	13.8	0.12	1.74	15.5743847	112.7	179.9	169.5	67.1	179.7	239.81554	75	76	70		1.001	14.452	1630
587	93.632	92.577		0.16	0.16	1.27	1.02	0.26	84	83	70	2.08	1.5	81	0.024	101	101	13.7	0.04	1.64	15.5746012	111.8	179.1	168.7	67.1	178.9	233.76524	75	76	70		1.001	13.641	1527
588	93.789	92.732		0.16	0.16	1.28	1.03	0.26	84	83	70	2.08	1.5	80	0.022	105	105	13.7	-0.01	1.62	15.561573	111.4	178.6	168.4	67.0	178.5	228.48996	74	75	70		1.001	13.481	1504
589	93.946	92.888		0.16	0.16	1.27	1.02	0.26	84	83	70	2.09	1.5	79	0.023	103	103	13.7	-0.01	1.64	15.6509933	110.9	178.2	167.9	67.0	177.9	226.92995	74	75	70		1.001	13.643	1515
590	94.103	93.044		0.16	0.16	1.28	1.03	0.26	84	83	70	2.09	1.5	78	0.025	98	99	13.7	0.04	1.64	15.612668	110.6	177.9	167.7	67.0	177.7	225.35484	74	75	70		1.001	13.644	1511
591	94.260	93.200		0.16	0.16	1.27	1.02	0.26	84	83	70	2.08	1.5	77	0.023	102	103	13.6	0.15	1.64	15.6133051	110.3	177.8	167.3	67.0	177.3	221.83072	74	75	70		1.001	13.641	1506
592	94.418	93.356		0.16	0.16	1.27	1.03	0.26	84	83	70	2.09	1.5	76	0.024	101	101	13.6	-0.01	1.66	15.6892176	110.7	177.9	167.7	67.0	177.7	217.74309	74	75	70		1.001	13.802	1529
593	94.575	93.512		0.16	0.16	1.28	1.03	0.26	84	83	70	2.08	1.5	76	0.022	105	105	13.5	0.03	1.66	15.6126337	110.4	177.7	167.5	67.0	177.4	213.58238	74	74	70		1.001	13.802	1525
594	94.732	93.668		0.16	0.16	1.27	1.03	0.26	84	83	70	2.08	1.5	75	0.024	100	101	13.5	0.04	1.60	15.5662136	109.5	176.9	166.7	67.0	176.6	209.36386	73	74	70		1.001	13.318	1460
595	94.889	93.824		0.16	0.16	1.28	1.02	0.26	84	83	70	2.08	1.5	75	0.023	102	103	13.5	-0.03	1.70	15.6508856	108.8	175.9	166.0	67.0	175.8	205.26845	73	74	70		1.001	14.127	1539
596	95.047	93.980		0.16	0.16	1.28	1.03	0.26	84	83	70	2.08	1.5	75	0.021	108	108	13.6	-0.05	1.64	15.6319513	108.3	175.6	165.6	67.0	175.3	201.47612	73	74	70		1.001	13.645	1479
597	95.204	94.136		0.16	0.16	1.28	1.02	0.26	84	83	70	2.07	1.5	75	0.022	105	105	13.5	0.03	1.64	15.5936413	108.1	175.5	165.4	67.0	175.2	197.88631	73	74	70		1.001	13.640	1477
598	95.362	94.292		0.16	0.16	1.29	1.03	0.26	84	83	70	2.09	1.5	75	0.023	103	103	13.6	-0.02	1.60	15.5556803	108.2	175.2	165.5	67.0	175.2	194.08707	73	74	70		1.001	13.322	1443
599	95.519	94.449		0.16	0.16	1.27	1.03	0.26	84	83	70	2.08	1.5	75	0.024	100	101	13.7	-0.12	1.64	15.5935965	107.1	174.3	164.4	67.0	174.1	190.56033	73	73	70		1.001	13.645	1463
600	95.676	94.604		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	75	0.021	107	107	13.7	-0.01	1.64	15.6323233	106.9	174.0	164.3	67.0	173.9	187.16357	73	73	70		1.001	13.639	1460
601	95.833	94.761		0.16	0.16	1.28	1.03	0.26	84	83	70	2.08	1.50	75	0.023	102	104	13.6	0.04	1.62	15.5836058	106.7	174.0	164.1	67.0	173.7	183.80704	72	73	70		1.001	13.462	1438
602	95.990	94.916		0.16	0.16	1.29	1.03	0.26	84	83	70	2.09	1.50	74	0.021	107	107	13.7	-0.05	1.62	15.651494	106.3	173.3	163.7	67.0	173.3	180.77182	72	73	70		1.001	13.488	1436
603	96.148	95.073		0.16	0.16	1.28	1.03	0.26	84	83	70	2.09	1.50	74	0.022	105	106	13.7	-0.04	1.66	15.64188	105.4	172.7	162.9	67.0	172.4	177.82909	72	73	70		1.001	13.777	1454
604	96.306	95.229		0.16	0.16	1.27	1.03	0.26	84	83	70	2.08	1.50	74	0.023	103	103	13.7	0.02	1.66	15.5939388	104.5	171.8	162.0	67.0	171.5	174.86284	72	73	70		1.001	13.825	1447
605	96.462	95.385		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	74	0.023	102	103	13.8	-0.05	1.66	15.5938263	105.2	172.4	162.7	67.0	172.2	172.2872	72	73	70		1.001	13.841	1458
606	96.620	95.541		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	74	0.024	101	101	13.8	-0.03	1.69	15.6219549	104.5	171.6	162.0	67.0	171.5	169.34793	72	73	70		1.001	14.092	1474
607	96.777	95.698		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	74	0.024	100	101	13.7	0.05	1.64	15.5654716	103.8	170.9	161.4	67.0	170.8	166.78568	72	72	70		1.001	13.643	1417

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient	Draft In. H2O	Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
608	96.935	95.853		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	74	0.025	99	98	13.8	-0.10	1.63	15.6104679	103.1	170.1	160.8	67.0	170.1	164.11699	72	72	70		1.001	13.566	1400
609	97.092	96.010		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	74	0.023	102	104	13.9	-0.02	1.64	15.6602964	102.0	169.3	159.7	67.0	169.0	161.64284	72	72	70		1.001	13.646	1393
610	97.249	96.165		0.16	0.16	1.27	1.03	0.26	84	83	70	2.07	1.50	74	0.022	104	105	14.0	-0.16	1.52	15.5456476	102.3	169.4	160.0	67.0	169.3	159.32527	72	72	70		1.001	12.673	1298
611	97.406	96.322		0.16	0.16	1.28	1.03	0.26	84	83	70	2.09	1.50	74	0.023	102	104	13.9	0.16	1.62	15.6418552	102.2	169.3	160.0	67.0	169.2	157.13127	72	72	70		1.001	13.482	1379
612	97.563	96.478		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	74	0.024	100	101	13.9	-0.08	1.66	15.6222658	101.1	168.1	158.9	67.0	168.1	154.77559	72	72	70		1.001	13.804	1397
613	97.721	96.635		0.16	0.16	1.28	1.03	0.26	84	83	70	2.09	1.50	74	0.024	101	101	13.9	0.04	1.68	15.679719	100.5	167.6	158.4	67.0	167.4	152.51964	72	72	70		1.001	13.972	1405
614	97.879	96.790		0.16	0.16	1.29	1.03	0.26	84	83	70	2.08	1.50	74	0.023	103	102	14.0	-0.10	1.66	15.6131229	100.0	167.3	158.0	67.0	167.0	150.60552	71	72	70		1.001	13.806	1382
615	98.036	96.947		0.16	0.16	1.27	1.03	0.26	84	83	70	2.07	1.50	74	0.023	102	104	14.0	-0.04	1.58	15.5456142	99.8	167.0	157.8	67.0	166.8	148.57195	71	72	70		1.001	13.158	1315
616	98.193	97.102		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	74	0.024	100	100	14.0	0.02	1.64	15.6038408	99.6	166.8	157.6	67.0	166.6	146.59319	71	72	70		1.001	13.645	1361
617	98.350	97.259		0.16	0.16	1.28	1.03	0.26	84	83	70	2.09	1.50	73	0.023	102	103	14.0	0.05	1.60	15.6010303	99.3	166.4	157.2	67.0	166.2	144.67592	71	72	70		1.001	13.322	1324
618	98.507	97.415		0.16	0.16	1.29	1.03	0.26	84	83	70	2.09	1.50	73	0.023	102	103	14.2	-0.20	1.62	15.6127357	98.8	165.9	156.8	67.0	165.7	142.6064	71	72	70		1.001	13.482	1333
619	98.665	97.572		0.16	0.16	1.29	1.03	0.26	84	83	70	2.09	1.50	73	0.024	101	101	14.1	0.09	1.64	15.6418648	97.8	164.9	156.0	67.0	164.8	140.84714	71	72	70		1.001	13.648	1337
620	98.823	97.727		0.16	0.16	1.28	1.03	0.26	84	83	70	2.09	1.50	73	0.025	99	98	14.2	-0.08	1.70	15.6038704	97.3	164.3	155.5	67.0	164.3	138.98026	71	71	70		1.001	14.130	1377
621	98.980	97.884		0.16	0.16	1.28	1.03	0.26	84	83	70	2.08	1.50	73	0.023	102	103	14.0	0.12	1.56	15.5743017	96.3	163.3	154.5	67.0	163.2	137.20435	71	71	70		1.001	12.996	1252
622	99.137	98.039		0.16	0.16	1.28	1.03	0.26	84	83	70	2.07	1.50	73	0.027	94	94	14.2	-0.15	1.62	15.6152048	95.8	163.2	154.1	67.0	162.8	135.57738	71	71	70		1.001	13.483	1294
623	99.294	98.196		0.16	0.16	1.29	1.03	0.26	84	83	70	2.08	1.50	73	0.025	98	99	14.2	0.00	1.50	15.5361967	95.7	162.8	154.0	67.0	162.7	133.91603	71	71	70		1.001	12.508	1199
624	99.452	98.352		0.16	0.16	1.28	1.03	0.26	84	83	70	2.08	1.50	73	0.028	93	93	14.2	0.00	1.95	15.569479	95.0	162.1	152.3	67.0	162.0	132.45941	71	71	70		1.001	16.228	1544
625	99.610	98.508		0.16	0.16	1.27	1.03	0.26	84	83	70	2.08	1.50	73	0.026	97	97	14.3	-0.07	1.78	15.77563	94.5	161.6	151.8	67.0	161.4	130.69585	71	71	70		1.001	14.778	1398
626	99.769	98.664		0.16	0.16	1.35	1.03	0.26	84	83	70	2.15	1.50	73	0.027	95	95	14.3	-0.03	1.89	15.5556374	93.7	161.1	151.0	66.9	160.6	129.43524	71	71	70		1.001	15.742	1476
627	99.931	98.821		0.16	0.16	1.35	1.03	0.26	84	83	70	2.14	1.50	73	0.027	97	95	14.3	0.01	1.81	15.6294909	93.3	160.5	150.7	66.9	160.3	127.91499	71	71	70		1.001	15.100	1411
628	100.092	98.976		0.16	0.16	1.35	1.03	0.26	84	83	70	2.15	1.50	73	0.025	100	98	14.3	0.01	1.83	15.6797333	92.8	159.8	150.2	66.9	159.7	129.50971	71	71	70		1.001	15.258	1417
629	100.254	99.133		0.16	0.16	1.36	1.03	0.26	84	83	70	2.14	1.50	73	0.024	103	101	14.0	0.31	1.85	15.6586533	91.9	159.0	149.8	66.9	158.9	171.89308	71	71	70		1.001	15.425	1420
630	100.415	99.288		0.16	0.16	1.34	1.02	0.26	84	83	70	2.19	1.50	84	0.023	106	103	13.7	0.24	1.85	15.540453	91.3	158.3	148.8	66.9	158.2	198.99889	72	72	70		1.001	15.422	1410
631	100.575	99.444		0.16	0.16	1.34	1.03	0.26	84	83	70	2.19	1.50	85	0.026	99	98	13.3	0.41	1.81	15.6035881	90.7	157.9	148.4	66.9	157.7	216.24449	72	73	70		1.001	15.101	1372
632	100.736	99.599		0.16	0.16	1.34	1.03	0.26	84	83	70	2.19	1.50	87	0.026	100	97	12.8	0.49	1.85	15.5459318	90.0	157.4	147.6	66.9	156.9	234.25179	72	72	70		1.001	15.427	1390
633	100.897	99.755		0.16	0.16	1.34	1.03	0.26	84	83	70	2.18	1.50	89	0.026	100	98	12.5	0.31	1.78	15.6063194	90.1	157.3	147.8	66.9	157.0	252.00047	72	72	70		1.001	14.778	1333
634	101.057	99.911		0.16	0.16	1.34	1.04	0.26	84	83	70	2.17	1.50	92	0.026	100	98	12.0	0.52	1.79	15.5361443	90.8	158.1	148.4	66.9	157.7	267.08853	72	72	70		1.001	14.941	1358
635	101.218	100.067		0.16	0.16	1.35	1.04	0.26	84	83	70	2.16	1.50	95	0.025	102	101	11.5	0.48	1.89	15.5456591	91.1	158.2	148.7	66.9	158.0	279.97217	72	73	70		1.001	15.745	1436
636	101.379	100.223		0.16	0.16	1.35	1.04	0.26	84	83	70	2.18	1.50	98	0.025	103	101	11.2	0.32	1.79	15.592762	91.8	159.0	149.3	66.9	158.7	290.95017	73	73	70		1.001	14.941	1373
637	101.539	100.379		0.16	0.16	1.35	1.04	0.26	84	83	70	2.17	1.50	101	0.025	102	101	10.7	0.46	1.87	15.6988068	92.1	159.4	149.6	66.9	159.0	298.92889	73	73	70		1.001	15.589	1437
638	101.700	100.534		0.16	0.16	1.35	1.04	0.26	84	83	70	2.17	1.50	103	0.026	101	99	10.1	0.59	1.80	15.60392	92.8	160.0	150.2	66.9	159.7	303.59695	73	74	70		1.001	14.950	1389
639	101.861	100.691		0.16	0.16	1.34	1.03	0.26	83	83	70	2.19	1.50	104	0.027	100	98	9.9	0.25	1.81	15.642128	93.1	160.2	150.5	66.9	160.0	308.37088	73	74	70		1.001	15.096	1407
640	102.022	100.846		0.16	0.16	1.35	1.03	0.26	83	83	70	2.17	1.50	106	0.026	102	99	9.3	0.53	1.87	15.6107454	94.1	161.2	151.4	66.9	161.0	312.50385	74	74	70		1.001	15.586	1468
641	102.182	101.002		0.16	0.16	1.35	1.03	0.26	83	83	70	2.20	1.50	106	0.026	101	100	8.7	0.60	1.89	15.6797552	94.7	161.9	151.9	66.9	161.6	321.80484	74	74	70		1.001	15.705	1489
642	102.342	101.157		0.16	0.16	1.33	1.03	0.26	83	83	70	2.23	1.50	108	0.025	103	101	8.2	0.52	1.91	15.6702452	95.2	162.3	152.4	66.9	162.1	329.79611	74	75	70		1.001	15.899	1516
643	102.501	101.312		0.16	0.16	1.32	1.02	0.26	84	83	70	2.24	1.50	110	0.026	101	99	7.5	0.78	1.80	15.5659523	96.8	164.1	153.8	66.9	163.8	331.79138	75	76	70		1.001	14.949	1449
644	102.659	101.465		0.16	0.15	1.31	1.02	0.26	83	83	70	2.27	1.60	111	0.026	100	98	7.1	0.36	1.85	15.6389008	97.9	165.1	154.8	66.9	164.8	332.71292	75	76	70		1.001	15.408	1509
645	102.818	101.619		0.16	0.15	1.31	1.00	0.26	83	83	70	2.28	1.60	111	0.025	103	101	6.6	0.46	1.89	15.718133	98.5	165.9	155.3	66.9	165.5	337.08063	75	76	70		1.001	15.706	1550
646	102.976	101.772		0.16	0.15	1.29	1.01	0.26	83	83	70	2.30	1.60	112	0.026	100	98	6.1	0.52	1.91	15.5940876	99.2	166.4	156.0	66.9	166.1	336.71079	75	76	70		1.001	15.910	1580
647	103.133	101.926		0.16	0.15	1.29	1.00	0.26	84	83	70	2.32	1.60	112	0.026	99	99	5.6	0.47	1.91	15.7057076	100.7	168.0	157.2	66.9	167.6	338.82748	75	76	70		1.001	15.909	1603
648	103.289	102.079		0.16	0.15	1.29	1.00	0.26	83	83	70	2.33	1.60	112	0.026	99	98	5.2	0.43	1.81	15.6418648	101.0	168.1	157.5	66.9	167.9	337.67188	75	76	70		1.001	15.033	1520
649	103.446	102.231		0.16	0.15	1.28	1.00	0.26	83	83	70	2.34	1.60	112	0.023	106	104	4.7	0.48	1.84	15.67974	102.5	169.4	159.0	66.9	169.4	338.53946	76	77	70		1.001	15.325	1573
650	103.603	102.384		0.16	0.15	1.27	0.99	0.26	83	83	70	2.35	1.60	113	0.026	100	98	4.2	0.51	1.86	15.6299362	103.8	171.2	160.1	66.9	170.7	338.97449	76	77	70		1.001	15.524	1614
651	103.759	102.536		0.16	0.15	1.27	0.99	0.26	83	83	70	2.36	1.60	113	0.026	99	98	3.7	0.54	1.85	15.6508198	106.0	173.4	162.0	66.8	172.9	343.04044	76	77	70		1.001	15.392	1634
652	103.914	102.688		0.16	0.15	1.27	0.99	0.26	83	83	70	2.38	1.60	114	0.028	95	94	3.1	0.54	1.88	15.5745382	106.5	173.6	162.3	66.8	173.3	344.34308	76	77	70		1.001	15.611	1664
653	104.069	102.840		0.16	0.15	1.27	0.98	0.26	83	83	70	2.37	1.60	114	0.026	99	98	2.7	0.46	1.88	15.6220942	106.0	173.0	161.9	66.8	172.8	343.42606	76	77	70		1.001	15.615	1657
654	104.226	102.992		0.16	0.15	1.26	0.98	0.26	83	83	70	2.39	1.60	114	0.027	98	96	2.3	0.35	1.85	15.6104841	107.1	174.4	162.9	66.8	173.9	343.73785	76	77	70		1.001	15.376	1649
655	104.380	103.143		0.15	0.15	1.24	0.98	0.26	83	83	70	2.41	1.60	114	0.025	100	99	1.8	0.50	1.78	15.6037998	108.3	175.2	164.1	66.8	175.1	343.63174	76	77	70		1.001	14.818	1607
656	104.534	103.294		0.15	0.15	1.25	0.97	0.26	83	83	70	2.41	1.60	114	0.026	98	97	1.4	0.42	1.87	15.5938759	111.1	177.9	166.5	66.8	177.9	344.48236	76	77	70		1.001	15.586	1734
657	104.689	103.446		0.15	0.15	1.25	0.97	0.26	83	83	70	2.43	1.60	114	0.026	99	98	0.8	0.59	1.82	15.5741053	112.0	179.1	167.3	66.8	178.8	344.94797	76	77	70		1.001	15.110	1694
658	104.844	103.595		0.16	0.15	1.24	0.97	0.26	83	83	70	2.44	1.60	114	0.026	99	96	0.1	0.77	1.91	15.5698128	111.7	178.8	167.0	66.8	178.5	346.14032	76	77	70		1.001	15.908	1780
659	104.997	103.746		0.15	0.15	1.24	0.97	0.26	83	83	70	2.45	1.70	115	0.025	99	99	0.0	0.03	1.81	15.5745153	111.2	178.2	166.6	66.8	178.0	349.41138	76	77	70		1.001	15.099	1681
660	105.151	103.897	155.502	0.15	0.15	1.24	0.96	0.26	83	83	70	2.46	1.70	115	0.027	96	95	0.0	0.04	1.93	15.6040707	111.6	178.5	166.9	66.8	178.4	349.77158	76	77	70		1.001	16.070	1795
	105.150	103.897	155.502			1.31	1.05	0.26	85	85	72			90	0.025					1.66	15.60	102.7	170.3	160.6	67.4	170.1		75.19	75.58		#DIV/0!			1421
																																TOTAL:	937821

TF_{avg}	172.708
TI_{avg}	166.158

Manufacturer:	Central Boiler
Model:	Edge 560
Date:	09/18/19
Run:	2
Control #:	2374
Test Duration:	660
Output Category:	III

Technicians: _____

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	81.7%	88.0%
Combustion Efficiency	97.6%	97.6%
Heat Transfer Efficiency	84%	90.2%

Output Rate (kJ/h)	86,644	82,192	**(Btu/h)**
Burn Rate (kg/h)	5.33	11.75	**(lb/h)**
Input (kJ/h)	106,018	100,570	**(Btu/h)**

Test Load Weight (dry kg)	58.64	129.25	**dry lb**
MC wet (%)	16.4		
MC dry (%)	19.62		
Particulate (g)	53.29		
CO (g)	2,045		
Test Duration (h)	11.00		

Emissions	**Particulate**	**CO**
g/MJ Output	0.06	2.15
g/kg Dry Fuel	0.91	34.88
g/h	4.84	185.94
lb/MM Btu Output	0.13	4.99

Air/Fuel Ratio (A/F)	11.16

VERSION: **2.2** **12/14/2009**

Manufacturer:	Central Boiler			**Appliance Type:**	Non-Cat	(Cat, Non-
Model:	Edge 560					
Date:	9/18/2019			**Temp. Units**	F	(F or C)
Run:	2			**Weight Units**	lb	(kg or lb)
Control #:	2374					
Test Duration:	660					
Output Category:	III			**Fuel Data**		
					D. Fir	
Wood Moisture (% wet):		16.40		**HHV**	19,887	kj/kg
Load Weight (lb wet):		154.60		**%C**	50	
Burn Rate (dry kg/h):		5.33		**%H**	6.6	
Total Particulate Emissions:		53.29	g	**%O**	42.9	
				%ASH	0.5	

	Averages	**0.81**	**10.09**	**#DIV/0!**	**228.48**	**71.97**

					Temp. (ºF)	
Elapsed Time (min)	**Fuel Weight Remaining (lb)**	**Flue Gas Composition (%)**			**Flue**	**Room**
		CO	**CO_2**	**O_2**	**Gas**	**Temp**
0	154.6	0.0	16.6		281	72
1	153.1	0.2	6.2		287	72
2	152.2	0.1	4.7		313	73
3	151.4	0.5	19.2		323	72
4	150.9	0.1	18.9		325	73
5	150.3	0.0	17.8		326	72
6	149.5	0.0	17.3		327	73
7	148.9	0.0	17.0		328	73
8	148.2	0.0	17.0		329	72
9	147.6	0.0	16.9		324	72
10	147.2	0.0	16.8		316	73
11	147.0	0.0	16.6		284	73
12	146.9	0.0	13.4		268	73
13	146.7	0.0	8.8		260	73
14	146.7	0.0	6.8		249	73
15	146.7	0.0	7.0		240	73
16	146.8	0.0	4.1		233	73
17	146.8	0.0	2.8		227	72
18	146.9	0.0	2.4		222	72
19	146.8	0.0	2.0		218	72
20	146.7	0.0	1.9		217	73
21	147.0	0.0	1.5		214	73
22	147.1	0.0	1.2		210	73

23	147.1	0.0	1.0		206	73
24	146.9	0.0	1.0		203	73
25	146.9	0.1	1.1		199	72
26	146.9	0.1	1.1		195	73
27	147.1	0.1	1.2		192	73
28	147.1	0.1	1.3		188	73
29	147.2	0.2	1.2		185	73
30	147.1	0.1	1.2		182	73
31	147.0	0.2	1.2		179	73
32	147.2	0.2	1.2		176	73
33	147.3	0.2	1.1		173	73
34	147.0	0.1	1.1		171	73
35	147.4	0.2	1.2		168	73
36	147.2	0.2	1.1		166	73
37	147.3	0.2	1.3		163	73
38	147.4	0.2	1.5		161	73
39	147.4	0.2	1.4		159	73
40	147.3	0.2	1.5		156	73
41	147.4	0.2	1.5		154	73
42	147.4	0.2	1.4		152	73
43	147.4	0.2	1.5		150	73
44	147.5	0.2	1.5		148	74
45	147.5	0.2	1.6		146	73
46	147.4	0.2	1.7		144	73
47	147.5	0.2	1.5		142	73
48	147.5	0.2	1.4		141	74
49	147.5	0.2	1.5		139	73
50	147.5	0.2	1.4		137	73
51	147.7	0.2	1.5		136	73
52	147.7	0.2	1.4		134	73
53	147.6	0.2	1.4		133	73
54	147.6	0.2	1.4		131	73
55	147.5	0.2	1.4		130	73
56	147.5	0.2	1.3		161	73
57	147.0	0.2	1.7		194	73
58	146.4	2.2	14.1		217	73
59	145.7	2.9	17.9		241	73
60	145.0	3.9	18.2		268	73
61	144.2	2.5	19.1		290	73
62	143.5	1.0	19.7		301	73
63	142.7	0.2	19.2		309	73
64	142.1	0.1	18.6		313	73
65	141.3	0.1	18.1		316	73

66	140.4	0.1	18.1		320	73
67	139.8	0.1	18.1		324	73
68	139.0	0.1	18.1		323	74
69	138.2	0.1	18.1		325	73
70	137.4	0.1	17.7		324	73
71	136.7	0.1	17.5		325	73
72	136.0	0.1	17.3		324	73
73	135.4	0.1	17.0		325	73
74	134.7	0.1	16.7		326	73
75	134.0	0.1	17.4		326	73
76	133.5	0.1	16.8		327	73
77	132.9	0.1	16.6		327	73
78	132.1	0.1	16.5		330	73
79	131.5	0.1	16.8		331	73
80	130.9	0.0	16.8		331	73
81	130.1	0.0	16.9		332	73
82	129.3	0.0	16.5		333	73
83	128.4	0.1	17.0		332	73
84	127.9	0.1	16.3		336	74
85	127.3	0.1	16.4		334	73
86	127.0	0.1	16.2		296	73
87	126.8	0.1	14.4		275	74
88	126.7	0.1	14.9		265	74
89	126.6	0.1	12.5		256	74
90	126.5	0.1	15.4		245	74
91	126.5	0.1	10.7		237	74
92	126.4	0.1	6.0		231	73
93	126.4	0.1	4.6		226	74
94	126.5	0.1	3.5		221	74
95	126.4	0.1	3.0		221	73
96	126.5	0.1	2.3		219	74
97	126.4	0.1	1.8		215	74
98	126.5	0.1	1.4		211	74
99	126.4	0.1	1.3		207	74
100	126.4	0.1	1.3		204	74
101	126.5	0.1	1.2		200	74
102	126.6	0.1	1.1		197	74
103	126.5	0.1	1.0		193	74
104	126.7	0.1	1.0		190	74
105	126.6	0.1	1.0		187	74
106	126.7	0.1	0.9		184	74
107	126.7	0.1	1.0		181	74
108	126.7	0.1	1.0		178	74

109	126.7	0.1	0.9		175	74
110	126.8	0.1	0.8		172	74
111	126.9	0.1	1.0		170	74
112	127.0	0.1	1.0		168	74
113	126.9	0.1	1.1		165	74
114	126.9	0.1	1.2		162	74
115	127.0	0.1	1.1		160	74
116	126.9	0.1	1.2		158	74
117	126.8	0.1	1.1		156	74
118	127.0	0.1	1.2		154	74
119	127.2	0.1	1.2		152	74
120	127.2	0.1	1.2		150	74
121	127.0	0.1	1.3		148	74
122	127.1	0.1	1.2		146	74
123	127.1	0.1	1.2		144	74
124	127.1	0.1	1.1		142	74
125	127.2	0.1	1.2		140	74
126	127.1	0.1	1.1		139	73
127	127.2	0.1	1.2		137	74
128	127.3	0.1	1.1		136	73
129	127.2	0.1	1.1		134	74
130	127.3	0.1	1.2		133	73
131	127.4	0.1	1.2		131	73
132	127.2	0.1	1.1		130	73
133	127.3	0.1	1.2		129	74
134	126.9	0.1	1.2		175	73
135	126.6	0.7	7.6		199	73
136	126.0	1.7	9.4		219	73
137	125.5	2.9	12.8		238	74
138	124.9	2.1	16.2		256	73
139	124.3	1.0	16.9		273	74
140	123.6	0.7	16.5		288	73
141	122.7	0.3	16.9		300	73
142	122.0	0.2	17.1		309	73
143	121.3	0.2	16.9		314	73
144	120.5	0.2	17.1		319	73
145	119.7	0.1	17.1		323	73
146	118.7	0.1	17.3		327	73
147	118.1	0.1	17.6		331	73
148	117.2	0.1	17.6		333	73
149	116.4	0.1	17.5		335	73
150	115.6	0.1	17.3		337	73
151	114.9	0.1	17.1		339	73

152	114.1	0.1	17.0		340	73
153	113.3	0.1	17.0		341	73
154	112.6	0.1	17.0		341	73
155	111.8	0.1	17.1		342	73
156	111.0	0.1	17.2		338	73
157	110.5	0.1	16.4		340	73
158	109.6	0.1	16.0		341	73
159	108.9	0.0	16.5		338	73
160	108.2	0.0	16.1		341	73
161	107.6	0.0	15.9		344	73
162	106.9	0.0	16.5		342	73
163	106.2	0.0	16.3		343	73
164	105.7	0.0	16.1		346	73
165	104.9	0.1	16.3		347	73
166	104.3	0.1	16.6		313	73
167	104.1	0.0	16.5		286	73
168	103.8	0.3	18.9		273	73
169	103.6	0.5	18.5		263	73
170	103.4	2.9	20.8		251	73
171	103.2	1.6	20.8		242	73
172	103.1	0.2	13.2		236	73
173	103.2	0.1	11.4		231	73
174	102.9	0.2	9.6		226	73
175	103.1	0.3	8.7		226	73
176	102.8	0.4	7.1		224	73
177	102.9	0.4	5.6		221	73
178	103.0	0.8	6.2		217	73
179	102.9	1.4	7.3		213	73
180	102.9	1.6	7.5		209	73
181	103.0	1.8	7.9		206	73
182	102.8	1.9	7.9		202	73
183	102.9	1.9	7.7		199	73
184	103.0	1.8	7.1		195	74
185	103.0	1.7	6.8		191	74
186	103.1	1.6	6.4		188	73
187	103.1	1.6	6.3		185	73
188	103.1	1.5	5.9		182	73
189	103.1	1.6	6.1		180	73
190	103.1	1.7	6.5		177	73
191	103.2	1.6	6.2		174	73
192	103.2	1.6	6.1		172	73
193	103.2	1.6	6.2		169	73
194	103.3	1.5	5.9		166	73

195	103.2	1.5	6.1		164	73
196	103.3	1.4	5.6		162	73
197	103.4	1.5	5.9		159	73
198	103.4	1.5	5.9		157	73
199	103.5	1.5	5.9		155	73
200	103.3	1.4	5.6		153	73
201	103.3	1.5	6.0		151	73
202	103.4	1.3	5.5		149	73
203	103.5	1.4	5.6		147	73
204	103.4	1.4	5.7		145	73
205	103.5	1.3	5.5		143	73
206	103.5	1.3	5.4		142	73
207	103.5	1.2	5.0		140	73
208	103.7	1.3	5.5		139	73
209	103.7	1.2	5.1		137	73
210	103.7	1.3	5.5		135	73
211	103.6	1.3	5.4		134	73
212	103.7	1.2	5.3		133	73
213	103.8	1.2	5.3		131	73
214	103.7	1.3	5.6		130	73
215	103.6	1.3	5.5		129	73
216	103.7	1.2	5.5		127	73
217	103.8	1.1	5.1		126	73
218	103.8	1.2	5.3		125	73
219	103.8	1.2	5.3		124	73
220	103.8	1.2	5.3		123	73
221	103.8	1.2	5.4		121	73
222	103.8	1.1	5.1		120	73
223	103.8	1.0	4.8		146	73
224	103.3	1.1	5.3		182	73
225	102.9	2.1	10.7		205	73
226	102.5	3.4	10.4		220	73
227	102.0	3.6	11.1		234	73
228	101.5	3.7	12.3		245	73
229	101.0	3.3	12.2		259	73
230	100.4	2.8	12.8		273	73
231	99.7	2.1	14.7		285	73
232	99.1	1.0	15.4		299	73
233	98.3	0.5	17.2		311	73
234	97.5	0.3	17.7		318	73
235	96.8	0.3	18.2		323	73
236	95.9	0.1	17.0		327	73
237	95.1	0.1	17.1		332	73

238	94.4	0.1	17.0		314	73
239	93.8	0.1	16.6		322	73
240	93.2	0.2	16.5		326	73
241	92.2	0.3	15.7		329	73
242	91.6	0.1	16.2		332	73
243	90.8	0.2	16.3		334	73
244	90.2	0.1	16.4		336	73
245	89.3	0.1	16.4		333	73
246	88.7	0.1	16.9		336	73
247	87.9	0.3	15.9		337	73
248	87.2	0.2	15.8		338	73
249	86.3	0.2	15.8		341	73
250	85.9	0.2	15.7		342	73
251	85.1	0.1	15.9		325	73
252	84.5	0.1	16.7		317	73
253	83.9	0.1	17.3		329	73
254	83.0	0.7	14.5		337	73
255	82.5	0.3	15.3		328	73
256	81.9	0.1	15.8		328	73
257	81.4	0.2	16.1		295	73
258	81.0	0.5	14.1		272	73
259	80.9	1.8	18.6		261	73
260	80.5	1.5	19.0		252	73
261	80.4	4.4	20.8		242	73
262	80.4	2.4	18.4		234	73
263	80.1	0.3	13.8		228	73
264	80.1	0.2	11.5		223	73
265	80.1	0.3	9.1		219	73
266	80.1	0.5	7.6		219	73
267	80.0	0.4	5.7		216	73
268	80.0	0.4	4.6		214	73
269	80.2	0.5	4.5		210	73
270	80.1	0.9	5.1		206	73
271	80.2	1.1	5.9		202	73
272	80.2	1.2	6.0		199	73
273	80.3	1.1	5.3		195	73
274	80.1	1.2	5.3		192	73
275	80.2	1.1	4.9		189	73
276	80.2	1.1	5.1		185	73
277	80.3	1.0	4.6		182	73
278	80.3	0.9	3.9		179	73
279	80.3	1.0	4.3		176	73
280	80.5	0.9	4.1		174	73

281	80.4	0.9	4.2		171	73
282	80.4	1.0	4.6		168	73
283	80.4	0.9	4.3		166	73
284	80.5	1.0	4.4		163	73
285	80.5	0.9	4.3		161	73
286	80.5	0.9	4.2		159	73
287	80.5	0.9	4.2		156	73
288	80.5	0.8	3.7		154	73
289	80.6	0.9	4.1		152	73
290	80.7	0.8	4.0		150	73
291	80.7	1.0	4.5		148	73
292	80.6	0.9	4.1		146	73
293	80.7	0.9	4.2		144	73
294	80.7	0.9	4.2		143	73
295	80.7	0.8	3.9		141	73
296	80.7	0.8	3.7		139	73
297	80.8	0.8	3.9		137	73
298	80.8	0.8	3.9		136	73
299	80.8	0.9	4.2		134	72
300	80.9	0.9	4.0		133	73
301	80.7	0.9	4.0		131	72
302	80.9	0.9	4.0		130	73
303	80.9	0.8	3.9		129	73
304	80.9	0.9	4.2		127	72
305	81.0	0.9	4.1		126	72
306	81.1	0.9	4.1		125	72
307	80.7	0.8	3.9		170	72
308	80.2	2.6	10.5		200	72
309	79.9	2.8	8.9		217	72
310	79.4	3.8	10.8		228	72
311	78.8	3.3	11.4		244	72
312	78.4	2.8	11.9		260	72
313	78.0	0.8	15.1		273	72
314	77.4	0.6	15.1		284	72
315	76.8	0.4	15.2		295	72
316	76.3	0.1	16.3		304	72
317	75.7	0.1	16.5		311	72
318	75.1	0.1	16.5		318	72
319	74.4	0.1	16.7		322	72
320	73.9	0.1	16.9		326	72
321	73.2	0.1	17.1		331	72
322	72.6	0.1	17.4		334	72
323	71.8	0.1	17.6		338	72

324	71.2	0.1	17.5		342	72
325	70.5	0.1	17.8		343	72
326	69.9	0.1	18.1		325	72
327	69.4	0.1	19.2		305	72
328	68.7	0.4	19.9		325	72
329	67.8	0.1	18.1		335	72
330	67.3	0.1	17.6		313	72
331	66.6	0.1	18.7		312	72
332	66.1	0.1	19.5		331	72
333	65.3	0.1	16.9		328	72
334	64.6	0.1	17.6		307	72
335	64.1	0.1	19.6		314	72
336	63.5	0.1	17.7		321	72
337	62.7	0.1	16.9		317	72
338	62.3	0.0	17.8		320	72
339	61.9	0.1	17.6		286	72
340	61.8	0.1	16.5		269	72
341	61.4	0.3	19.6		258	72
342	61.2	2.2	20.1		248	72
343	61.1	2.9	20.8		239	72
344	61.0	0.5	15.0		232	72
345	60.9	0.1	14.1		227	72
346	60.8	0.0	11.7		222	72
347	60.8	0.1	10.1		219	72
348	60.6	0.1	9.0		218	72
349	60.7	0.1	6.8		215	72
350	60.7	0.2	6.1		211	72
351	60.6	0.7	7.7		207	72
352	60.6	1.2	9.0		203	72
353	60.7	1.6	9.7		200	72
354	60.8	1.8	10.1		196	72
355	60.8	2.0	10.2		193	72
356	60.9	1.9	9.4		189	72
357	60.7	1.8	8.7		186	72
358	60.8	1.6	7.8		183	72
359	60.8	1.5	7.3		180	72
360	61.0	1.3	6.5		177	72
361	60.9	1.4	6.8		174	72
362	61.1	1.3	6.2		171	72
363	61.1	1.3	6.2		169	72
364	61.0	1.3	6.5		166	72
365	61.2	1.2	5.8		164	72
366	61.2	1.2	5.9		161	72

367	61.0	1.1	5.6		159	72
368	61.2	1.0	5.1		157	72
369	61.1	1.1	5.5		154	72
370	61.1	1.1	5.5		152	72
371	61.2	1.1	5.6		151	72
372	61.2	1.1	5.6		148	72
373	61.2	1.0	5.2		146	72
374	61.2	0.9	4.8		145	72
375	61.3	0.9	4.9		143	72
376	61.3	0.9	4.9		141	72
377	61.4	0.9	5.0		139	72
378	61.5	0.9	4.6		137	72
379	61.5	0.9	4.7		136	72
380	61.4	0.9	4.7		134	72
381	61.4	0.9	4.8		133	72
382	61.5	0.9	4.9		131	72
383	61.5	0.8	4.5		130	72
384	61.4	0.8	4.4		129	72
385	61.5	0.9	4.8		127	72
386	61.6	0.9	4.8		126	72
387	61.5	0.9	4.7		125	72
388	61.6	0.9	4.6		123	72
389	61.5	0.8	4.5		122	72
390	61.5	0.9	4.4		147	72
391	61.2	0.9	4.6		188	72
392	60.7	2.4	10.1		215	72
393	60.2	3.1	11.5		239	71
394	59.6	1.8	13.5		260	72
395	59.2	0.9	14.4		278	72
396	58.7	0.3	14.7		291	72
397	58.3	0.2	15.1		301	72
398	57.6	0.2	15.3		310	72
399	57.0	0.2	16.3		319	72
400	56.4	0.1	17.2		326	72
401	55.7	0.1	17.7		332	72
402	55.0	0.1	17.8		338	72
403	54.4	0.1	18.1		344	72
404	53.6	0.1	18.6		350	72
405	52.8	0.2	19.2		344	72
406	52.2	0.1	19.0		318	72
407	51.5	1.0	19.8		324	72
408	50.8	0.3	19.7		332	72
409	50.2	0.4	19.8		319	72

410	49.5	0.1	18.2		309	72
411	49.0	0.4	20.0		304	72
412	48.5	0.1	19.7		301	72
413	47.8	0.1	19.1		318	72
414	47.2	0.0	18.5		321	72
415	46.6	0.0	17.8		320	72
416	46.2	0.0	17.1		312	72
417	45.3	0.0	17.4		306	72
418	44.8	0.1	19.3		303	72
419	44.4	0.1	19.1		290	72
420	44.0	0.0	18.6		268	71
421	43.7	0.1	16.3		255	72
422	43.6	0.4	18.4		246	72
423	43.5	0.1	1.5		238	72
424	43.3	3.1	20.6		231	72
425	43.2	0.5	14.9		225	71
426	43.1	0.1	14.6		220	71
427	43.1	0.0	12.4		216	71
428	43.0	0.0	10.7		213	72
429	43.0	0.1	9.3		211	71
430	43.1	0.0	6.9		207	71
431	43.0	0.2	6.7		204	71
432	43.0	0.7	7.9		200	71
433	42.9	1.3	9.2		196	71
434	43.1	1.6	9.5		193	71
435	43.2	1.8	9.6		189	71
436	43.1	1.8	9.1		186	71
437	43.2	1.8	8.8		183	71
438	43.0	1.8	8.5		180	71
439	43.1	1.7	8.0		177	71
440	43.3	1.8	8.1		174	71
441	43.2	1.6	7.2		171	71
442	43.2	1.5	7.0		169	71
443	43.2	1.5	6.9		166	71
444	43.3	1.5	6.7		163	71
445	43.3	1.5	6.8		161	71
446	43.3	1.4	6.6		159	71
447	43.4	1.3	6.1		157	71
448	43.3	1.4	6.6		154	71
449	43.3	1.3	6.0		152	71
450	43.4	1.3	5.9		150	71
451	43.4	1.3	5.9		148	71
452	43.5	1.2	5.7		146	71

453	43.5	1.2	5.6		144	71
454	43.5	1.2	5.6		142	71
455	43.5	1.1	5.3		141	72
456	43.6	1.0	4.8		139	71
457	43.5	1.0	4.6		137	71
458	43.6	0.9	4.2		135	71
459	43.6	0.9	4.4		134	71
460	43.6	1.0	4.8		132	71
461	43.7	1.0	4.5		131	71
462	43.6	1.0	4.7		129	71
463	43.6	1.0	4.5		128	71
464	43.6	1.0	4.8		127	71
465	43.7	1.0	4.5		125	71
466	43.7	0.9	4.2		124	71
467	43.6	1.0	4.4		162	71
468	43.2	1.4	6.2		196	71
469	42.7	1.8	8.5		220	71
470	42.3	2.4	11.7		242	71
471	41.8	2.8	14.5		264	71
472	41.4	1.5	15.0		281	71
473	41.1	0.9	15.1		293	71
474	40.7	0.4	15.5		301	71
475	40.1	0.5	15.0		306	71
476	39.6	0.3	14.9		312	71
477	39.2	0.1	15.3		315	71
478	38.7	0.1	15.4		317	71
479	38.4	0.1	15.0		319	71
480	37.8	0.1	14.8		321	71
481	37.3	0.1	14.9		326	71
482	36.8	0.1	15.6		332	71
483	36.1	0.1	16.2		337	71
484	35.4	0.1	16.5		337	71
485	34.8	0.0	16.3		340	71
486	34.3	0.0	16.1		340	71
487	33.7	0.0	16.6		341	71
488	33.0	0.0	16.8		343	71
489	32.3	0.0	16.8		333	71
490	32.0	0.0	16.8		328	71
491	31.4	0.1	18.7		327	71
492	30.5	0.0	16.3		339	71
493	30.2	0.0	15.9		336	71
494	29.6	0.0	16.2		330	71
495	29.1	0.0	17.9		341	71

496	28.6	0.0	15.8		327	71
497	28.3	0.0	16.2		294	71
498	27.9	0.0	14.3		276	71
499	27.8	0.2	16.3		266	71
500	27.6	1.5	18.0		255	71
501	27.4	2.7	20.6		246	71
502	27.4	0.6	14.5		239	71
503	27.1	0.1	14.6		232	71
504	27.2	0.0	12.7		227	71
505	27.0	0.0	11.5		223	71
506	27.3	0.1	10.0		223	71
507	27.1	0.1	7.3		220	71
508	27.2	0.3	6.9		216	71
509	27.1	1.0	9.0		212	71
510	27.1	1.7	10.3		208	71
511	27.1	2.2	11.2		204	71
512	27.1	2.4	11.2		200	71
513	27.1	2.4	10.5		197	71
514	27.2	2.5	10.7		193	71
515	27.2	2.3	9.7		190	71
516	27.1	2.4	9.8		186	71
517	27.2	2.4	9.8		183	71
518	27.3	2.3	9.1		180	71
519	27.2	2.3	9.0		177	71
520	27.2	2.1	8.4		175	71
521	27.2	2.1	8.1		172	71
522	27.2	2.0	7.9		169	71
523	27.3	2.1	8.1		167	71
524	27.3	1.9	7.5		164	71
525	27.5	1.9	7.2		161	71
526	27.4	1.7	6.7		159	71
527	27.5	1.6	6.4		157	71
528	27.5	1.7	6.6		154	71
529	27.4	1.6	6.1		153	71
530	27.5	1.7	6.6		150	71
531	27.5	1.6	6.3		148	71
532	27.6	1.4	5.7		146	71
533	27.7	1.5	5.8		144	71
534	27.7	1.6	6.3		143	71
535	27.5	1.5	5.8		141	70
536	27.7	1.4	5.5		139	70
537	27.6	1.5	5.8		137	71
538	27.8	1.5	5.8		136	71

539	27.7	1.2	5.0		134	71
540	27.6	1.4	5.7		132	70
541	27.8	1.3	5.4		131	70
542	27.7	1.2	4.9		130	70
543	27.9	1.2	4.8		128	70
544	27.8	1.2	4.8		127	70
545	27.8	1.2	5.0		126	70
546	27.9	1.2	5.0		125	71
547	27.9	1.2	5.0		123	70
548	27.9	1.4	5.6		122	70
549	27.9	1.2	4.8		121	70
550	28.0	1.1	4.5		120	70
551	28.0	1.1	4.6		135	70
552	27.6	1.3	5.3		175	70
553	27.3	2.8	12.0		204	70
554	26.8	2.1	9.1		225	70
555	26.3	3.2	12.3		245	70
556	25.9	2.9	14.3		263	70
557	25.4	1.8	15.1		279	70
558	25.0	0.8	15.5		291	70
559	24.6	0.7	15.2		298	70
560	24.1	0.7	14.9		305	70
561	23.8	0.8	14.8		310	70
562	23.3	0.4	15.1		313	70
563	22.9	0.3	15.2		316	70
564	22.6	0.2	14.9		317	70
565	22.0	0.3	14.5		320	70
566	21.4	0.2	14.4		323	70
567	21.1	0.2	15.0		326	70
568	20.6	0.1	15.0		327	70
569	20.2	0.1	15.0		331	70
570	19.7	0.1	15.2		333	70
571	19.1	0.1	15.1		335	70
572	18.6	0.1	15.3		339	70
573	18.1	0.1	15.4		341	70
574	17.6	0.0	15.6		343	70
575	17.2	0.1	15.4		345	70
576	16.6	0.1	15.6		347	70
577	16.1	0.1	15.6		346	70
578	15.6	0.1	15.6		348	70
579	15.0	0.0	15.2		350	70
580	14.6	0.0	15.8		320	70
581	14.3	0.0	15.3		292	70

582	14.2	0.0	13.3		279	70
583	14.1	0.0	13.1		269	70
584	13.8	1.0	17.8		257	70
585	13.9	0.7	18.9		247	70
586	13.8	0.1	12.4		240	70
587	13.7	0.0	11.3		234	70
588	13.7	0.0	10.0		228	70
589	13.7	0.0	9.6		227	70
590	13.7	0.1	8.7		225	70
591	13.6	0.1	6.6		222	70
592	13.6	0.5	7.2		218	70
593	13.5	1.4	9.5		214	70
594	13.5	2.0	10.2		209	70
595	13.5	2.3	10.5		205	70
596	13.6	2.6	10.7		201	70
597	13.5	2.4	9.9		198	70
598	13.6	2.7	10.5		194	70
599	13.7	2.7	10.3		191	70
600	13.7	2.6	9.6		187	70
601	13.6	2.5	9.3		184	70
602	13.7	2.3	8.4		181	70
603	13.7	2.4	8.5		178	70
604	13.7	2.3	8.3		175	70
605	13.8	2.4	8.5		172	70
606	13.8	2.3	8.1		169	70
607	13.7	2.3	8.2		167	70
608	13.8	2.0	7.2		164	70
609	13.9	2.1	7.4		162	70
610	14.0	2.0	7.0		159	70
611	13.9	1.9	6.8		157	70
612	13.9	2.0	6.9		155	70
613	13.9	1.7	6.2		153	70
614	14.0	1.7	5.9		151	70
615	14.0	2.0	6.8		149	70
616	14.0	1.8	6.4		147	70
617	14.0	1.7	6.1		145	70
618	14.2	1.8	6.5		143	70
619	14.1	1.7	5.9		141	70
620	14.2	1.6	5.8		139	70
621	14.0	1.6	5.6		137	70
622	14.2	1.5	5.4		136	70
623	14.2	1.5	5.2		134	70
624	14.2	1.6	5.7		132	70

625	14.3	1.4	4.9		131	70
626	14.3	1.6	5.6		129	70
627	14.3	1.5	5.2		128	70
628	14.3	1.5	5.3		130	70
629	14.0	1.3	4.9		172	70
630	13.7	4.6	15.3		199	70
631	13.3	2.3	8.7		216	70
632	12.8	3.8	10.3		234	70
633	12.5	4.2	12.1		252	70
634	12.0	3.0	13.7		267	70
635	11.5	2.4	14.3		280	70
636	11.2	1.7	14.6		291	70
637	10.7	1.0	14.8		299	70
638	10.1	0.7	14.7		304	70
639	9.9	1.2	14.0		308	70
640	9.3	1.2	14.0		313	70
641	8.7	0.9	14.6		322	70
642	8.2	0.8	14.8		330	70
643	7.5	0.1	18.1		332	70
644	7.1	0.1	17.5		333	70
645	6.6	0.1	16.7		337	70
646	6.1	0.1	17.3		337	70
647	5.6	0.1	16.6		339	70
648	5.2	0.1	17.1		338	70
649	4.7	0.1	16.2		339	70
650	4.2	0.1	15.8		339	70
651	3.7	0.1	15.8		343	70
652	3.1	0.1	15.8		344	70
653	2.7	0.1	16.5		343	70
654	2.3	0.1	15.7		344	70
655	1.8	0.1	15.5		344	70
656	1.4	0.1	15.3		344	70
657	0.8	0.1	15.2		345	70
658	0.1	0.1	15.4		346	70
659	0.0	0.1	15.4		349	70
660	0.0	0.1	15.0		350	70

Run 3

Hydronic Heating Appliances - Test Method ASTM 2618
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run: 3
Test Date: October 8, 2019

Burn Rate	**2.71 kg/hr dry**
Average Tunnel Temperature	83 degrees F
Average Gas Velocity in Dilution Tunnel - vs	8.2 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	22210 dscf/hour
Average Delta p	0.017 inches H20
Average Delta H	1.32 inches H20
Total Time of Test	1297 minutes

PARTICULATE EMISSIONS RESULTS

First Hour:	**-0.70**	g/hr
	-0.36	g/kg
	-0.03	lb/mmBTU output
Complete Run:	**2.95**	g/hr
	1.09	g/kg
	0.15	lb/mmBTU output

	SAMPLE TRAIN 1	SAMPLE TRAIN 2	AMBIENT SAMPLE TRAIN
Total Sample Volume - Vm	207.19 cubic feet	210.00 cubic feet	238.07 cubic feet
Average Gas Meter Temperature	82 degrees F	82 degrees F	70 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	206.4 dscf	205.2 dscf	236.8 dscf
Total Particulates - mn	28.2 mg	26.5 mg	0 mg
Particulate Concentration (dry-standard)	0.00014 grams/dscf	0.00013 grams/dscf	0.000000 grams/dscf
Particulate Emissions	65.60 grams	62.01 grams	
Difference from Average	1.79 grams	1.79 grams	

Results Are Acceptable

AVERAGE

Total Sample Volume - Vm	208.59 cubic feet
Average Gas Meter Temperature	82 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	205.8 dscf
Particulate Concentration (dry-standard)	0.00013 grams/dscf
Particulate Emissions	63.81 grams
7.5% of the average particulate emissions	4.79 grams

ADDITIONAL ACCEPTANCE CRITERIA

Boiler Water Return Temperature >120 °F	**Acceptable**
Proportional Rate Variation >80%	**Not Acceptable**
90% of PR Values between 90-110%	**Acceptable**

See Proportional rate verification

SAMPLE TRAIN 1 - FIRST HOUR

Total Sample Volume - Vm	9.52 cubic feet
Average Gas Meter Temperature	76 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	9.54 dscf
Total Particulates - mn	-0.3 mg
Particulate Concentration (dry-standard)	-0.00003 grams/dscf
Particulate Emissions	-0.70 grams
Burn Rate	1.95 (dry kg/hr)
Heat Output Rate	45004 BTU/hr

Hydronic Heating Appliances
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run #: 3
Date: 10/8/19

Equipment Numbers:

TRAIN 1 (First Hour emissions)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
B. Front filter catch	Filter	D907	117.6	117.9	-0.3
C. Rear filter catch	Filter				0.0
D. Probe catch*	Probe				0.0
E. Filter seals catch*	Seals				0.0

Sub-Total | Total Particulate, mg: | -0.3

TRAIN 1 (Post First Hour Change-out)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
B. Front filter catch	Filter	D908,D913	263.2	236.9	26.3
C. Rear filter catch	Filter	D909	119.4	119.3	0.1
D. Probe catch*	Probe	OES4	114148.6	114147.8	0.8
E. Filter seals catch*	Seals	R893	4157.1	4155.8	1.3

Sub-Total | Total Particulate, mg: | 28.5

Train 1 Aggregate | Total Particulate, mg: | 28.2

TRAIN 2

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch	Filter	D910, D914	261.0	236.0	25.0
B. Rear filter catch	Filter	D911	118.8	118.5	0.3
C. Probe catch*	Probe	4	114859.5	114858.8	0.7
D. Filter seals catch*	Seals	R894	3364.9	3364.4	0.5

Total Particulate, mg: | 26.5

AMBIENT

Sample Component	Reagent	Filter # or Probe #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch*	Filter	D912	118.4	118.4	0.0

Total Particulate, mg: | 0.0

*Particulate catch that results in a negative number, is assumed to be zero for probes and seals, negative numbers for filters are assumed to be part of the seal weight.

Component	Equations:
A. Front filter catch	Final (mg) - Tare (mg) = Particulate, mg
B. Rear filter catch	Final (mg) - Tare (mg) = Particulate, mg
C. Probe catch	Final (mg) - Tare (mg) = Particulate, mg

Hydronic Heating Appliances
Fuel Moisture

Manufacturer:	Central Boiler
Model:	Edge 560
Tracking No.:	2374
Project No.:	0117WB038E
Technician:	B. Davis
Run #:	3
Test Date:	October 8, 2019

Wet Weight (lb)	% Moisture				
7.5	18.7	18.9	19.2	20.2	19.9
10.3	20.6	23.2	22.8	24.3	21.9
12.1	20.2	19	19.8	19.8	18.6
10.1	18.3	21.9	19.3	21.1	21
11.2	19.3	19.3	19	19.9	19
11	18.7	18.9	20.4	19.1	19.3
12	18.8	19.1	18.2	19.4	19.3
12.4	19.3	19.9	18.9	19.8	19.9
12.4	20.2	22.4	19.5	20.2	18
12.9	24.9	20.5	22.4	19.2	18.6
13.1	22.6	18.1	19.2	19.3	18.1
10.7	19.4	19.9	18	20.3	19.2
8.4	20.2	19.9	19	19.8	19.5
11	19.5	20.4	19.1	22.1	18.7

Total Weight of Load (lb):	155.1
Total Moisture of Load (%):	19.9

Equipment Numbers:

Hydronic Heating Appliances
Test Data

Run: 3

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Test Date: October 8, 2019
Technician: B. Davis
Beginning Clock Time: 15:01
Recording Interval: 1 min.
Total Sampling Time: 1297 min.

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Pt.9	Pt.10	Pt.11	Pt.12	Center	
Initial dP	0.009	0.015	0.017	0.018	0.018	0.018	0.011	0.015	0.018	0.017	0.016	0.015	0.018	"H2O
Initial Temp.	67	67	67	67	67	67	67	67	67	67	67	67	67	oF

Air Velocity: Initial: <50 Final: <50 V_{Strav} 8.21 ft/sec
Scale Audit: Pre: 10.0 Post: 10.0 Induced Draft: 0 V_{scent} 8.86 ft/sec
Pitot Tube Leak Test: Pre: 0 Post: 0 % Smoke Capture: 100 F_p 0.926
Flue Pipe Cleaned Prior to First Test in Series: Date: 9/17/2019

PM Control Module: 335, 336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.181 "H2O
Pitot Tube Cp: 0.99

	(1)	(2)	(amb)
Meter Box Y Factor:	1.009	0.99	0.988
Barometric Pressure: Begin	30.08		
Middle		30.20	
End			30.42

Average 30.23 "Hg

Tunnel Velocity: 8.17 ft/sec.
Intial Tunnel Flow: 382.4 scfm
Average Tunnel Flow: 370.2 scfm
Tunnel Area: 0.785 ft2
Post-Test Leak Check (1): 0.000 cfm @ 10 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ 8 in. Hg
Fuel Moisture (dry basis %): 19.9
Total Particulate (1): 28.2
Total Particulate (2): 26.5

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
0	0.000	0.000	0			0.02	0.65	0.26	72	72	68	1.82	1	98	0.018			154.8		0.77		108.52	175.08	170.17	65.96	174.49	300	69	69	68				
1	0.151	0.146		0.15	0.15	1.30	1.10	0.26	72	72	68	1.89	1.4	91	0.020	90	86	154.4	0.40	0.79		109.75	176.08	171.22	65.91	175.66	272	70	70	68		1.001	6.614	727
2	0.308	0.308		0.16	0.16	1.31	1.09	0.26	72	72	68	1.92	1.4	99	0.019	97	99	154.0	0.40	0.81		110.04	176.48	171.53	66.00	176.03	277	71	71	68		1.001	6.774	746
3	0.465	0.469		0.16	0.16	1.31	1.10	0.26	72	72	68	1.92	1.4	107	0.020	95	96	153.7	0.28	0.74		110.46	177.02	172.09	66.07	176.54	303	72	73	68		1.001	6.124	677
4	0.622	0.631		0.16	0.16	1.31	1.09	0.26	72	72	68	1.91	1.4	111	0.019	98	100	152.8	0.95	0.81		111.63	178.14	173.18	66.06	177.69	320	73	74	68		1.001	6.773	757
5	0.779	0.791		0.16	0.16	1.31	1.09	0.26	73	72	68	1.92	1.4	113	0.015	111	111	152.0	0.79	0.72		112.76	179.49	174.37	66.10	178.86	331	74	75	68		1.001	5.967	674
6	0.935	0.951		0.16	0.16	1.30	1.10	0.26	73	72	68	1.92	1.4	113	0.018	100	102	151.1	0.88	0.79		114.06	180.72	175.64	66.10	180.16	334	75	76	68		1.001	6.615	755
7	1.091	1.113		0.16	0.16	1.30	1.09	0.26	73	72	69	1.93	1.4	113	0.018	100	103	150.4	0.72	0.78		115.39	182.04	176.89	66.08	181.48	336	75	76	69		1.001	6.475	748
8	1.247	1.273		0.16	0.16	1.31	1.09	0.26	73	72	68	1.92	1.4	93	0.018	98	100	149.7	0.67	0.81		116.46	183.10	177.86	66.11	182.57	301	72	72	68		1.001	6.772	790
9	1.405	1.433		0.16	0.16	1.29	1.09	0.26	73	73	68	1.89	1.4	87	0.019	97	96	149.2	0.51	0.77		116.75	183.47	178.21	66.14	182.89	275	72	71	68		1.001	6.450	754
10	1.561	1.594		0.16	0.16	1.30	1.09	0.26	73	73	68	1.9	1.4	85	0.017	101	102	149.3	-0.09	0.79		117.08	183.72	178.53	66.17	183.25	259	72	73	68		1.001	6.609	775
11	1.718	1.755		0.16	0.16	1.30	1.08	0.26	73	73	68	1.88	1.4	83	0.018	98	99	149.3	0.04	0.87		117.17	183.66	178.53	66.18	183.34	247	72	72	68		1.001	7.257	851
12	1.874	1.916		0.16	0.16	1.30	1.08	0.26	73	73	68	1.89	1.4	82	0.018	97	99	149.3	0.00	0.76		117.22	183.72	178.61	66.19	183.41	240	72	72	68		1.001	6.289	738
13	2.030	2.077		0.16	0.16	1.30	1.08	0.26	73	73	68	1.89	1.4	81	0.018	97	99	149.2	0.01	0.79		117.17	183.49	178.49	66.15	183.31	234	72	72	68		1.001	6.610	775
14	2.188	2.239		0.16	0.16	1.30	1.09	0.26	73	73	68	1.88	1.4	81	0.017	102	103	149.3	-0.07	0.79		117.02	183.54	178.43	66.19	183.21	228	72	72	68		1.001	6.615	775
15	2.345	2.400		0.16	0.16	1.29	1.08	0.26	74	73	68	1.87	1.4	80	0.017	101	102	149.3	0.04	0.81		117.00	183.58	178.49	66.18	183.18	222	71	72	68		1.001	6.770	793
16	2.501	2.560		0.16	0.16	1.29	1.09	0.26	74	73	68	1.88	1.4	80	0.018	97	98	149.2	0.06	0.81		116.81	183.38	178.33	66.22	183.03	218	71	72	68		1.001	6.771	792
17	2.660	2.722		0.16	0.16	1.33	1.09	0.26	74	74	68	1.9	1.4	80	0.018	99	99	149.3	-0.09	0.79		116.67	183.23	178.28	66.26	182.94	213	71	72	68		1.001	6.610	772
18	2.818	2.884		0.16	0.16	1.33	1.08	0.26	74	74	68	1.91	1.4	80	0.016	104	106	149.2	0.12	0.77		116.46	183.02	178.04	66.34	182.80	209	71	72	68		1.001	6.448	752
19	2.977	3.044		0.16	0.16	1.33	1.08	0.26	74	74	68	1.91	1.4	80	0.016	105	104	149.3	-0.10	0.83		116.21	182.89	177.84	66.36	182.58	205	71	72	68		1.001	6.931	806
20	3.136	3.206		0.16	0.16	1.33	1.09	0.26	74	74	68	1.91	1.4	80	0.016	105	106	149.3	0.02	0.81		116.12	182.74	177.96	66.35	182.47	202	71	72	68		1.001	6.772	787
21	3.295	3.367		0.16	0.16	1.33	1.08	0.26	74	74	68	1.89	1.4	80	0.018	99	99	149.2	0.03	0.81		116.00	182.57	177.62	66.36	182.36	199	71	72	68		1.001	6.773	787
22	3.454	3.529		0.16	0.16	1.32	1.08	0.26	75	74	68	1.91	1.4	79	0.017	102	102	149.3	-0.02	0.81		115.69	182.37	177.41	66.37	182.06	196	71	71	68		1.001	6.770	784
23	3.613	3.689		0.16	0.16	1.32	1.08	0.26	75	75	68	1.91	1.4	79	0.016	105	104	149.2	0.05	0.74		115.57	182.12	177.50	66.34	181.91	192	71	71	68		1.001	6.123	709
24	3.771	3.851		0.16	0.16	1.32	1.08	0.26	75	75	68	1.89	1.4	78	0.016	104	105	149.3	-0.08	0.74		115.31	181.94	177.36	66.44	181.75	188	71	71	68		1.001	6.125	707
25	3.930	4.013		0.16	0.16	1.32	1.08	0.26	75	75	69	1.9	1.4	78	0.016	105	105	149.2	0.07	0.74		115.34	181.95	177.39	66.41	181.75	185	71	71	69		1.001	6.125	707
26	4.088	4.173		0.16	0.16	1.33	1.08	0.26	75	75	68	1.91	1.4	79	0.017	101	101	149.3	-0.06	0.76		115.08	181.82	177.10	66.44	181.52	182	71	71	68		1.001	6.290	725
27	4.247	4.334		0.16	0.16	1.33	1.08	0.26	75	75	68	1.9	1.4	79	0.017	102	101	149.3	-0.05	0.76		114.80	181.58	176.83	66.47	181.27	179	71	71	68		1.001	6.288	723
28	4.406	4.496		0.16	0.16	1.32	1.09	0.26	75	75	68	1.91	1.4	79	0.017	102	102	149.4	-0.07	0.76		114.52	181.41	176.69	66.58	181.10	175	71	71	68		1.001	6.290	721
29	4.566	4.658		0.16	0.16	1.32	1.08	0.26	76	75	68	1.91	1.4	79	0.018	99	99	149.3	0.06	0.79		114.36	181.14	176.51	66.60	180.96	173	71	71	68		1.001	6.614	757
30	4.726	4.819		0.16	0.16	1.33	1.08	0.26	76	76	68	1.91	1.4	79	0.018	99	98	149.2	0.10	0.74		114.11	180.94	176.26	66.63	180.73	170	71	71	68		1.001	6.127	700
31	4.885	4.980		0.16	0.16	1.33	1.08	0.26	76	76	68	1.89	1.4	79	0.017	101	101	149.2	0.02	0.77		114.00	180.79	176.16	66.60	180.59	167	71	71	68		1.001	6.449	736
32	5.044	5.143		0.16	0.16	1.32	1.09	0.26	76	76	68	1.9	1.4	79	0.018	99	100	149.3	-0.11	0.81		113.86	180.62	175.98	66.56	180.42	164	71	71	68		1.001	6.775	772
33	5.203	5.304		0.16	0.16	1.32	1.08	0.26	76	76	68	1.91	1.4	79	0.016	105	104	149.4	-0.08	0.81		113.56	180.44	175.84	66.63	180.20	162	71	71	68		1.001	6.771	770
34	5.362	5.465		0.16	0.16	1.32	1.08	0.26	76	76	68	1.91	1.4	79	0.016	105	104	149.4	0.06	0.76		113.24	180.12	175.76	66.63	179.87	159	71	71	68		1.001	6.287	713
35	5.521	5.627		0.16	0.16	1.33	1.08	0.26	76	76	68	1.9	1.4	79	0.017	101	102	149.4	-0.03	0.83		113.04	179.94	175.26	66.58	179.63	157	71	71	68		1.001	6.930	784
36	5.680	5.789		0.16	0.16	1.33	1.08	0.26	77	77	68	1.91	1.4	79	0.018	98	99	149.4	-0.01	0.77		112.95	179.78	175.20	66.55	179.50	155	71	71	68		1.001	6.431	727
37	5.839	5.951		0.16	0.16	1.33	1.08	0.26	77	77	68	1.91	1.4	79	0.018	98	99	149.4	0.03	0.72		112.75	179.67	175.34	66.64	179.38	152	71	71	68		1.001	5.961	673
38	5.999	6.112		0.16	0.16	1.33	1.08	0.26	77	77	68	1.89	1.4	79	0.018	99	98	149.5	-0.18	0.77		112.42	179.25	174.64	66.52	178.94	150	71	71	68		1.001	6.448	726
39	6.159	6.274		0.16	0.16	1.34	1.08	0.26	77	77	68	1.89	1.4	79	0.017	102	102	149.5	0.04	0.72		112.17	179.07	174.57	66.66	178.83	148	71	71	68		1.001	5.965	670
40	6.319	6.436		0.16	0.16	1.33	1.09	0.26	77	77	68	1.91	1.4	79	0.016	105	105	149.4	0.07	0.76		112.01	178.88	174.41	66.65	178.66	146	71	71	68		1.001	6.290	705
41	6.478	6.598		0.16	0.16	1.33	1.08	0.26	77	77	68	1.91	1.4	79	0.018	98	99	149.5	-0.08	0.72		111.91	178.70	174.33	66.67	178.58	144	71	71	68		1.001	5.962	668
42	6.638	6.759		0.16	0.16	1.32	1.08	0.26	77	77	68	1.9	1.4	79	0.018	99	98	149.5	0.01	0.70		111.45	178.14	173.73	66.58	178.02	143	71	71	68		1.001	5.803	647
43	6.797	6.921		0.16	0.16	1.32	1.08	0.26	77	77	68	1.9	1.4	79	0.017	101	102	149.5	0.04	0.75		111.27	178.12	173.46	66.57	177.83	141	71	71	68		1.001	6.284	700
44	6.956	7.084		0.16	0.16	1.33	1.09	0.26	77	77	68	1.91	1.4	79	0.017	101	102	149.4	0.02	0.80		110.82	177.76	173.09	66.72	177.54	139	71	71	68		1.001	6.627	735
45	7.116	7.245		0.16	0.16	1.33	1.08	0.26	78	77	68	1.91	1.4	79	0.015	108	108	149.6	-0.15	0.79		110.75	177.69	173.06	66.66	177.41	137	71	71	68		1.001	6.608	733
46	7.275	7.406		0.16	0.16	1.33	1.08	0.26	78	78	69	1.92	1.4	79	0.020	93	93	149.7	-0.10	0.72		110.39	177.32	172.66	66.70	177.09	136	71	71	69		1.001	6.031	667
47	7.435	7.568		0.16	0.16	1.34	1.08	0.26	78	78	69	1.9	1.4	79	0.017	102	102	149.6	0.13	0.79		110.22	177.21	172.57	66.59	176.82	134	71	71	69		1.001	6.618	730
48	7.595	7.731		0.16	0.16	1.33	1.09	0.26	78	78	69	1.9	1.4	79	0.018	99	99	149.6	-0.01	0.74		109.98	176.83	172.29	66.66	176.64	132	71	71	69		1.001	6.122	674
49	7.754	7.893		0.16	0.16	1.33	1.08	0.26	78	78	69	1.92	1.4	80	0.018	98	99	149.7	-0.08	0.77		109.83	176.64	172.09	66.59	176.42	131	71	71	69		1.001	6.447	709

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
50	7.914	8.054		0.16	0.16	1.33	1.08	0.26	78	78	69	1.91	1.4	80	0.017	102	101	149.5	0.18	0.77		109.43	176.34	171.82	66.66	176.09	129	71	71	69		1.001	6.443	706
51	8.075	8.216		0.16	0.16	1.33	1.09	0.26	78	78	68	1.9	1.4	79	0.019	97	96	149.7	-0.20	0.81		109.19	176.07	171.55	66.67	175.86	128	71	71	68		1.001	6.770	740
52	8.235	8.379		0.16	0.16	1.33	1.09	0.26	78	78	68	1.9	1.4	80	0.017	102	102	149.6	0.03	0.83		108.92	175.73	171.30	66.60	175.53	127	71	71	68		1.001	6.929	756
53	8.395	8.540		0.16	0.16	1.34	1.08	0.26	78	78	68	1.9	1.4	80	0.017	102	101	149.6	0.05	0.85		108.81	175.65	171.15	66.62	175.43	125	71	71	68		1.001	7.090	772
54	8.555	8.702		0.16	0.16	1.33	1.08	0.26	78	78	68	1.9	1.4	80	0.017	102	102	149.4	0.15	0.76		108.57	175.24	170.80	66.57	175.14	124	71	71	68		1.001	6.314	686
55	8.715	8.864		0.16	0.16	1.33	1.08	0.26	78	78	68	1.9	1.4	80	0.017	102	102	149.7	-0.25	0.76		108.11	174.96	170.55	66.68	174.79	123	71	71	68		1.001	6.285	680
56	8.874	9.027		0.16	0.16	1.32	1.08	0.26	79	78	68	1.91	1.4	80	0.018	98	99	149.8	-0.14	0.79		107.88	174.71	170.26	66.67	174.55	121	71	71	68		1.001	6.609	714
57	9.034	9.189		0.16	0.16	1.33	1.08	0.26	79	79	69	1.91	1.4	80	0.016	105	105	149.7	0.09	0.77		107.46	174.45	169.97	66.74	174.20	120	71	71	69		1.001	6.450	694
58	9.194	9.351		0.16	0.16	1.33	1.08	0.26	79	79	69	1.92	1.4	80	0.017	102	101	149.8	-0.07	0.79		107.32	174.22	169.79	66.71	174.04	119	71	71	69		1.001	6.612	710
59	9.354	9.513		0.16	0.16	1.33	1.09	0.26	79	79	68	1.91	1.4	80	0.016	105	105	149.7	0.12	0.83		107.03	173.92	169.53	66.73	173.76	118	71	71	68		1.001	6.934	743
60	9.515	9.675		0.16	0.16	1.34	1.09	0.26	79	79	68	1.91	1.4	80	0.017	102	101	149.6	0.05	0.79		106.65	173.68	169.26	66.78	173.43	117	71	71	68		1.001	6.608	706
61	9.677	9.838		0.16	0.16	1.39	1.09	0.26	79	79	69	1.81	1.4	80	0.016	106	105	149.6	0.03	0.81		106.48	173.52	169.01	66.73	173.21	116	72	72	69		1.001	6.769	722
62	9.838	9.999		0.16	0.16	1.33	1.09	0.26	79	79	68	1.91	1.4	81	0.018	99	98	149.8	-0.17	0.83		106.22	173.16	168.96	66.71	172.94	115	74	71	68		1.001	6.932	737
63	9.998	10.161		0.16	0.16	1.34	1.09	0.26	79	79	68	1.91	1.4	80	0.017	102	101	149.7	0.07	0.82		105.82	172.84	168.39	66.79	172.61	114	75	72	68		1.001	6.787	719
64	10.126	10.324		0.13	0.16	1.28	1.09	0.26	79	79	69	1.95	1.4	81	0.020	75	94	149.8	-0.08	0.80		105.67	172.79	168.47	66.90	172.57	113	75	72	69		1.001	6.674	706
65	10.286	10.486		0.16	0.16	1.33	1.08	0.26	79	79	69	1.92	1.4	81	0.017	102	102	149.9	-0.08	0.76		105.40	172.56	168.31	66.84	172.24	112	75	72	69		1.001	6.349	670
66	10.446	10.649		0.16	0.16	1.32	1.08	0.26	79	79	69	1.93	1.4	81	0.018	99	99	149.7	0.18	0.83		105.11	172.02	167.65	66.75	171.86	111	75	72	69		1.001	6.910	727
67	10.606	10.810		0.16	0.16	1.32	1.08	0.26	79	79	69	1.91	1.4	81	0.018	99	98	149.9	-0.28	0.68		104.56	171.60	167.67	66.95	171.50	110	75	72	69		1.001	5.638	590
68	10.766	10.972		0.16	0.16	1.32	1.09	0.26	79	79	69	1.92	1.4	81	0.018	99	99	149.8	0.14	0.81		104.54	171.62	167.19	66.80	171.34	109	75	72	69		1.001	6.768	708
69	10.925	11.136		0.16	0.16	1.33	1.09	0.26	79	79	69	1.91	1.4	81	0.019	96	97	149.9	-0.09	0.79		104.25	171.32	166.93	66.84	171.09	108	75	72	69		1.001	6.607	690
70	11.090	11.303		0.16	0.17	1.32	1.09	0.26	79	79	69	1.92	1.4	81	0.018	102	102	149.9	0.02	0.85		103.88	171.05	166.71	66.90	170.78	108	75	72	69		1.001	7.090	737
71	11.251	11.465		0.16	0.16	1.33	1.09	0.26	80	79	69	1.91	1.4	81	0.018	99	99	149.9	-0.01	0.77		103.63	170.82	166.47	66.94	170.57	107	74	72	69		1.001	6.446	669
72	11.410	11.627		0.16	0.16	1.33	1.09	0.26	80	79	69	1.92	1.4	81	0.016	104	105	149.9	0.00	0.77		103.40	170.61	166.22	66.93	170.33	106	74	72	69		1.001	6.444	667
73	11.571	11.789		0.16	0.16	1.33	1.09	0.26	80	80	69	1.93	1.4	81	0.018	99	98	149.8	0.04	0.81		103.12	170.34	166.01	66.94	170.07	106	74	72	69		1.001	6.767	699
74	11.731	11.952		0.16	0.16	1.33	1.08	0.26	80	80	69	1.92	1.4	81	0.018	99	99	150.0	-0.16	0.79		102.84	170.15	165.78	66.97	169.81	105	74	72	69		1.001	6.607	680
75	11.891	12.114		0.16	0.16	1.34	1.08	0.26	80	80	69	1.93	1.4	81	0.017	101	101	149.9	0.12	0.77		102.81	169.82	165.56	66.84	169.65	104	74	72	69		1.001	6.444	663
76	12.051	12.276		0.16	0.16	1.33	1.09	0.26	80	80	69	1.92	1.4	82	0.017	102	101	150.0	-0.08	0.81		102.35	169.46	165.21	66.90	169.25	104	74	72	69		1.001	6.772	694
77	12.211	12.439		0.16	0.16	1.34	1.09	0.26	80	80	69	1.92	1.4	82	0.017	102	102	149.9	0.08	0.81		102.03	169.16	164.89	66.90	168.93	103	74	72	69		1.001	6.771	692
78	12.372	12.601		0.16	0.16	1.33	1.09	0.26	80	80	69	1.91	1.4	82	0.015	109	108	149.9	0.01	0.75		101.61	168.73	164.44	66.96	168.57	102	73	72	69		1.001	6.281	639
79	12.532	12.764		0.16	0.16	1.33	1.09	0.26	80	80	69	1.91	1.4	82	0.019	96	97	149.9	-0.07	0.79		101.53	168.68	164.41	66.94	168.47	102	73	72	69		1.001	6.609	672
80	12.692	12.926		0.16	0.16	1.33	1.08	0.26	80	80	69	1.91	1.4	82	0.018	99	99	149.8	0.08	0.85		101.03	168.29	163.97	67.03	168.06	101	73	72	69		1.001	7.092	717
81	12.853	13.088		0.16	0.16	1.34	1.09	0.26	80	80	69	1.93	1.4	82	0.018	99	99	150.0	-0.15	0.89		100.73	167.85	163.56	66.93	167.66	100	73	72	69		1.001	7.414	748
82	13.014	13.250		0.16	0.16	1.33	1.09	0.26	80	80	69	1.91	1.4	86	0.019	97	96	149.9	0.15	0.79		100.63	167.84	163.55	66.97	167.60	138	73	72	69		1.001	6.608	666
83	13.174	13.414		0.16	0.16	1.33	1.09	0.26	80	80	69	1.93	1.4	83	0.016	105	106	149.8	0.09	0.81		100.52	167.79	163.44	66.95	167.47	138	73	72	69		1.001	6.758	680
84	13.334	13.576		0.16	0.16	1.34	1.08	0.26	80	80	70	1.91	1.4	82	0.018	99	99	149.8	-0.08	0.79		100.07	167.26	163.07	67.08	167.15	126	73	72	70		1.001	6.603	662
85	13.495	13.738		0.16	0.16	1.33	1.08	0.26	80	80	70	1.91	1.4	82	0.017	102	101	149.9	-0.05	0.81		99.78	166.96	162.80	67.07	166.85	119	73	72	70		1.001	6.768	676
86	13.655	13.900		0.16	0.16	1.34	1.09	0.26	80	80	69	1.93	1.4	82	0.019	96	96	149.9	-0.01	0.79		99.35	166.73	162.50	67.14	166.49	115	73	72	69		1.001	6.606	657
87	13.815	14.063		0.16	0.16	1.32	1.09	0.26	80	80	70	1.92	1.4	82	0.018	99	99	149.8	0.14	0.81		99.32	166.75	162.50	67.06	166.38	111	73	72	70		1.001	6.769	673
88	13.976	14.226		0.16	0.16	1.33	1.09	0.26	80	80	70	1.92	1.4	82	0.018	99	99	149.9	-0.11	0.75		99.09	166.29	162.29	67.03	166.12	109	73	72	70		1.001	6.283	623
89	14.136	14.388		0.16	0.16	1.33	1.09	0.26	80	80	70	1.92	1.4	82	0.018	99	99	149.8	0.05	0.77		98.79	165.97	161.71	66.97	165.75	107	73	72	70		1.001	6.441	637
90	14.296	14.551		0.16	0.16	1.33	1.09	0.26	80	80	70	1.91	1.4	82	0.017	102	102	150.0	-0.14	0.73		98.15	165.49	161.30	67.14	165.28	105	73	72	70		1.001	6.114	601
91	14.457	14.713		0.16	0.16	1.33	1.09	0.26	80	80	70	1.93	1.4	82	0.016	105	105	149.9	0.02	0.81		98.16	165.61	161.33	67.12	165.28	103	73	73	70		1.001	6.763	665
92	14.617	14.876		0.16	0.16	1.33	1.09	0.26	81	80	70	1.91	1.4	82	0.018	99	99	149.9	0.03	0.80		97.98	165.28	161.11	67.09	165.07	103	73	73	70		1.001	6.684	656
93	14.778	15.038		0.16	0.16	1.33	1.08	0.26	81	81	71	1.91	1.4	82	0.018	99	98	149.8	0.05	0.82		97.61	164.91	160.67	67.08	164.70	102	73	73	71		1.001	6.831	668
94	14.938	15.200		0.16	0.16	1.34	1.08	0.26	81	81	71	1.92	1.4	81	0.017	101	101	150.0	-0.13	0.83		97.23	164.39	160.26	67.09	164.33	100	73	73	71		1.001	6.876	669
95	15.099	15.363		0.16	0.16	1.33	1.09	0.26	81	81	71	1.92	1.4	81	0.018	99	99	149.9	0.12	0.79		97.04	164.37	160.16	67.12	164.16	99	73	73	71		1.001	6.595	641
96	15.259	15.526		0.16	0.16	1.33	1.09	0.26	81	81	71	1.92	1.4	81	0.019	96	96	149.9	-0.04	0.81		96.81	164.06	159.89	67.10	163.91	99	73	73	71		1.001	6.755	655
97	15.419	15.688		0.16	0.16	1.34	1.09	0.26	81	81	71	1.92	1.4	81	0.017	101	101	150.0	-0.06	0.85		96.39	163.62	159.48	67.09	163.48	99	73	73	71		1.001	7.079	683
98	15.580	15.850		0.16	0.16	1.34	1.09	0.26	81	81	71	1.93	1.4	81	0.017	102	101	150.0	-0.01	0.75		96.07	163.54	159.31	67.17	163.24	98	73	73	71		1.001	6.274	603
99	15.740	16.012		0.16	0.16	1.34	1.09	0.26	81	81	71	1.91	1.4	81	0.015	108	108	150.0	-0.07	0.81		95.77	163.23	159.02	67.15	162.92	97	73	73	71		1.001	6.761	648
100	15.901	16.175		0.16	0.16	1.34	1.09	0.26	81	81	71	1.91	1.4	81	0.018	99	99	150.0	0.07	0.85		95.63	162.81	158.69	67.08	162.71	97	73	73	71		1.001	7.082	678
101	16.061	16.338		0.16	0.16	1.34	1.08	0.26	81	81	71	1.92	1.4	81	0.016	104	105	149.9	0.06	0.81		95.42	162.62	158.46	67.04	162.46	96	73	73	71		1.001	6.757	646
102	16.222	16.500		0.16	0.16	1.34	1.08	0.26	81	81	71	1.93	1.4	81	0.017	102	101	150.0	-0.03	0.83		95.26	162.43	158.37	67.06	162.33	96	73	73	71		1.001	6.904	658
103	16.383	16.662		0.16	0.16	1.33	1.08	0.26	81	81	72	1.93	1.4	81	0.017	102	101	149.9	0.04	0.83		94.83	162.11	157.96	67.03	161.87	96	73	73	72		1.001	6.881	653
104	16.544	16.825		0.16	0.16	1.34	1.08	0.26	81	81	72	1.92	1.4	81	0.017	102	102	150.1	-0.17	0.87		94.66	161.80	157.65	66.95	161.61	95	73	73	72		1.001	7.242	686
105	16.705	16.988		0.16	0.16	1.33	1.09	0.26	81	81	72	1.93	1.4	81	0.017	102	102	149.9	0.18	0.79		94.51	161.68	157.57	66.99	161.50	95	73	73	72		1.001	6.592	624
106	16.865	17.150		0.16	0.16	1.33	1.08	0.26	81	81	72	1.92	1.4	81	0.019	96	96	150.2	-0.34	0.81		94.31	161.41	157.32	66.97	161.28	95	73	73	72		1.001	6.758	638
107	17.026	17.312		0.16	0.16	1.33	1.08	0.26	81	81	73	1.92	1.4	81	0.018	99	98	149.8	0.40	0.83		94.06	161.07	157.03	66.87	160.94	94	73	73	73		1.001	6.917	651
108	17.186	17.474		0.16	0.16	1.33	1.08	0.26	81	81	73	1.92	1.4	81	0.017	101	101	150.0	-0.11	0.83		93.59	160.81	156.67	66.95	160.54	94	73	73	73		1.001	6.915	648
109	17.347	17.637		0.16	0.16	1.32	1.08	0.26	81	81	72	1.93	1.4	86	0.019	97	97	149.9	0.03	0.85		93.23	160.35	156.23	66.90	160.13	135	74	74	72		1.001	7.078	661
110	17.507	17.798		0.16	0.16	1.33	1.08	0.26	82	82	72	1.93	1.4	91	0.019	96	96	149.7	0.18	0.91		93.12	160.24	156.16	66.91	160.02	182	74	74	72		1.001	7.545	703
111	17.667	17.960		0.16	0.16	1.32	1.08	0.26	82	82	72	1.93	1.4	94	0.018	99	99	149.3	0.41	0.81		93.45	160.74	156.55	66.89	160.34	211	74	74	72		1.001	6.711	628

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
112	17.827	18.122		0.16	0.16	1.33	1.08	0.26	82	82	72	1.94	1.4	98	0.019	97	97	149.0	0.38	0.81		93.71	160.93	156.77	66.89	160.60	234	74	75	72		1.001	6.751	633
113	17.988	18.284		0.16	0.16	1.33	1.08	0.26	82	82	73	1.94	1.4	102	0.017	104	103	148.2	0.74	0.83		94.04	161.30	157.09	66.87	160.92	256	75	75	73		1.001	6.911	651
114	18.148	18.445		0.16	0.16	1.33	1.08	0.26	82	82	73	1.94	1.4	107	0.018	101	100	147.4	0.76	0.79		94.61	161.93	157.75	66.92	161.53	276	75	76	73		1.001	6.592	624
115	18.308	18.606		0.16	0.16	1.33	1.08	0.26	82	82	73	1.94	1.4	109	0.018	101	100	146.5	0.96	0.79		95.49	162.93	158.60	66.92	162.41	291	76	77	73		1.001	6.591	630
116	18.467	18.768		0.16	0.16	1.34	1.09	0.26	82	82	72	1.95	1.5	112	0.018	100	101	145.9	0.57	0.83		96.47	163.80	159.54	66.89	163.37	304	77	77	72		1.001	6.911	668
117	18.627	18.929		0.16	0.16	1.34	1.08	0.26	82	82	72	1.95	1.5	113	0.018	101	100	145.0	0.95	0.83		97.50	164.87	160.55	66.88	164.38	311	77	78	72		1.001	6.914	675
118	18.788	19.090		0.16	0.16	1.34	1.08	0.26	82	82	72	1.95	1.5	115	0.018	102	101	144.1	0.88	0.79		98.58	166.06	161.63	66.92	165.50	319	77	78	72		1.001	6.590	650
119	18.947	19.250		0.16	0.16	1.34	1.08	0.26	82	82	72	1.97	1.5	117	0.018	101	100	143.5	0.59	0.77		99.80	167.17	162.76	66.84	166.64	324	78	78	72		1.001	6.427	642
120	19.107	19.412		0.16	0.16	1.34	1.08	0.26	82	82	72	1.96	1.5	118	0.018	102	101	142.6	0.90	0.83		100.87	168.45	163.76	66.95	167.82	329	78	79	72		1.001	6.913	698
121	19.268	19.573		0.16	0.16	1.34	1.08	0.26	82	82	73	1.96	1.5	118	0.019	99	98	141.7	0.93	0.87		102.14	169.60	164.84	66.97	169.11	333	79	79	73		1.001	7.238	740
122	19.428	19.733		0.16	0.16	1.33	1.08	0.26	82	82	73	1.98	1.5	119	0.017	105	103	141.2	0.50	0.90		103.42	170.89	166.05	66.90	170.32	335	79	80	73		1.001	7.505	777
123	19.587	19.894		0.16	0.16	1.33	1.08	0.26	82	82	73	1.96	1.5	118	0.018	101	101	140.5	0.69	0.83		104.84	172.34	167.38	66.88	171.72	337	79	80	73		1.001	6.910	725
124	19.747	20.056		0.16	0.16	1.33	1.07	0.26	82	82	73	1.97	1.5	119	0.017	105	104	139.8	0.74	0.81		106.04	173.50	168.53	66.89	172.93	338	79	80	73		1.001	6.745	716
125	19.907	20.215		0.16	0.16	1.32	1.07	0.26	82	82	73	1.97	1.5	119	0.018	102	100	138.9	0.82	0.89		107.32	174.80	169.66	66.89	174.21	339	80	80	73		1.001	7.396	795
126	20.066	20.376		0.16	0.16	1.33	1.07	0.26	82	83	73	1.97	1.5	119	0.018	101	101	138.3	0.64	0.89		108.55	176.04	170.86	66.87	175.42	337	80	81	73		1.001	7.396	804
127	20.226	20.537		0.16	0.16	1.33	1.07	0.26	83	83	73	1.97	1.5	118	0.018	101	101	137.5	0.78	0.81		109.98	177.48	172.64	66.87	176.86	337	80	81	73		1.001	6.749	743
128	20.386	20.697		0.16	0.16	1.33	1.06	0.26	83	83	73	1.97	1.5	119	0.017	104	103	136.9	0.58	0.81		111.22	178.66	173.50	66.86	178.08	338	80	81	73		1.001	6.748	751
129	20.545	20.856		0.16	0.16	1.33	1.07	0.26	83	83	73	1.98	1.5	119	0.019	98	97	136.3	0.69	0.87		112.31	179.89	174.75	66.91	179.22	339	80	81	73		1.001	7.233	813
130	20.705	21.017		0.16	0.16	1.34	1.07	0.26	83	83	73	1.96	1.5	108	0.020	95	95	135.6	0.66	0.83		113.53	180.93	175.70	66.89	180.41	341	80	80	73		1.001	6.891	783
131	20.865	21.178		0.16	0.16	1.33	1.07	0.26	83	83	73	1.95	1.5	96	0.019	97	96	135.1	0.53	0.79		114.77	182.12	176.91	66.88	181.65	300	79	79	73		1.001	6.608	759
132	21.025	21.338		0.16	0.16	1.33	1.06	0.26	83	83	73	1.95	1.5	92	0.018	99	98	134.7	0.34	0.87		115.18	182.44	177.16	66.88	182.06	277	78	79	73		1.001	7.271	838
133	21.185	21.499		0.16	0.16	1.33	1.07	0.26	83	83	73	1.95	1.5	90	0.018	99	98	134.5	0.22	0.81		115.46	182.77	177.61	66.92	182.37	261	78	78	73		1.001	6.744	780
134	21.346	21.661		0.16	0.16	1.33	1.07	0.26	83	83	73	1.95	1.5	88	0.017	102	101	134.4	0.09	0.83		115.58	182.83	177.68	66.90	182.48	249	78	78	73		1.001	6.905	799
135	21.507	21.822		0.16	0.16	1.33	1.07	0.26	83	83	73	1.94	1.4	87	0.017	102	101	134.5	-0.06	0.89		115.76	183.02	177.85	66.88	182.64	244	78	78	73		1.001	7.391	857
136	21.667	21.983		0.16	0.16	1.33	1.08	0.26	83	83	73	1.95	1.4	86	0.018	99	98	134.2	0.26	0.79		115.86	183.14	177.92	66.92	182.77	237	78	78	73		1.001	6.582	763
137	21.828	22.145		0.16	0.16	1.33	1.08	0.26	83	83	73	1.96	1.4	86	0.018	99	98	134.3	-0.13	0.77		115.85	183.06	177.96	66.94	182.78	231	77	78	73		1.001	6.424	745
138	21.988	22.308		0.16	0.16	1.33	1.08	0.26	83	83	73	1.94	1.4	85	0.018	98	99	134.3	0.03	0.81		115.78	182.98	177.84	66.91	182.69	225	77	78	73		1.001	6.745	782
139	22.148	22.469		0.16	0.16	1.32	1.08	0.26	83	83	73	1.96	1.4	85	0.017	101	101	134.2	0.09	0.83		115.64	182.90	177.74	66.96	182.60	221	77	78	73		1.001	6.907	800
140	22.309	22.631		0.16	0.16	1.33	1.08	0.26	83	83	73	1.94	1.4	84	0.019	96	96	134.2	0.05	0.79		115.61	182.80	177.71	66.96	182.57	217	77	78	73		1.001	6.599	764
141	22.469	22.793		0.16	0.16	1.32	1.08	0.26	83	83	73	1.95	1.4	84	0.018	98	98	134.2	0.01	0.79		115.59	182.91	177.79	66.97	182.56	212	77	78	73		1.001	6.586	762
142	22.630	22.956		0.16	0.16	1.32	1.07	0.26	83	83	73	1.94	1.4	84	0.018	99	99	134.1	0.06	0.81		115.33	182.58	177.46	67.00	182.33	209	77	77	73		1.001	6.779	783
143	22.791	23.118		0.16	0.16	1.33	1.08	0.26	83	83	73	1.94	1.4	84	0.016	105	104	134.1	-0.03	0.85		115.28	182.58	177.44	66.93	182.21	205	77	77	73		1.001	7.066	816
144	22.951	23.279		0.16	0.16	1.32	1.08	0.26	83	83	74	1.95	1.4	83	0.018	98	98	134.2	-0.06	0.81		115.10	182.47	177.37	67.03	182.13	202	77	77	74		1.001	6.745	777
145	23.111	23.442		0.16	0.16	1.33	1.08	0.26	83	83	73	1.95	1.4	83	0.017	101	102	134.0	0.18	0.87		114.99	182.23	177.14	67.00	181.99	200	77	77	73		1.001	7.228	832
146	23.272	23.605		0.16	0.16	1.33	1.08	0.26	83	84	73	1.96	1.4	82	0.017	102	101	134.1	-0.04	0.81		114.93	182.12	177.08	67.02	181.95	196	77	77	73		1.001	6.744	776
147	23.433	23.766		0.16	0.16	1.33	1.07	0.26	83	84	73	1.94	1.4	82	0.018	99	97	134.2	-0.16	0.85		114.84	182.08	177.01	67.01	181.85	193	77	77	73		1.001	7.067	812
148	23.594	23.928		0.16	0.16	1.33	1.08	0.26	83	84	73	1.94	1.4	82	0.018	99	98	134.1	0.08	0.85		114.68	181.85	176.89	67.04	181.72	190	77	77	73		1.001	7.069	812
149	23.754	24.091		0.16	0.16	1.33	1.08	0.26	84	84	73	1.94	1.4	82	0.017	101	101	134.2	-0.01	0.81		114.35	181.69	176.61	67.05	181.40	187	76	77	73		1.001	6.748	772
150	23.915	24.253		0.16	0.16	1.33	1.08	0.26	84	84	73	1.93	1.4	82	0.019	96	95	134.2	-0.08	0.85		114.27	181.57	176.63	67.05	181.33	183	76	77	73		1.001	7.059	808
151	24.075	24.415		0.16	0.16	1.34	1.08	0.26	84	84	73	1.94	1.4	82	0.018	98	98	134.3	-0.04	0.81		114.03	181.32	176.26	67.02	181.06	181	76	77	73		1.001	6.776	774
152	24.236	24.577		0.16	0.16	1.33	1.08	0.26	84	84	73	1.93	1.4	82	0.018	99	98	134.1	0.17	0.77		113.90	181.27	176.23	67.05	180.94	178	76	77	73		1.001	6.424	733
153	24.397	24.739		0.16	0.16	1.33	1.07	0.26	84	84	73	1.94	1.4	82	0.019	96	95	134.2	-0.07	0.79		113.81	181.20	176.17	67.03	180.83	175	76	76	73		1.001	6.586	750
154	24.558	24.902		0.16	0.16	1.33	1.08	0.26	84	84	73	1.94	1.4	82	0.017	101	101	134.1	0.02	0.85		113.38	180.75	175.71	67.07	180.46	173	76	76	73		1.001	7.072	803
155	24.719	25.064		0.16	0.16	1.34	1.08	0.26	84	84	73	1.94	1.4	82	0.017	101	101	134.2	-0.10	0.79		113.28	180.65	175.63	67.04	180.32	170	76	76	73		1.001	6.588	747
156	24.880	25.226		0.16	0.16	1.33	1.08	0.26	84	84	73	1.94	1.4	82	0.019	96	95	134.3	-0.04	0.81		113.10	180.48	175.54	67.07	180.17	167	76	76	73		1.001	6.750	764
157	25.041	25.388		0.16	0.16	1.34	1.08	0.26	84	84	73	1.95	1.4	82	0.017	101	101	134.2	0.09	0.87		112.80	180.04	175.26	67.07	179.87	165	76	76	73		1.001	7.236	817
158	25.202	25.551		0.16	0.16	1.33	1.08	0.26	84	84	73	1.96	1.4	82	0.018	99	98	134.3	-0.16	0.81		112.66	180.16	175.22	67.07	179.73	162	76	76	73		1.001	6.751	761
159	25.363	25.714		0.16	0.16	1.33	1.08	0.26	84	84	73	1.95	1.4	82	0.017	101	101	134.2	0.14	0.77		112.39	179.81	174.97	67.12	179.50	160	76	76	73		1.001	6.424	723
160	25.524	25.876		0.16	0.16	1.33	1.08	0.26	84	84	73	1.94	1.4	82	0.017	101	101	134.3	-0.07	0.81		112.16	179.48	174.63	67.09	179.25	158	76	76	73		1.001	6.745	757
161	25.685	26.038		0.16	0.16	1.34	1.08	0.26	84	84	73	1.95	1.4	82	0.016	105	104	134.3	-0.05	0.79		111.98	179.44	174.54	67.12	179.10	156	76	76	73		1.001	6.585	738
162	25.846	26.200		0.16	0.16	1.33	1.08	0.26	84	84	74	1.96	1.4	82	0.017	101	101	134.3	0.03	0.83		111.74	179.19	174.24	67.12	178.86	154	76	76	74		1.001	6.906	773
163	26.007	26.363		0.16	0.16	1.33	1.08	0.26	84	84	73	1.95	1.4	82	0.016	105	104	134.4	-0.06	0.79		111.57	178.90	174.23	67.12	178.69	152	76	76	73		1.001	6.584	735
164	26.168	26.525		0.16	0.16	1.33	1.08	0.26	84	84	73	1.96	1.4	82	0.018	99	98	134.4	-0.03	0.83		111.27	178.69	173.75	67.08	178.35	150	75	76	73		1.001	6.910	770
165	26.329	26.687		0.16	0.16	1.33	1.08	0.26	84	84	74	1.96	1.4	82	0.016	105	104	134.2	0.22	0.87		111.11	178.29	173.57	67.13	178.23	148	75	76	74		1.001	7.233	805
166	26.490	26.850		0.16	0.16	1.33	1.08	0.26	84	84	74	1.96	1.4	82	0.019	96	96	134.5	-0.29	0.77		110.84	178.14	173.51	67.05	177.89	146	75	76	74		1.001	6.424	713
167	26.651	27.012		0.16	0.16	1.33	1.08	0.26	84	84	74	1.96	1.4	82	0.017	101	101	134.4	0.06	0.79		110.81	178.16	173.39	67.08	177.89	144	75	76	74		1.001	6.580	730
168	26.812	27.175		0.16	0.16	1.33	1.08	0.26	84	84	74	1.96	1.4	82	0.019	96	96	134.5	-0.11	0.75		110.48	177.81	173.18	67.14	177.62	142	75	76	74		1.001	6.254	692
169	26.972	27.337		0.16	0.16	1.33	1.08	0.26	84	84	74	1.95	1.4	82	0.017	101	101	134.4	0.08	0.81		110.19	177.50	173.00	67.11	177.30	141	75	76	74		1.001	6.747	744
170	27.133	27.499		0.16	0.16	1.33	1.08	0.26	84	84	74	1.95	1.4	82	0.018	99	98	134.4	0.05	0.79		109.98	177.25	172.61	67.05	177.03	139	75	76	74		1.001	6.584	725
171	27.294	27.662		0.16	0.16	1.33	1.08	0.26	84	84	74	1.95	1.4	82	0.017	101	101	134.5	-0.10	0.76		109.90	177.12	172.58	67.07	176.97	138	75	76	74		1.001	6.298	693
172	27.455	27.825		0.16	0.16	1.33	1.08	0.26	84	84	73	1.96	1.4	82	0.019	96	96	134.4	0.03	0.79		109.43	176.79	172.25	67.22	176.65	136	75	76	73		1.001	6.584	721
173	27.617	27.987		0.16	0.16	1.33	1.08	0.26	84	84	74	1.96	1.4	82	0.019	97	95	134.5	-0.07	0.85		109.25	176.56	172.03	67.13	176.38	135	75	76	74		1.001	7.066	773

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
174	27.777	28.149		0.16	0.16	1.33	1.08	0.26	84	84	74	1.96	1.4	82	0.018	98	98	134.5	0.02	0.81		109.07	176.47	171.92	67.12	176.19	133	75	76	74		1.001	6.747	737
175	27.938	28.312		0.16	0.16	1.33	1.08	0.26	84	84	74	1.95	1.4	82	0.018	99	98	134.5	0.01	0.77		108.87	176.23	171.67	67.15	176.02	132	75	76	74		1.001	6.422	700
176	28.099	28.474		0.16	0.16	1.33	1.08	0.26	84	85	74	1.96	1.4	82	0.020	94	93	134.5	-0.05	0.75		108.53	176.02	171.42	67.18	175.71	131	75	76	74		1.001	6.261	680
177	28.260	28.637		0.16	0.16	1.33	1.07	0.26	84	85	74	1.94	1.4	82	0.018	99	98	134.4	0.09	0.77		108.28	175.53	171.07	67.16	175.45	130	75	76	74		1.001	6.424	696
178	28.421	28.799		0.16	0.16	1.33	1.08	0.26	84	85	74	1.95	1.4	82	0.016	105	104	134.5	-0.11	0.81		108.01	175.33	170.83	67.17	175.18	128	75	76	74		1.001	6.736	728
179	28.582	28.961		0.16	0.16	1.33	1.08	0.26	84	85	74	1.96	1.4	82	0.015	108	107	134.4	0.10	0.85		107.63	175.12	170.49	67.18	174.82	127	75	76	74		1.001	7.094	764
180	28.743	29.124		0.16	0.16	1.33	1.08	0.26	84	85	74	1.95	1.4	82	0.019	96	96	134.5	-0.06	0.81		107.40	174.88	170.28	67.15	174.55	126	75	76	74		1.001	6.725	723
181	28.904	29.287		0.16	0.16	1.33	1.08	0.26	84	85	74	1.95	1.4	82	0.017	101	101	134.6	-0.13	0.77		107.21	174.47	170.01	67.13	174.34	125	75	76	74		1.001	6.426	690
182	29.065	29.449		0.16	0.16	1.33	1.08	0.26	84	85	74	1.95	1.4	82	0.017	101	100	134.6	0.07	0.81		107.01	174.30	169.80	67.10	174.11	123	75	76	74		1.001	6.742	722
183	29.226	29.611		0.16	0.16	1.33	1.08	0.26	85	85	74	1.94	1.4	82	0.017	101	100	134.5	0.09	0.79		106.64	174.00	169.43	67.15	173.79	122	75	76	74		1.001	6.581	703
184	29.388	29.773		0.16	0.16	1.33	1.09	0.26	85	85	74	1.95	1.4	82	0.019	96	95	134.6	-0.09	0.81		106.54	173.98	169.40	67.17	173.71	121	75	76	74		1.001	6.746	720
185	29.549	29.937		0.16	0.16	1.33	1.08	0.26	85	85	74	1.95	1.4	82	0.018	98	99	134.5	0.05	0.81		106.23	173.66	168.97	67.09	173.32	120	75	76	74		1.001	6.745	717
186	29.710	30.099		0.16	0.16	1.33	1.08	0.26	85	85	74	1.96	1.4	82	0.017	101	100	134.5	0.04	0.81		105.95	173.17	168.64	67.11	173.06	119	75	76	74		1.001	6.745	715
187	29.871	30.261		0.16	0.16	1.34	1.08	0.26	85	85	74	1.95	1.4	82	0.017	101	100	134.4	0.03	0.77		105.59	172.98	168.44	67.19	172.78	118	75	76	74		1.001	6.420	679
188	30.032	30.424		0.16	0.16	1.33	1.09	0.26	85	85	74	1.94	1.4	82	0.017	101	101	134.6	-0.20	0.81		105.34	172.74	168.23	67.19	172.54	117	75	76	74		1.001	6.725	709
189	30.193	30.586		0.16	0.16	1.34	1.08	0.26	85	85	74	1.96	1.4	82	0.018	98	98	134.6	0.09	0.79		105.24	172.61	168.08	67.12	172.37	116	75	76	74		1.001	6.578	693
190	30.354	30.749		0.16	0.16	1.34	1.08	0.26	85	85	74	1.94	1.4	82	0.018	98	98	134.6	-0.07	0.87		104.94	172.29	167.77	67.11	172.05	116	75	76	74		1.001	7.227	759
191	30.515	30.912		0.16	0.16	1.33	1.08	0.26	85	85	74	1.96	1.4	82	0.017	101	101	134.6	0.02	0.77		104.49	171.86	167.40	67.13	171.62	115	75	76	74		1.001	6.418	671
192	30.676	31.074		0.16	0.16	1.34	1.08	0.26	85	85	74	1.94	1.4	82	0.018	98	98	134.5	0.08	0.83		104.35	171.81	167.37	67.21	171.56	114	75	76	74		1.001	6.903	721
193	30.837	31.236		0.16	0.16	1.33	1.08	0.26	85	85	74	1.95	1.4	82	0.018	98	98	134.7	-0.19	0.87		104.06	171.52	167.00	67.17	171.22	113	75	76	74		1.001	7.224	753
194	30.999	31.400		0.16	0.16	1.33	1.09	0.26	85	85	74	1.95	1.4	82	0.017	102	102	134.6	0.16	0.85		103.80	171.36	166.87	67.20	171.00	112	75	76	74		1.001	7.066	734
195	31.160	31.562		0.16	0.16	1.33	1.08	0.26	85	85	74	1.94	1.4	82	0.016	104	104	134.6	-0.02	0.85		103.42	170.81	166.33	67.14	170.56	112	75	76	74		1.001	7.064	731
196	31.321	31.724		0.16	0.16	1.33	1.08	0.26	85	85	74	1.95	1.4	82	0.018	98	98	134.6	-0.01	0.83		103.23	170.69	166.30	67.22	170.45	111	75	76	74		1.001	6.902	713
197	31.482	31.887		0.16	0.16	1.34	1.09	0.26	85	85	74	1.94	1.4	82	0.016	104	104	134.7	-0.14	0.77		102.99	170.46	165.97	67.14	170.13	110	75	76	74		1.001	6.444	664
198	31.643	32.049		0.16	0.16	1.34	1.09	0.26	85	85	74	1.96	1.4	82	0.019	96	95	134.7	0.09	0.79		102.67	170.12	165.70	67.18	169.85	109	75	76	74		1.001	6.578	676
199	31.804	32.212		0.16	0.16	1.33	1.08	0.26	85	85	74	1.94	1.4	82	0.019	96	96	134.6	0.06	0.85		102.56	170.07	165.67	67.18	169.74	109	75	76	74		1.001	7.062	725
200	31.965	32.375		0.16	0.16	1.33	1.07	0.26	85	85	74	1.96	1.4	82	0.018	98	98	134.6	-0.05	0.83		102.15	169.62	165.28	67.20	169.35	108	76	76	74		1.001	6.903	706
201	32.126	32.537		0.16	0.16	1.33	1.08	0.26	85	85	74	1.94	1.4	82	0.019	96	95	134.7	-0.04	0.83		101.94	169.37	165.00	67.18	169.12	108	76	76	74		1.001	6.902	704
202	32.288	32.699		0.16	0.16	1.34	1.09	0.26	85	85	74	1.96	1.4	82	0.018	99	98	134.7	-0.03	0.83		101.68	168.90	164.58	67.07	168.75	107	76	76	74		1.001	6.903	703
203	32.449	32.863		0.16	0.16	1.34	1.08	0.26	85	85	74	1.94	1.4	82	0.018	98	99	134.6	0.14	0.79		101.27	168.69	164.40	67.21	168.48	106	75	76	74		1.001	6.580	667
204	32.610	33.025		0.16	0.16	1.33	1.08	0.26	85	85	74	1.94	1.4	82	0.018	98	98	134.3	0.24	0.83		101.13	168.34	164.11	67.15	168.28	106	76	76	74		1.001	6.904	699
205	32.771	33.187		0.16	0.16	1.34	1.08	0.26	85	85	74	1.96	1.4	85	0.016	105	104	134.8	-0.45	0.85		100.89	168.18	163.95	67.10	167.99	149	76	76	74		1.001	7.064	714
206	32.933	33.349		0.16	0.16	1.34	1.09	0.26	85	85	74	1.95	1.4	83	0.018	99	98	134.6	0.17	0.83		100.59	167.98	163.67	67.12	167.71	141	76	76	74		1.001	6.896	695
207	33.094	33.512		0.16	0.16	1.34	1.09	0.26	85	85	74	1.95	1.4	82	0.017	101	101	134.5	0.13	0.74		100.33	167.77	163.37	67.14	167.47	132	76	76	74		1.001	6.125	615
208	33.255	33.675		0.16	0.16	1.34	1.08	0.26	85	85	74	1.96	1.4	82	0.019	96	96	134.6	-0.08	0.81		100.07	167.51	163.09	67.14	167.22	127	76	76	74		1.001	6.714	673
209	33.416	33.837		0.16	0.16	1.34	1.08	0.26	85	85	74	1.95	1.4	82	0.016	104	104	134.4	0.12	0.83		99.69	167.05	162.68	67.08	166.77	123	76	76	74		1.001	6.901	689
210	33.578	34.000		0.16	0.16	1.34	1.09	0.26	85	85	74	1.94	1.4	82	0.017	102	101	134.5	-0.11	0.83		99.54	166.81	162.54	67.10	166.64	120	76	76	74		1.001	6.902	688
211	33.739	34.163		0.16	0.16	1.34	1.09	0.26	85	85	74	1.95	1.4	81	0.019	96	96	134.7	-0.11	0.79		99.16	166.61	162.28	67.13	166.29	118	76	76	74		1.001	6.582	653
212	33.900	34.326		0.16	0.16	1.33	1.08	0.26	85	85	74	1.95	1.4	81	0.018	98	98	134.6	0.03	0.81		99.01	166.40	162.23	67.15	166.16	116	76	76	74		1.001	6.745	669
213	34.062	34.488		0.16	0.16	1.33	1.08	0.26	85	85	74	1.95	1.4	81	0.017	102	100	134.6	0.05	0.85		98.81	166.07	161.83	67.04	165.85	114	76	76	74		1.001	7.065	699
214	34.223	34.650		0.16	0.16	1.33	1.09	0.26	85	85	74	1.95	1.4	82	0.016	104	104	134.7	-0.11	0.87		98.49	165.78	161.61	67.13	165.62	113	76	76	74		1.001	7.225	712
215	34.385	34.813		0.16	0.16	1.33	1.09	0.26	85	85	74	1.95	1.4	82	0.018	99	98	134.6	0.12	0.81		98.27	165.56	161.28	67.03	165.30	111	76	76	74		1.001	6.741	663
216	34.546	34.976		0.16	0.16	1.33	1.09	0.26	85	85	74	1.96	1.4	82	0.018	98	98	134.5	0.03	0.87		97.99	165.38	161.13	67.13	165.13	111	76	76	74		1.001	7.230	709
217	34.707	35.139		0.16	0.16	1.34	1.08	0.26	85	85	74	1.95	1.4	82	0.019	96	96	134.5	0.01	0.80		97.79	165.07	160.91	67.14	164.93	109	76	76	74		1.001	6.624	649
218	34.869	35.302		0.16	0.16	1.33	1.08	0.26	85	85	74	1.94	1.4	82	0.018	99	98	134.5	-0.01	0.75		97.50	164.69	160.54	67.07	164.58	108	76	76	74		1.001	6.273	612
219	35.030	35.464		0.16	0.16	1.34	1.09	0.26	85	85	74	1.94	1.4	82	0.017	101	100	134.5	0.01	0.87		97.23	164.45	160.31	67.06	164.29	107	76	76	74		1.001	7.225	703
220	35.191	35.626		0.16	0.16	1.34	1.08	0.26	85	86	74	1.95	1.4	82	0.018	98	97	134.6	-0.09	0.79		96.94	164.17	160.01	67.07	164.00	106	76	76	74		1.001	6.578	638
221	35.352	35.790		0.16	0.16	1.33	1.09	0.26	85	86	74	1.95	1.4	81	0.018	98	99	134.7	-0.07	0.79		96.61	163.94	159.78	67.09	163.70	105	76	76	74		1.001	6.578	636
222	35.514	35.952		0.16	0.16	1.33	1.08	0.26	85	86	74	1.95	1.4	82	0.018	99	97	134.6	0.08	0.89		96.30	163.67	159.46	67.10	163.39	105	76	76	74		1.001	7.384	712
223	35.675	36.115		0.16	0.16	1.33	1.08	0.26	85	86	74	1.95	1.4	82	0.017	101	101	134.7	-0.07	0.83		96.17	163.45	159.28	67.08	163.25	105	76	76	74		1.001	6.901	665
224	35.836	36.277		0.16	0.16	1.34	1.08	0.26	85	86	74	1.96	1.4	82	0.015	108	107	134.7	0.00	0.79		95.89	163.12	159.02	67.08	162.97	103	76	76	74		1.001	6.576	631
225	35.998	36.440		0.16	0.16	1.33	1.08	0.26	85	86	74	1.95	1.4	82	0.018	99	98	134.6	0.07	0.81		95.51	162.85	158.64	67.04	162.54	102	76	76	74		1.001	6.739	644
226	36.159	36.603		0.16	0.16	1.34	1.09	0.26	85	86	74	1.95	1.4	82	0.016	104	104	134.6	-0.03	0.83		95.32	162.59	158.49	67.08	162.41	102	76	76	74		1.001	6.903	659
227	36.320	36.766		0.16	0.16	1.34	1.08	0.26	85	86	74	1.94	1.4	81	0.017	101	101	134.7	-0.01	0.76		94.98	162.36	158.22	67.10	162.08	100	76	76	74		1.001	6.292	598
228	36.482	36.928		0.16	0.16	1.33	1.08	0.26	85	86	74	1.94	1.4	82	0.016	105	103	134.6	0.09	0.87		94.80	162.14	158.07	67.10	161.91	101	76	76	74		1.001	7.222	685
229	36.643	37.091		0.16	0.16	1.34	1.09	0.26	85	86	74	1.95	1.4	82	0.020	93	93	134.5	0.07	0.75		94.46	161.77	157.78	67.14	161.60	100	76	76	74		1.001	6.256	592
230	36.804	37.254		0.16	0.16	1.34	1.09	0.26	85	86	74	1.96	1.4	82	0.018	98	98	134.7	-0.24	0.85		94.15	161.55	157.46	67.12	161.27	99	76	76	74		1.001	7.061	666
231	36.966	37.417		0.16	0.16	1.33	1.08	0.26	85	86	74	1.96	1.4	81	0.019	96	95	134.5	0.21	0.81		94.00	161.22	157.21	67.08	161.09	99	76	76	74		1.001	6.741	634
232	37.127	37.579		0.16	0.16	1.33	1.08	0.26	86	86	74	1.96	1.4	81	0.018	98	97	134.6	-0.13	0.85		93.74	161.15	157.01	67.06	160.80	98	76	76	74		1.001	7.066	663
233	37.288	37.742		0.16	0.16	1.33	1.07	0.26	85	86	74	1.96	1.5	86	0.018	99	98	134.8	-0.15	0.81		93.47	160.86	156.76	67.09	160.55	128	76	76	74		1.001	6.743	631
234	37.449	37.904		0.16	0.16	1.33	1.08	0.26	86	86	74	1.95	1.5	89	0.017	102	101	134.5	0.25	0.77		93.15	160.43	156.37	67.09	160.24	146	76	76	74		1.001	6.412	598
235	37.610	38.067		0.16	0.16	1.33	1.08	0.26	86	86	74	1.95	1.4	91	0.017	102	102	134.5	0.09	0.81		92.90	160.23	156.11	67.09	159.99	167	76	77	74		1.001	6.753	628

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
236	37.771	38.229		0.16	0.16	1.33	1.08	0.26	86	86	74	1.95	1.4	93	0.019	97	96	134.2	0.27	0.83		92.63	159.96	155.82	67.10	159.73	185	76	77	74		1.001	6.901	640
237	37.933	38.391		0.16	0.16	1.33	1.08	0.26	86	86	75	1.97	1.5	95	0.017	103	102	133.8	0.39	0.83		92.56	159.95	155.78	67.08	159.64	202	77	77	75		1.001	6.902	640
238	38.094	38.553		0.16	0.16	1.33	1.09	0.26	86	86	75	1.96	1.4	97	0.018	100	99	133.5	0.26	0.85		92.56	159.87	155.76	67.12	159.68	214	77	77	75		1.001	7.061	654
239	38.255	38.716		0.16	0.16	1.33	1.09	0.26	86	86	74	1.97	1.4	98	0.019	97	97	133.1	0.45	0.79		92.57	159.98	155.79	67.10	159.67	223	77	77	74		1.001	6.578	610
240	38.416	38.879		0.16	0.16	1.32	1.09	0.26	86	86	74	1.95	1.5	99	0.019	97	97	132.7	0.44	0.89		92.47	159.87	155.73	67.15	159.63	230	77	78	74		1.001	7.384	684
241	38.577	39.041		0.16	0.16	1.33	1.08	0.26	86	86	74	1.97	1.4	100	0.018	100	99	132.2	0.42	0.85		92.96	160.40	156.28	67.16	160.13	235	77	78	74		1.001	7.059	657
242	38.737	39.203		0.16	0.16	1.33	1.08	0.26	86	86	74	1.97	1.5	102	0.018	99	99	131.8	0.48	1.49		93.18	160.43	153.04	67.06	160.25	241	77	78	74		1.001	12.383	1155
243	38.898	39.365		0.16	0.16	1.33	1.08	0.26	86	86	74	1.96	1.5	103	0.020	95	94	131.3	0.41	1.35		93.25	160.23	152.92	66.78	160.03	246	78	78	74		1.001	11.259	1051
244	39.059	39.528		0.16	0.16	1.33	1.08	0.26	86	86	75	1.97	1.5	104	0.018	100	100	131.0	0.39	0.42		93.68	161.03	158.97	66.65	160.33	253	78	78	75		1.001	3.513	330
245	39.220	39.690		0.16	0.16	1.33	1.08	0.26	86	86	75	1.97	1.5	106	0.019	98	97	130.3	0.65	1.39		94.47	161.36	153.83	66.66	161.13	259	78	79	75		1.001	11.595	1097
246	39.381	39.851		0.16	0.16	1.33	1.09	0.26	86	86	75	1.96	1.5	107	0.018	100	99	129.8	0.47	1.47		93.99	160.92	153.36	66.64	160.63	266	78	79	75		1.001	12.219	1150
247	39.541	40.013		0.16	0.16	1.33	1.09	0.26	86	86	75	1.97	1.5	108	0.018	100	100	129.3	0.51	1.42		93.78	160.17	152.82	66.23	160.01	271	79	79	75		1.001	11.832	1111
248	39.702	40.176		0.16	0.16	1.33	1.08	0.26	86	86	75	1.98	1.5	110	0.018	101	101	128.9	0.45	1.41		94.48	160.94	153.24	66.13	160.61	274	79	80	75		1.001	11.739	1110
249	39.863	40.338		0.16	0.16	1.34	1.08	0.26	86	86	75	1.98	1.5	110	0.017	104	103	128.4	0.50	1.44		95.34	161.86	154.16	66.21	161.56	277	79	80	75		1.001	11.962	1142
250	40.023	40.499		0.16	0.16	1.34	1.08	0.26	86	86	75	1.98	1.5	111	0.019	98	97	127.6	0.78	0.42		96.21	163.39	161.22	66.16	162.37	281	79	80	75		1.001	3.512	338
251	40.184	40.661		0.16	0.16	1.33	1.08	0.26	86	86	75	1.97	1.5	113	0.019	98	98	127.0	0.62	0.95		98.32	164.64	159.43	66.05	164.37	288	80	80	75		1.001	7.868	775
252	40.345	40.824		0.16	0.16	1.33	1.08	0.26	86	86	75	1.99	1.5	114	0.018	101	101	126.4	0.59	0.98		98.17	165.02	159.69	66.59	164.76	293	80	80	75		1.001	8.190	805
253	40.505	40.986		0.16	0.16	1.33	1.08	0.26	86	86	75	1.97	1.5	114	0.017	103	103	125.9	0.50	1.00		98.74	165.40	160.05	66.45	165.19	298	80	81	75		1.001	8.349	825
254	40.666	41.147		0.16	0.16	1.33	1.08	0.26	86	86	75	1.99	1.5	115	0.018	101	100	125.1	0.82	0.95		99.53	166.19	160.77	66.40	165.93	300	80	81	75		1.001	7.869	784
255	40.826	41.309		0.16	0.16	1.33	1.08	0.26	86	86	75	1.99	1.5	115	0.016	107	106	124.5	0.57	0.95		100.27	167.04	161.81	66.46	166.73	302	80	81	75		1.001	7.867	790
256	40.987	41.471		0.16	0.16	1.33	1.08	0.26	86	86	75	1.97	1.5	116	0.019	99	98	124.0	0.57	0.83		101.16	168.15	163.08	66.55	167.71	304	81	81	75		1.001	6.897	699
257	41.148	41.632		0.16	0.16	1.33	1.07	0.26	86	86	75	1.99	1.5	117	0.018	101	100	123.5	0.44	0.96		102.29	169.29	163.66	66.65	168.94	306	81	82	75		1.001	8.033	823
258	41.308	41.794		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	117	0.019	98	98	123.0	0.50	1.04		102.75	169.82	164.13	66.73	169.48	308	81	82	75		1.001	8.673	892
259	41.469	41.955		0.16	0.16	1.33	1.08	0.26	86	86	75	1.98	1.5	117	0.018	101	100	122.4	0.60	0.89		103.41	170.39	165.08	66.71	170.11	308	81	82	75		1.001	7.411	767
260	41.629	42.118		0.16	0.16	1.33	1.08	0.26	86	86	75	2	1.5	117	0.018	101	101	121.9	0.49	0.89		104.12	171.21	165.79	66.71	170.83	309	81	82	75		1.001	7.387	770
261	41.789	42.279		0.16	0.16	1.33	1.07	0.26	86	86	75	1.98	1.5	117	0.018	101	100	121.1	0.80	0.87		105.49	172.64	167.46	66.74	172.23	310	81	82	75		1.001	7.218	762
262	41.950	42.440		0.16	0.16	1.32	1.08	0.26	86	86	75	1.98	1.5	118	0.017	104	103	120.7	0.42	0.71		106.37	173.71	169.69	66.82	173.19	312	82	82	75		1.001	5.928	631
263	42.110	42.602		0.16	0.16	1.32	1.08	0.26	86	86	76	2	1.5	119	0.019	98	98	120.1	0.61	0.79		107.44	174.54	170.10	66.76	174.20	315	82	83	76		1.001	6.573	707
264	42.270	42.764		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	119	0.018	101	101	119.7	0.40	0.83		108.07	175.65	171.02	67.06	175.13	319	82	83	75		1.001	6.898	746
265	42.430	42.925		0.16	0.16	1.32	1.08	0.26	86	86	75	2	1.5	120	0.017	104	103	118.9	0.77	0.75		108.98	176.59	171.91	67.09	176.07	321	82	83	75		1.001	6.254	682
266	42.590	43.086		0.16	0.16	1.32	1.08	0.26	86	86	76	1.99	1.5	120	0.018	101	100	118.4	0.53	0.79		109.63	177.37	172.68	67.21	176.84	323	82	83	76		1.001	6.576	722
267	42.750	43.248		0.16	0.16	1.32	1.08	0.26	86	86	75	2.01	1.5	120	0.018	101	101	118.0	0.36	0.72		110.53	178.20	173.77	67.26	177.79	325	83	83	75		1.001	5.962	660
268	42.910	43.410		0.16	0.16	1.32	1.08	0.26	86	86	76	1.99	1.5	121	0.018	101	101	117.5	0.55	0.81		111.52	179.17	174.47	67.28	178.80	327	83	83	76		1.001	6.745	753
269	43.070	43.571		0.16	0.16	1.33	1.08	0.26	86	86	76	2	1.5	112	0.017	103	102	116.8	0.65	0.78		112.36	180.21	175.35	67.30	179.65	329	83	83	76		1.001	6.451	726
270	43.230	43.733		0.16	0.16	1.32	1.09	0.26	86	86	76	1.98	1.5	98	0.018	99	99	116.3	0.51	0.85		113.29	181.14	176.32	67.39	180.68	295	82	83	76		1.001	7.051	800
271	43.391	43.896		0.16	0.16	1.33	1.08	0.26	86	86	75	2	1.5	94	0.018	99	99	116.0	0.35	0.77		113.89	181.61	176.85	67.38	181.27	272.55191	82	82	75		1.001	6.411	731
272	43.551	44.059		0.16	0.16	1.32	1.08	0.26	86	86	76	1.98	1.5	92	0.018	98	99	115.8	0.18	0.81		114.23	182.03	177.29	67.44	181.67	257.57742	81	82	76		1.001	6.733	770
273	43.712	44.221		0.16	0.16	1.33	1.08	0.26	86	86	75	1.99	1.5	91	0.018	99	98	115.5	0.26	0.77		114.65	182.36	177.55	67.34	181.99	247	81	82	75		1.001	6.409	736
274	43.873	44.383		0.16	0.16	1.33	1.08	0.26	86	86	75	1.99	1.5	89	0.018	99	98	115.5	0.05	0.75		114.89	182.56	177.84	67.41	182.29	240	81	81	75		1.001	6.246	718
275	44.034	44.545		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	88	0.017	102	101	115.3	0.17	0.77		114.88	182.65	177.78	67.39	182.27	235	81	81	75		1.001	6.415	738
276	44.195	44.709		0.16	0.16	1.33	1.08	0.26	86	86	75	1.99	1.5	87	0.017	102	102	115.2	0.14	0.73		115.05	182.71	178.01	67.43	182.48	229	81	81	75		1.001	6.094	702
277	44.355	44.871		0.16	0.16	1.33	1.08	0.26	86	86	75	1.98	1.5	87	0.018	98	98	115.2	-0.02	0.75		114.99	182.62	177.90	67.42	182.42	223	80	81	75		1.001	6.248	719
278	44.516	45.033		0.16	0.16	1.32	1.08	0.26	86	86	75	1.98	1.5	86	0.018	99	98	115.3	-0.08	0.79		115.05	182.45	177.74	67.25	182.29	219	80	81	75		1.001	6.541	753
279	44.677	45.195		0.16	0.16	1.32	1.08	0.26	86	86	75	1.97	1.5	86	0.019	96	95	115.1	0.19	0.75		114.84	182.52	177.82	67.46	182.30	215	80	81	75		1.001	6.245	718
280	44.838	45.358		0.16	0.16	1.33	1.08	0.26	86	86	75	1.97	1.5	86	0.018	99	98	115.0	0.09	0.77		115.13	182.69	177.97	67.28	182.41	211	80	80	75		1.001	6.408	739
281	44.999	45.521		0.16	0.16	1.32	1.08	0.26	86	86	75	1.97	1.5	85	0.018	98	98	115.0	0.02	0.79		115.05	182.63	177.91	67.36	182.41	208	80	80	75		1.001	6.570	757
282	45.159	45.682		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	86	0.017	101	100	115.1	-0.16	0.77		115.27	182.79	178.09	67.29	182.56	204	80	80	75		1.001	6.409	740
283	45.320	45.845		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	85	0.016	104	104	115.0	0.13	0.81		115.11	182.79	177.99	67.36	182.47	201	80	80	75		1.001	6.731	776
284	45.481	46.007		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	84	0.017	101	100	115.0	0.00	0.83		115.17	182.76	178.06	67.35	182.52	199	79	80	75		1.001	6.892	795
285	45.641	46.171		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	84	0.017	101	102	115.0	0.00	0.79		115.12	182.62	177.88	67.26	182.38	196	79	80	75		1.001	6.569	757
286	45.802	46.333		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	84	0.016	104	104	114.9	0.04	0.79		115.05	182.60	177.88	67.35	182.40	192	79	79	75		1.001	6.564	756
287	45.963	46.495		0.16	0.16	1.32	1.08	0.26	86	86	75	1.99	1.5	83	0.017	101	100	114.9	0.03	0.77		114.95	182.58	177.87	67.38	182.32	189	79	79	75		1.001	6.410	738
288	46.124	46.658		0.16	0.16	1.32	1.08	0.26	86	86	75	1.98	1.5	83	0.018	98	98	114.9	0.01	0.81		114.91	182.35	177.66	67.28	182.19	186	79	79	75		1.001	6.725	774
289	46.285	46.821		0.16	0.16	1.32	1.08	0.26	86	87	75	1.97	1.5	83	0.018	98	98	115.0	-0.12	0.81		114.52	182.04	177.41	67.38	181.90	183	79	79	75		1.001	6.738	772
290	46.445	46.984		0.16	0.16	1.33	1.08	0.26	86	87	75	1.99	1.5	83	0.016	104	104	115.0	0.06	0.81		114.52	182.11	177.43	67.30	181.83	180	79	79	75		1.001	6.735	772
291	46.606	47.146		0.16	0.16	1.32	1.08	0.26	86	87	75	1.97	1.5	83	0.017	101	100	115.0	0.01	0.75		114.47	181.90	177.28	67.28	181.75	178	78	79	75		1.001	6.251	716
292	46.767	47.308		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.017	101	100	114.9	0.03	0.75		114.15	181.78	177.11	67.32	181.47	175	78	79	75		1.001	6.249	714
293	46.928	47.471		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.019	96	95	114.9	0.05	0.79		113.91	181.36	176.72	67.30	181.20	172	78	79	75		1.001	6.570	749
294	47.089	47.634		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.018	98	98	115.1	-0.17	0.79		113.65	181.30	176.60	67.33	180.98	170	78	78	75		1.001	6.573	748
295	47.249	47.797		0.16	0.16	1.32	1.08	0.26	86	87	75	1.98	1.5	83	0.019	95	95	114.9	0.16	0.79		113.70	181.21	176.56	67.28	180.98	167	78	78	75		1.001	6.578	749
296	47.410	47.959		0.16	0.16	1.33	1.08	0.26	86	87	75	1.99	1.5	84	0.018	98	97	114.9	0.03	0.83		113.41	180.75	176.17	67.23	180.64	165	78	78	75		1.001	6.904	784
297	47.571	48.121		0.16	0.16	1.32	1.09	0.26	86	87	75	1.99	1.5	83	0.016	104	103	114.9	0.01	0.77		113.35	180.81	176.17	67.27	180.62	163	78	78	75		1.001	6.418	728

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
298	47.732	48.284		0.16	0.16	1.32	1.09	0.26	86	87	75	1.98	1.5	83	0.017	101	101	115.0	-0.12	0.79		113.02	180.54	175.88	67.28	180.30	161	78	78	75		1.001	6.575	744
299	47.893	48.448		0.16	0.16	1.32	1.08	0.26	86	87	75	1.97	1.5	83	0.018	98	99	115.1	-0.11	0.81		112.62	180.13	175.57	67.33	179.95	159	77	78	75		1.001	6.738	760
300	48.054	48.610		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.016	104	103	114.9	0.15	0.79		112.58	179.96	175.39	67.22	179.79	157	77	78	75		1.001	6.573	741
301	48.215	48.772		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.016	104	103	115.1	-0.14	0.77		112.53	180.05	175.38	67.22	179.75	154	77	78	75		1.001	6.413	723
302	48.376	48.935		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.017	101	101	114.9	0.17	0.79		112.26	179.74	175.17	67.24	179.50	153	77	78	75		1.001	6.575	739
303	48.536	49.098		0.16	0.16	1.33	1.09	0.26	86	87	75	1.98	1.5	83	0.018	98	98	115.1	-0.17	0.83		111.90	179.41	174.91	67.31	179.22	151	77	78	75		1.001	6.897	773
304	48.697	49.261		0.16	0.16	1.33	1.08	0.26	86	87	75	1.99	1.5	83	0.018	98	98	115.1	0.01	0.73		111.55	179.01	174.48	67.28	178.83	149	77	78	75		1.001	6.090	680
305	48.858	49.423		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.017	101	100	115.0	0.08	0.81		111.62	179.12	174.56	67.26	178.87	147	77	77	75		1.001	6.740	753
306	49.019	49.585		0.16	0.16	1.33	1.08	0.26	86	87	75	1.99	1.5	83	0.016	104	103	115.0	-0.07	0.81		111.24	178.82	174.26	67.34	178.58	146	77	77	75		1.001	6.735	750
307	49.180	49.748		0.16	0.16	1.32	1.08	0.26	86	87	75	1.97	1.5	83	0.018	98	98	115.2	-0.16	0.81		110.95	178.51	173.95	67.29	178.24	144	77	77	75		1.001	6.719	746
308	49.342	49.912		0.16	0.16	1.33	1.08	0.26	86	87	75	1.98	1.5	83	0.018	99	99	115.1	0.08	0.83		110.68	178.21	173.68	67.24	177.92	143	77	77	75		1.001	6.896	764
309	49.503	50.074		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.018	98	97	115.2	-0.11	0.83		110.60	178.15	173.65	67.31	177.91	141	77	77	75		1.001	6.897	764
310	49.664	50.236		0.16	0.16	1.33	1.08	0.26	86	87	75	1.99	1.5	83	0.017	101	100	115.2	0.08	0.79		110.48	177.94	173.47	67.25	177.73	140	77	77	75		1.001	6.573	727
311	49.825	50.399		0.16	0.16	1.32	1.09	0.26	86	87	75	1.98	1.5	83	0.018	98	98	115.1	0.05	0.71		110.23	177.53	173.07	67.14	177.38	138	77	77	75		1.001	5.926	654
312	49.986	50.562		0.16	0.16	1.33	1.09	0.26	86	87	75	1.98	1.5	83	0.018	98	98	115.1	-0.02	0.81		109.86	177.43	172.95	67.32	177.19	136	77	77	75		1.001	6.735	741
313	50.147	50.725		0.16	0.16	1.32	1.08	0.26	86	87	75	1.99	1.5	83	0.019	96	95	115.2	-0.11	0.81		109.70	177.18	172.74	67.32	177.03	135	77	77	75		1.001	6.734	740
314	50.308	50.887		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.019	96	95	115.2	0.01	0.85		109.40	176.83	172.43	67.27	176.67	134	77	77	75		1.001	7.057	773
315	50.469	51.050		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.015	108	107	115.2	0.04	0.79		109.19	176.61	172.15	67.22	176.41	133	77	77	75		1.001	6.569	718
316	50.630	51.212		0.16	0.16	1.33	1.09	0.26	86	87	75	1.97	1.5	83	0.018	98	97	115.2	0.03	0.83		108.92	176.34	171.95	67.32	176.24	131	77	77	75		1.001	6.895	752
317	50.791	51.376		0.16	0.16	1.33	1.08	0.26	86	87	75	1.98	1.5	83	0.018	98	99	115.2	-0.02	0.81		108.99	176.39	172.07	67.26	176.24	131	77	77	75		1.001	6.739	735
318	50.952	51.538		0.16	0.16	1.32	1.08	0.26	86	87	75	1.98	1.5	83	0.018	98	97	115.2	-0.01	0.79		108.45	175.94	171.49	67.23	175.68	130	77	77	75		1.001	6.577	714
319	51.113	51.700		0.16	0.16	1.32	1.08	0.26	86	87	75	1.97	1.5	83	0.016	104	103	115.3	-0.09	0.75		108.20	175.54	171.25	67.25	175.45	128	77	77	75		1.001	6.249	677
320	51.273	51.863		0.16	0.16	1.32	1.08	0.26	86	87	75	1.98	1.5	83	0.019	95	95	115.2	0.05	0.81		107.93	175.31	171.01	67.28	175.21	126	77	77	75		1.001	6.737	728
321	51.435	52.026		0.16	0.16	1.32	1.09	0.26	86	87	75	1.97	1.5	83	0.017	102	101	115.2	0.00	0.77		107.82	175.26	170.89	67.21	175.03	126	77	77	75		1.001	6.413	692
322	51.595	52.189		0.16	0.16	1.32	1.09	0.26	86	87	75	1.98	1.5	82	0.019	95	95	115.3	-0.11	0.79		107.35	174.80	170.32	67.19	174.54	125	77	77	75		1.001	6.572	706
323	51.756	52.352		0.16	0.16	1.32	1.08	0.26	86	87	75	1.99	1.5	83	0.017	101	101	115.3	0.05	0.71		107.15	174.54	170.23	67.29	174.44	124	77	77	75		1.001	5.926	636
324	51.917	52.514		0.16	0.16	1.32	1.08	0.26	86	87	75	1.98	1.5	83	0.015	108	107	115.3	0.04	0.75		107.17	174.55	170.18	67.17	174.34	123	77	77	75		1.001	6.252	671
325	52.078	52.677		0.16	0.16	1.32	1.09	0.26	86	87	75	1.98	1.5	83	0.015	108	107	115.3	-0.07	0.83		106.74	174.10	169.85	67.23	173.97	122	77	77	75		1.001	6.889	736
326	52.239	52.840		0.16	0.16	1.32	1.09	0.26	86	87	75	1.98	1.5	83	0.017	101	101	115.3	-0.02	0.80		106.50	173.80	169.56	67.24	173.74	121	77	77	75		1.001	6.637	708
327	52.400	53.003		0.16	0.16	1.32	1.09	0.26	86	87	75	1.98	1.5	83	0.018	98	98	115.3	0.06	0.75		106.33	173.60	169.39	67.19	173.52	121	77	77	75		1.001	6.250	665
328	52.561	53.166		0.16	0.16	1.32	1.08	0.26	86	87	75	1.98	1.5	83	0.019	96	95	115.4	-0.10	0.77		105.85	173.26	169.01	67.29	173.14	119	77	77	75		1.001	6.388	677
329	52.722	53.328		0.16	0.16	1.33	1.08	0.26	86	87	75	1.97	1.5	83	0.019	96	95	115.2	0.19	0.75		105.87	173.29	168.99	67.20	173.07	119	77	77	75		1.001	6.249	662
330	52.883	53.491		0.16	0.16	1.32	1.09	0.26	87	87	75	1.97	1.5	83	0.019	96	95	115.3	-0.09	0.79		105.38	172.87	168.58	67.31	172.69	118	77	77	75		1.001	6.573	693
331	53.044	53.654		0.16	0.16	1.32	1.08	0.26	87	87	75	1.97	1.5	82	0.017	101	101	115.3	-0.03	0.81		105.07	172.46	168.23	67.25	172.32	117	77	77	75		1.001	6.734	708
332	53.205	53.817		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	82	0.017	101	101	115.5	-0.15	0.77		104.86	172.36	168.15	67.30	172.16	117	77	77	75		1.001	6.410	673
333	53.366	53.979		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.017	101	100	115.3	0.18	0.81		104.69	172.11	167.83	67.23	171.92	116	77	77	75		1.001	6.736	706
334	53.528	54.142		0.16	0.16	1.32	1.09	0.26	87	87	75	1.98	1.5	83	0.018	99	98	115.4	-0.15	0.75		104.34	171.79	167.52	67.21	171.56	116	77	77	75		1.001	6.246	652
335	53.688	54.305		0.16	0.16	1.32	1.09	0.26	87	87	75	1.98	1.5	83	0.018	98	98	115.4	0.00	0.79		103.96	171.53	167.28	67.29	171.25	115	77	77	75		1.001	6.569	684
336	53.849	54.469		0.16	0.16	1.33	1.09	0.26	87	87	75	1.99	1.5	83	0.017	101	101	115.3	0.09	0.77		103.90	171.33	167.19	67.26	171.17	114	77	77	75		1.001	6.414	667
337	54.010	54.631		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	82	0.018	98	97	115.4	-0.06	0.77		103.75	171.21	166.98	67.28	171.03	114	77	77	75		1.001	6.413	666
338	54.171	54.793		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	82	0.017	101	100	115.6	-0.19	0.73		103.44	170.90	166.71	67.28	170.72	114	77	77	75		1.001	6.089	631
339	54.332	54.956		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	82	0.017	101	101	115.5	0.13	0.83		103.14	170.53	166.33	67.16	170.30	112	77	77	75		1.001	6.900	712
340	54.493	55.119		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.017	101	101	115.5	0.00	0.77		102.87	170.33	166.19	67.30	170.17	112	77	77	75		1.001	6.411	660
341	54.654	55.282		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	82	0.018	98	98	115.5	-0.02	0.73		102.66	170.14	166.00	67.29	169.95	111	77	77	75		1.001	6.088	626
342	54.816	55.445		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	82	0.017	102	101	115.5	-0.04	0.79		102.25	169.70	165.55	67.28	169.53	113	77	77	75		1.001	6.572	673
343	54.977	55.607		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	83	0.019	96	95	115.6	-0.04	0.79		101.99	169.36	165.32	67.25	169.25	111	77	77	75		1.001	6.575	671
344	55.137	55.770		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	87	0.017	101	101	115.5	0.01	0.81		101.72	169.16	164.98	67.24	168.97	139	77	77	75		1.001	6.734	686
345	55.298	55.933		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.019	96	95	115.4	0.11	0.80		101.64	169.03	164.93	67.28	168.91	137	77	77	75		1.001	6.626	674
346	55.459	56.096		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.017	101	101	115.4	0.03	0.81		101.31	168.77	164.68	67.30	168.62	132	77	77	75		1.001	6.735	683
347	55.621	56.258		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.017	102	100	115.4	0.01	0.83		100.96	168.30	164.25	67.23	168.19	128	77	77	75		1.001	6.881	696
348	55.782	56.421		0.16	0.16	1.33	1.09	0.26	87	87	75	1.98	1.5	83	0.018	98	98	115.4	-0.04	0.79		100.64	168.09	164.01	67.27	167.91	126	77	77	75		1.001	6.574	662
349	55.943	56.584		0.16	0.16	1.33	1.09	0.26	87	87	75	1.98	1.5	83	0.018	98	98	115.5	-0.03	0.75		100.56	167.97	164.03	67.22	167.77	123	77	77	75		1.001	6.249	629
350	56.104	56.747		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	83	0.018	98	98	115.4	0.02	0.81		100.13	167.55	163.48	67.27	167.40	121	77	77	75		1.001	6.738	675
351	56.266	56.910		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	82	0.017	102	101	115.3	0.17	0.83		99.96	167.43	163.39	67.31	167.27	119	77	77	75		1.001	6.898	690
352	56.427	57.072		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	82	0.018	98	97	115.3	-0.01	0.77		99.45	166.81	162.84	67.26	166.72	118	77	77	75		1.001	6.408	638
353	56.588	57.235		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.016	104	104	115.3	-0.06	0.81		99.39	166.74	162.79	67.29	166.67	117	77	77	75		1.001	6.738	670
354	56.749	57.398		0.16	0.16	1.34	1.09	0.26	87	87	75	1.97	1.5	83	0.018	98	98	115.3	0.03	0.79		99.29	166.59	162.64	67.18	166.47	116	77	77	75		1.001	6.571	653
355	56.911	57.562		0.16	0.16	1.33	1.09	0.26	87	87	75	1.98	1.5	83	0.018	99	99	115.2	0.09	0.77		98.83	166.19	162.19	67.23	166.07	116	77	77	75		1.001	6.404	634
356	57.072	57.725		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	83	0.018	98	98	115.3	-0.10	0.77		98.60	166.01	161.98	67.21	165.81	115	77	77	75		1.001	6.430	635
357	57.233	57.887		0.16	0.16	1.32	1.09	0.26	87	87	75	1.97	1.5	83	0.017	101	100	115.4	-0.03	0.81		98.33	165.77	161.76	67.25	165.58	115	76	77	75		1.001	6.738	663
358	57.394	58.050		0.16	0.16	1.32	1.09	0.26	87	87	75	1.98	1.5	83	0.017	101	101	115.5	-0.11	0.79		98.04	165.30	161.36	67.16	165.20	113	77	77	75		1.001	6.574	645
359	57.556	58.213		0.16	0.16	1.32	1.09	0.26	87	87	75	1.98	1.5	83	0.017	102	101	115.4	0.05	0.73		97.90	165.20	161.32	67.26	165.16	112	76	77	75		1.001	6.088	597

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
360	57.717	58.377		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	83	0.019	96	96	115.5	-0.03	0.81		97.54	165.00	161.02	67.24	164.78	112	76	77	75		1.001	6.736	658
361	57.878	58.539		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	83	0.018	98	97	115.3	0.12	0.77		97.33	164.63	160.79	67.26	164.60	111	77	77	75		1.001	6.412	625
362	58.039	58.702		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.017	101	101	115.3	-0.01	0.75		97.14	164.55	160.63	67.26	164.40	111	77	77	75		1.001	6.253	608
363	58.200	58.865		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	82	0.018	98	98	115.4	-0.02	0.81		96.73	164.25	160.28	67.29	164.02	111	77	77	75		1.001	6.729	652
364	58.362	59.028		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	82	0.019	96	95	115.4	-0.01	0.78		96.47	163.88	159.99	67.28	163.75	109	77	77	75		1.001	6.525	630
365	58.523	59.192		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	83	0.016	104	105	115.4	-0.01	0.80		96.24	163.55	159.65	67.21	163.46	110	76	77	75		1.001	6.633	639
366	58.684	59.354		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	83	0.019	96	95	115.4	-0.04	0.73		96.04	163.46	159.65	67.33	163.37	108	76	77	75		1.001	6.088	585
367	58.845	59.517		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	83	0.018	98	98	115.5	-0.07	0.73		95.94	163.36	159.50	67.24	163.18	108	76	77	75		1.001	6.089	585
368	59.006	59.680		0.16	0.16	1.33	1.09	0.26	87	87	75	1.98	1.5	83	0.018	98	98	115.4	0.06	0.75		95.52	162.84	159.02	67.24	162.76	107	76	77	75		1.001	6.249	598
369	59.167	59.843		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	82	0.019	95	95	115.5	-0.02	0.73		95.20	162.59	158.82	67.29	162.49	107	76	77	75		1.001	6.089	580
370	59.329	60.006		0.16	0.16	1.32	1.09	0.26	87	87	75	1.98	1.5	83	0.017	102	101	115.5	-0.01	0.83		94.99	162.35	158.52	67.24	162.23	105	76	77	75		1.001	6.897	656
371	59.490	60.169		0.16	0.16	1.32	1.08	0.26	87	87	75	1.97	1.5	82	0.019	95	95	115.3	0.14	0.83		94.60	162.16	158.23	67.32	161.93	106	76	77	75		1.001	6.898	653
372	59.651	60.332		0.16	0.16	1.33	1.09	0.26	87	87	75	1.98	1.5	83	0.017	101	101	115.5	-0.20	0.81		94.56	161.95	158.17	67.31	161.87	105	76	77	75		1.001	6.736	638
373	59.812	60.494		0.16	0.16	1.32	1.09	0.26	87	87	75	1.97	1.5	82	0.016	104	103	115.5	0.06	1.31		94.20	161.62	156.94	67.26	161.45	105	76	77	75		1.001	10.930	1031
374	59.974	60.658		0.16	0.16	1.32	1.09	0.26	87	87	75	1.98	1.5	83	0.017	102	101	115.3	0.17	1.37		93.13	160.53	153.66	67.31	160.43	104	76	77	75		1.001	11.398	1063
375	60.134	60.820		0.16	0.16	1.32	1.08	0.26	87	87	75	1.99	1.5	89	0.018	98	98	115.6	-0.26	1.29		93.46	160.41	153.53	66.80	160.26	129	77	77	75		1.001	10.720	1003
376	60.295	60.982		0.16	0.16	1.32	1.08	0.26	87	87	75	1.98	1.5	90	0.019	96	95	115.4	0.13	1.34		93.14	159.74	152.86	66.48	159.62	141	77	77	75		1.001	11.150	1040
377	60.456	61.144		0.16	0.16	1.32	1.08	0.26	87	87	75	1.99	1.5	89	0.017	102	101	115.3	0.17	1.37		92.65	159.18	152.42	66.47	159.12	152	77	77	75		1.001	11.394	1057
378	60.617	61.307		0.16	0.16	1.32	1.09	0.26	87	87	75	1.98	1.5	89	0.019	96	96	115.3	-0.04	0.44		91.92	158.58	155.58	66.44	158.37	157	77	77	75		1.001	3.677	338
379	60.778	61.471		0.16	0.16	1.32	1.08	0.26	87	87	75	1.97	1.5	90	0.018	99	99	115.1	0.19	1.08		92.36	158.63	152.90	66.15	158.51	159	77	77	75		1.001	8.998	832
380	60.939	61.633		0.16	0.16	1.32	1.08	0.26	87	87	75	1.99	1.5	90	0.018	99	98	115.0	0.11	1.14		91.62	158.11	152.51	66.42	158.04	161	77	78	75		1.001	9.485	870
381	61.100	61.795		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	90	0.016	105	104	114.9	0.14	1.12		91.44	157.76	152.04	66.20	157.64	163	77	78	75		1.001	9.323	853
382	61.261	61.958		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	91	0.018	99	99	114.8	0.07	1.18		91.11	157.43	151.73	66.16	157.27	164	77	78	75		1.001	9.808	895
383	61.422	62.121		0.16	0.16	1.33	1.09	0.26	87	87	75	1.99	1.5	91	0.019	96	96	114.8	-0.02	1.18		90.73	157.00	151.33	66.16	156.89	165	77	78	75		1.001	9.809	891
384	61.583	62.284		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	91	0.019	96	96	114.6	0.20	1.14		90.06	156.67	150.95	66.39	156.44	166	77	78	75		1.001	9.482	855
385	61.744	62.446		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	91	0.018	99	98	114.7	-0.06	1.18		89.81	156.23	150.65	66.32	156.13	167	77	78	75		1.001	9.799	881
386	61.905	62.608		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	92	0.017	102	101	114.4	0.31	1.08		89.72	156.07	150.85	66.27	155.99	169	78	78	75		1.001	8.994	808
387	62.066	62.771		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	92	0.018	99	99	114.2	0.22	1.08		89.36	155.75	150.52	66.30	155.66	171	78	78	75		1.001	8.995	805
388	62.227	62.934		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	93	0.018	99	99	114.1	0.04	1.12		89.13	155.61	150.39	66.38	155.51	174	78	78	75		1.001	9.316	831
389	62.388	63.097		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	93	0.018	99	99	113.8	0.34	1.14		88.88	155.34	150.06	66.31	155.19	178	78	78	75		1.001	9.476	843
390	62.549	63.259		0.16	0.16	1.33	1.08	0.26	87	87	75	1.97	1.5	94	0.016	105	104	113.5	0.27	1.00		88.64	155.22	149.96	66.39	155.03	183	78	78	75		1.001	8.351	741
391	62.710	63.421		0.16	0.16	1.33	1.09	0.26	87	87	75	1.97	1.5	96	0.017	102	101	113.2	0.27	1.10		88.56	155.07	149.87	66.40	154.96	192	78	78	75		1.001	9.155	812
392	62.871	63.584		0.16	0.16	1.33	1.09	0.26	87	87	75	1.98	1.5	97	0.018	99	99	112.9	0.36	1.10		88.50	155.06	149.86	66.43	154.93	200	78	79	75		1.001	9.157	811
393	63.032	63.747		0.16	0.16	1.33	1.09	0.26	87	87	75	1.99	1.5	98	0.018	99	99	112.6	0.28	1.04		88.62	155.17	149.92	66.37	154.99	208	78	79	75		1.001	8.674	770
394	63.193	63.909		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	99	0.017	102	102	112.3	0.33	1.08		88.77	155.38	150.07	66.37	155.15	215	78	79	75		1.001	8.996	800
395	63.353	64.071		0.16	0.16	1.33	1.08	0.26	87	87	75	1.98	1.5	100	0.017	102	102	111.9	0.39	1.00		89.05	155.71	150.42	66.45	155.50	222	79	79	75		1.001	8.351	744
396	63.514	64.234		0.16	0.16	1.33	1.08	0.26	87	87	75	2	1.5	101	0.018	100	100	111.4	0.47	1.08		89.49	156.15	150.83	66.44	155.93	230	79	79	75		1.001	8.993	806
397	63.675	64.397		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	102	0.018	100	100	111.1	0.29	1.02		89.82	156.32	151.10	66.34	156.16	237	79	79	75		1.001	8.514	766
398	63.836	64.559		0.16	0.16	1.33	1.08	0.26	87	87	75	2	1.5	103	0.017	103	102	110.5	0.58	1.05		90.02	156.69	151.29	66.38	156.40	245	79	80	75		1.001	8.740	788
399	63.997	64.721		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	104	0.016	106	105	110.2	0.33	1.10		90.13	156.83	151.50	66.51	156.64	253	79	80	75		1.001	9.152	826
400	64.158	64.883		0.16	0.16	1.33	1.08	0.26	87	87	75	1.99	1.5	106	0.019	98	97	109.7	0.51	1.02		90.58	157.37	151.89	66.44	157.03	261	79	80	75		1.001	8.512	772
401	64.319	65.045		0.16	0.16	1.32	1.08	0.26	87	87	75	2	1.5	108	0.017	103	103	109.2	0.45	1.08		91.09	157.68	152.35	66.41	157.50	270	80	80	75		1.001	8.997	820
402	64.479	65.207		0.16	0.16	1.33	1.08	0.26	87	87	75	2.02	1.5	109	0.018	100	100	108.4	0.87	1.04		91.76	158.34	152.93	66.37	158.13	280	80	81	75		1.001	8.675	797
403	64.639	65.368		0.16	0.16	1.33	1.08	0.26	87	87	75	2.01	1.5	111	0.018	100	99	108.1	0.24	1.06		92.43	159.08	153.54	66.36	158.79	289	80	81	75		1.001	8.836	818
404	64.799	65.530		0.16	0.16	1.31	1.08	0.26	87	87	75	2.02	1.5	113	0.018	100	100	107.4	0.79	1.06		93.18	159.99	154.36	66.42	159.61	297	80	81	75		1.001	8.833	824
405	64.960	65.692		0.16	0.16	1.32	1.08	0.26	87	87	75	2.01	1.5	115	0.018	101	100	106.8	0.56	1.06		93.91	160.65	155.02	66.43	160.33	307	81	81	75		1.001	8.835	831
406	65.120	65.853		0.16	0.16	1.32	1.08	0.26	87	87	75	2.03	1.5	117	0.018	101	100	105.9	0.87	1.08		95.09	161.58	155.99	66.32	161.41	315	81	82	75		1.001	8.999	857
407	65.279	66.014		0.16	0.16	1.32	1.08	0.26	87	87	75	2.03	1.5	118	0.017	103	103	105.5	0.41	1.08		96.04	162.66	156.98	66.39	162.43	322	81	82	75		1.001	8.996	865
408	65.439	66.175		0.16	0.16	1.32	1.07	0.26	87	87	75	2.03	1.5	119	0.019	98	97	104.7	0.86	1.02		97.19	164.08	158.17	66.45	163.64	325	81	82	75		1.001	8.517	829
409	65.599	66.337		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	120	0.018	101	101	103.9	0.71	1.09		98.29	164.96	159.09	66.39	164.68	329	82	82	75		1.001	9.077	893
410	65.758	66.497		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	120	0.017	103	102	103.3	0.62	1.08		99.26	166.05	160.03	66.37	165.62	331	82	83	75		1.001	8.976	892
411	65.918	66.657		0.16	0.16	1.32	1.07	0.26	87	87	75	2.04	1.5	121	0.018	101	100	102.7	0.67	1.12		100.41	167.08	161.10	66.34	166.76	333	82	83	75		1.001	9.319	937
412	66.077	66.819		0.16	0.16	1.32	1.07	0.26	87	87	75	2.03	1.5	122	0.017	103	104	102.1	0.56	1.04		101.38	168.24	162.04	66.32	167.70	337	82	83	75		1.001	8.673	880
413	66.237	66.979		0.16	0.16	1.32	1.06	0.26	87	87	75	2.05	1.5	123	0.017	104	103	101.3	0.77	1.10		102.72	169.39	163.28	66.38	169.10	340	83	83	75		1.001	9.158	942
414	66.397	67.139		0.16	0.16	1.32	1.07	0.26	87	87	75	2.04	1.5	124	0.017	104	103	100.5	0.80	0.96		103.19	170.01	164.74	66.42	169.60	343	83	83	75		1.001	8.024	829
415	66.557	67.300		0.16	0.16	1.30	1.06	0.26	87	87	75	2.04	1.5	124	0.017	104	103	99.7	0.85	0.94		104.78	171.80	166.28	66.41	171.19	344	83	84	75		1.001	7.866	825
416	66.716	67.460		0.16	0.16	1.31	1.06	0.26	87	87	75	2.05	1.6	125	0.016	107	106	99.2	0.51	0.96		106.20	173.23	167.75	66.49	172.69	346	83	84	75		1.001	8.028	854
417	66.875	67.619		0.16	0.16	1.30	1.06	0.26	87	87	75	2.06	1.6	125	0.018	101	99	98.4	0.75	0.58		107.33	174.53	171.45	66.55	173.88	349	83	84	75		1.001	4.797	515
418	67.033	67.779		0.16	0.16	1.30	1.05	0.26	87	87	75	2.07	1.6	127	0.017	103	103	97.8	0.64	0.65		109.44	176.57	172.81	66.48	175.92	355	84	85	75		1.001	5.439	596
419	67.192	67.938		0.16	0.16	1.30	1.05	0.26	87	87	76	2.07	1.6	128	0.017	104	102	96.9	0.87	0.81		110.38	177.39	173.16	66.74	177.12	360	84	85	76		1.001	6.733	744
420	67.350	68.097		0.16	0.16	1.30	1.05	0.26	87	87	76	2.08	1.6	127	0.018	100	99	95.9	0.99	0.75		111.35	179.08	174.57	67.12	178.46	358	84	85	76		1.001	6.246	696
421	67.509	68.257		0.16	0.16	1.30	1.04	0.26	87	87	75	2.08	1.6	127	0.015	110	110	94.9	1.03	0.77		112.95	180.71	176.16	67.17	180.12	355	84	85	75		1.001	6.430	727

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
422	67.668	68.416		0.16	0.16	1.30	1.05	0.26	87	87	75	2.06	1.6	105	0.017	102	100	94.5	0.42	0.77		114.25	181.79	177.31	67.13	181.38	336	84	84	75		1.001	6.410	733
423	67.828	68.576		0.16	0.16	1.30	1.05	0.26	87	87	75	2.04	1.5	97	0.018	99	97	93.8	0.68	0.81		115.12	182.55	177.98	67.13	182.25	301	83	83	75		1.001	6.730	776
424	67.988	68.737		0.16	0.16	1.31	1.05	0.26	87	87	75	2.05	1.5	94	0.017	101	101	93.5	0.24	0.81		115.36	183.04	178.14	67.23	182.59	281	83	83	75		1.001	6.731	777
425	68.147	68.896		0.16	0.16	1.31	1.06	0.26	87	87	76	2.05	1.5	92	0.018	98	96	93.4	0.18	0.79		115.68	183.45	178.49	67.26	182.94	266	82	83	76		1.001	6.571	761
426	68.307	69.056		0.16	0.16	1.30	1.06	0.26	87	87	75	2.05	1.5	90	0.016	104	103	93.1	0.28	0.79		116.12	183.62	178.82	67.21	183.32	256	82	82	75		1.001	6.574	764
427	68.466	69.217		0.16	0.16	1.29	1.06	0.26	87	87	75	2.05	1.5	89	0.018	97	97	93.0	0.06	0.71		116.46	184.03	180.00	67.22	183.68	250	82	82	75		1.001	5.920	690
428	68.625	69.378		0.16	0.16	1.30	1.06	0.26	87	87	75	2.04	1.5	88	0.018	97	97	93.0	0.04	0.71		117.08	184.69	180.54	67.15	184.23	243	81	82	75		1.001	5.925	695
429	68.785	69.539		0.16	0.16	1.30	1.06	0.26	87	87	75	2.03	1.5	87	0.017	101	100	92.9	0.05	0.70		117.44	185.15	181.04	67.24	184.68	237	81	82	75		1.001	5.817	684
430	68.944	69.700		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	87	0.017	100	100	92.9	0.09	0.71		117.81	185.25	181.31	67.18	185.00	231	81	81	75		1.001	5.929	699
431	69.104	69.862		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	86	0.017	101	100	92.8	0.02	0.69		117.87	185.33	181.33	67.29	185.15	226	81	81	75		1.001	5.763	680
432	69.264	70.023		0.16	0.16	1.31	1.06	0.26	87	87	75	2.03	1.5	86	0.015	107	106	92.7	0.16	0.73		117.84	185.35	181.42	67.33	185.17	222	81	81	75		1.001	6.086	718
433	69.423	70.184		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	86	0.016	103	103	92.7	-0.05	0.71		117.71	185.34	181.57	67.41	185.12	217	80	81	75		1.001	5.926	698
434	69.583	70.346		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	86	0.017	101	100	92.7	0.00	0.71		117.75	185.34	181.36	67.37	185.12	214	80	81	75		1.001	5.925	698
435	69.743	70.508		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	85	0.018	98	98	92.6	0.08	0.65		117.57	185.26	181.31	67.44	185.01	210	80	80	75		1.001	5.440	640
436	69.904	70.669		0.16	0.16	1.30	1.07	0.26	87	87	75	2.03	1.5	84	0.018	98	97	92.7	-0.06	0.75		117.50	185.13	181.19	67.44	184.95	207	80	80	75		1.001	6.248	735
437	70.063	70.830		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	84	0.015	106	106	92.6	0.06	0.69		117.35	184.98	181.05	67.44	184.79	206	80	80	75		1.001	5.761	677
438	70.223	70.992		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	83	0.017	100	100	92.6	0.01	0.67		117.17	185.05	181.10	67.60	184.77	203	79	80	75		1.001	5.614	659
439	70.383	71.153		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	83	0.017	100	100	92.6	0.00	0.64		117.30	185.05	181.03	67.45	184.75	200	79	80	75		1.001	5.338	627
440	70.542	71.314		0.16	0.16	1.30	1.07	0.26	87	87	75	2.04	1.5	83	0.017	100	100	92.7	-0.02	0.69		117.00	184.79	180.84	67.55	184.55	196	79	80	75		1.001	5.762	675
441	70.702	71.475		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	83	0.018	98	97	92.6	0.01	0.69		117.05	184.64	180.69	67.40	184.45	193	79	79	75		1.001	5.763	675
442	70.862	71.638		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	83	0.018	98	98	92.7	-0.10	0.73		117.03	184.68	180.76	67.43	184.46	190	79	79	75		1.001	6.088	713
443	71.022	71.799		0.16	0.16	1.31	1.06	0.26	87	87	75	2.04	1.5	83	0.018	98	97	92.5	0.21	0.71		116.81	184.56	180.59	67.45	184.26	187	79	79	75		1.001	5.925	693
444	71.181	71.960		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	83	0.015	106	106	92.8	-0.25	0.69		116.73	184.35	180.38	67.43	184.16	184	79	79	75		1.001	5.766	674
445	71.341	72.121		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	83	0.016	103	103	92.6	0.21	0.71		116.57	184.22	180.31	67.44	184.00	181	78	79	75		1.001	5.929	692
446	71.501	72.284		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.018	97	98	92.7	-0.13	0.73		116.49	184.23	180.28	67.43	183.93	178	78	79	75		1.001	6.087	710
447	71.661	72.445		0.16	0.16	1.31	1.06	0.26	87	87	75	2.02	1.5	83	0.017	100	100	92.7	0.02	0.73		116.38	183.91	180.08	67.42	183.80	176	78	79	75		1.001	6.087	709
448	71.821	72.606		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.017	100	100	92.8	-0.06	0.69		116.24	183.97	180.04	67.44	183.68	173	78	78	75		1.001	5.765	671
449	71.982	72.768		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	82	0.016	104	103	92.8	0.00	0.72		116.09	183.85	179.90	67.43	183.52	171	78	78	75		1.001	5.996	697
450	72.142	72.930		0.16	0.16	1.30	1.07	0.26	87	87	75	2.03	1.5	82	0.017	100	100	92.7	0.01	0.73		115.88	183.51	179.63	67.45	183.33	168	78	78	75		1.001	6.078	705
451	72.302	73.091		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.019	95	94	92.6	0.11	0.69		115.86	183.44	179.57	67.37	183.23	166	78	78	75		1.001	5.766	669
452	72.462	73.252		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.017	100	100	92.7	-0.02	0.69		115.51	183.26	179.35	67.49	183.00	163	78	78	75		1.001	5.767	667
453	72.622	73.414		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.018	97	97	92.7	-0.03	0.71		115.56	183.09	179.25	67.36	182.92	161	78	78	75		1.001	5.927	686
454	72.781	73.576		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.016	103	103	92.7	0.02	0.67		115.29	182.85	178.96	67.39	182.67	159	77	78	75		1.001	5.602	647
455	72.941	73.737		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.017	100	100	92.6	0.02	0.69		115.10	182.70	178.80	67.37	182.47	157	77	78	75		1.001	5.766	664
456	73.101	73.899		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.017	100	100	92.8	-0.18	0.71		114.85	182.51	178.61	67.42	182.26	155	77	78	75		1.001	5.928	682
457	73.261	74.061		0.16	0.16	1.30	1.07	0.26	87	87	75	2.04	1.5	82	0.019	95	95	92.7	0.10	0.69		114.90	182.50	178.69	67.40	182.30	153	77	78	75		1.001	5.767	663
458	73.421	74.223		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.020	92	92	92.7	-0.02	0.69		114.74	182.28	178.46	67.38	182.12	151	77	78	75		1.001	5.764	662
459	73.580	74.384		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.018	97	97	92.8	-0.08	0.67		114.52	182.08	178.23	67.37	181.90	150	77	78	75		1.001	5.607	643
460	73.741	74.545		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.018	98	97	92.8	0.05	0.71		114.32	181.81	178.00	67.34	181.66	148	77	77	75		1.001	5.930	679
461	73.901	74.708		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.015	107	107	92.8	-0.07	0.73		114.12	181.52	177.80	67.37	181.49	146	77	77	75		1.001	6.090	696
462	74.061	74.869		0.16	0.16	1.32	1.06	0.26	87	87	75	2.02	1.5	82	0.017	100	100	92.9	-0.01	0.69		113.86	181.58	177.82	67.54	181.41	144	77	77	75		1.001	5.768	658
463	74.221	75.030		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.018	97	97	92.7	0.14	0.67		113.57	181.24	177.50	67.55	181.12	143	77	77	75		1.001	5.606	637
464	74.382	75.192		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.017	101	100	92.8	-0.10	0.87		113.47	180.94	177.15	67.32	180.79	141	77	77	75		1.001	7.211	819
465	74.542	75.354		0.16	0.16	1.30	1.07	0.26	87	87	75	2.03	1.5	82	0.018	97	97	93.0	-0.14	0.87		113.18	180.67	175.44	67.34	180.52	140	77	77	75		1.001	7.213	817
466	74.701	75.515		0.16	0.16	1.30	1.06	0.26	87	87	75	2.03	1.5	82	0.016	103	103	92.8	0.12	0.89		112.82	180.42	175.11	67.38	180.20	138	77	77	75		1.001	7.437	840
467	74.861	75.677		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.017	100	100	92.9	-0.10	0.89		112.73	180.00	174.74	67.09	179.81	137	77	77	75		1.001	7.382	833
468	75.022	75.838		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	82	0.018	98	97	93.0	-0.07	0.88		112.49	179.58	174.28	66.94	179.42	136	77	77	75		1.001	7.347	827
469	75.181	76.001		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.017	100	101	92.9	0.07	0.93		112.48	179.51	174.25	66.82	179.30	134	77	77	75		1.001	7.706	868
470	75.341	76.162		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.018	97	97	93.0	-0.08	0.69		112.29	179.30	175.73	66.81	179.11	133	77	77	75		1.001	5.768	648
471	75.501	76.323		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.018	97	97	93.0	0.04	0.65		112.36	179.21	175.58	66.65	179.01	131	77	77	75		1.001	5.443	612
472	75.661	76.485		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.016	103	103	93.0	-0.02	0.85		111.97	178.88	174.36	66.77	178.74	130	77	77	75		1.001	7.060	791
473	75.821	76.648		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.017	100	101	93.0	0.02	0.77		111.29	178.45	173.95	67.06	178.34	129	77	77	75		1.001	6.413	715
474	75.981	76.808		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.016	103	102	93.1	-0.13	0.81		110.89	178.07	173.53	67.00	177.89	128	77	77	75		1.001	6.737	748
475	76.141	76.970		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.015	107	107	93.0	0.08	0.77		111.03	178.06	173.55	66.87	177.90	127	77	77	75		1.001	6.414	713
476	76.301	77.132		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.017	100	100	93.1	-0.04	0.84		110.74	177.67	173.18	66.80	177.54	126	77	77	75		1.001	6.972	773
477	76.461	77.294		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.016	103	103	93.0	0.03	0.79		110.37	177.42	172.88	66.88	177.26	124	77	77	75		1.001	6.596	729
478	76.621	77.455		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.018	97	97	93.0	0.04	0.83		110.15	177.27	172.75	66.92	177.07	124	77	77	75		1.001	6.898	761
479	76.782	77.616		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.018	98	97	93.0	-0.04	0.79		110.04	177.05	172.60	66.89	176.93	124	77	77	75		1.001	6.576	724
480	76.942	77.778		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.015	107	107	93.1	-0.04	0.81		109.68	176.67	172.17	66.88	176.56	122	77	77	75		1.001	6.737	740
481	77.101	77.940		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.017	100	100	93.2	-0.08	0.81		109.33	176.18	171.81	66.84	176.16	121	77	77	75		1.001	6.737	737
482	77.262	78.101		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.016	104	103	93.0	0.13	0.77		109.06	176.05	171.55	66.84	175.90	120	77	77	75		1.001	6.414	700
483	77.422	78.263		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	81	0.019	95	95	93.1	-0.08	0.83		108.95	175.89	171.45	66.77	175.72	119	77	77	75		1.001	6.900	753

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
484	77.581	78.425		0.16	0.16	1.30	1.07	0.26	87	87	75	2.04	1.5	82	0.016	103	103	93.2	-0.12	0.73		108.46	175.46	171.00	66.82	175.28	119	77	77	75		1.001	6.091	661
485	77.741	78.586		0.16	0.16	1.31	1.06	0.26	87	87	75	2.02	1.5	82	0.018	97	97	93.1	0.18	0.79		108.26	175.30	170.82	66.83	175.09	117	77	77	75		1.001	6.577	713
486	77.901	78.747		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	82	0.020	92	92	93.2	-0.10	0.75		107.94	175.05	170.54	66.84	174.78	116	77	77	75		1.001	6.230	673
487	78.061	78.909		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.017	100	100	93.2	-0.04	0.77		107.72	174.84	170.32	66.81	174.53	116	77	77	75		1.001	6.413	692
488	78.221	79.071		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.018	97	97	93.1	0.11	0.83		107.54	174.53	170.13	66.83	174.38	115	77	77	75		1.001	6.900	743
489	78.381	79.232		0.16	0.16	1.31	1.06	0.26	87	87	75	2.02	1.5	81	0.017	100	99	93.1	0.02	0.81		107.24	174.18	169.81	66.78	174.02	115	77	77	75		1.001	6.737	723
490	78.541	79.393		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.017	100	99	93.2	-0.13	0.83		106.98	174.09	169.62	66.79	173.77	115	77	77	75		1.001	6.900	739
491	78.701	79.555		0.16	0.16	1.32	1.07	0.26	87	87	75	2.03	1.5	82	0.017	100	100	93.2	0.01	0.77		106.73	173.61	169.23	66.72	173.44	113	77	77	75		1.001	6.413	685
492	78.861	79.717		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.016	103	103	93.2	0.03	0.81		106.41	173.32	169.01	66.84	173.25	112	77	77	75		1.001	6.739	718
493	79.021	79.878		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.019	95	94	93.2	-0.04	0.81		106.14	173.13	168.86	66.86	173.00	112	77	77	75		1.001	6.738	716
494	79.182	80.040		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.016	104	103	93.2	0.05	0.79		105.75	172.69	168.40	66.84	172.59	111	77	77	75		1.001	6.585	697
495	79.342	80.202		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.017	100	100	93.1	0.02	0.81		105.55	172.55	168.22	66.88	172.42	111	77	77	75		1.001	6.738	712
496	79.502	80.363		0.16	0.16	1.30	1.05	0.26	87	87	75	2.05	1.5	86	0.018	98	97	93.2	-0.09	0.80		105.20	172.23	167.95	66.89	172.10	131	77	77	75		1.001	6.644	700
497	79.661	80.524		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	84	0.017	100	100	93.2	0.06	0.79		105.02	171.99	167.69	66.83	171.85	146	77	77	75		1.001	6.579	692
498	79.821	80.686		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	82	0.016	103	103	93.0	0.18	0.79		104.59	171.54	167.27	66.85	171.44	139	77	77	75		1.001	6.579	689
499	79.981	80.848		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.017	100	100	93.2	-0.18	0.71		104.34	171.20	167.02	66.85	171.18	132	77	77	75		1.001	5.927	619
500	80.141	81.009		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	82	0.017	100	100	92.9	0.24	0.77		104.10	171.10	166.72	66.82	170.92	128	77	77	75		1.001	6.414	668
501	80.301	81.170		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.018	97	97	93.0	-0.06	0.83		103.72	170.66	166.37	66.84	170.56	126	77	77	75		1.001	6.900	717
502	80.461	81.332		0.16	0.16	1.31	1.07	0.26	87	87	75	2.01	1.5	81	0.015	107	106	93.0	-0.02	0.77		103.44	170.48	166.23	66.88	170.33	123	77	77	75		1.001	6.415	664
503	80.621	81.494		0.16	0.16	1.32	1.07	0.26	87	87	75	2.03	1.5	81	0.017	100	100	93.0	-0.02	0.81		103.16	170.24	165.91	66.83	170.00	121	77	77	75		1.001	6.738	696
504	80.781	81.656		0.16	0.16	1.31	1.06	0.26	87	87	75	2.02	1.5	81	0.018	97	97	93.1	-0.04	0.79		103.05	169.92	165.79	66.88	169.94	119	77	77	75		1.001	6.575	678
505	80.941	81.817		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.017	100	99	93.1	0.02	0.83		102.77	169.80	165.53	66.81	169.59	119	77	77	75		1.001	6.893	709
506	81.101	81.978		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	81	0.017	100	99	93.2	-0.16	0.85		102.74	169.64	165.46	66.74	169.48	117	77	77	75		1.001	7.061	726
507	81.261	82.141		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.016	103	104	92.9	0.28	0.81		102.05	169.16	164.88	66.86	168.92	117	77	77	75		1.001	6.738	688
508	81.422	82.302		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.017	101	99	93.1	-0.16	0.85		101.89	168.84	164.67	66.86	168.76	115	77	77	75		1.001	7.061	720
509	81.582	82.463		0.16	0.16	1.32	1.07	0.26	87	87	75	2.03	1.5	81	0.018	97	97	93.1	-0.05	0.85		101.60	168.49	164.34	66.84	168.43	114	77	77	75		1.001	7.059	718
510	81.743	82.625		0.16	0.16	1.32	1.07	0.26	87	87	75	2.03	1.5	81	0.015	107	106	93.2	-0.04	0.77		101.17	168.18	163.98	66.85	168.02	115	77	77	75		1.001	6.412	649
511	81.902	82.788		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.017	100	101	93.1	0.07	0.81		101.09	168.09	163.90	66.81	167.90	113	77	77	75		1.001	6.736	682
512	82.063	82.949		0.16	0.16	1.31	1.06	0.26	87	87	75	2.03	1.5	81	0.017	101	99	93.1	-0.01	0.77		100.78	167.67	163.61	66.87	167.65	112	77	77	75		1.001	6.412	647
513	82.223	83.110		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.017	100	99	93.1	-0.01	0.81		100.53	167.53	163.38	66.82	167.35	111	77	77	75		1.001	6.732	678
514	82.383	83.272		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	81	0.018	97	97	93.2	-0.04	0.81		100.23	167.27	163.12	66.89	167.12	110	76	77	75		1.001	6.733	676
515	82.542	83.434		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.015	106	106	93.2	0.01	0.79		100.03	166.93	162.82	66.81	166.83	110	76	77	75		1.001	6.573	658
516	82.702	83.595		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.016	103	102	93.2	-0.02	0.84		99.57	166.62	162.46	66.88	166.45	109	76	77	75		1.001	6.968	695
517	82.863	83.757		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.018	98	97	93.2	-0.04	0.79		99.39	166.41	162.29	66.84	166.23	108	76	77	75		1.001	6.576	654
518	83.022	83.919		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.018	97	97	93.2	0.08	0.87		99.10	166.07	161.98	66.85	165.96	108	76	77	75		1.001	7.220	716
519	83.182	84.081		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.017	100	100	93.2	-0.07	0.85		98.82	165.78	161.73	66.86	165.69	106	76	77	75		1.001	7.062	699
520	83.343	84.242		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.016	104	102	93.3	-0.03	0.75		98.82	165.61	161.56	66.74	165.55	107	76	77	75		1.001	6.253	619
521	83.503	84.403		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.016	103	102	93.1	0.13	0.79		98.29	165.35	161.22	66.85	165.15	107	76	77	75		1.001	6.578	647
522	83.663	84.565		0.16	0.16	1.32	1.07	0.26	87	87	75	2.03	1.5	81	0.018	97	97	93.3	-0.15	0.83		98.01	165.09	160.94	66.80	164.81	107	76	77	75		1.001	6.898	677
523	83.823	84.727		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.019	95	95	93.2	0.12	0.77		97.69	164.69	160.67	66.90	164.59	107	76	77	75		1.001	6.414	627
524	83.984	84.888		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.017	101	99	93.3	-0.11	0.79		97.46	164.36	160.35	66.84	164.30	105	76	77	75		1.001	6.539	638
525	84.144	85.050		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.017	100	100	93.2	0.04	0.81		97.08	164.05	160.04	66.85	163.92	105	76	77	75		1.001	6.741	655
526	84.304	85.212		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.017	100	100	93.2	0.06	0.79		97.08	163.99	159.93	66.76	163.83	105	77	77	75		1.001	6.576	639
527	84.464	85.374		0.16	0.16	1.31	1.06	0.26	87	87	75	2.05	1.5	85	0.017	101	100	93.2	-0.07	0.83		96.51	163.49	159.49	66.86	163.37	133	77	77	75		1.001	6.899	667
528	84.624	85.535		0.16	0.16	1.30	1.07	0.26	87	87	75	2.03	1.5	82	0.017	100	100	93.3	-0.01	0.83		96.51	163.37	159.43	66.78	163.29	129	77	77	75		1.001	6.899	667
529	84.784	85.696		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.018	97	97	93.2	0.06	0.77		96.08	163.04	159.07	66.85	162.93	125	76	77	75		1.001	6.413	617
530	84.944	85.859		0.16	0.16	1.30	1.07	0.26	87	87	75	2.02	1.5	81	0.019	95	95	93.1	0.13	0.87		95.70	162.68	158.66	66.82	162.53	122	76	77	75		1.001	7.222	692
531	85.104	86.020		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.018	97	97	93.1	-0.06	0.79		95.47	162.33	158.41	66.80	162.28	119	76	77	75		1.001	6.577	629
532	85.264	86.181		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	81	0.018	97	97	93.0	0.13	0.85		95.28	162.29	158.25	66.71	161.99	117	76	77	75		1.001	7.057	673
533	85.424	86.343		0.16	0.16	1.31	1.07	0.26	87	87	75	2.02	1.5	81	0.017	100	100	93.1	-0.06	0.81		94.91	161.87	157.90	66.86	161.77	116	76	77	75		1.001	6.738	640
534	85.584	86.506		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	81	0.016	103	104	93.2	-0.11	0.78		94.76	161.66	157.79	66.85	161.61	114	76	77	75		1.001	6.502	617
535	85.744	86.667		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.016	103	102	93.2	0.00	0.81		94.34	161.33	157.37	66.81	161.15	113	76	77	75		1.001	6.709	634
536	85.905	86.828		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	81	0.017	101	99	93.1	0.08	0.83		94.09	161.10	157.14	66.79	160.87	111	76	77	75		1.001	6.900	650
537	86.065	86.990		0.16	0.16	1.32	1.07	0.26	87	87	75	2.02	1.5	81	0.018	97	97	93.1	0.02	0.81		93.92	160.92	156.96	66.78	160.70	111	76	77	75		1.001	6.739	634
538	86.225	87.152		0.16	0.16	1.31	1.06	0.26	87	87	75	2.04	1.5	84	0.018	98	97	93.1	-0.03	0.81		93.72	160.62	156.70	66.75	160.47	119	77	77	75		1.001	6.736	632
539	86.385	87.312		0.16	0.16	1.31	1.06	0.26	87	87	75	2.05	1.5	88	0.018	98	97	93.1	0.03	0.77		93.35	160.25	156.41	66.84	160.19	132	77	77	75		1.001	6.412	599
540	86.545	87.473		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	89	0.019	95	95	93.1	-0.08	0.81		93.08	159.97	156.11	66.82	159.90	152	77	77	75		1.001	6.739	628
541	86.705	87.635		0.16	0.16	1.31	1.07	0.26	87	87	75	2.03	1.5	89	0.017	101	101	92.9	0.27	0.79		92.84	159.72	155.92	66.85	159.68	162	77	77	75		1.001	6.577	611
542	86.865	87.796		0.16	0.16	1.31	1.06	0.26	87	87	75	2.03	1.5	90	0.018	98	97	92.8	0.09	0.79		92.52	159.47	155.63	66.82	159.34	169	77	77	75		1.001	6.575	609
543	87.024	87.957		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	90	0.019	95	95	92.4	0.33	0.78		92.38	159.29	155.47	66.81	159.18	176	77	77	75		1.001	6.504	601
544	87.184	88.118		0.16	0.16	1.31	1.07	0.26	87	87	75	2.04	1.5	92	0.016	104	104	92.3	0.13	0.83		92.12	159.11	155.25	66.85	158.97	183	77	77	75		1.001	6.893	636
545	87.344	88.281		0.16	0.16	1.30	1.07	0.26	87	87	75	2.04	1.5	94	0.017	101	102	92.2	0.15	0.81		92.07	159.09	155.20	66.82	158.89	192	77	78	75		1.001	6.778	625

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
546	87.503	88.441		0.16	0.16	1.31	1.06	0.26	87	87	75	2.04	1.5	95	0.018	98	97	91.7	0.45	0.83		92.08	158.97	155.10	66.73	158.80	202	77	78	75		1.001	6.901	636
547	87.663	88.601		0.16	0.16	1.31	1.07	0.26	87	87	75	2.06	1.5	97	0.018	99	97	91.6	0.17	0.83		92.01	159.02	155.14	66.82	158.83	213	78	78	75		1.001	6.899	635
548	87.821	88.762		0.16	0.16	1.31	1.07	0.26	87	87	75	2.07	1.5	98	0.017	100	101	91.2	0.33	0.83		92.32	159.30	155.36	66.70	159.02	222	78	78	75		1.001	6.901	638
549	87.981	88.923		0.16	0.16	1.30	1.06	0.26	87	87	75	2.06	1.5	99	0.018	99	98	90.7	0.48	0.83		92.44	159.50	155.59	66.83	159.27	231	78	78	75		1.001	6.902	639
550	88.139	89.083		0.16	0.16	1.30	1.05	0.26	87	87	75	2.08	1.6	101	0.018	98	98	90.5	0.26	0.85		92.71	159.69	155.77	66.72	159.43	242	78	79	75		1.001	7.066	656
551	88.299	89.243		0.16	0.16	1.30	1.05	0.26	87	87	75	2.1	1.6	103	0.017	102	101	89.9	0.60	0.81		93.03	160.14	156.15	66.78	159.80	252	78	79	75		1.001	6.742	628
552	88.457	89.403		0.16	0.16	1.29	1.04	0.26	87	87	75	2.09	1.6	106	0.017	101	101	89.3	0.54	0.77		93.56	160.67	156.68	66.80	160.37	263	78	79	75		1.001	6.414	601
553	88.615	89.562		0.16	0.16	1.28	1.05	0.26	87	87	75	2.09	1.6	108	0.017	101	101	88.8	0.51	0.77		94.39	161.47	157.48	66.78	161.17	274	79	79	75		1.001	6.376	603
554	88.773	89.721		0.16	0.16	1.29	1.05	0.26	87	87	75	2.1	1.6	109	0.017	101	101	88.2	0.65	0.91		94.84	161.92	157.24	66.77	161.60	280	79	79	75		1.001	7.567	718
555	88.930	89.881		0.16	0.16	1.29	1.04	0.26	87	87	75	2.11	1.6	110	0.017	101	101	87.8	0.44	0.96		95.32	162.18	157.61	66.73	162.05	286	79	80	75		1.001	8.027	766
556	89.088	90.039		0.16	0.16	1.29	1.04	0.26	87	87	75	2.11	1.6	111	0.017	102	100	87.1	0.67	0.93		95.78	162.60	157.92	66.66	162.44	290	79	80	75		1.001	7.708	739
557	89.246	90.199		0.16	0.16	1.28	1.04	0.26	87	87	75	2.11	1.6	113	0.017	102	102	86.7	0.42	0.89		96.60	163.55	158.70	66.58	163.18	294	80	80	75		1.001	7.383	714
558	89.403	90.356		0.16	0.16	1.28	1.04	0.26	87	87	75	2.12	1.6	114	0.016	104	103	86.1	0.55	0.98		97.46	164.42	159.48	66.53	163.99	300	80	80	75		1.001	8.191	799
559	89.561	90.515		0.16	0.16	1.27	1.04	0.26	87	87	75	2.13	1.6	115	0.018	99	98	85.5	0.59	0.91		98.37	165.21	160.30	66.49	164.86	307	80	81	75		1.001	7.546	743
560	89.717	90.673		0.16	0.16	1.27	1.03	0.26	87	87	75	2.14	1.6	117	0.017	101	101	84.9	0.61	0.91		99.52	166.33	161.38	66.46	165.99	313	80	81	75		1.001	7.544	752
561	89.873	90.831		0.16	0.16	1.27	1.03	0.26	87	87	75	2.17	1.6	118	0.018	98	98	84.1	0.76	0.87		100.38	167.12	162.18	66.46	166.84	318	81	81	75		1.001	7.223	726
562	90.030	90.989		0.16	0.16	1.27	1.02	0.26	87	87	75	2.16	1.6	119	0.017	102	101	83.6	0.52	0.96		101.19	168.07	163.00	66.44	167.63	321	81	82	75		1.001	8.028	813
563	90.186	91.145		0.16	0.16	1.26	1.02	0.26	87	87	75	2.18	1.6	119	0.016	104	103	83.1	0.51	0.91		102.37	169.36	164.10	66.44	168.81	324	81	82	75		1.001	7.547	773
564	90.342	91.303		0.16	0.16	1.26	1.02	0.26	87	87	75	2.18	1.7	120	0.017	101	101	82.2	0.94	0.91		103.65	170.42	165.28	66.44	170.09	327	81	82	75		1.001	7.544	783
565	90.497	91.459		0.16	0.16	1.26	1.01	0.26	87	87	75	2.2	1.7	121	0.017	101	100	81.7	0.52	0.91		104.65	171.39	166.17	66.42	171.08	329	81	82	75		1.001	7.544	790
566	90.654	91.615		0.16	0.16	1.24	1.01	0.26	87	87	75	2.21	1.7	122	0.018	99	97	80.8	0.86	0.94		105.51	172.50	167.05	66.42	171.92	333	82	83	75		1.001	7.866	831
567	90.809	91.771		0.16	0.16	1.23	1.00	0.26	87	87	75	2.22	1.7	122	0.018	98	97	80.0	0.84	0.94		106.58	173.38	168.09	66.40	172.98	337	82	83	75		1.001	7.866	839
568	90.963	91.927		0.15	0.16	1.23	1.00	0.26	87	87	75	2.23	1.7	123	0.017	100	100	79.5	0.43	0.91		107.42	174.31	168.89	66.42	173.84	340	82	83	75		1.001	7.545	811
569	91.117	92.081		0.15	0.15	1.23	0.99	0.26	87	87	75	2.25	1.7	124	0.017	100	99	78.9	0.66	0.93		109.23	176.00	170.64	66.39	175.62	342	82	83	75		1.001	7.708	843
570	91.272	92.237		0.16	0.16	1.22	0.99	0.26	87	87	75	2.26	1.7	125	0.018	98	97	78.1	0.75	0.93		110.14	176.91	171.42	66.41	176.55	345	82	84	75		1.001	7.704	849
571	91.425	92.390		0.15	0.15	1.22	0.98	0.26	87	87	75	2.27	1.7	125	0.018	97	95	77.2	0.87	0.96		111.17	178.05	172.49	66.44	177.61	347	83	84	75		1.001	8.027	893
572	91.578	92.544		0.15	0.15	1.21	0.97	0.26	87	87	75	2.29	1.8	125	0.017	100	99	76.7	0.52	0.89		112.48	179.20	173.74	66.43	178.91	348	83	84	75		1.001	7.384	831
573	91.732	92.697		0.15	0.15	1.24	1.00	0.26	87	87	75	2.21	1.7	114	0.017	99	97	75.9	0.86	0.89		113.25	180.05	174.42	66.40	179.65	349	82	83	75		1.001	7.381	837
574	91.890	92.855		0.16	0.16	1.32	1.02	0.26	87	87	75	2.3	1.7	99	0.018	98	96	75.3	0.59	0.94		114.73	181.60	175.90	66.42	181.15	310	82	83	75		1.001	7.853	902
575	92.050	93.013		0.16	0.16	1.32	1.03	0.26	87	87	75	2.3	1.7	94	0.017	101	99	74.9	0.41	0.95		114.86	181.53	175.98	66.43	181.29	285	82	83	75		1.001	7.908	909
576	92.210	93.171		0.16	0.16	1.31	1.03	0.26	87	87	75	2.3	1.7	92	0.018	98	96	74.4	0.46	0.95		115.28	182.07	176.41	66.43	181.71	268	82	82	75		1.001	7.869	908
577	92.370	93.329		0.16	0.16	1.32	1.03	0.26	87	87	75	2.31	1.7	90	0.017	101	98	74.1	0.27	0.93		115.47	182.31	176.62	66.42	181.89	256	81	82	75		1.001	7.703	891
578	92.531	93.488		0.16	0.16	1.33	1.04	0.26	87	87	75	2.3	1.7	88	0.017	101	99	74.0	0.14	0.87		115.74	182.33	176.77	66.40	182.14	250	81	82	75		1.001	7.219	836
579	92.691	93.648		0.16	0.16	1.33	1.03	0.26	87	87	75	2.28	1.7	87	0.018	98	97	73.8	0.18	0.94		115.79	182.45	176.86	66.44	182.24	243	81	81	75		1.001	7.866	912
580	92.852	93.806		0.16	0.16	1.33	1.04	0.26	87	87	75	2.27	1.7	87	0.017	101	98	73.8	-0.01	0.95		115.75	182.63	176.81	66.44	182.19	236	81	81	75		1.001	7.868	912
581	93.013	93.966		0.16	0.16	1.33	1.04	0.26	87	87	75	2.27	1.7	86	0.020	93	92	73.7	0.13	0.93		115.82	182.41	176.83	66.42	182.24	230	80	81	75		1.001	7.705	893
582	93.174	94.125		0.16	0.16	1.34	1.04	0.26	87	87	75	2.28	1.7	85	0.019	96	93	73.5	0.17	0.91		115.65	182.29	176.70	66.40	182.06	225	80	81	75		1.001	7.539	873
583	93.335	94.284		0.16	0.16	1.33	1.04	0.26	87	87	75	2.27	1.7	85	0.017	101	99	73.6	-0.05	0.94		115.44	182.04	176.49	66.44	181.88	221	80	81	75		1.001	7.867	909
584	93.496	94.445		0.16	0.16	1.33	1.04	0.26	87	87	75	2.27	1.7	85	0.016	104	103	73.5	0.01	0.94		115.47	182.04	176.54	66.45	181.92	217	80	80	75		1.001	7.852	908
585	93.657	94.604		0.16	0.16	1.33	1.04	0.26	87	87	75	2.25	1.7	84	0.016	104	101	73.6	-0.02	0.95		115.27	181.91	176.37	66.44	181.71	213	80	80	75		1.001	7.921	914
586	93.818	94.763		0.16	0.16	1.33	1.04	0.26	87	87	75	2.27	1.7	84	0.017	101	98	73.5	0.10	0.93		115.29	181.85	176.44	66.43	181.73	209	80	80	75		1.001	7.702	889
587	93.980	94.924		0.16	0.16	1.34	1.04	0.26	87	87	75	2.26	1.7	84	0.017	102	100	73.5	-0.04	0.93		115.07	181.59	176.13	66.44	181.51	206	79	80	75		1.001	7.708	888
588	94.141	95.083		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	83	0.018	98	96	73.6	-0.08	0.95		114.89	181.61	175.96	66.44	181.32	204	79	80	75		1.001	7.870	905
589	94.303	95.243		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	82	0.017	102	99	73.4	0.20	0.93		114.83	181.50	175.89	66.41	181.24	201	79	80	75		1.001	7.704	886
590	94.464	95.403		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	82	0.018	98	96	73.5	-0.07	0.85		114.65	181.22	175.75	66.42	181.07	198	79	79	75		1.001	7.061	810
591	94.626	95.563		0.16	0.16	1.34	1.04	0.26	87	87	75	2.26	1.7	82	0.019	96	94	73.6	-0.17	0.91		114.57	181.10	175.62	66.44	181.01	194	79	79	75		1.001	7.548	866
592	94.787	95.723		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	82	0.017	101	99	73.5	0.09	0.96		114.31	180.90	175.47	66.50	180.81	191	79	79	75		1.001	8.032	919
593	94.949	95.883		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	82	0.018	99	96	73.6	-0.03	0.96		114.18	180.91	175.38	66.49	180.68	188	78	79	75		1.001	8.028	918
594	95.110	96.043		0.16	0.16	1.34	1.04	0.26	87	87	75	2.24	1.7	82	0.016	104	102	73.5	0.09	0.93		113.98	180.75	175.24	66.53	180.51	186	78	79	75		1.001	7.705	879
595	95.272	96.203		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	82	0.017	102	99	73.6	-0.11	0.93		113.73	180.42	175.00	66.55	180.28	182	78	79	75		1.001	7.714	878
596	95.434	96.363		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	82	0.016	105	102	73.6	-0.01	0.94		113.28	180.13	174.57	66.59	179.87	180	78	79	75		1.001	7.819	887
597	95.595	96.524		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	81	0.017	101	99	73.7	-0.06	0.93		113.22	180.06	174.60	66.62	179.84	177	78	78	75		1.001	7.710	874
598	95.757	96.683		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	82	0.016	105	101	73.5	0.12	0.91		113.06	179.97	174.43	66.64	179.70	174	78	78	75		1.001	7.547	854
599	95.919	96.844		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	82	0.017	102	100	73.6	-0.07	0.95		112.97	179.92	174.44	66.68	179.65	172	78	78	75		1.001	7.870	890
600	96.080	97.004		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.019	95	93	73.6	0.02	0.93		113.21	180.24	174.67	66.67	179.88	169	78	78	75		1.001	7.707	874
601	96.242	97.163		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.014	112	108	73.6	-0.03	0.93		113.24	180.12	174.62	66.64	179.89	167	78	78	75		1.001	7.707	874
602	96.404	97.324		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	81	0.016	105	102	73.6	0.04	0.91		113.08	179.89	174.40	66.64	179.72	164	78	78	75		1.001	7.546	854
603	96.565	97.484		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.016	104	102	73.7	-0.09	0.91		112.69	179.41	174.05	66.65	179.34	162	77	78	75		1.001	7.547	851
604	96.727	97.644		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.017	101	99	73.7	0.01	0.95		112.40	179.26	173.88	66.66	179.06	160	77	78	75		1.001	7.868	885
605	96.889	97.804		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.017	101	99	73.7	-0.03	0.97		112.23	179.02	173.60	66.67	178.89	158	77	78	75		1.001	8.036	903
606	97.050	97.965		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.016	104	102	73.7	-0.04	0.93		112.06	178.87	173.52	66.65	178.71	156	77	78	75		1.001	7.725	867
607	97.212	98.124		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.016	105	101	73.7	0.07	0.93		111.72	178.66	173.17	66.65	178.37	154	77	78	75		1.001	7.706	862

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
608	97.374	98.284		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.017	101	99	73.7	-0.05	0.91		111.37	178.24	172.83	66.63	178.00	152	77	77	75		1.001	7.543	841
609	97.535	98.445		0.16	0.16	1.35	1.05	0.26	87	87	75	2.25	1.7	81	0.018	98	97	73.7	-0.02	0.91		110.87	177.60	172.31	66.65	177.51	150	77	77	75		1.001	7.545	838
610	97.697	98.605		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.018	99	96	73.7	-0.01	0.95		110.64	177.47	172.12	66.65	177.28	148	77	77	75		1.001	7.872	872
611	97.859	98.765		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.018	99	96	73.7	0.02	0.96		110.45	177.08	171.85	66.63	177.08	147	77	77	75		1.001	8.032	888
612	98.021	98.926		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	81	0.017	101	99	73.8	-0.03	0.95		110.14	176.89	171.55	66.61	176.75	145	77	77	75		1.001	7.868	868
613	98.182	99.085		0.16	0.16	1.35	1.05	0.26	87	87	75	2.24	1.7	81	0.018	98	95	73.7	0.05	0.93		110.03	176.77	171.43	66.61	176.64	143	77	77	75		1.001	7.710	849
614	98.344	99.245		0.16	0.16	1.35	1.05	0.26	87	87	75	2.24	1.7	81	0.018	99	96	73.8	-0.13	0.91		109.62	176.41	171.09	66.60	176.22	142	77	77	75		1.001	7.546	828
615	98.506	99.406		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	81	0.017	101	99	73.8	0.06	0.92		109.45	176.26	170.91	66.57	176.02	140	77	77	75		1.001	7.698	844
616	98.667	99.566		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.018	98	96	73.9	-0.15	0.93		109.02	175.66	170.42	66.54	175.56	139	77	77	75		1.001	7.733	844
617	98.829	99.726		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.017	101	99	73.8	0.10	0.94		109.00	175.75	170.48	66.54	175.55	137	77	77	75		1.001	7.810	852
618	98.991	99.887		0.16	0.16	1.35	1.05	0.26	87	87	75	2.24	1.7	81	0.019	96	94	73.9	-0.08	0.82		108.42	175.25	170.46	66.53	174.95	136	77	77	75		1.001	6.844	743
619	99.152	100.046		0.16	0.16	1.35	1.04	0.26	87	87	75	2.26	1.7	81	0.014	111	108	74.0	-0.08	0.81		108.50	175.21	170.57	66.50	175.00	135	77	77	75		1.001	6.741	732
620	99.314	100.206		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.016	105	102	73.9	0.07	0.83		108.28	174.93	170.36	66.55	174.84	133	77	77	75		1.001	6.898	748
621	99.476	100.367		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.017	101	99	73.9	-0.02	0.85		107.72	174.68	169.96	66.63	174.35	132	77	77	75		1.001	7.061	762
622	99.637	100.527		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.019	95	93	74.0	-0.03	0.56		107.39	174.10	169.56	66.62	174.01	131	76	77	75		1.001	4.638	499
623	99.799	100.687		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.019	96	93	74.1	-0.17	0.81		107.52	174.21	169.78	66.61	174.13	130	76	77	75		1.001	6.738	725
624	99.961	100.848		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.016	105	102	73.9	0.18	0.87		107.00	173.84	169.40	66.75	173.74	128	76	77	75		1.001	7.224	774
625	100.122	101.008		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.018	98	96	74.0	-0.06	0.91		106.58	173.57	168.97	66.73	173.31	127	76	77	75		1.001	7.545	805
626	100.284	101.167		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.016	105	101	74.0	-0.03	0.83		106.46	173.26	168.83	66.71	173.17	126	76	77	75		1.001	6.906	736
627	100.446	101.328		0.16	0.16	1.34	1.06	0.26	87	87	75	2.24	1.7	81	0.017	101	99	74.0	-0.01	0.83		106.19	173.12	168.59	66.73	172.91	125	76	77	75		1.001	6.897	733
628	100.607	101.489		0.16	0.16	1.35	1.05	0.26	87	87	75	2.26	1.7	81	0.015	107	106	74.0	0.02	0.83		105.70	172.47	168.05	66.73	172.44	124	76	77	75		1.001	6.901	730
629	100.769	101.648		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	81	0.016	105	101	73.9	0.09	0.83		105.53	172.37	167.86	66.69	172.23	123	76	77	75		1.001	6.901	729
630	100.931	101.808		0.16	0.16	1.34	1.06	0.26	87	87	75	2.24	1.7	81	0.018	99	96	74.0	-0.08	0.83		105.26	172.10	167.60	66.67	171.94	122	76	77	75		1.001	6.901	727
631	101.092	101.969		0.16	0.16	1.35	1.05	0.26	87	87	75	2.24	1.7	81	0.015	107	106	74.0	0.05	0.83		105.18	171.98	167.46	66.60	171.77	121	76	77	75		1.001	6.898	726
632	101.254	102.129		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	80	0.015	108	105	74.0	-0.04	0.83		104.88	171.76	167.27	66.68	171.57	120	76	77	75		1.001	6.897	724
633	101.416	102.289		0.16	0.16	1.34	1.06	0.26	87	87	75	2.24	1.7	81	0.018	99	96	74.1	-0.10	0.81		104.63	171.31	166.95	66.66	171.29	120	76	77	75		1.001	6.736	706
634	101.577	102.450		0.16	0.16	1.34	1.05	0.26	87	87	75	2.26	1.7	81	0.017	101	99	74.1	0.02	0.79		104.42	171.26	166.80	66.66	171.08	119	76	77	75		1.001	6.571	687
635	101.739	102.610		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	81	0.016	105	102	74.1	-0.02	0.85		104.19	170.95	166.49	66.58	170.77	118	76	77	75		1.001	7.063	737
636	101.901	102.770		0.16	0.16	1.35	1.05	0.26	87	87	75	2.25	1.7	81	0.016	105	102	74.1	-0.04	0.82		103.80	170.53	166.17	66.63	170.42	116	76	77	75		1.001	6.797	706
637	102.063	102.931		0.16	0.16	1.35	1.05	0.26	87	87	75	2.26	1.7	81	0.017	101	99	74.1	0.07	0.86		103.57	170.26	165.93	66.63	170.19	116	76	77	75		1.001	7.149	741
638	102.224	103.091		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	82	0.017	101	99	74.2	-0.09	0.83		103.37	170.11	165.76	66.63	170.00	115	76	77	75		1.001	6.897	714
639	102.386	103.251		0.16	0.16	1.34	1.05	0.26	87	87	74	2.24	1.7	82	0.018	99	96	74.2	-0.07	0.77		102.85	169.58	165.20	66.61	169.47	116	76	77	74		1.001	6.418	661
640	102.548	103.412		0.16	0.16	1.34	1.06	0.26	87	87	75	2.25	1.7	80	0.018	98	97	74.1	0.13	0.85		102.94	169.47	165.13	66.42	169.36	113	76	76	75		1.001	7.063	728
641	102.710	103.572		0.16	0.16	1.35	1.05	0.26	87	87	75	2.24	1.7	79	0.015	108	105	74.2	-0.15	0.79		102.69	169.14	164.75	66.28	168.98	113	76	76	75		1.001	6.581	677
642	102.872	103.732		0.16	0.16	1.34	1.06	0.26	87	87	75	2.25	1.7	79	0.016	104	102	74.1	0.11	0.83		102.64	168.97	164.47	66.01	168.66	113	76	76	75		1.001	6.903	709
643	103.033	103.893		0.16	0.16	1.34	1.05	0.26	87	87	75	2.25	1.7	78	0.018	98	96	74.0	0.09	0.85		102.73	168.80	164.43	65.92	168.65	112	76	76	75		1.001	7.055	726
644	103.195	104.054		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	78	0.018	98	96	74.2	-0.14	0.89		102.40	168.23	163.90	65.78	168.18	112	76	76	75		1.001	7.376	756
645	103.357	104.213		0.16	0.16	1.34	1.05	0.26	87	87	75	2.24	1.7	78	0.016	104	101	74.0	0.12	0.91		102.29	168.13	163.77	65.70	167.99	112	76	76	75		1.001	7.543	772
646	103.518	104.374		0.16	0.16	1.34	1.06	0.26	87	87	74	2.24	1.7	77	0.015	107	105	74.2	-0.15	0.86		102.07	167.84	163.47	65.62	167.69	110	76	76	74		1.001	7.121	728
647	103.680	104.535		0.16	0.16	1.34	1.05	0.26	87	87	74	2.26	1.7	77	0.016	104	102	74.2	-0.02	0.79		101.93	167.70	163.28	65.55	167.48	110	76	76	74		1.001	6.576	671
648	103.839	104.692		0.16	0.16	1.30	1.03	0.26	87	87	74	2.34	1.7	81	0.018	97	94	74.2	0.01	0.87		101.54	167.26	162.83	65.50	167.04	141	76	76	74		1.001	7.223	734
649	104.000	104.853		0.16	0.16	1.33	1.05	0.26	87	87	74	2.26	1.7	78	0.017	101	99	74.2	0.03	0.83		101.32	166.79	162.46	65.41	166.72	137	76	76	74		1.001	6.907	701
650	104.161	105.013		0.16	0.16	1.34	1.05	0.26	87	87	74	2.27	1.7	77	0.018	98	96	74.1	0.06	0.83		101.15	166.66	162.32	65.35	166.50	132	75	76	74		1.001	6.903	699
651	104.323	105.173		0.16	0.16	1.34	1.05	0.26	87	87	74	2.27	1.7	77	0.018	98	96	74.1	0.05	0.85		100.96	166.23	162.01	65.29	166.24	128	75	76	74		1.001	7.062	714
652	104.484	105.333		0.16	0.16	1.34	1.06	0.26	87	86	74	2.26	1.7	76	0.018	97	96	74.0	0.02	0.87		100.52	165.88	161.58	65.25	165.76	125	75	75	74		1.001	7.230	728
653	104.645	105.494		0.16	0.16	1.34	1.05	0.26	87	86	74	2.25	1.7	76	0.017	100	99	74.0	0.01	0.83		100.48	165.70	161.41	65.18	165.66	123	75	75	74		1.001	6.909	695
654	104.807	105.654		0.16	0.16	1.34	1.06	0.26	87	86	73	2.25	1.7	76	0.018	98	96	74.1	-0.05	0.85		100.14	165.42	161.17	65.14	165.28	121	75	75	73		1.001	7.071	709
655	104.968	105.814		0.16	0.16	1.34	1.06	0.26	87	86	73	2.25	1.7	76	0.015	107	105	74.0	0.09	0.85		99.96	165.31	160.90	65.10	165.06	119	75	75	73		1.001	7.066	707
656	105.130	105.976		0.16	0.16	1.34	1.05	0.26	87	86	73	2.26	1.7	76	0.016	104	103	74.0	-0.01	0.85		99.87	165.01	160.75	65.05	164.92	118	75	75	73		1.001	7.076	708
657	105.291	106.135		0.16	0.16	1.34	1.06	0.26	87	86	73	2.26	1.7	76	0.019	95	93	74.1	-0.07	0.87		99.42	164.56	160.28	65.03	164.45	116	75	75	73		1.001	7.231	720
658	105.453	106.296		0.16	0.16	1.34	1.06	0.26	87	86	73	2.26	1.7	75	0.016	104	102	74.1	-0.05	0.87		99.21	164.28	160.10	65.02	164.23	115	74	75	73		1.001	7.227	718
659	105.614	106.457		0.16	0.16	1.34	1.05	0.26	87	86	73	2.27	1.7	75	0.017	100	99	74.2	-0.05	0.79		98.88	163.99	159.72	65.02	163.90	114	74	75	73		1.001	6.584	652
660	105.775	106.617		0.16	0.16	1.34	1.05	0.26	86	86	73	2.25	1.7	75	0.018	98	96	74.2	0.01	0.85		98.73	163.91	159.58	65.03	163.76	113	74	74	73		1.001	7.070	699
661	105.937	106.777		0.16	0.16	1.34	1.06	0.26	86	86	73	2.26	1.7	75	0.017	101	98	74.3	-0.10	0.83		98.44	163.63	159.28	65.01	163.45	113	74	74	73		1.001	6.907	681
662	106.098	106.938		0.16	0.16	1.34	1.06	0.26	86	86	73	2.26	1.7	75	0.017	100	99	74.0	0.28	0.83		98.02	163.31	159.01	65.09	163.11	111	74	74	73		1.001	6.904	678
663	106.260	107.098		0.16	0.16	1.34	1.05	0.26	86	86	72	2.25	1.7	75	0.018	98	96	74.1	-0.11	0.79		97.80	162.96	158.77	65.06	162.86	111	74	74	72		1.001	6.581	644
664	106.421	107.258		0.16	0.16	1.35	1.06	0.26	86	86	72	2.25	1.7	75	0.015	107	105	74.1	0.05	0.87		97.43	162.57	158.42	65.09	162.52	110	74	74	72		1.001	7.202	703
665	106.583	107.419		0.16	0.16	1.34	1.06	0.26	86	86	72	2.27	1.7	75	0.018	98	96	74.1	-0.06	0.85		97.13	162.41	158.18	65.08	162.21	109	74	74	72		1.001	7.046	685
666	106.744	107.580		0.16	0.16	1.34	1.05	0.26	86	86	72	2.27	1.7	75	0.018	98	96	74.0	0.09	0.89		96.97	162.19	157.97	65.05	162.02	109	73	74	72		1.001	7.396	718
667	106.906	107.740		0.16	0.16	1.34	1.06	0.26	86	86	72	2.27	1.7	75	0.017	101	98	74.0	0.00	0.77		96.57	161.77	157.54	65.06	161.63	109	73	74	72		1.001	6.425	621
668	107.067	107.900		0.16	0.16	1.34	1.06	0.26	86	86	72	2.26	1.7	74	0.016	103	101	74.1	-0.06	0.85		96.38	161.60	157.40	65.05	161.43	109	73	74	72		1.001	7.072	682
669	107.229	108.062		0.16	0.16	1.34	1.06	0.26	86	86	72	2.25	1.7	74	0.017	101	100	74.1	-0.06	0.85		96.12	161.31	157.12	65.04	161.15	108	73	73	72		1.001	7.072	680

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
670	107.390	108.222		0.16	0.16	1.34	1.06	0.26	86	86	71	2.25	1.7	74	0.018	97	96	74.1	0.02	0.77		95.85	160.97	156.81	65.00	160.85	106	73	73	71		1.001	6.426	617
671	107.551	108.382		0.16	0.16	1.31	1.03	0.26	86	86	72	2.34	1.7	78	0.018	98	96	74.1	0.03	0.85		95.59	160.76	156.56	65.01	160.60	114	73	74	72		1.001	7.072	677
672	107.709	108.540		0.16	0.16	1.28	1.01	0.26	86	86	71	2.41	1.8	82	0.017	99	98	74.1	-0.02	0.85		95.36	160.48	156.31	64.96	160.32	131	73	74	71		1.001	7.075	675
673	107.868	108.697		0.16	0.16	1.30	1.02	0.26	86	86	71	2.39	1.7	83	0.018	97	95	74.1	0.04	0.87		94.89	160.03	155.87	64.98	159.88	150	73	74	71		1.001	7.234	687
674	108.027	108.856		0.16	0.16	1.30	1.03	0.26	86	86	71	2.35	1.7	83	0.017	100	99	74.0	0.09	0.79		94.68	159.75	155.66	64.97	159.65	159	73	74	71		1.001	6.569	623
675	108.186	109.013		0.16	0.16	1.29	1.03	0.26	86	86	71	2.34	1.7	84	0.017	100	97	73.7	0.28	0.84		94.44	159.60	155.43	64.96	159.40	165	73	74	71		1.001	7.027	664
676	108.345	109.172		0.16	0.16	1.31	1.04	0.26	86	86	71	2.34	1.7	84	0.018	97	96	73.9	-0.17	0.85		94.09	159.16	155.04	64.93	159.02	170	73	74	71		1.001	7.076	667
677	108.504	109.332		0.16	0.16	1.31	1.04	0.26	86	85	71	2.33	1.7	85	0.019	95	94	73.6	0.30	0.85		93.98	158.90	154.93	64.94	158.92	173	73	74	71		1.001	7.074	666
678	108.664	109.490		0.16	0.16	1.31	1.04	0.26	86	85	71	2.32	1.7	85	0.018	98	96	73.3	0.33	0.83		93.59	158.65	154.54	64.91	158.51	177	73	74	71		1.001	6.913	648
679	108.823	109.649		0.16	0.16	1.32	1.04	0.26	86	85	71	2.33	1.7	86	0.017	100	99	73.3	-0.07	0.87		93.30	158.38	154.29	64.90	158.20	182	73	74	71		1.001	7.237	676
680	108.983	109.808		0.16	0.16	1.31	1.04	0.26	86	85	71	2.35	1.7	88	0.017	101	99	73.1	0.19	0.83		93.46	158.45	154.41	64.88	158.34	188	73	74	71		1.001	6.916	647
681	109.142	109.967		0.16	0.16	1.31	1.03	0.26	86	85	71	2.34	1.7	89	0.017	100	99	72.8	0.35	0.83		93.27	158.31	154.21	64.86	158.13	196	73	74	71		1.001	6.913	646
682	109.302	110.126		0.16	0.16	1.30	1.03	0.26	86	85	71	2.38	1.7	90	0.018	98	97	72.5	0.25	0.85		93.21	158.27	154.16	64.85	158.06	203	73	74	71		1.001	7.074	660
683	109.459	110.282		0.16	0.16	1.26	1.01	0.26	85	85	71	2.46	1.8	91	0.016	103	101	72.3	0.19	0.83		93.46	158.44	154.32	64.83	158.29	211	73	74	71		1.001	6.912	647
684	109.614	110.439		0.16	0.16	1.21	0.98	0.26	85	85	71	2.6	1.9	93	0.016	101	101	71.9	0.43	0.75		93.72	158.77	154.60	64.80	158.52	217	73	74	71		1.001	6.270	588
685	109.766	110.592		0.15	0.15	1.28	1.06	0.26	85	85	71	2.97	2.1	93	0.016	100	99	71.4	0.47	0.77		93.84	158.90	154.71	64.80	158.64	223	73	74	71		1.001	6.430	604
686	109.921	110.752		0.16	0.16	1.31	1.03	0.26	85	85	71	3.41	2.2	94	0.018	96	98	71.3	0.19	0.85		94.38	159.41	155.24	64.78	159.16	229	74	75	71		1.001	7.076	669
687	110.079	110.912		0.16	0.16	1.25	1.04	0.26	85	85	71	3.68	2.4	95	0.018	98	98	70.8	0.47	0.85		94.86	159.93	155.70	64.76	159.62	234	74	75	71		1.001	7.077	672
688	110.231	111.068		0.15	0.16	1.17	1.00	0.26	85	85	71	4.08	2.5	96	0.018	94	95	70.3	0.51	0.91		95.45	160.41	156.22	64.75	160.19	239	74	75	71		1.001	7.560	722
689	110.378	111.222		0.15	0.15	1.04	0.94	0.26	85	85	70	4.65	2.7	97	0.018	91	94	69.9	0.42	0.89		95.98	160.98	156.72	64.72	160.70	245	74	75	70		1.001	7.401	711
690	110.514	111.370		0.14	0.15	0.90	0.87	0.26	85	85	70	5.27	3	98	0.018	84	91	69.6	0.27	0.81		96.42	161.40	157.11	64.68	161.10	251	74	75	70		1.001	6.752	652
691	110.641	111.510		0.13	0.14	0.77	0.75	0.26	85	85	70	5.9	3.5	100	0.018	79	86	69.0	0.56	0.81		97.07	162.01	157.73	64.68	161.74	259	74	75	70		1.001	6.753	656
692	110.813	111.638		0.17	0.13	1.73	0.58	0.26	85	85	70	2.16	4.3	101	0.017	110	81	68.4	0.67	0.85		97.64	162.51	158.27	64.67	162.31	268	74	75	70		1.001	7.081	692
693	110.990	111.749		0.18	0.11	1.32	0.80	0.26	85	85	70	1.93	2.4	103	0.016	117	72	68.0	0.36	0.81		98.13	163.07	158.75	64.65	162.79	276	76	74	70		1.001	6.743	662
694	111.149	111.928		0.16	0.18	1.33	1.30	0.26	85	85	70	1.94	1.6	106	0.019	97	107	67.4	0.61	0.85		98.97	164.04	159.60	64.64	163.60	288	77	75	70		1.001	7.048	698
695	111.309	112.094		0.16	0.17	1.33	1.10	0.26	85	85	70	1.93	1.5	107	0.016	106	109	66.9	0.48	0.84		100.24	165.27	160.79	64.64	164.88	296	77	77	70		1.001	6.988	701
696	111.469	112.257		0.16	0.16	1.33	1.10	0.26	85	84	70	1.93	1.5	109	0.019	98	98	66.2	0.73	0.89		101.25	166.35	161.69	64.59	165.84	303	77	78	70		1.001	7.376	748
697	111.629	112.419		0.16	0.16	1.32	1.10	0.26	85	84	70	1.93	1.5	111	0.018	100	100	65.7	0.46	0.85		102.18	167.16	162.62	64.61	166.79	310	77	78	70		1.001	7.084	725
698	111.788	112.582		0.16	0.16	1.32	1.10	0.26	85	84	70	1.93	1.5	113	0.018	100	101	65.1	0.63	0.83		103.04	167.99	163.46	64.59	167.63	318	78	79	70		1.001	6.919	714
699	111.947	112.745		0.16	0.16	1.32	1.10	0.26	85	84	70	1.94	1.5	115	0.018	100	101	64.4	0.65	0.81		103.93	168.94	164.30	64.59	168.52	326	78	79	70		1.001	6.758	703
700	112.106	112.908		0.16	0.16	1.33	1.10	0.26	85	84	70	1.94	1.5	116	0.017	103	104	63.6	0.81	0.85		105.51	170.64	165.90	64.59	170.10	332	78	79	70		1.001	7.078	748
701	112.266	113.070		0.16	0.16	1.32	1.09	0.26	85	84	70	1.94	1.5	117	0.019	98	98	62.8	0.83	0.81		106.50	171.50	166.74	64.57	171.06	336	78	80	70		1.001	6.755	720
702	112.425	113.232		0.16	0.16	1.32	1.10	0.26	84	84	70	1.94	1.5	118	0.018	101	101	62.0	0.78	0.83		107.37	172.32	167.56	64.55	171.92	341	78	80	70		1.001	6.922	744
703	112.584	113.395		0.16	0.16	1.32	1.10	0.26	84	84	70	1.94	1.5	119	0.017	104	105	61.4	0.58	0.83		108.79	173.90	169.01	64.57	173.36	344	78	80	70		1.001	6.916	753
704	112.743	113.557		0.16	0.16	1.32	1.09	0.26	84	84	70	1.95	1.5	119	0.015	110	111	60.7	0.72	0.84		110.36	175.46	170.56	64.54	174.90	346	79	80	70		1.001	7.011	775
705	112.903	113.719		0.16	0.16	1.32	1.09	0.26	84	84	70	1.96	1.5	119	0.018	101	101	59.8	0.92	0.87		111.68	176.73	171.81	64.59	176.27	346	79	80	70		1.001	7.222	808
706	113.062	113.880		0.16	0.16	1.31	1.09	0.26	84	84	70	1.97	1.5	120	0.017	104	104	59.2	0.62	0.83		113.09	178.12	173.24	64.61	177.70	347	79	81	70		1.001	6.918	783
707	113.221	114.042		0.16	0.16	1.32	1.09	0.26	84	84	70	1.97	1.5	119	0.017	104	104	58.5	0.70	0.83		114.53	179.67	174.62	64.61	179.14	348	79	81	70		1.001	6.917	793
708	113.380	114.204		0.16	0.16	1.32	1.08	0.26	84	84	70	1.96	1.5	120	0.017	104	104	57.8	0.67	0.83		115.43	180.48	175.46	64.67	180.10	350	79	81	70		1.001	6.913	799
709	113.539	114.366		0.16	0.16	1.32	1.08	0.26	84	84	70	1.94	1.5	103	0.017	102	103	57.1	0.75	0.83		116.14	181.32	176.21	64.70	180.84	351	78	80	70		1.001	6.916	804
710	113.698	114.527		0.16	0.16	1.32	1.08	0.26	84	84	70	1.94	1.5	91	0.018	98	98	56.6	0.46	0.85		117.72	182.80	177.73	64.72	182.44	307	77	79	70		1.001	7.076	834
711	113.858	114.689		0.16	0.16	1.32	1.08	0.26	84	84	70	1.95	1.5	87	0.018	98	98	56.0	0.63	0.85		118.29	183.41	178.33	64.76	183.06	283	77	78	70		1.001	7.081	839
712	114.017	114.852		0.16	0.16	1.32	1.09	0.26	84	84	70	1.94	1.5	85	0.018	98	99	55.8	0.15	0.85		118.68	183.82	178.68	64.76	183.44	267	76	77	70		1.001	7.079	841
713	114.177	115.014		0.16	0.16	1.32	1.09	0.26	84	84	70	1.92	1.5	83	0.018	98	98	55.5	0.28	0.79		118.89	183.99	178.89	64.79	183.68	255	75	76	70		1.001	6.613	787
714	114.336	115.176		0.16	0.16	1.32	1.09	0.26	84	84	70	1.94	1.5	81	0.016	103	104	55.3	0.24	0.90		119.11	184.15	179.11	64.76	183.87	248	74	76	70		1.001	7.522	897
715	114.496	115.339		0.16	0.16	1.32	1.10	0.26	84	84	70	1.93	1.4	80	0.017	101	101	55.2	0.09	0.87		119.19	184.23	179.19	64.77	183.96	241	74	76	70		1.001	7.243	864
716	114.656	115.502		0.16	0.16	1.32	1.10	0.26	84	83	69	1.92	1.4	79	0.018	98	98	55.1	0.15	0.77		119.28	184.46	179.82	64.77	184.05	234	74	75	69		1.001	6.435	768
717	114.817	115.666		0.16	0.16	1.32	1.10	0.26	84	83	70	1.93	1.4	79	0.017	101	102	55.0	0.03	0.73		120.04	185.22	180.82	64.77	184.81	228	74	75	70		1.001	6.111	734
718	114.977	115.829		0.16	0.16	1.32	1.10	0.26	84	83	70	1.94	1.4	78	0.017	100	101	55.0	0.08	0.77		120.50	185.57	181.16	64.78	185.28	224	74	75	70		1.001	6.434	776
719	115.136	115.992		0.16	0.16	1.32	1.10	0.26	84	83	69	1.93	1.4	78	0.017	100	101	54.9	0.02	0.75		120.66	185.68	181.27	64.75	185.41	219	73	75	69		1.001	6.272	758
720	115.296	116.156		0.16	0.16	1.32	1.10	0.26	84	83	70	1.92	1.4	77	0.016	103	105	54.8	0.16	0.77		120.59	185.61	181.22	64.80	185.38	215	73	74	70		1.001	6.434	777
721	115.456	116.320		0.16	0.16	1.31	1.10	0.26	84	83	69	1.93	1.4	77	0.017	100	102	54.7	0.07	0.75		120.63	185.58	181.28	64.77	185.39	211	73	74	69		1.001	6.271	757
722	115.615	116.484		0.16	0.16	1.32	1.11	0.26	84	83	69	1.92	1.4	77	0.017	100	102	54.8	-0.08	0.71		120.47	185.55	181.13	64.77	185.24	207	73	74	69		1.001	5.949	718
723	115.775	116.648		0.16	0.16	1.32	1.10	0.26	84	83	69	1.92	1.4	76	0.017	100	102	54.7	0.07	0.73		120.36	185.46	181.03	64.79	185.15	204	73	74	69		1.001	6.112	737
724	115.935	116.811		0.16	0.16	1.32	1.10	0.26	84	83	69	1.93	1.4	75	0.017	100	101	54.8	-0.08	0.75		120.16	185.15	180.81	64.77	184.93	202	72	74	69		1.001	6.276	755
725	116.095	116.974		0.16	0.16	1.32	1.10	0.26	84	83	69	1.93	1.4	75	0.017	100	101	54.7	0.07	0.66		120.13	185.20	181.51	64.78	184.91	199	72	73	69		1.001	5.463	657
726	116.255	117.138		0.16	0.16	1.33	1.11	0.26	83	83	69	1.93	1.4	74	0.015	107	108	54.5	0.23	0.64		120.20	185.17	181.63	64.80	185.00	195	72	73	69		1.001	5.298	638
727	116.415	117.302		0.16	0.16	1.33	1.11	0.26	83	83	69	1.93	1.4	74	0.018	97	98	54.7	-0.16	0.68		119.99	185.08	181.48	64.80	184.79	192	72	73	69		1.001	5.628	676
728	116.575	117.466		0.16	0.16	1.33	1.11	0.26	83	83	69	1.93	1.4	74	0.017	100	101	54.6	0.07	0.60		119.89	185.02	181.41	64.80	184.69	188	72	73	69		1.001	4.980	598
729	116.735	117.630		0.16	0.16	1.33	1.11	0.26	83	83	69	1.93	1.4	74	0.017	100	101	54.6	-0.02	0.66		119.81	184.88	181.26	64.80	184.61	185	72	73	69		1.001	5.465	656
730	116.895	117.793		0.16	0.16	1.33	1.10	0.26	83	83	69	1.91	1.4	74	0.017	100	101	54.6	-0.02	0.64		119.71	184.81	181.23	64.80	184.51	182	72	72	69		1.001	5.310	636
731	117.056	117.957		0.16	0.16	1.33	1.11	0.26	83	83	69	1.91	1.4	74	0.017	101	101	54.7	-0.14	0.66		119.57	184.61	181.05	64.81	184.37	179	71	72	69		1.001	5.465	654

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
732	117.216	118.120		0.16	0.16	1.31	1.10	0.26	83	83	69	1.92	1.4	74	0.018	97	98	54.8	-0.07	0.61		119.41	184.35	180.82	64.80	184.21	176	71	72	69		1.001	5.070	606
733	117.376	118.284		0.16	0.16	1.33	1.11	0.26	83	83	69	1.93	1.4	74	0.017	100	101	54.8	0.03	0.66		119.32	184.40	180.86	64.80	184.12	173	71	72	69		1.001	5.468	653
734	117.536	118.449		0.16	0.16	1.32	1.10	0.26	83	83	69	1.91	1.4	73	0.018	97	99	54.8	-0.02	0.62		119.15	184.15	180.62	64.79	183.94	171	71	72	69		1.001	5.145	614
735	117.696	118.612		0.16	0.16	1.32	1.10	0.26	83	83	69	1.93	1.4	73	0.016	103	104	54.9	-0.04	0.62		119.08	184.17	180.60	64.78	183.86	168	71	72	69		1.001	5.145	613
736	117.856	118.776		0.16	0.16	1.32	1.10	0.26	83	83	69	1.91	1.4	73	0.017	100	101	54.7	0.19	0.66		119.04	183.96	180.18	64.77	183.81	165	71	72	69		1.001	5.469	652
737	118.016	118.940		0.16	0.16	1.33	1.10	0.26	83	83	69	1.93	1.4	73	0.018	97	98	54.8	-0.12	0.70		118.85	183.75	179.98	64.75	183.60	163	71	71	69		1.001	5.791	689
738	118.175	119.103		0.16	0.16	1.32	1.11	0.26	83	83	69	1.91	1.4	73	0.017	100	101	54.8	0.02	0.68		118.72	183.73	179.88	64.73	183.45	161	71	71	69		1.001	5.628	669
739	118.335	119.267		0.16	0.16	1.32	1.11	0.26	83	83	69	1.93	1.4	73	0.017	100	101	54.7	0.08	0.64		118.71	183.64	179.82	64.70	183.41	158	71	71	69		1.001	5.307	631
740	118.495	119.432		0.16	0.17	1.33	1.11	0.26	83	82	69	1.91	1.4	73	0.018	97	99	54.7	-0.04	0.68		118.42	183.27	179.54	64.67	183.09	156	70	71	69		1.001	5.632	668
741	118.655	119.595		0.16	0.16	1.33	1.10	0.26	83	83	69	1.93	1.4	73	0.017	100	101	54.9	-0.23	0.71		118.18	183.14	179.31	64.65	182.83	154	70	71	69		1.001	5.953	704
742	118.815	119.759		0.16	0.16	1.33	1.10	0.26	83	82	69	1.92	1.4	73	0.016	103	105	54.8	0.10	0.68		118.11	182.93	179.19	64.62	182.73	152	70	71	69		1.001	5.631	666
743	118.975	119.922		0.16	0.16	1.33	1.11	0.26	83	82	69	1.93	1.4	73	0.018	97	98	54.8	0.00	0.68		118.06	182.79	179.08	64.60	182.66	150	70	71	69		1.001	5.632	666
744	119.135	120.086		0.16	0.16	1.33	1.11	0.26	83	82	69	1.93	1.4	73	0.017	100	101	55.0	-0.11	0.66		117.77	182.56	178.77	64.56	182.34	148	70	71	69		1.001	5.469	645
745	119.295	120.250		0.16	0.16	1.33	1.11	0.26	83	82	69	1.91	1.4	72	0.019	95	96	54.9	0.02	0.70		117.56	182.34	178.58	64.54	182.10	146	70	71	69		1.001	5.793	682
746	119.456	120.415		0.16	0.17	1.33	1.11	0.26	83	82	69	1.92	1.4	72	0.016	104	105	55.0	-0.09	0.62		117.43	182.14	178.34	64.53	181.96	144	70	71	69		1.001	5.143	605
747	119.616	120.578		0.16	0.16	1.33	1.10	0.26	83	82	69	1.93	1.4	72	0.016	103	104	55.1	-0.12	0.70		117.32	182.15	178.35	64.53	181.84	142	70	70	69		1.001	5.792	680
748	119.775	120.741		0.16	0.16	1.32	1.10	0.26	83	82	69	1.92	1.4	72	0.017	99	101	55.0	0.17	0.70		117.08	181.79	178.05	64.52	181.61	141	70	70	69		1.001	5.793	679
749	119.936	120.905		0.16	0.16	1.32	1.10	0.26	83	82	69	1.93	1.4	72	0.018	98	98	55.0	-0.01	0.75		116.73	181.48	177.74	64.54	181.27	139	70	70	69		1.001	6.277	734
750	120.096	121.069		0.16	0.16	1.32	1.11	0.26	82	82	69	1.91	1.4	72	0.018	97	98	54.9	0.05	0.62		116.63	181.37	177.66	64.55	181.18	137	70	70	69		1.001	5.157	602
751	120.255	121.233		0.16	0.16	1.32	1.11	0.26	82	82	69	1.93	1.4	72	0.016	103	104	55.0	-0.06	0.64		116.59	181.42	177.67	64.57	181.17	136	70	70	69		1.001	5.312	620
752	120.415	121.397		0.16	0.16	1.32	1.11	0.26	82	82	69	1.91	1.4	72	0.018	97	98	55.1	-0.16	0.67		116.33	181.08	177.38	64.59	180.92	134	70	70	69		1.001	5.553	647
753	120.575	121.561		0.16	0.16	1.32	1.11	0.26	82	82	68	1.92	1.4	72	0.016	103	104	54.9	0.28	0.72		115.91	180.77	177.05	64.62	180.53	133	70	70	68		1.001	5.959	692
754	120.735	121.724		0.16	0.16	1.33	1.11	0.26	82	82	68	1.93	1.4	72	0.017	100	101	55.0	-0.15	0.73		115.59	180.48	176.56	64.64	180.23	131	69	70	68		1.001	6.119	708
755	120.895	121.888		0.16	0.16	1.33	1.10	0.26	82	82	68	1.93	1.4	72	0.019	95	96	55.0	0.06	0.72		115.52	180.41	176.47	64.64	180.16	130	69	70	68		1.001	5.956	689
756	121.055	122.052		0.16	0.16	1.33	1.11	0.26	82	82	68	1.91	1.4	72	0.015	107	108	55.0	-0.05	0.72		115.35	180.13	176.29	64.64	179.99	129	69	70	68		1.001	5.958	688
757	121.215	122.216		0.16	0.16	1.33	1.11	0.26	82	82	68	1.93	1.4	72	0.017	100	101	55.2	-0.19	0.70		115.06	179.89	175.97	64.64	179.70	128	69	70	68		1.001	5.798	668
758	121.375	122.380		0.16	0.16	1.33	1.11	0.26	82	82	68	1.91	1.4	72	0.015	107	108	55.1	0.11	0.73		114.88	179.68	175.93	64.63	179.52	127	69	70	68		1.001	6.114	703
759	121.535	122.544		0.16	0.16	1.33	1.10	0.26	82	82	68	1.93	1.4	72	0.019	95	96	55.1	0.00	0.74		114.59	179.41	175.43	64.63	179.21	125	69	70	68		1.001	6.126	703
760	121.695	122.707		0.16	0.16	1.32	1.11	0.26	82	82	68	1.93	1.4	72	0.017	100	101	55.1	0.01	0.69		114.40	179.17	175.32	64.62	179.01	124	69	70	68		1.001	5.772	661
761	121.856	122.871		0.16	0.16	1.32	1.11	0.26	82	82	68	1.92	1.4	72	0.017	101	101	55.2	-0.12	0.72		114.32	179.07	175.16	64.59	178.91	123	69	70	68		1.001	5.956	682
762	122.016	123.035		0.16	0.16	1.32	1.11	0.26	82	82	68	1.92	1.4	72	0.016	103	104	55.0	0.17	0.68		113.92	178.75	174.80	64.59	178.51	122	69	70	68		1.001	5.635	643
763	122.175	123.199		0.16	0.16	1.33	1.11	0.26	82	82	68	1.93	1.4	72	0.016	103	104	55.3	-0.23	0.70		113.77	178.45	174.60	64.56	178.33	121	69	69	68		1.001	5.795	660
764	122.335	123.363		0.16	0.16	1.32	1.11	0.26	82	81	68	1.91	1.4	72	0.017	100	102	55.2	0.05	0.75		113.48	178.11	174.26	64.54	178.02	120	69	69	68		1.001	6.282	714
765	122.495	123.526		0.16	0.16	1.33	1.11	0.26	82	81	68	1.93	1.4	71	0.017	100	101	55.3	-0.07	0.75		113.39	178.05	174.21	64.53	177.92	118	69	69	68		1.001	6.280	713
766	122.655	123.690		0.16	0.16	1.32	1.10	0.26	82	81	68	1.91	1.4	71	0.018	97	99	55.2	0.08	0.68		113.13	177.73	173.88	64.51	177.65	121	69	69	68		1.001	5.634	638
767	122.815	123.853		0.16	0.16	1.33	1.11	0.26	82	81	68	1.91	1.4	71	0.017	100	101	55.3	-0.13	0.70		112.81	177.44	173.57	64.49	177.31	118	69	69	68		1.001	5.799	655
768	122.975	124.018		0.16	0.17	1.32	1.11	0.26	82	81	68	1.92	1.4	71	0.017	100	102	55.2	0.16	0.72		112.60	177.21	173.33	64.48	177.09	118	69	69	68		1.001	5.960	672
769	123.134	124.182		0.16	0.16	1.32	1.11	0.26	82	81	68	1.91	1.4	71	0.018	97	99	55.3	-0.15	0.68		112.43	177.05	173.19	64.47	176.89	118	69	69	68		1.001	5.673	639
770	123.294	124.346		0.16	0.16	1.33	1.11	0.26	81	81	68	1.92	1.4	71	0.017	100	101	55.4	-0.07	0.70		112.10	176.72	172.84	64.45	176.55	115	69	69	68		1.001	5.797	651
771	123.454	124.509		0.16	0.16	1.33	1.10	0.26	81	81	68	1.93	1.4	71	0.017	100	101	55.3	0.15	0.68		111.88	176.60	172.67	64.44	176.32	115	69	69	68		1.001	5.657	634
772	123.614	124.673		0.16	0.16	1.33	1.11	0.26	81	81	68	1.93	1.4	71	0.016	103	105	55.3	0.00	0.72		111.58	176.07	172.31	64.42	176.00	115	69	69	68		1.001	5.958	666
773	123.774	124.837		0.16	0.16	1.34	1.11	0.26	81	81	68	1.93	1.4	71	0.017	100	101	55.3	-0.02	0.72		111.39	175.99	172.15	64.42	175.81	114	69	69	68		1.001	5.963	665
774	123.935	125.001		0.16	0.16	1.33	1.11	0.26	81	81	68	1.92	1.4	71	0.017	101	101	55.4	-0.08	0.74		111.16	175.77	171.94	64.39	175.55	113	69	69	68		1.001	6.121	681
775	124.095	125.164		0.16	0.16	1.32	1.11	0.26	81	81	68	1.93	1.4	71	0.018	98	98	55.4	0.00	0.72		110.95	175.50	171.66	64.37	175.33	113	69	69	68		1.001	5.960	662
776	124.255	125.329		0.16	0.16	1.33	1.11	0.26	81	81	68	1.93	1.4	71	0.015	107	109	55.3	0.04	0.72		110.63	175.24	171.35	64.36	174.99	111	69	69	68		1.001	5.963	660
777	124.415	125.492		0.16	0.16	1.33	1.11	0.26	81	81	68	1.93	1.4	71	0.018	98	98	55.3	0.07	0.75		110.52	175.04	171.26	64.35	174.87	112	69	69	68		1.001	6.279	695
778	124.575	125.656		0.16	0.16	1.32	1.11	0.26	81	81	68	1.92	1.4	71	0.017	100	101	55.4	-0.16	0.73		110.37	174.75	171.02	64.34	174.71	111	68	69	68		1.001	6.116	676
779	124.735	125.820		0.16	0.16	1.32	1.11	0.26	81	81	68	1.91	1.4	71	0.017	100	101	55.3	0.06	0.68		110.05	174.50	170.76	64.33	174.38	111	69	69	68		1.001	5.694	627
780	124.894	125.983		0.16	0.16	1.33	1.11	0.26	81	81	68	1.93	1.4	71	0.016	103	104	55.5	-0.13	0.74		109.59	174.12	170.33	64.34	173.92	111	68	69	68		1.001	6.122	672
781	125.054	126.148		0.16	0.16	1.33	1.11	0.26	81	81	68	1.91	1.4	71	0.016	103	105	55.5	-0.06	0.72		109.52	173.97	170.20	64.36	173.87	109	68	69	68		1.001	5.960	654
782	125.214	126.312		0.16	0.16	1.33	1.11	0.26	81	81	68	1.92	1.4	71	0.017	100	101	55.5	0.07	0.74		109.35	173.77	170.06	64.38	173.73	108	68	69	68		1.001	6.123	670
783	125.374	126.475		0.16	0.16	1.32	1.10	0.26	81	81	68	1.94	1.4	73	0.020	93	93	55.5	-0.03	0.66		108.98	173.38	169.70	64.41	173.39	109	69	69	68		1.001	5.478	598
784	125.533	126.638		0.16	0.16	1.33	1.11	0.26	81	81	68	1.91	1.4	74	0.018	97	98	55.5	-0.04	0.75		108.61	173.20	169.40	64.43	173.04	142	68	69	68		1.001	6.285	683
785	125.693	126.802		0.16	0.16	1.33	1.11	0.26	81	81	68	1.91	1.4	72	0.017	100	102	55.5	0.08	0.72		108.19	172.88	169.05	64.46	172.65	136	68	69	68		1.001	5.961	646
786	125.853	126.965		0.16	0.16	1.33	1.11	0.26	81	81	68	1.93	1.4	71	0.018	98	98	55.3	0.21	0.74		108.04	172.68	168.88	64.48	172.52	131	68	69	68		1.001	6.124	662
787	126.013	127.130		0.16	0.16	1.34	1.11	0.26	81	81	68	1.91	1.4	71	0.016	103	105	55.3	-0.05	0.68		107.84	172.35	168.73	64.50	172.34	128	68	69	68		1.001	5.656	611
788	126.174	127.294		0.16	0.16	1.33	1.11	0.26	81	81	67	1.92	1.4	71	0.017	101	101	55.2	0.14	0.69		107.40	172.08	168.33	64.50	171.90	125	68	69	67		1.001	5.712	614
789	126.334	127.458		0.16	0.16	1.33	1.10	0.26	81	81	67	1.92	1.4	71	0.018	98	99	55.3	-0.15	0.77		107.14	171.71	168.05	64.51	171.66	123	68	69	67		1.001	6.404	687
790	126.494	127.621		0.16	0.16	1.33	1.11	0.26	81	80	67	1.92	1.4	71	0.017	100	101	55.3	-0.01	0.68		106.91	171.70	167.93	64.52	171.42	121	68	69	67		1.001	5.640	604
791	126.654	127.785		0.16	0.16	1.33	1.11	0.26	81	80	67	1.91	1.4	71	0.017	100	102	55.4	-0.11	0.72		106.83	171.59	167.84	64.52	171.35	119	68	68	67		1.001	5.963	638
792	126.814	127.949		0.16	0.16	1.33	1.11	0.26	81	80	67	1.92	1.4	71	0.016	103	105	55.4	0.08	0.75		106.43	171.15	167.43	64.51	170.94	117	68	68	67		1.001	6.285	670
793	126.974	128.113		0.16	0.16	1.32	1.11	0.26	81	80	67	1.92	1.4	70	0.016	103	105	55.3	0.10	0.72		106.10	170.79	167.08	64.51	170.61	116	68	68	67		1.001	5.960	633

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
794	127.134	128.277		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	71	0.016	104	105	55.3	-0.05	0.70		105.91	170.63	166.91	64.50	170.42	115	68	68	67		1.001	5.801	615
795	127.293	128.441		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.018	97	99	55.4	-0.05	0.68		105.76	170.46	166.77	64.50	170.26	114	68	68	67		1.001	5.638	597
796	127.453	128.604		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.017	100	101	55.3	0.08	0.74		105.40	170.13	166.41	64.49	169.89	114	68	68	67		1.001	6.124	646
797	127.613	128.768		0.16	0.16	1.34	1.11	0.26	80	80	67	1.91	1.4	70	0.016	104	105	55.4	-0.07	0.76		105.35	169.97	166.29	64.48	169.82	112	68	68	67		1.001	6.298	664
798	127.773	128.932		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.016	104	105	55.6	-0.21	0.69		105.05	169.65	166.00	64.46	169.51	111	68	68	67		1.001	5.733	603
799	127.933	129.096		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.017	100	102	55.5	0.08	0.70		104.72	169.38	165.66	64.45	169.17	111	68	68	67		1.001	5.799	608
800	128.093	129.261		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.016	104	105	55.4	0.06	0.66		104.53	169.16	165.51	64.44	168.97	109	68	68	67		1.001	5.476	573
801	128.253	129.424		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.017	100	101	55.5	-0.04	0.66		104.44	168.96	165.38	64.43	168.86	111	68	68	67		1.001	5.476	573
802	128.413	129.588		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.016	104	105	55.5	-0.02	0.72		104.09	168.66	165.00	64.42	168.52	110	68	68	67		1.001	5.963	621
803	128.573	129.751		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.017	100	101	55.4	0.07	0.74		103.75	168.26	164.62	64.42	168.16	108	68	68	67		1.001	6.124	636
804	128.733	129.915		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.017	100	102	55.5	-0.04	0.70		103.51	168.11	164.44	64.41	167.91	108	68	68	67		1.001	5.800	601
805	128.893	130.080		0.16	0.17	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.015	107	109	55.5	-0.04	0.75		103.38	167.96	164.33	64.41	167.80	107	68	68	67		1.001	6.285	651
806	129.053	130.244		0.16	0.16	1.33	1.11	0.26	80	80	67	1.9	1.4	70	0.017	100	102	55.5	0.04	0.72		103.16	167.79	164.19	64.45	167.61	106	68	68	67		1.001	5.964	616
807	129.213	130.407		0.16	0.16	1.32	1.10	0.26	80	80	67	1.92	1.4	70	0.017	100	101	55.4	0.01	0.74		102.88	167.41	163.89	64.44	167.33	107	68	68	67		1.001	6.125	631
808	129.372	130.571		0.16	0.16	1.32	1.11	0.26	80	80	67	1.92	1.4	70	0.016	103	105	55.4	0.05	0.75		102.50	167.06	163.50	64.47	166.97	106	68	68	67		1.001	6.264	643
809	129.532	130.734		0.16	0.16	1.33	1.11	0.26	80	80	67	1.9	1.4	70	0.018	98	98	55.6	-0.16	0.72		102.41	167.05	163.52	64.49	166.89	106	68	68	67		1.001	5.963	611
810	129.692	130.898		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.017	100	102	55.6	-0.04	0.74		102.05	166.70	163.10	64.49	166.54	104	68	68	67		1.001	6.126	626
811	129.851	131.062		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.018	97	99	55.6	-0.03	0.76		101.77	166.46	162.86	64.51	166.28	104	68	68	67		1.001	6.288	641
812	130.011	131.226		0.16	0.16	1.33	1.11	0.26	80	80	67	1.9	1.4	70	0.018	98	99	55.7	-0.10	0.72		101.47	166.19	162.63	64.51	165.98	104	68	68	67		1.001	5.963	606
813	130.171	131.390		0.16	0.16	1.34	1.10	0.26	80	80	67	1.92	1.4	70	0.017	100	102	55.6	0.17	0.70		101.33	166.09	162.43	64.49	165.83	104	68	68	67		1.001	5.803	589
814	130.331	131.553		0.16	0.16	1.33	1.10	0.26	80	80	67	1.93	1.4	73	0.018	98	98	55.7	-0.12	0.74		100.96	165.67	162.07	64.49	165.45	101	68	68	67		1.001	6.124	619
815	130.490	131.717		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	72	0.017	100	102	55.7	-0.01	0.72		100.68	165.33	161.76	64.49	165.17	130	68	68	67		1.001	5.967	601
816	130.651	131.880		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	71	0.017	101	101	55.5	0.18	0.72		100.49	165.02	161.54	64.48	164.97	125	68	68	67		1.001	5.964	600
817	130.811	132.045		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.018	98	99	55.5	-0.03	0.72		100.30	164.95	161.39	64.45	164.75	121	68	68	67		1.001	5.963	599
818	130.971	132.208		0.16	0.16	1.34	1.11	0.26	80	80	67	1.91	1.4	70	0.016	104	104	55.5	0.04	0.75		100.02	164.69	161.12	64.44	164.46	119	68	68	67		1.001	6.264	627
819	131.130	132.372		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.016	103	105	55.5	-0.04	0.74		99.68	164.36	160.79	64.43	164.11	117	68	68	67		1.001	6.125	611
820	131.290	132.535		0.16	0.16	1.32	1.11	0.26	80	80	67	1.91	1.4	70	0.017	100	101	55.4	0.15	0.68		99.62	164.11	160.64	64.40	164.02	115	68	68	67		1.001	5.641	563
821	131.450	132.699		0.16	0.16	1.32	1.11	0.26	80	80	67	1.91	1.4	70	0.014	111	112	55.4	0.01	0.70		99.19	163.71	160.19	64.39	163.58	113	68	68	67		1.001	5.803	576
822	131.609	132.863		0.16	0.16	1.33	1.11	0.26	80	80	67	1.91	1.4	70	0.017	100	102	55.6	-0.25	0.74		98.89	163.44	159.89	64.39	163.28	111	68	68	67		1.001	6.126	607
823	131.769	133.028		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.016	104	105	55.4	0.23	0.74		98.87	163.32	159.92	64.37	163.24	110	68	68	67		1.001	6.127	607
824	131.929	133.191		0.16	0.16	1.33	1.11	0.26	80	80	67	1.92	1.4	70	0.016	104	104	55.6	-0.19	0.72		98.64	163.18	159.70	64.37	163.00	109	68	68	67		1.001	5.964	589
825	132.088	133.354		0.16	0.16	1.34	1.11	0.26	79	79	67	1.9	1.4	70	0.017	100	101	55.5	0.10	0.70		98.28	162.71	159.30	64.34	162.62	108	67	68	67		1.001	5.807	571
826	132.248	133.518		0.16	0.16	1.34	1.11	0.26	79	79	67	1.92	1.4	70	0.018	98	99	55.4	0.07	0.72		98.12	162.55	159.13	64.33	162.45	107	68	68	67		1.001	5.965	586
827	132.408	133.682		0.16	0.16	1.33	1.11	0.26	79	79	67	1.92	1.4	70	0.015	107	108	55.6	-0.14	0.71		97.84	162.23	158.79	64.32	162.15	107	67	68	67		1.001	5.940	582
828	132.568	133.846		0.16	0.16	1.33	1.11	0.26	79	79	67	1.91	1.4	70	0.015	107	108	55.5	0.02	0.72		97.69	162.16	158.71	64.31	162.00	105	67	68	67		1.001	5.965	583
829	132.728	134.010		0.16	0.16	1.33	1.11	0.26	79	79	67	1.91	1.4	70	0.017	101	102	55.5	0.07	0.68		97.30	161.80	158.27	64.32	161.62	106	67	68	67		1.001	5.642	550
830	132.888	134.174		0.16	0.16	1.34	1.11	0.26	79	79	67	1.91	1.4	70	0.017	101	102	55.6	-0.09	0.72		97.08	161.49	158.03	64.30	161.38	103	67	68	67		1.001	5.968	580
831	133.048	134.337		0.16	0.16	1.33	1.11	0.26	79	79	67	1.92	1.4	70	0.017	101	101	55.7	-0.11	0.74		96.82	161.38	157.87	64.31	161.12	104	67	68	67		1.001	6.129	594
832	133.208	134.501		0.16	0.16	1.33	1.11	0.26	79	79	67	1.92	1.4	70	0.018	98	99	55.5	0.22	0.68		96.74	161.17	157.79	64.32	161.06	103	67	68	67		1.001	5.644	547
833	133.368	134.665		0.16	0.16	1.33	1.11	0.26	79	79	67	1.91	1.4	70	0.016	104	105	55.5	-0.04	0.72		96.55	161.06	157.67	64.35	160.90	102	67	68	67		1.001	5.966	577
834	133.527	134.828		0.16	0.16	1.32	1.11	0.26	79	79	67	1.93	1.4	77	0.018	98	99	55.6	-0.11	0.76		96.23	160.73	157.34	64.37	160.60	133	68	68	67		1.001	6.289	606
835	133.686	134.992		0.16	0.16	1.33	1.11	0.26	79	79	67	1.93	1.4	78	0.019	95	97	55.6	-0.03	0.66		95.67	160.08	156.74	64.40	160.07	123	68	68	67		1.001	5.505	527
836	133.846	135.155		0.16	0.16	1.33	1.10	0.26	79	79	67	1.92	1.4	78	0.018	99	99	55.6	0.03	0.74		95.41	160.04	156.60	64.42	159.83	141	68	68	67		1.001	6.123	585
837	134.005	135.318		0.16	0.16	1.34	1.11	0.26	79	79	67	1.91	1.4	78	0.018	98	99	55.3	0.33	0.70		95.26	159.88	156.46	64.43	159.69	149	68	68	67		1.001	5.832	556
838	134.165	135.482		0.16	0.16	1.33	1.11	0.26	79	79	67	1.91	1.4	78	0.018	99	100	55.4	-0.09	0.74		94.97	159.53	156.13	64.45	159.42	154	68	68	67		1.001	6.127	583
839	134.325	135.645		0.16	0.16	1.33	1.11	0.26	79	79	67	1.93	1.4	78	0.018	99	99	55.1	0.25	0.72		94.65	159.25	155.92	64.45	159.11	159	68	68	67		1.001	5.967	565
840	134.484	135.810		0.16	0.16	1.33	1.11	0.26	79	79	67	1.93	1.4	79	0.019	95	98	55.1	-0.01	0.76		94.28	158.87	155.49	64.45	158.73	165	68	69	67		1.001	6.288	594
841	134.644	135.973		0.16	0.16	1.34	1.11	0.26	79	79	67	1.92	1.4	80	0.018	99	99	55.0	0.12	0.72		94.37	158.96	155.61	64.44	158.81	172	68	69	67		1.001	5.965	564
842	134.804	136.136		0.16	0.16	1.33	1.11	0.26	79	79	67	1.93	1.4	82	0.017	102	102	54.6	0.36	0.74		94.14	158.68	155.34	64.44	158.58	182	68	69	67		1.001	6.129	578
843	134.964	136.299		0.16	0.16	1.34	1.11	0.26	79	79	67	1.92	1.4	84	0.018	99	100	54.5	0.14	0.75		94.15	158.79	155.41	64.43	158.58	194	68	69	67		1.001	6.286	593
844	135.123	136.463		0.16	0.16	1.33	1.11	0.26	79	79	67	1.93	1.4	86	0.016	105	106	54.3	0.24	0.74		94.01	158.63	155.22	64.41	158.42	205	69	69	67		1.001	6.121	576
845	135.282	136.627		0.16	0.16	1.33	1.12	0.26	79	79	67	1.93	1.4	87	0.016	105	107	54.1	0.20	0.72		94.19	158.79	155.40	64.40	158.59	217	69	70	67		1.001	5.982	564
846	135.441	136.790		0.16	0.16	1.33	1.11	0.26	79	79	67	1.93	1.4	88	0.017	102	103	53.5	0.55	1.24		94.54	159.16	153.98	64.38	158.93	226	69	70	67		1.001	10.330	978
847	135.601	136.953		0.16	0.16	1.33	1.11	0.26	79	79	67	1.92	1.4	90	0.019	97	97	53.2	0.33	1.18		94.32	158.87	152.62	64.37	158.68	234	69	70	67		1.001	9.845	930
848	135.760	137.116		0.16	0.16	1.34	1.11	0.26	79	79	67	1.93	1.4	91	0.017	102	103	52.8	0.36	1.22		94.39	158.97	152.66	64.29	158.68	241	69	70	67		1.001	10.165	961
849	135.919	137.279		0.16	0.16	1.34	1.11	0.26	79	79	67	1.92	1.4	92	0.018	99	100	52.3	0.51	1.22		94.55	158.85	152.70	64.23	158.78	247	69	71	67		1.001	10.168	963
850	136.078	137.442		0.16	0.16	1.34	1.11	0.26	79	79	67	1.92	1.4	93	0.017	102	103	52.1	0.22	1.20		94.64	158.90	152.73	64.17	158.82	252	70	71	67		1.001	10.004	948
851	136.237	137.605		0.16	0.16	1.34	1.11	0.26	79	79	67	1.94	1.4	95	0.017	102	103	51.7	0.37	1.22		94.53	158.92	152.67	64.20	158.73	258	70	71	67		1.001	10.168	962
852	136.397	137.768		0.16	0.16	1.33	1.10	0.26	79	79	67	1.92	1.4	96	0.017	103	104	51.2	0.49	1.20		95.25	159.54	153.30	64.16	159.40	264	70	71	67		1.001	10.004	954
853	136.557	137.931		0.16	0.16	1.33	1.11	0.26	79	79	67	1.93	1.4	97	0.018	100	101	50.7	0.58	1.22		95.91	160.20	153.92	64.13	160.04	268	70	71	67		1.001	10.166	976
854	136.715	138.093		0.16	0.16	1.33	1.11	0.26	79	79	67	1.94	1.4	99	0.017	102	103	50.2	0.44	1.22		96.44	160.80	154.40	64.15	160.60	274	71	72	67		1.001	10.166	982
855	136.874	138.257		0.16	0.16	1.32	1.10	0.26	79	79	67	1.95	1.4	100	0.018	100	102	49.6	0.60	1.20		97.17	161.63	155.12	64.15	161.33	281	71	72	67		1.001	10.007	974

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
856	137.033	138.419		0.16	0.16	1.33	1.10	0.26	79	79	67	1.94	1.4	102	0.017	103	103	49.3	0.31	1.20		97.42	161.75	155.33	64.18	161.61	287	71	72	67		1.001	10.006	976
857	137.191	138.581		0.16	0.16	1.33	1.11	0.26	79	79	67	1.94	1.4	103	0.017	102	104	48.7	0.61	1.16		98.66	162.97	156.51	64.15	162.80	293	71	73	67		1.001	9.690	957
858	137.350	138.744		0.16	0.16	1.33	1.11	0.26	79	79	67	1.95	1.5	105	0.017	103	104	48.2	0.53	1.21		99.33	163.80	157.21	64.20	163.53	301	72	73	67		1.001	10.113	1006
859	137.508	138.906		0.16	0.16	1.33	1.11	0.26	79	79	67	1.94	1.4	107	0.018	100	101	47.6	0.53	1.18		99.68	164.09	157.48	64.19	163.87	309	72	73	67		1.001	9.846	983
860	137.668	139.069		0.16	0.16	1.33	1.10	0.26	79	79	66	1.95	1.5	108	0.019	99	99	47.1	0.57	1.14		101.28	165.95	159.33	64.17	165.46	317	72	74	66		1.001	9.523	966
861	137.827	139.231		0.16	0.16	1.33	1.10	0.26	79	79	67	1.95	1.5	110	0.017	104	104	46.6	0.44	0.76		102.28	167.10	163.24	64.16	166.45	324	73	74	67		1.001	6.290	644
862	137.985	139.392		0.16	0.16	1.32	1.10	0.26	79	79	66	1.96	1.5	111	0.018	100	101	45.9	0.74	0.72		104.16	168.89	165.24	64.19	168.35	328	73	74	66		1.001	5.964	622
863	138.144	139.554		0.16	0.16	1.31	1.10	0.26	79	79	66	1.95	1.5	112	0.018	101	101	45.1	0.76	0.76		105.47	170.12	166.15	64.19	169.66	332	73	75	66		1.001	6.289	664
864	138.302	139.717		0.16	0.16	1.33	1.10	0.26	79	79	66	1.96	1.5	113	0.018	100	102	44.5	0.60	0.79		106.69	171.40	167.07	64.21	170.90	335	73	75	66		1.001	6.612	706
865	138.460	139.878		0.16	0.16	1.32	1.10	0.26	79	79	66	1.96	1.5	113	0.017	103	104	43.9	0.65	0.79		107.74	172.36	168.07	64.25	171.99	338	73	75	66		1.001	6.612	713
866	138.618	140.040		0.16	0.16	1.33	1.10	0.26	79	79	66	1.95	1.5	113	0.017	103	104	43.2	0.65	0.81		109.26	173.99	169.59	64.24	173.50	339	74	75	66		1.001	6.773	741
867	138.777	140.201		0.16	0.16	1.33	1.09	0.26	79	79	66	1.96	1.5	114	0.017	104	104	42.5	0.72	0.76		110.80	175.60	171.17	64.25	175.05	340	74	75	66		1.001	6.302	699
868	138.936	140.364		0.16	0.16	1.32	1.09	0.26	79	79	66	1.95	1.5	114	0.018	101	102	42.3	0.25	0.74		112.01	176.66	172.32	64.29	176.30	342	74	76	66		1.001	6.143	689
869	139.094	140.524		0.16	0.16	1.32	1.09	0.26	79	79	66	1.97	1.5	115	0.016	107	107	41.6	0.66	0.79		113.00	177.82	173.29	64.30	177.30	343	74	76	66		1.001	6.558	742
870	139.252	140.686		0.16	0.16	1.31	1.09	0.26	79	79	66	1.97	1.5	115	0.016	107	108	41.0	0.64	0.77		114.42	179.23	174.69	64.32	178.74	343	74	76	66		1.001	6.449	739
871	139.410	140.848		0.16	0.16	1.32	1.09	0.26	79	79	66	1.98	1.5	115	0.016	107	108	40.6	0.38	0.77		115.70	180.52	175.92	64.34	180.04	343	74	76	66		1.001	6.445	747
872	139.568	141.009		0.16	0.16	1.32	1.09	0.26	79	79	66	1.96	1.5	93	0.018	99	99	40.0	0.57	0.79		116.66	181.62	176.94	64.37	181.04	332	73	75	66		1.001	6.611	772
873	139.726	141.171		0.16	0.16	1.32	1.09	0.26	79	79	66	1.95	1.5	85	0.019	95	96	39.7	0.29	0.79		117.68	182.36	177.87	64.39	182.07	296	72	74	66		1.001	6.611	779
874	139.885	141.333		0.16	0.16	1.32	1.09	0.26	79	79	66	1.95	1.5	82	0.018	98	99	39.4	0.27	0.77		118.51	183.07	178.63	64.40	182.91	275	72	73	66		1.001	6.446	765
875	140.044	141.495		0.16	0.16	1.32	1.09	0.26	79	79	66	1.94	1.4	81	0.019	96	96	38.9	0.50	0.81		118.85	183.51	178.99	64.43	183.28	261	71	72	66		1.001	6.772	806
876	140.203	141.657		0.16	0.16	1.32	1.09	0.26	79	79	66	1.95	1.4	79	0.015	107	108	38.7	0.22	0.83		119.03	183.79	179.17	64.45	183.48	251	70	72	66		1.001	6.933	826
877	140.362	141.819		0.16	0.16	1.32	1.09	0.26	79	79	66	1.93	1.4	77	0.017	101	101	38.7	0.00	0.79		119.11	183.85	179.31	64.48	183.59	244	70	72	66		1.001	6.601	787
878	140.521	141.982		0.16	0.16	1.31	1.10	0.26	79	79	66	1.93	1.4	76	0.018	98	99	38.6	0.09	0.83		119.15	183.83	179.37	64.51	183.66	237	70	72	66		1.001	6.938	828
879	140.679	142.144		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	76	0.016	103	104	38.6	0.02	0.75		119.41	184.25	179.91	64.53	183.94	231	70	71	66		1.001	6.246	747
880	140.838	142.308		0.16	0.16	1.32	1.10	0.26	79	79	66	1.95	1.4	75	0.017	100	102	38.5	0.10	0.74		119.61	184.32	180.09	64.54	184.16	226	70	71	66		1.001	6.133	734
881	140.997	142.470		0.16	0.16	1.33	1.10	0.26	79	79	66	1.94	1.4	74	0.017	100	101	38.6	-0.07	0.72		119.62	184.47	180.18	64.55	184.18	221	70	71	66		1.001	5.972	715
882	141.155	142.633		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	74	0.016	103	105	38.3	0.23	0.70		120.03	184.89	180.74	64.56	184.59	217	69	71	66		1.001	5.812	698
883	141.314	142.796		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	74	0.016	103	105	38.3	0.04	0.74		119.82	184.68	180.34	64.56	184.38	213	69	70	66		1.001	6.131	736
884	141.474	142.959		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	74	0.017	101	101	38.2	0.06	0.74		120.14	185.01	180.67	64.56	184.70	209	69	70	66		1.001	6.133	738
885	141.633	143.122		0.16	0.16	1.32	1.10	0.26	79	79	66	1.95	1.4	73	0.016	103	105	38.3	-0.11	0.70		120.00	184.75	180.47	64.55	184.56	205	69	70	66		1.001	5.811	698
886	141.792	143.284		0.16	0.16	1.31	1.09	0.26	79	79	66	1.94	1.4	72	0.018	97	98	38.2	0.13	0.76		119.89	184.58	180.41	64.54	184.43	202	69	70	66		1.001	6.296	756
887	141.950	143.447		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	71	0.017	99	101	38.1	0.08	0.76		119.76	184.55	180.31	64.53	184.29	199	69	70	66		1.001	6.298	755
888	142.109	143.610		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	71	0.018	97	98	38.3	-0.19	0.70		119.57	184.36	180.05	64.51	184.07	195	69	69	66		1.001	5.812	696
889	142.268	143.773		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	71	0.019	95	96	38.3	-0.02	0.76		119.69	184.40	180.19	64.48	184.17	192	68	69	66		1.001	6.299	755
890	142.426	143.936		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	71	0.017	99	101	38.4	0.00	0.74		119.48	184.13	179.88	64.48	183.96	188	68	69	66		1.001	6.137	734
891	142.585	144.098		0.16	0.16	1.33	1.10	0.26	79	79	66	1.93	1.4	71	0.017	100	101	38.1	0.22	0.76		119.23	183.90	179.61	64.45	183.68	185	68	69	66		1.001	6.298	752
892	142.745	144.261		0.16	0.16	1.32	1.10	0.26	79	79	66	1.95	1.4	71	0.018	98	98	38.3	-0.15	0.70		119.15	183.75	179.51	64.43	183.58	182	68	69	66		1.001	5.814	694
893	142.904	144.424		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	70	0.018	97	98	38.4	-0.10	0.72		119.01	183.65	179.42	64.41	183.41	179	68	69	66		1.001	5.973	712
894	143.063	144.588		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	70	0.019	95	96	38.2	0.15	0.76		118.91	183.53	179.27	64.38	183.30	176	68	69	66		1.001	6.297	750
895	143.222	144.750		0.16	0.16	1.31	1.10	0.26	79	79	66	1.94	1.4	70	0.018	97	98	38.3	-0.06	0.74		118.84	183.32	179.17	64.36	183.19	173	68	68	66		1.001	6.137	730
896	143.380	144.913		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	70	0.017	99	101	38.3	-0.04	0.76		118.63	183.16	178.94	64.30	182.93	170	68	68	66		1.001	6.298	748
897	143.539	145.076		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	70	0.017	100	101	38.3	0.03	0.76		118.30	182.95	178.65	64.29	182.59	167	68	68	66		1.001	6.288	745
898	143.698	145.239		0.16	0.16	1.32	1.09	0.26	79	79	66	1.94	1.4	70	0.018	97	98	38.4	-0.08	0.78		118.28	182.82	178.58	64.29	182.57	165	68	68	66		1.001	6.528	773
899	143.857	145.403		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	70	0.017	100	102	38.3	0.13	0.70		118.11	182.62	178.40	64.28	182.38	162	68	68	66		1.001	5.815	688
900	144.016	145.565		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	70	0.018	97	98	38.2	0.00	0.78		117.74	182.26	178.01	64.28	182.02	160	68	68	66		1.001	6.461	762
901	144.176	145.728		0.16	0.16	1.33	1.10	0.26	79	79	66	1.93	1.4	70	0.018	98	98	38.4	-0.10	0.72		117.63	182.13	177.91	64.28	181.91	157	68	68	66		1.001	5.975	704
902	144.335	145.891		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	70	0.017	100	101	38.3	0.10	0.81		117.57	182.10	177.69	64.28	181.85	155	68	68	66		1.001	6.784	799
903	144.494	146.054		0.16	0.16	1.32	1.10	0.26	79	79	66	1.93	1.4	70	0.017	100	101	38.4	-0.13	0.81		117.34	181.83	177.13	64.28	181.63	153	68	68	66		1.001	6.783	797
904	144.653	146.218		0.16	0.16	1.31	1.10	0.26	79	79	66	1.95	1.4	70	0.015	106	108	38.3	0.07	0.79		117.00	181.38	176.88	64.28	181.28	151	67	68	66		1.001	6.620	775
905	144.811	146.380		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	70	0.018	97	98	38.4	-0.04	0.74		116.93	181.28	177.02	64.27	181.19	149	67	68	66		1.001	6.137	718
906	144.971	146.543		0.16	0.16	1.32	1.10	0.26	79	78	66	1.94	1.4	70	0.017	101	101	38.4	-0.02	0.76		116.67	181.08	176.74	64.25	180.92	147	67	68	66		1.001	6.288	734
907	145.129	146.706		0.16	0.16	1.33	1.10	0.26	79	79	66	1.94	1.4	70	0.019	94	96	38.5	-0.09	0.80		116.44	180.93	176.50	64.24	180.67	145	67	68	66		1.001	6.653	776
908	145.288	146.868		0.16	0.16	1.33	1.10	0.26	79	79	66	1.93	1.4	69	0.017	100	100	38.4	0.10	0.78		116.19	180.56	176.23	64.23	180.42	143	67	67	66		1.001	6.527	759
909	145.447	147.033		0.16	0.16	1.32	1.10	0.26	79	78	66	1.93	1.4	69	0.016	103	106	38.5	-0.09	0.80		115.97	180.29	176.01	64.21	180.18	142	67	67	66		1.001	6.624	769
910	145.607	147.195		0.16	0.16	1.32	1.10	0.26	79	79	66	1.94	1.4	69	0.019	95	95	38.5	-0.05	0.78		115.82	180.15	175.88	64.20	180.02	139	67	67	66		1.001	6.463	749
911	145.766	147.357		0.16	0.16	1.33	1.10	0.26	79	78	66	1.94	1.4	69	0.018	97	98	38.3	0.22	0.78		115.63	179.93	175.69	64.18	179.81	138	67	67	66		1.001	6.461	748
912	145.925	147.520		0.16	0.16	1.33	1.11	0.26	79	78	66	1.94	1.4	69	0.016	103	104	38.5	-0.17	0.80		115.20	179.47	175.23	64.18	179.38	136	67	67	66		1.001	6.624	764
913	146.084	147.683		0.16	0.16	1.32	1.11	0.26	79	78	65	1.93	1.4	69	0.019	94	96	38.5	-0.05	0.76		114.81	179.31	174.91	64.17	178.98	134	67	67	65		1.001	6.307	725
914	146.243	147.848		0.16	0.17	1.32	1.10	0.26	79	78	65	1.92	1.4	69	0.017	100	102	38.5	0.05	0.74		114.73	179.06	174.79	64.15	178.89	133	67	67	65		1.001	6.143	706
915	146.402	148.010		0.16	0.16	1.32	1.10	0.26	79	78	66	1.93	1.4	69	0.017	100	101	38.5	0.02	0.76		114.51	178.88	174.64	64.18	178.69	131	67	67	66		1.001	6.307	723
916	146.561	148.173		0.16	0.16	1.32	1.10	0.26	79	78	66	1.93	1.4	69	0.019	94	96	38.4	0.02	0.81		114.28	178.55	174.29	64.19	178.47	130	67	67	66		1.001	6.756	773
917	146.720	148.336		0.16	0.16	1.32	1.11	0.26	79	78	66	1.92	1.4	69	0.016	103	104	38.6	-0.20	0.83		113.97	178.39	174.12	64.21	178.18	129	67	67	66		1.001	6.950	793

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
918	146.879	148.499		0.16	0.16	1.33	1.10	0.26	79	78	66	1.94	1.4	69	0.018	97	98	38.5	0.13	0.76		113.77	178.15	174.00	64.23	178.00	127	67	67	66		1.001	6.298	717
919	147.038	148.663		0.16	0.16	1.33	1.11	0.26	79	78	66	1.94	1.4	69	0.017	100	102	38.6	-0.09	0.74		113.64	178.10	173.98	64.25	177.89	126	67	67	66		1.001	6.137	698
920	147.198	148.826		0.16	0.16	1.33	1.10	0.26	79	78	65	1.94	1.4	69	0.014	111	112	38.5	0.06	0.72		113.12	177.59	173.47	64.27	177.39	126	67	67	65		1.001	5.975	677
921	147.357	148.988		0.16	0.16	1.32	1.11	0.26	79	78	66	1.93	1.4	69	0.016	103	104	38.7	-0.13	0.72		112.87	177.39	173.25	64.28	177.15	123	67	67	66		1.001	5.979	676
922	147.516	149.151		0.16	0.16	1.33	1.11	0.26	79	78	66	1.93	1.4	69	0.017	100	101	38.6	0.03	0.74		112.61	177.08	172.94	64.28	176.89	122	67	67	66		1.001	6.137	692
923	147.675	149.314		0.16	0.16	1.32	1.10	0.26	79	78	66	1.93	1.4	69	0.017	100	101	38.6	0.07	0.74		112.50	177.00	172.96	64.28	176.78	121	67	67	66		1.001	6.139	691
924	147.834	149.478		0.16	0.16	1.33	1.10	0.26	79	78	65	1.93	1.4	69	0.018	97	99	38.7	-0.16	0.78		112.17	176.62	172.49	64.28	176.44	120	67	67	65		1.001	6.460	725
925	147.993	149.641		0.16	0.16	1.33	1.10	0.26	79	78	66	1.94	1.4	69	0.016	103	104	38.6	0.15	0.72		112.03	176.61	172.44	64.27	176.31	121	67	67	66		1.001	5.980	671
926	148.151	149.803		0.16	0.16	1.32	1.10	0.26	79	78	66	1.93	1.4	69	0.016	102	104	38.7	-0.14	0.74		111.74	176.22	172.06	64.25	175.99	119	67	67	66		1.001	6.162	689
927	148.311	149.966		0.16	0.16	1.33	1.10	0.26	79	78	66	1.95	1.4	69	0.016	104	104	38.7	0.04	0.78		111.50	175.84	171.78	64.24	175.73	118	67	67	66		1.001	6.463	721
928	148.469	150.129		0.16	0.16	1.33	1.10	0.26	79	78	66	1.93	1.4	69	0.017	99	101	38.8	-0.14	0.81		111.32	175.74	171.65	64.22	175.55	116	67	67	66		1.001	6.785	756
929	148.629	150.293		0.16	0.16	1.33	1.10	0.26	79	78	66	1.93	1.4	69	0.017	101	102	38.9	-0.05	0.78		110.97	175.27	171.20	64.20	175.17	115	67	67	66		1.001	6.465	718
930	148.788	150.456		0.16	0.16	1.32	1.10	0.26	78	78	66	1.94	1.4	69	0.016	103	104	38.9	-0.02	0.76		110.81	175.05	171.08	64.18	174.99	115	67	67	66		1.001	6.303	699
931	148.947	150.618		0.16	0.16	1.32	1.10	0.26	78	78	65	1.92	1.4	69	0.018	97	98	38.7	0.20	0.78		110.63	174.98	170.88	64.16	174.79	115	67	67	65		1.001	6.464	716
932	149.106	150.781		0.16	0.16	1.32	1.11	0.26	78	78	66	1.93	1.4	69	0.018	97	98	38.6	0.06	0.78		110.14	174.54	170.38	64.14	174.29	113	66	67	66		1.001	6.463	713
933	149.265	150.944		0.16	0.16	1.33	1.10	0.26	78	78	66	1.93	1.4	69	0.018	97	98	38.7	-0.04	0.76		109.92	174.22	170.14	64.12	174.04	111	67	67	66		1.001	6.304	694
934	149.424	151.108		0.16	0.16	1.32	1.10	0.26	78	78	65	1.93	1.4	69	0.017	100	102	38.7	-0.04	0.82		109.82	174.04	169.99	64.11	173.93	111	67	67	65		1.001	6.788	746
935	149.582	151.270		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	69	0.017	99	101	38.7	0.03	0.74		109.50	173.77	169.68	64.08	173.58	110	66	66	65		1.001	6.140	673
936	149.741	151.433		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	69	0.017	100	101	38.8	-0.14	0.76		109.10	173.30	169.10	64.08	173.18	109	66	66	65		1.001	6.314	690
937	149.900	151.596		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	69	0.018	97	98	38.8	0.03	0.78		108.97	173.09	168.99	64.07	173.04	110	66	66	65		1.001	6.478	707
938	150.060	151.759		0.16	0.16	1.32	1.11	0.26	78	78	65	1.94	1.4	69	0.017	101	101	38.8	-0.06	0.83		108.85	173.07	168.86	64.07	172.92	108	66	66	65		1.001	6.950	757
939	150.219	151.923		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	69	0.015	107	108	39.0	-0.16	0.80		108.41	172.64	168.43	64.08	172.50	108	66	66	65		1.001	6.627	719
940	150.378	152.085		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	69	0.018	97	98	38.9	0.04	0.78		108.28	172.55	168.32	64.10	172.38	107	66	66	65		1.001	6.466	701
941	150.537	152.248		0.16	0.16	1.32	1.10	0.26	78	78	65	1.93	1.4	68	0.018	97	98	38.9	0.00	0.76		107.85	172.09	167.91	64.12	171.97	106	66	66	65		1.001	6.300	680
942	150.695	152.411		0.16	0.16	1.32	1.10	0.26	78	78	65	1.93	1.4	68	0.016	102	104	38.8	0.12	0.80		107.47	171.93	167.54	64.14	171.61	108	66	66	65		1.001	6.627	713
943	150.854	152.574		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	68	0.018	97	98	38.9	-0.03	0.74		107.08	171.36	167.11	64.15	171.23	109	66	66	65		1.001	6.144	659
944	151.013	152.737		0.16	0.16	1.33	1.10	0.26	78	78	66	1.92	1.4	68	0.018	97	98	38.8	0.02	0.76		107.02	171.37	167.20	64.17	171.19	106	66	66	66		1.001	6.319	677
945	151.172	152.900		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	68	0.018	97	98	38.9	-0.11	0.82		106.69	171.00	166.72	64.18	170.88	106	66	66	65		1.001	6.865	733
946	151.331	153.062		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	73	0.018	98	98	38.9	0.07	0.79		106.46	170.84	166.53	64.19	170.64	106	67	67	65		1.001	6.566	700
947	151.491	153.225		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	70	0.017	101	101	38.9	-0.07	0.83		106.06	170.28	166.07	64.18	170.24	138	66	66	65		1.001	6.944	737
948	151.650	153.389		0.16	0.16	1.33	1.11	0.26	78	78	65	1.92	1.4	69	0.017	100	102	38.9	0.00	0.82		105.89	170.17	165.93	64.15	170.04	132	66	66	65		1.001	6.789	720
949	151.809	153.552		0.16	0.16	1.32	1.11	0.26	78	78	65	1.92	1.4	69	0.017	100	101	38.8	0.11	0.78		105.35	169.72	165.39	64.12	169.47	128	66	66	65		1.001	6.466	682
950	151.968	153.715		0.16	0.16	1.32	1.10	0.26	78	78	66	1.94	1.4	69	0.017	100	101	38.8	0.08	0.83		105.31	169.57	165.39	64.11	169.42	124	66	66	66		1.001	6.952	733
951	152.127	153.878		0.16	0.16	1.33	1.11	0.26	78	78	65	1.94	1.4	68	0.017	100	101	38.8	-0.04	0.76		105.12	169.36	165.16	64.08	169.20	122	66	66	65		1.001	6.302	663
952	152.286	154.041		0.16	0.16	1.33	1.11	0.26	78	78	65	1.93	1.4	68	0.017	100	101	38.7	0.06	0.78		104.80	169.06	164.85	64.07	168.87	120	66	66	65		1.001	6.466	678
953	152.445	154.205		0.16	0.16	1.33	1.11	0.26	78	78	65	1.93	1.4	68	0.018	97	99	38.7	0.00	0.80		104.46	168.69	164.49	64.06	168.52	117	66	66	65		1.001	6.626	693
954	152.605	154.368		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	68	0.018	98	98	38.9	-0.12	0.82		104.12	168.35	164.12	64.04	168.16	115	66	66	65		1.001	6.789	708
955	152.764	154.531		0.16	0.16	1.33	1.10	0.26	78	78	65	1.94	1.4	68	0.017	100	101	38.8	0.05	0.81		103.77	168.02	163.79	64.03	167.81	114	66	66	65		1.001	6.784	705
956	152.923	154.694		0.16	0.16	1.33	1.10	0.26	78	78	65	1.92	1.4	68	0.017	100	101	38.9	-0.07	0.78		103.79	167.99	164.04	64.04	167.83	113	66	66	65		1.001	6.467	672
957	153.083	154.857		0.16	0.16	1.32	1.11	0.26	78	78	65	1.92	1.4	68	0.015	107	108	38.8	0.05	0.78		103.48	167.60	163.48	64.05	167.54	111	66	66	65		1.001	6.472	671
958	153.242	155.020		0.16	0.16	1.33	1.11	0.26	78	78	65	1.92	1.4	68	0.019	95	96	38.8	0.01	0.83		103.00	167.38	163.11	64.08	167.08	111	66	66	65		1.001	6.953	717
959	153.401	155.184		0.16	0.16	1.33	1.10	0.26	78	78	65	1.92	1.4	68	0.018	97	99	38.8	-0.02	0.82		102.64	166.96	162.76	64.10	166.75	109	66	66	65		1.001	6.790	698
960	153.560	155.347		0.16	0.16	1.32	1.10	0.26	78	78	65	1.93	1.4	68	0.017	100	101	38.8	0.08	0.82		102.43	166.68	162.57	64.13	166.56	108	66	66	65		1.001	6.791	696
961	153.719	155.509		0.16	0.16	1.33	1.10	0.26	78	78	65	1.91	1.4	68	0.018	97	98	38.9	-0.12	0.82		102.10	166.41	162.23	64.15	166.25	107	66	66	65		1.001	6.791	694
962	153.878	155.672		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	68	0.018	97	98	38.7	0.17	0.76		101.79	166.01	161.94	64.17	165.96	107	66	66	65		1.001	6.302	642
963	154.037	155.835		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	68	0.018	97	98	38.8	-0.14	0.80		101.55	165.81	161.63	64.19	165.74	107	66	66	65		1.001	6.628	674
964	154.197	155.998		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	68	0.018	98	98	38.8	0.00	0.82		101.30	165.64	161.39	64.19	165.49	105	66	66	65		1.001	6.789	689
965	154.355	156.161		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	68	0.019	94	96	38.9	-0.06	0.87		100.97	165.28	161.07	64.18	165.15	105	66	66	65		1.001	7.262	734
966	154.515	156.324		0.16	0.16	1.34	1.10	0.26	78	78	65	1.94	1.4	68	0.016	104	104	38.9	-0.02	0.84		100.63	164.92	160.67	64.16	164.80	104	66	66	65		1.001	6.977	703
967	154.675	156.487		0.16	0.16	1.33	1.10	0.26	78	78	65	1.93	1.4	68	0.018	98	98	38.8	0.10	0.85		100.39	164.71	160.46	64.15	164.55	103	66	66	65		1.001	7.115	715
968	154.834	156.650		0.16	0.16	1.33	1.11	0.26	78	78	65	1.94	1.4	68	0.018	97	98	38.9	-0.07	0.82		100.13	164.46	160.16	64.13	164.26	102	66	66	65		1.001	6.792	681
969	154.993	156.812		0.16	0.16	1.32	1.08	0.26	78	78	65	1.93	1.4	68	0.019	95	95	39.0	-0.12	0.85		99.78	164.01	159.79	64.11	163.89	102	66	66	65		1.001	7.114	711
970	155.152	156.974		0.16	0.16	1.33	1.09	0.26	78	78	65	1.94	1.4	68	0.018	97	98	39.0	0.06	0.80		99.70	163.85	159.55	64.11	163.81	102	66	66	65		1.001	6.630	662
971	155.311	157.136		0.16	0.16	1.33	1.09	0.26	78	78	65	1.93	1.4	68	0.016	103	104	38.9	0.10	0.85		99.16	163.32	158.90	64.10	163.26	100	66	66	65		1.001	7.115	706
972	155.470	157.298		0.16	0.16	1.33	1.09	0.26	78	78	65	1.94	1.4	68	0.018	97	98	38.9	-0.06	0.89		98.96	163.09	158.73	64.09	163.05	99	66	66	65		1.001	7.434	737
973	155.629	157.460		0.16	0.16	1.33	1.09	0.26	78	78	65	1.92	1.4	68	0.017	100	100	39.0	-0.07	0.87		98.67	162.89	158.45	64.08	162.75	99	66	66	65		1.001	7.273	718
974	155.789	157.621		0.16	0.16	1.33	1.09	0.26	78	78	65	1.93	1.4	68	0.016	104	103	39.0	0.03	0.87		98.31	162.34	158.03	64.05	162.37	99	66	66	65		1.001	7.277	716
975	155.948	157.783		0.16	0.16	1.34	1.09	0.26	78	78	65	1.92	1.4	68	0.018	97	98	38.9	0.11	0.93		98.05	162.16	157.78	64.04	162.09	98	66	66	65		1.001	7.767	762
976	156.108	157.946		0.16	0.16	1.34	1.09	0.26	78	78	65	1.92	1.4	68	0.017	101	101	38.9	-0.07	0.84		97.67	161.81	157.42	64.03	161.70	98	66	66	65		1.001	7.006	685
977	156.267	158.108		0.16	0.16	1.33	1.09	0.26	78	78	65	1.93	1.4	72	0.018	98	98	39.0	-0.08	0.88		97.49	161.72	157.27	64.02	161.52	113	66	66	65		1.001	7.337	716
978	156.426	158.269		0.16	0.16	1.34	1.09	0.26	78	78	65	1.93	1.4	69	0.017	100	100	39.0	-0.01	0.89		97.30	161.39	157.04	64.01	161.31	122	66	66	65		1.001	7.439	725
979	156.585	158.431		0.16	0.16	1.33	1.08	0.26	78	78	65	1.93	1.4	70	0.018	97	98	39.0	-0.02	0.87		96.77	160.94	156.57	64.02	160.79	117	66	66	65		1.001	7.277	705

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
980	156.744	158.593		0.16	0.16	1.33	1.09	0.26	78	78	65	1.93	1.4	75	0.017	101	101	39.0	0.04	0.84		96.51	160.75	156.39	64.04	160.55	124	66	66	65		1.001	6.955	672
981	156.903	158.755		0.16	0.16	1.33	1.09	0.26	78	78	65	1.93	1.4	76	0.018	98	98	38.9	0.13	0.87		96.12	160.32	155.96	64.06	160.18	142	66	66	65		1.001	7.278	700
982	157.062	158.916		0.16	0.16	1.33	1.09	0.26	78	78	65	1.93	1.4	76	0.017	101	101	38.9	-0.01	0.84		95.81	159.93	155.66	64.08	159.89	153	66	67	65		1.001	6.953	667
983	157.221	159.078		0.16	0.16	1.34	1.09	0.26	78	78	65	1.92	1.4	77	0.017	101	101	38.7	0.13	0.84		95.55	159.81	155.47	64.10	159.65	161	67	67	65		1.001	6.955	665
984	157.380	159.240		0.16	0.16	1.33	1.09	0.26	78	78	65	1.93	1.4	78	0.018	98	99	38.7	0.09	0.87		95.21	159.47	155.10	64.12	159.33	170	67	67	65		1.001	7.276	694
985	157.539	159.402		0.16	0.16	1.34	1.09	0.26	78	77	65	1.93	1.4	80	0.019	96	96	38.4	0.23	0.83		94.99	159.18	154.94	64.13	159.12	179	67	67	65		1.001	6.952	661
986	157.699	159.563		0.16	0.16	1.34	1.09	0.26	78	77	65	1.93	1.4	82	0.017	102	101	38.0	0.39	0.89		94.89	159.19	154.86	64.13	159.02	191	67	67	65		1.001	7.439	707
987	157.858	159.725		0.16	0.16	1.33	1.09	0.26	78	77	65	1.92	1.4	83	0.019	96	97	38.0	0.07	0.85		94.71	158.92	154.66	64.13	158.85	200	67	67	65		1.001	7.038	667
988	158.017	159.887		0.16	0.16	1.33	1.09	0.26	78	77	65	1.93	1.4	84	0.019	96	97	37.7	0.25	0.83		94.72	159.07	154.71	64.12	158.84	208	67	68	65		1.001	6.872	652
989	158.176	160.048		0.16	0.16	1.33	1.08	0.26	78	77	65	1.94	1.4	86	0.019	96	96	37.4	0.28	0.87		94.74	159.09	154.62	64.11	158.84	220	67	68	65		1.001	7.279	690
990	158.335	160.209		0.16	0.16	1.33	1.09	0.26	78	77	65	1.93	1.4	87	0.017	102	102	37.0	0.46	0.87		94.96	159.27	154.89	64.10	159.07	234	68	68	65		1.001	7.276	692
991	158.494	160.370		0.16	0.16	1.33	1.09	0.26	78	77	65	1.94	1.4	90	0.019	97	97	36.7	0.29	0.87		95.30	159.62	155.20	64.09	159.39	247	68	68	65		1.001	7.276	694
992	158.652	160.533		0.16	0.16	1.34	1.09	0.26	78	77	65	1.94	1.4	93	0.018	99	101	36.1	0.57	0.89		95.81	160.11	155.65	64.07	159.89	262	68	69	65		1.001	7.440	714
993	158.810	160.693		0.16	0.16	1.33	1.08	0.26	78	77	65	1.95	1.4	95	0.018	99	99	35.7	0.43	0.93		96.17	160.43	155.99	64.06	160.23	273	68	69	65		1.001	7.763	747
994	158.970	160.854		0.16	0.16	1.33	1.09	0.26	78	77	65	1.95	1.4	97	0.018	100	100	35.2	0.51	0.91		96.63	160.99	156.43	64.06	160.69	282	69	69	65		1.001	7.599	735
995	159.129	161.015		0.16	0.16	1.33	1.09	0.26	78	77	65	1.96	1.4	99	0.017	103	103	34.8	0.36	0.87		97.32	161.79	157.13	64.07	161.39	290	69	70	65		1.001	7.274	709
996	159.287	161.176		0.16	0.16	1.32	1.08	0.26	78	77	65	1.96	1.4	102	0.017	102	103	34.3	0.57	0.89		98.40	162.86	158.24	64.08	162.47	299	69	70	65		1.001	7.440	733
997	159.445	161.337		0.16	0.16	1.32	1.08	0.26	78	77	65	1.96	1.4	103	0.018	100	100	33.7	0.56	0.87		99.19	163.64	158.97	64.10	163.29	306	70	71	65		1.001	7.275	722
998	159.603	161.497		0.16	0.16	1.32	1.08	0.26	78	77	65	1.97	1.4	105	0.017	103	103	33.2	0.45	0.86		99.87	164.29	159.63	64.12	163.99	312	70	71	65		1.001	7.172	717
999	159.761	161.658		0.16	0.16	1.33	1.08	0.26	78	77	65	1.97	1.4	106	0.018	100	101	32.6	0.64	0.91		101.02	165.69	160.90	64.15	165.16	318	71	72	65		1.001	7.600	769
1000	159.919	161.818		0.16	0.16	1.33	1.08	0.26	78	77	65	1.98	1.5	107	0.017	103	103	32.0	0.65	0.82		102.51	167.10	162.26	64.17	166.68	322	71	72	65		1.001	6.789	697
1001	160.077	161.979		0.16	0.16	1.33	1.08	0.26	78	77	65	1.97	1.5	109	0.019	98	98	31.3	0.69	0.95		103.44	167.97	163.09	64.19	167.63	327	71	72	65		1.001	7.925	821
1002	160.236	162.140		0.16	0.16	1.32	1.07	0.26	78	77	65	1.98	1.5	110	0.017	104	104	30.6	0.69	0.93		104.48	169.17	164.22	64.19	168.67	331	72	73	65		1.001	7.762	812
1003	160.393	162.299		0.16	0.16	1.31	1.07	0.26	78	77	65	1.98	1.5	112	0.016	106	106	30.0	0.54	0.85		105.89	170.42	165.52	64.20	170.09	337	72	73	65		1.001	7.117	754
1004	160.551	162.459		0.16	0.16	1.31	1.07	0.26	78	77	65	1.99	1.5	112	0.015	110	110	29.4	0.61	0.93		106.76	171.39	166.39	64.19	170.95	344	73	74	65		1.001	7.758	829
1005	160.708	162.619		0.16	0.16	1.32	1.07	0.26	78	77	65	2	1.5	113	0.018	100	101	28.8	0.64	0.85		108.04	172.63	167.74	64.17	172.21	347	73	74	65		1.001	7.111	769
1006	160.865	162.778		0.16	0.16	1.32	1.07	0.26	78	77	65	1.99	1.5	114	0.018	100	100	28.0	0.82	0.89		109.41	173.99	169.14	64.15	173.56	350	73	74	65		1.001	7.436	815
1007	161.023	162.937		0.16	0.16	1.31	1.07	0.26	78	77	65	1.99	1.5	114	0.017	104	103	27.1	0.86	0.76		110.95	175.78	170.98	64.13	175.07	352	74	74	65		1.001	6.304	700
1008	161.178	163.097		0.16	0.16	1.31	1.07	0.26	78	77	65	2.25	1.5	114	0.017	102	104	26.6	0.53	0.83		112.80	177.32	172.67	64.12	176.91	352	74	75	65		1.001	6.934	783
1009	161.336	163.257		0.16	0.16	1.34	1.09	0.26	78	77	65	2.04	1.5	114	0.019	98	98	26.0	0.61	0.82		114.00	178.55	173.91	64.10	178.11	351	74	75	65		1.001	6.790	775
1010	161.494	163.418		0.16	0.16	1.33	1.09	0.26	78	77	65	2.04	1.5	114	0.016	107	108	25.1	0.85	0.82		115.26	179.83	175.11	64.10	179.36	354	75	75	65		1.001	6.792	784
1011	161.653	163.580		0.16	0.16	1.34	1.08	0.26	78	77	65	2.02	1.5	90	0.016	105	106	24.6	0.51	0.82		116.58	181.27	176.44	64.08	180.66	332	72	73	65		1.001	6.791	793
1012	161.812	163.741		0.16	0.16	1.34	1.08	0.26	78	77	65	2.01	1.5	83	0.017	101	101	24.1	0.51	0.72		118.00	182.57	177.93	64.08	182.08	297	72	73	65		1.001	5.983	707
1013	161.971	163.901		0.16	0.16	1.34	1.08	0.26	78	77	65	2.01	1.5	81	0.017	101	101	23.9	0.24	0.80		118.70	182.97	178.48	64.07	182.76	277	72	72	65		1.001	6.628	788
1014	162.131	164.062		0.16	0.16	1.34	1.09	0.26	78	77	65	2	1.5	79	0.015	108	108	23.5	0.39	0.72		118.98	183.49	179.15	64.05	183.03	262	71	71	65		1.001	5.980	712
1015	162.291	164.225		0.16	0.16	1.34	1.08	0.26	78	77	65	2	1.5	77	0.016	105	105	23.2	0.26	0.70		119.97	184.40	180.36	64.04	184.01	253	71	70	65		1.001	5.816	699
1016	162.450	164.386		0.16	0.16	1.34	1.08	0.26	78	77	65	1.99	1.5	76	0.018	98	98	23.1	0.06	0.76		120.55	185.10	180.55	64.04	184.60	245	70	70	65		1.001	6.303	761
1017	162.610	164.547		0.16	0.16	1.34	1.09	0.26	78	77	65	2	1.5	75	0.019	96	95	23.0	0.12	0.76		120.83	185.12	180.71	64.05	184.87	238	69	69	65		1.001	6.304	763
1018	162.769	164.709		0.16	0.16	1.33	1.09	0.26	78	77	65	1.98	1.5	74	0.019	95	96	22.9	0.09	0.80		120.96	185.14	180.79	64.03	184.99	232	68	68	65		1.001	6.628	803
1019	162.928	164.871		0.16	0.16	1.34	1.09	0.26	78	77	65	1.98	1.5	74	0.018	98	98	22.9	0.08	0.76		120.85	185.12	180.76	64.03	184.88	226	68	68	65		1.001	6.304	763
1020	163.088	165.033		0.16	0.16	1.34	1.09	0.26	78	77	65	1.98	1.5	73	0.018	98	98	22.8	0.10	0.76		120.88	185.16	180.89	64.05	184.93	221	68	68	65		1.001	6.304	763
1021	163.247	165.195		0.16	0.16	1.34	1.10	0.26	78	77	65	1.97	1.5	73	0.015	107	108	22.6	0.13	0.78		121.02	185.30	180.98	64.07	185.09	217	68	68	65		1.001	6.461	783
1022	163.407	165.357		0.16	0.16	1.35	1.10	0.26	78	77	65	1.99	1.5	72	0.017	101	101	22.7	-0.04	0.72		120.78	185.14	180.78	64.09	184.86	213	68	68	65		1.001	5.975	723
1023	163.567	165.521		0.16	0.16	1.34	1.10	0.26	78	77	65	1.99	1.5	72	0.018	98	99	22.6	0.10	0.76		120.68	185.04	180.67	64.11	184.78	209	68	68	65		1.001	6.301	761
1024	163.726	165.683		0.16	0.16	1.34	1.09	0.26	78	77	65	1.99	1.5	72	0.017	100	101	22.4	0.16	0.68		120.74	185.07	180.74	64.13	184.86	205	68	68	65		1.001	5.655	684
1025	163.886	165.845		0.16	0.16	1.35	1.10	0.26	78	77	65	1.99	1.5	71	0.017	101	101	22.5	-0.08	0.78		120.52	184.92	180.61	64.13	184.64	202	67	68	65		1.001	6.461	780
1026	164.047	166.008		0.16	0.16	1.34	1.10	0.26	78	77	65	1.98	1.5	70	0.017	101	101	22.4	0.12	0.74		120.57	184.92	180.77	64.14	184.71	199	67	68	65		1.001	6.138	741
1027	164.207	166.171		0.16	0.16	1.35	1.11	0.26	78	77	65	1.98	1.5	70	0.016	104	105	22.4	0.03	0.72		120.26	184.76	180.48	64.14	184.40	196	67	68	65		1.001	5.979	720
1028	164.366	166.334		0.16	0.16	1.34	1.10	0.26	78	77	65	1.98	1.5	70	0.016	103	105	22.5	-0.10	0.72		120.23	184.60	180.46	64.14	184.37	192	67	67	65		1.001	5.978	720
1029	164.526	166.497		0.16	0.16	1.35	1.09	0.26	78	77	65	1.99	1.5	69	0.018	98	99	22.3	0.14	0.68		120.01	184.38	180.22	64.12	184.13	189	67	67	65		1.001	5.656	680
1030	164.686	166.660		0.16	0.16	1.34	1.10	0.26	78	77	65	1.99	1.5	69	0.019	95	96	22.3	0.01	0.72		119.95	184.33	180.18	64.12	184.07	186	67	67	65		1.001	5.977	718
1031	164.845	166.822		0.16	0.16	1.34	1.10	0.26	78	77	65	1.99	1.4	69	0.015	107	107	22.4	-0.07	0.72		119.88	184.24	180.11	64.11	183.98	182	67	67	65		1.001	5.975	717
1032	165.005	166.986		0.16	0.16	1.34	1.10	0.26	78	77	65	1.99	1.5	69	0.018	98	99	22.3	0.11	0.78		119.72	183.99	179.90	64.09	183.81	179	67	67	65		1.001	6.458	774
1033	165.165	167.149		0.16	0.16	1.34	1.10	0.26	78	77	65	1.98	1.5	69	0.019	95	96	22.4	-0.15	0.66		119.64	183.88	179.93	64.08	183.72	176	67	67	65		1.001	5.491	658
1034	165.325	167.311		0.16	0.16	1.35	1.10	0.26	78	77	65	1.99	1.4	69	0.017	101	101	22.3	0.11	0.70		119.41	183.66	179.71	64.07	183.48	173	67	67	65		1.001	5.813	695
1035	165.484	167.474		0.16	0.16	1.34	1.10	0.26	78	77	65	1.99	1.5	69	0.018	97	99	22.3	0.04	0.64		119.32	183.60	179.66	64.06	183.38	170	67	67	65		1.001	5.333	637
1036	165.644	167.637		0.16	0.16	1.35	1.11	0.26	78	77	65	1.99	1.5	69	0.015	107	108	22.4	-0.11	0.71		119.19	183.53	179.43	64.05	183.24	168	67	67	65		1.001	5.887	702
1037	165.804	167.800		0.16	0.16	1.35	1.10	0.26	78	77	65	1.99	1.5	69	0.016	104	105	22.2	0.17	0.72		119.09	183.46	179.25	64.04	183.14	165	66	67	65		1.001	5.962	711
1038	165.964	167.963		0.16	0.16	1.35	1.10	0.26	78	77	65	1.98	1.5	69	0.018	98	99	22.4	-0.23	0.74		118.92	183.22	179.11	64.03	182.95	162	66	67	65		1.001	6.142	731
1039	166.124	168.125		0.16	0.16	1.34	1.10	0.26	78	77	65	1.97	1.5	69	0.017	101	101	22.3	0.17	0.72		118.82	183.10	179.00	64.02	182.84	160	66	67	65		1.001	5.976	711
1040	166.284	168.288		0.16	0.16	1.34	1.11	0.26	78	77	65	1.97	1.4	69	0.015	107	108	22.4	-0.12	0.74		118.70	182.95	178.87	64.03	182.72	157	66	67	65		1.001	6.141	730
1041	166.444	168.451		0.16	0.16	1.35	1.11	0.26	78	77	65	1.99	1.4	69	0.019	95	96	22.4	0.00	0.72		118.29	182.63	178.46	64.03	182.32	155	66	67	65		1.001	5.976	708

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1042	166.604	168.615		0.16	0.16	1.35	1.10	0.26	78	77	65	1.98	1.5	69	0.017	101	102	22.5	-0.10	0.72		118.18	182.39	178.30	64.02	182.21	153	66	67	65		1.001	5.981	708
1043	166.764	168.778		0.16	0.16	1.35	1.10	0.26	78	77	65	1.99	1.5	69	0.017	101	101	22.6	-0.09	0.72		118.05	182.23	178.22	64.04	182.08	151	66	67	65		1.001	5.979	707
1044	166.924	168.940		0.16	0.16	1.34	1.10	0.26	78	77	65	1.99	1.5	69	0.017	101	101	22.5	0.07	0.74		117.79	181.99	177.93	64.04	181.83	149	66	66	65		1.001	6.139	724
1045	167.083	169.103		0.16	0.16	1.35	1.11	0.26	78	77	65	1.99	1.4	69	0.016	103	105	22.4	0.07	0.76		117.62	181.90	177.86	64.07	181.69	146	66	66	65		1.001	6.303	742
1046	167.243	169.266		0.16	0.16	1.35	1.10	0.26	78	77	65	1.98	1.5	69	0.018	98	99	22.6	-0.14	0.75		117.27	181.62	177.55	64.09	181.37	144	66	66	65		1.001	6.216	730
1047	167.403	169.430		0.16	0.16	1.34	1.11	0.26	78	77	65	1.99	1.5	69	0.017	101	102	22.5	0.06	0.74		117.16	181.41	177.44	64.12	181.28	142	66	66	65		1.001	6.139	720
1048	167.562	169.593		0.16	0.16	1.35	1.10	0.26	78	77	65	1.98	1.5	69	0.019	95	96	22.5	0.06	0.72		116.94	181.23	177.26	64.13	181.07	141	66	66	65		1.001	5.977	700
1049	167.722	169.755		0.16	0.16	1.35	1.10	0.26	78	77	65	1.98	1.5	69	0.018	98	98	22.4	0.07	0.76		116.79	181.13	177.07	64.14	180.93	139	66	66	65		1.001	6.299	737
1050	167.882	169.918		0.16	0.16	1.35	1.11	0.26	78	77	65	1.97	1.4	69	0.018	98	99	22.4	-0.04	0.74		116.36	180.69	176.63	64.14	180.49	137	66	66	65		1.001	6.137	715
1051	168.042	170.081		0.16	0.16	1.35	1.11	0.26	78	77	65	1.99	1.5	68	0.018	98	98	22.6	-0.12	0.74		116.19	180.52	176.54	64.13	180.32	135	66	66	65		1.001	6.135	714
1052	168.202	170.245		0.16	0.16	1.34	1.11	0.26	77	77	64	1.97	1.5	68	0.019	95	96	22.5	0.09	0.66		116.03	180.41	176.33	64.13	180.15	133	66	66	64		1.001	5.491	638
1053	168.362	170.408		0.16	0.16	1.35	1.10	0.26	78	77	65	1.99	1.5	68	0.017	101	101	22.6	-0.18	0.72		116.04	180.24	176.44	64.10	180.14	133	66	66	65		1.001	5.977	694
1054	168.522	170.570		0.16	0.16	1.34	1.10	0.26	78	77	65	1.99	1.5	68	0.019	95	95	22.6	0.06	0.72		115.77	180.03	176.04	64.08	179.84	130	66	66	65		1.001	5.988	694
1055	168.682	170.733		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.5	68	0.019	95	96	22.5	0.05	0.70		115.52	179.89	175.83	64.05	179.57	128	66	66	65		1.001	5.854	677
1056	168.842	170.896		0.16	0.16	1.34	1.11	0.26	78	77	65	1.98	1.5	68	0.018	98	98	22.6	-0.10	0.76		115.26	179.47	175.41	64.02	179.28	127	66	66	65		1.001	6.303	727
1057	169.002	171.060		0.16	0.16	1.34	1.10	0.26	77	77	65	1.99	1.5	68	0.017	101	102	22.6	0.04	0.66		115.00	179.30	175.09	63.99	179.00	127	66	66	65		1.001	5.492	632
1058	169.162	171.223		0.16	0.16	1.34	1.10	0.26	77	77	65	1.99	1.5	68	0.018	98	98	22.6	-0.04	0.72		115.03	179.09	174.92	63.96	178.99	125	66	66	65		1.001	5.981	689
1059	169.321	171.386		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.5	68	0.018	97	98	22.7	-0.03	0.76		114.84	179.01	174.75	63.95	178.78	124	66	66	65		1.001	6.300	724
1060	169.481	171.549		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.5	68	0.017	101	101	22.6	0.03	0.68		114.47	178.49	174.35	63.92	178.39	123	65	66	65		1.001	5.656	648
1061	169.641	171.712		0.16	0.16	1.34	1.11	0.26	77	77	64	1.99	1.4	68	0.018	98	98	22.9	-0.24	0.76		114.25	178.37	174.10	63.89	178.14	121	65	66	64		1.001	6.304	721
1062	169.801	171.876		0.16	0.16	1.35	1.10	0.26	77	77	64	1.97	1.5	68	0.016	104	105	22.8	0.07	0.74		114.02	177.94	173.76	63.86	177.89	119	65	66	64		1.001	6.141	701
1063	169.961	172.038		0.16	0.16	1.35	1.10	0.26	77	77	65	1.97	1.5	68	0.018	98	98	22.7	0.08	0.78		113.80	177.86	173.62	63.85	177.64	119	65	66	65		1.001	6.476	738
1064	170.121	172.201		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.5	68	0.017	101	101	22.6	0.12	0.70		113.71	177.74	173.51	63.83	177.54	118	65	66	65		1.001	5.838	665
1065	170.280	172.364		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.5	68	0.016	103	104	22.6	0.04	0.76		113.42	177.41	173.24	63.81	177.24	117	65	66	65		1.001	6.352	721
1066	170.441	172.527		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.4	68	0.018	99	98	22.7	-0.10	0.80		112.87	176.86	172.64	63.81	176.67	115	65	66	65		1.001	6.628	749
1067	170.601	172.691		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	99	22.7	-0.03	0.82		112.77	176.76	172.53	63.80	176.57	115	65	66	65		1.001	6.789	766
1068	170.761	172.854		0.16	0.16	1.34	1.09	0.26	77	77	65	1.98	1.5	68	0.018	98	98	22.9	-0.18	0.80		112.61	176.56	172.52	63.80	176.41	114	65	66	65		1.001	6.629	747
1069	170.921	173.016		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.4	68	0.018	98	98	22.8	0.08	0.78		112.29	176.19	172.05	63.81	176.10	114	65	66	65		1.001	6.466	727
1070	171.081	173.179		0.16	0.16	1.34	1.11	0.26	77	77	65	1.98	1.5	68	0.017	101	101	22.8	-0.03	0.78		111.74	175.75	171.54	63.83	175.57	112	65	66	65		1.001	6.469	724
1071	171.241	173.342		0.16	0.16	1.34	1.11	0.26	77	77	65	1.99	1.5	68	0.017	101	101	23.0	-0.16	0.76		111.74	175.75	171.58	63.86	175.59	111	65	66	65		1.001	6.312	706
1072	171.400	173.506		0.16	0.16	1.34	1.10	0.26	77	77	65	1.99	1.4	68	0.018	97	99	22.9	0.12	0.72		111.56	175.64	171.48	63.89	175.44	109	65	66	65		1.001	5.987	669
1073	171.560	173.669		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.4	68	0.016	104	104	22.7	0.19	0.68		111.20	175.33	171.40	63.90	175.11	108	65	66	65		1.001	5.660	630
1074	171.720	173.832		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.5	68	0.018	98	98	22.9	-0.21	0.75		110.82	174.95	170.70	63.94	174.76	108	65	66	65		1.001	6.231	691
1075	171.880	173.995		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.5	68	0.019	95	96	22.9	-0.01	0.76		110.51	174.67	170.51	63.97	174.48	107	65	66	65		1.001	6.302	697
1076	172.039	174.158		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.5	68	0.016	103	104	22.9	0.05	0.74		110.38	174.58	170.59	64.00	174.38	108	65	66	65		1.001	6.142	679
1077	172.199	174.322		0.16	0.16	1.35	1.10	0.26	77	77	65	1.99	1.5	68	0.018	98	99	22.9	-0.02	0.80		110.03	174.25	170.10	64.02	174.05	106	66	66	65		1.001	6.628	730
1078	172.359	174.484		0.16	0.16	1.35	1.10	0.26	77	77	65	1.99	1.4	68	0.018	98	98	23.0	-0.08	0.80		109.76	173.85	169.80	64.03	173.79	106	66	66	65		1.001	6.630	728
1079	172.519	174.647		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.4	68	0.019	95	96	23.0	-0.01	0.74		109.42	173.55	169.67	64.04	173.46	105	66	66	65		1.001	6.143	673
1080	172.679	174.810		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	98	23.0	0.00	0.78		109.16	173.49	169.32	64.05	173.22	104	66	66	65		1.001	6.470	707
1081	172.840	174.973		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	99	98	23.0	-0.04	0.72		108.92	173.12	169.06	64.06	172.98	103	66	66	65		1.001	5.986	653
1082	173.000	175.137		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.5	68	0.017	101	102	22.9	0.15	0.74		108.75	172.96	168.91	64.08	172.82	101	66	66	65		1.001	6.155	670
1083	173.159	175.300		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.5	68	0.016	103	104	23.0	-0.15	0.74		108.32	172.56	168.46	64.09	172.41	103	66	66	65		1.001	6.147	667
1084	173.319	175.463		0.16	0.16	1.34	1.10	0.26	77	77	65	1.97	1.5	68	0.019	95	96	23.0	0.00	0.76		108.07	172.25	168.26	64.11	172.18	103	66	66	65		1.001	6.331	685
1085	173.479	175.625		0.16	0.16	1.34	1.10	0.26	77	77	65	1.98	1.5	75	0.019	96	96	23.0	0.00	0.68		107.70	172.08	168.16	64.12	171.83	136	66	67	65		1.001	5.661	610
1086	173.639	175.788		0.16	0.16	1.34	1.11	0.26	77	77	65	1.97	1.4	70	0.017	101	101	23.0	-0.03	0.78		107.39	171.72	167.68	64.14	171.53	140	66	66	65		1.001	6.465	695
1087	173.799	175.952		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.018	98	99	23.0	0.08	0.74		107.24	171.44	167.53	64.17	171.41	133	66	66	65		1.001	6.146	660
1088	173.959	176.115		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.4	68	0.017	101	101	22.8	0.15	0.70		106.77	171.21	167.11	64.18	170.95	128	66	66	65		1.001	5.821	622
1089	174.119	176.278		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.018	98	98	22.8	0.00	0.78		106.69	170.91	167.02	64.20	170.89	124	66	66	65		1.001	6.470	691
1090	174.279	176.441		0.16	0.16	1.36	1.11	0.26	77	77	65	1.98	1.4	68	0.018	98	98	22.8	-0.02	0.78		106.17	170.48	166.46	64.21	170.38	121	66	66	65		1.001	6.466	687
1091	174.439	176.605		0.16	0.16	1.36	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	99	22.9	-0.03	0.78		106.01	170.46	166.37	64.23	170.24	119	66	66	65		1.001	6.458	685
1092	174.600	176.769		0.16	0.16	1.36	1.12	0.26	77	77	65	1.97	1.4	68	0.018	99	99	22.9	-0.04	0.76		105.68	170.12	166.12	64.24	169.92	116	66	66	65		1.001	6.309	668
1093	174.760	176.932		0.16	0.16	1.36	1.11	0.26	77	77	65	1.97	1.4	68	0.017	101	101	22.9	-0.02	0.82		105.48	169.88	165.86	64.26	169.74	115	66	66	65		1.001	6.794	718
1094	174.920	177.095		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.016	104	104	22.8	0.10	0.77		105.15	169.65	165.56	64.28	169.42	113	66	66	65		1.001	6.405	674
1095	175.081	177.259		0.16	0.16	1.36	1.11	0.26	77	77	65	1.96	1.4	68	0.018	99	99	22.9	-0.12	0.82		105.00	169.38	165.44	64.31	169.31	111	66	66	65		1.001	6.791	714
1096	175.241	177.422		0.16	0.16	1.36	1.11	0.26	77	77	65	1.96	1.4	68	0.019	95	96	22.8	0.12	0.78		104.53	169.00	165.07	64.34	168.87	110	66	66	65		1.001	6.470	677
1097	175.402	177.586		0.16	0.16	1.36	1.12	0.26	77	77	65	1.98	1.4	68	0.018	99	99	23.0	-0.13	0.82		104.37	168.88	164.89	64.36	168.74	110	66	66	65		1.001	6.793	710
1098	175.562	177.749		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	98	22.8	0.15	0.78		104.10	168.63	164.64	64.39	168.49	108	66	66	65		1.001	6.467	674
1099	175.723	177.913		0.16	0.16	1.35	1.10	0.26	77	77	65	1.97	1.4	68	0.019	96	96	23.0	-0.18	0.74		103.67	168.21	164.24	64.42	168.09	106	66	66	65		1.001	6.145	638
1100	175.883	178.076		0.16	0.16	1.36	1.11	0.26	77	77	65	1.96	1.4	68	0.019	95	96	22.8	0.17	0.72		103.42	167.96	164.02	64.44	167.86	107	66	66	65		1.001	5.981	619
1101	176.043	178.239		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.018	98	98	22.8	-0.01	0.78		103.14	167.77	163.83	64.46	167.60	105	66	66	65		1.001	6.469	668
1102	176.203	178.402		0.16	0.16	1.34	1.11	0.26	77	77	65	1.96	1.4	68	0.016	104	104	23.0	-0.14	0.72		102.81	167.47	163.51	64.49	167.31	105	66	66	65		1.001	5.985	616
1103	176.364	178.567		0.16	0.17	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.019	96	97	22.9	0.12	0.74		102.51	167.22	163.24	64.50	167.02	103	66	66	65		1.001	6.147	631

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1104	176.524	178.730		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	98	22.9	-0.04	0.79		102.27	166.95	162.93	64.52	166.80	102	66	66	65		1.001	6.619	678
1105	176.684	178.893		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.015	107	108	22.9	-0.04	0.82		101.89	166.51	162.52	64.54	166.43	101	66	66	65		1.001	6.798	693
1106	176.844	179.056		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.018	98	98	22.9	0.06	0.80		101.53	166.31	162.25	64.54	166.07	101	66	66	65		1.001	6.633	674
1107	177.004	179.219		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.018	98	98	23.0	-0.18	0.82		101.47	166.20	162.24	64.54	166.01	102	66	66	65		1.001	6.798	691
1108	177.164	179.383		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.017	101	102	23.0	0.05	0.78		101.22	165.96	161.99	64.51	165.74	101	66	66	65		1.001	6.470	656
1109	177.324	179.547		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.017	101	102	23.0	-0.01	0.78		100.82	165.43	161.50	64.49	165.32	100	66	66	65		1.001	6.473	653
1110	177.485	179.710		0.16	0.16	1.35	1.10	0.26	77	77	65	1.97	1.4	68	0.016	105	104	23.0	-0.02	0.80		100.55	165.19	161.18	64.47	165.02	98	66	66	65		1.001	6.632	668
1111	177.645	179.873		0.16	0.16	1.35	1.11	0.26	77	76	65	1.97	1.4	68	0.017	101	101	23.0	0.07	0.78		100.44	165.03	161.22	64.44	164.88	99	66	66	65		1.001	6.465	650
1112	177.805	180.037		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.018	98	99	23.0	-0.04	0.76		100.07	164.66	160.70	64.41	164.48	98	66	66	65		1.001	6.311	632
1113	177.966	180.200		0.16	0.16	1.36	1.12	0.26	77	76	65	1.98	1.4	68	0.017	101	101	23.0	0.03	0.78		99.95	164.46	160.59	64.38	164.33	97	66	66	65		1.001	6.469	647
1114	178.126	180.364		0.16	0.16	1.36	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	99	23.0	-0.03	0.82		99.58	164.04	160.02	64.36	163.94	97	66	66	65		1.001	6.793	677
1115	178.287	180.527		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	99	98	23.0	0.01	0.74		99.31	163.80	160.05	64.34	163.64	96	66	66	65		1.001	6.146	611
1116	178.447	180.690		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.5	73	0.019	96	96	22.8	0.15	0.80		99.08	163.58	159.54	64.32	163.41	132	66	67	65		1.001	6.632	658
1117	178.607	180.853		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.4	69	0.017	101	101	23.1	-0.27	0.82		98.71	163.11	159.11	64.30	163.01	123	66	66	65		1.001	6.800	672
1118	178.767	181.017		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	99	23.0	0.16	0.82		98.55	163.01	158.98	64.29	162.84	119	66	66	65		1.001	6.797	671
1119	178.928	181.181		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.018	99	99	22.9	0.05	0.78		98.42	162.79	158.80	64.28	162.70	115	66	66	65		1.001	6.475	638
1120	179.088	181.345		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	99	23.0	-0.07	0.82		98.20	162.63	158.62	64.27	162.47	113	66	66	65		1.001	6.795	668
1121	179.248	181.507		0.16	0.16	1.35	1.11	0.26	77	76	65	1.96	1.4	68	0.017	101	101	22.8	0.14	0.83		97.83	162.32	158.17	64.26	162.10	111	66	66	65		1.001	6.920	678
1122	179.408	181.671		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	68	0.017	101	102	22.9	-0.04	0.85		97.54	161.87	157.86	64.25	161.80	109	66	66	65		1.001	7.119	695
1123	179.568	181.834		0.16	0.16	1.36	1.11	0.26	77	77	65	1.96	1.4	68	0.016	104	104	22.8	0.05	0.81		97.16	161.53	157.47	64.25	161.41	108	66	66	65		1.001	6.725	654
1124	179.729	181.998		0.16	0.16	1.35	1.12	0.26	77	77	65	1.96	1.4	68	0.017	101	102	22.9	-0.12	0.79		97.02	161.53	157.42	64.24	161.26	106	66	66	65		1.001	6.561	637
1125	179.889	182.162		0.16	0.16	1.35	1.11	0.26	77	77	65	1.96	1.4	68	0.016	104	105	22.9	0.08	0.82		96.71	161.04	156.99	64.23	160.94	105	66	66	65		1.001	6.795	658
1126	180.049	182.325		0.16	0.16	1.36	1.11	0.26	77	77	65	1.97	1.4	68	0.018	98	98	23.0	-0.14	0.82		96.49	160.86	156.80	64.22	160.70	105	66	66	65		1.001	6.797	657
1127	180.209	182.488		0.16	0.16	1.36	1.10	0.26	77	77	65	1.98	1.5	75	0.018	99	99	22.9	0.08	0.80		96.19	160.50	156.46	64.21	160.40	127	66	67	65		1.001	6.638	639
1128	180.369	182.651		0.16	0.16	1.35	1.10	0.26	77	77	65	1.96	1.4	76	0.019	96	97	22.9	0.03	0.82		95.77	160.07	156.09	64.20	159.97	133	66	67	65		1.001	6.797	652
1129	180.529	182.814		0.16	0.16	1.36	1.11	0.26	77	77	65	1.96	1.4	76	0.018	99	99	22.9	-0.03	0.84		95.54	159.97	155.86	64.21	159.75	155	66	67	65		1.001	6.955	665
1130	180.689	182.979		0.16	0.17	1.36	1.11	0.26	77	77	65	1.96	1.4	78	0.018	99	101	22.7	0.18	0.85		95.18	159.51	155.49	64.23	159.41	170	66	67	65		1.001	7.119	678
1131	180.850	183.142		0.16	0.16	1.35	1.11	0.26	77	77	65	1.97	1.4	80	0.019	97	97	22.6	0.19	0.84		95.14	159.61	155.51	64.26	159.40	189	67	67	65		1.001	6.955	663
1132	181.010	183.304		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.4	82	0.017	102	102	22.3	0.30	0.82		94.98	159.40	155.38	64.29	159.27	204	67	67	65		1.001	6.791	646
1133	181.170	183.467		0.16	0.16	1.36	1.11	0.26	77	76	65	1.98	1.4	83	0.017	102	103	22.0	0.26	0.84		94.93	159.32	155.30	64.33	159.26	215	67	67	65		1.001	6.954	661
1134	181.330	183.630		0.16	0.16	1.36	1.11	0.26	77	76	65	1.97	1.5	85	0.018	100	100	21.6	0.36	0.85		94.92	159.51	155.36	64.38	159.30	226	67	68	65		1.001	7.119	677
1135	181.490	183.794		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.5	88	0.019	97	98	21.4	0.29	0.82		95.07	159.64	155.49	64.41	159.49	239	67	68	65		1.001	6.795	647
1136	181.650	183.957		0.16	0.16	1.35	1.11	0.26	77	77	65	1.98	1.5	91	0.018	100	101	21.0	0.31	0.86		95.40	160.15	155.94	64.47	159.87	258	68	68	65		1.001	7.123	680
1137	181.809	184.119		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.5	94	0.017	103	103	20.4	0.68	0.84		95.93	160.72	156.47	64.51	160.43	270	68	69	65		1.001	6.960	668
1138	181.968	184.282		0.16	0.16	1.35	1.11	0.26	77	77	65	2	1.5	96	0.018	100	101	20.2	0.22	0.89		96.63	161.52	157.22	64.55	161.18	280	68	69	65		1.001	7.443	720
1139	182.128	184.444		0.16	0.16	1.35	1.11	0.26	77	77	65	2	1.5	98	0.019	98	98	19.7	0.44	0.86		97.36	162.34	158.19	64.58	161.94	288	69	69	65		1.001	7.119	694
1140	182.287	184.607		0.16	0.16	1.35	1.11	0.26	77	77	65	1.99	1.5	100	0.018	100	101	19.2	0.55	0.89		98.13	163.25	158.76	64.64	162.77	295	69	70	65		1.001	7.443	731
1141	182.447	184.769		0.16	0.16	1.35	1.10	0.26	77	77	65	2.01	1.5	102	0.017	104	104	18.7	0.51	0.80		99.06	164.18	159.90	64.67	163.74	304	69	70	65		1.001	6.632	658
1142	182.606	184.931		0.16	0.16	1.35	1.11	0.26	77	77	65	2	1.5	103	0.018	101	101	18.3	0.41	0.89		99.91	165.07	160.57	64.73	164.64	310	69	70	65		1.001	7.442	744
1143	182.765	185.093		0.16	0.16	1.35	1.10	0.26	77	77	65	2	1.5	104	0.019	98	98	17.6	0.66	0.86		100.92	166.07	161.87	64.73	165.66	313	70	71	65		1.001	7.189	726
1144	182.925	185.256		0.16	0.16	1.34	1.10	0.26	77	77	65	2.01	1.5	104	0.018	101	102	17.5	0.13	0.85		101.94	167.09	162.75	64.77	166.71	315	70	71	65		1.001	7.095	724
1145	183.084	185.418		0.16	0.16	1.35	1.10	0.26	77	77	65	2	1.5	106	0.017	104	104	16.9	0.60	0.82		102.58	167.76	163.26	64.81	167.39	319	70	71	65		1.001	6.795	698
1146	183.243	185.580		0.16	0.16	1.34	1.10	0.26	77	77	65	2.02	1.5	107	0.019	98	99	16.1	0.73	0.82		103.37	168.65	164.08	64.83	168.20	322	71	72	65		1.001	6.796	703
1147	183.402	185.741		0.16	0.16	1.34	1.10	0.26	77	77	65	2.01	1.5	107	0.017	104	104	15.8	0.29	0.87		104.39	169.63	165.08	64.85	169.25	324	71	72	65		1.001	7.280	761
1148	183.561	185.904		0.16	0.16	1.34	1.10	0.26	77	77	65	2.01	1.5	107	0.017	104	105	15.5	0.35	0.80		105.44	170.76	166.37	64.86	170.30	326	71	72	65		1.001	6.634	700
1149	183.720	186.066		0.16	0.16	1.34	1.10	0.26	77	77	65	2.03	1.5	108	0.018	101	101	14.9	0.54	0.85		106.59	171.80	167.26	64.88	171.47	325	71	72	65		1.001	7.118	760
1150	183.878	186.227		0.16	0.16	1.35	1.10	0.26	77	77	65	2.01	1.5	108	0.018	100	101	14.5	0.47	0.87		107.19	172.47	167.79	64.87	172.06	326	71	72	65		1.001	7.278	781
1151	184.037	186.388		0.16	0.16	1.34	1.10	0.26	77	77	65	2.03	1.5	109	0.017	104	104	13.8	0.67	0.80		108.30	173.54	168.82	64.84	173.14	325	72	73	65		1.001	6.627	719
1152	184.196	186.551		0.16	0.16	1.34	1.10	0.26	77	77	65	2.02	1.5	109	0.018	101	102	13.4	0.37	0.86		109.77	175.04	170.27	64.81	174.57	324	72	73	65		1.001	7.119	782
1153	184.356	186.712		0.16	0.16	1.34	1.09	0.26	77	77	65	2.04	1.5	108	0.020	96	96	12.9	0.49	0.83		111.01	176.29	171.46	64.73	175.74	324	72	73	65		1.001	6.911	768
1154	184.514	186.873		0.16	0.16	1.34	1.09	0.26	77	77	65	2.03	1.5	108	0.019	98	98	12.5	0.48	0.89		112.23	177.32	172.53	64.66	176.88	325	72	73	65		1.001	7.444	836
1155	184.673	187.035		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	109	0.019	98	99	12.2	0.32	0.84		113.20	178.09	173.37	64.56	177.76	327	72	73	65		1.001	6.959	789
1156	184.831	187.196		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	109	0.018	100	101	11.6	0.57	0.85		114.11	179.00	174.19	64.47	178.57	329	72	73	65		1.001	7.119	813
1157	184.989	187.357		0.16	0.16	1.34	1.09	0.26	77	77	65	2.05	1.5	109	0.017	103	104	11.1	0.47	0.86		115.39	180.21	175.59	64.37	179.76	329	72	74	65		1.001	7.122	823
1158	185.147	187.518		0.16	0.16	1.34	1.10	0.26	77	77	65	2.03	1.5	102	0.019	97	98	10.5	0.61	0.82		116.54	181.29	176.48	64.32	180.86	335	72	73	65		1.001	6.797	793
1159	185.306	187.681		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	85	0.017	102	103	10.1	0.36	0.84		118.01	182.80	177.97	64.27	182.28	309	72	73	65		1.001	6.957	822
1160	185.465	187.842		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	81	0.019	96	96	9.8	0.30	0.82		118.27	182.88	178.10	64.24	182.52	282	71	72	65		1.001	6.795	805
1161	185.625	188.004		0.16	0.16	1.32	1.09	0.26	77	77	65	2.03	1.5	79	0.020	94	94	9.5	0.35	0.82		118.65	183.14	178.47	64.23	182.88	264	71	72	65		1.001	6.798	807
1162	185.783	188.166		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	78	0.016	104	105	9.5	0.02	0.78		118.98	183.42	178.74	64.20	183.19	252	71	72	65		1.001	6.478	772
1163	185.942	188.328		0.16	0.16	1.33	1.10	0.26	77	77	65	2.03	1.5	76	0.017	101	101	9.4	0.10	0.76		119.44	183.94	179.50	64.19	183.63	245	71	71	65		1.001	6.314	755
1164	186.100	188.490		0.16	0.16	1.33	1.08	0.26	77	77	65	2.02	1.5	75	0.017	100	101	9.3	0.03	0.84		119.91	184.40	179.65	64.19	184.10	238	70	71	65		1.001	6.961	836
1165	186.259	188.651		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	74	0.020	93	93	9.3	0.07	0.76		120.24	184.78	179.97	64.18	184.42	232	70	71	65		1.001	6.310	760

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1166	186.417	188.813		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	74	0.019	95	96	9.1	0.19	0.78		120.46	184.86	180.52	64.18	184.65	226	70	70	65		1.001	6.473	781
1167	186.576	188.975		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	73	0.017	101	101	9.1	0.03	0.80		120.53	185.03	180.33	64.18	184.71	221	70	70	65		1.001	6.634	801
1168	186.735	189.137		0.16	0.16	1.32	1.09	0.26	77	77	65	2.02	1.5	73	0.016	104	104	9.0	0.08	0.76		120.51	184.91	180.26	64.17	184.67	216	69	70	65		1.001	6.313	762
1169	186.895	189.298		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	73	0.019	96	95	9.0	-0.01	0.70		120.57	184.89	180.34	64.15	184.72	212	69	70	65		1.001	5.827	703
1170	187.053	189.460		0.16	0.16	1.32	1.10	0.26	77	77	65	2.02	1.5	72	0.018	97	98	8.8	0.15	0.82		120.42	184.78	180.21	64.13	184.55	209	69	70	65		1.001	6.797	819
1171	187.212	189.623		0.16	0.16	1.32	1.10	0.26	77	77	65	2.04	1.5	72	0.017	101	102	8.8	0.04	0.74		120.19	184.58	179.92	64.11	184.30	205	69	69	65		1.001	6.153	740
1172	187.370	189.785		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	72	0.017	100	101	8.9	-0.06	0.74		120.30	184.66	180.07	64.08	184.38	202	69	69	65		1.001	6.158	742
1173	187.529	189.946		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	70	0.019	95	95	8.8	0.03	0.76		120.24	184.58	180.00	64.06	184.30	199	69	69	65		1.001	6.301	759
1174	187.687	190.108		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	70	0.018	97	98	8.8	0.04	0.74		120.02	184.21	179.98	64.02	184.04	195	68	69	65		1.001	6.154	739
1175	187.846	190.271		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	70	0.017	100	101	8.7	0.06	0.78		119.96	184.08	179.60	64.00	183.96	191	68	69	65		1.001	6.475	778
1176	188.005	190.433		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	70	0.018	98	98	8.8	-0.07	0.74		119.72	183.84	179.35	63.99	183.71	188	68	68	65		1.001	6.150	737
1177	188.165	190.594		0.16	0.16	1.32	1.09	0.26	77	77	65	2.02	1.5	70	0.018	98	97	8.8	-0.01	0.76		119.45	183.62	179.18	63.96	183.41	185	68	68	65		1.001	6.314	755
1178	188.324	190.756		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	69	0.016	103	104	9.0	-0.16	0.78		119.34	183.57	178.99	63.96	183.30	181	68	68	65		1.001	6.474	774
1179	188.482	190.918		0.16	0.16	1.32	1.09	0.26	77	77	65	2.01	1.5	69	0.019	94	95	9.0	0.01	0.78		119.29	183.46	179.01	63.94	183.23	178	68	68	65		1.001	6.473	773
1180	188.641	191.080		0.16	0.16	1.32	1.09	0.26	77	77	65	2.01	1.5	69	0.017	100	101	8.8	0.18	0.78		119.03	183.16	178.71	63.95	182.98	175	67	68	65		1.001	6.476	772
1181	188.799	191.242		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	69	0.019	94	95	8.8	-0.05	0.78		118.85	182.95	178.63	63.95	182.81	172	67	68	65		1.001	6.471	770
1182	188.958	191.404		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.016	103	104	8.9	-0.05	0.72		118.64	182.70	178.43	63.97	182.60	169	67	68	65		1.001	5.974	710
1183	189.116	191.566		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.016	103	104	8.9	-0.04	0.72		118.41	182.58	178.27	63.98	182.40	167	67	68	65		1.001	6.026	714
1184	189.275	191.728		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	69	0.016	103	104	8.8	0.13	0.80		118.22	182.55	178.10	64.01	182.23	164	67	67	65		1.001	6.638	786
1185	189.434	191.889		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.018	97	97	8.8	-0.02	0.72		118.02	182.16	177.80	64.04	182.05	161	67	67	65		1.001	5.990	708
1186	189.594	192.051		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.019	95	95	8.9	-0.12	0.78		117.67	181.98	177.58	64.07	181.74	159	67	67	65		1.001	6.478	763
1187	189.752	192.213		0.16	0.16	1.33	1.10	0.26	77	77	65	2.03	1.5	69	0.017	100	101	8.9	0.02	0.76		117.54	181.68	177.44	64.11	181.65	157	67	67	65		1.001	6.313	743
1188	189.911	192.376		0.16	0.16	1.32	1.09	0.26	77	77	65	2.01	1.5	69	0.016	103	105	9.0	-0.07	0.78		117.54	181.68	177.44	64.11	181.55	156	67	67	65		1.001	6.480	763
1189	190.069	192.537		0.16	0.16	1.32	1.09	0.26	77	77	65	2.02	1.5	69	0.017	100	100	9.0	-0.02	0.74		117.54	181.68	177.44	64.11	181.43	154	67	67	65		1.001	6.147	723
1190	190.228	192.699		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	69	0.017	100	101	8.9	0.10	0.76		117.54	181.68	177.44	64.11	181.31	150	67	67	65		1.001	6.313	743
1191	190.387	192.861		0.16	0.16	1.34	1.09	0.26	77	77	65	2.03	1.5	69	0.018	97	98	8.9	0.00	0.77		117.54	181.68	177.44	64.11	181.17	148	66	67	65		1.001	6.396	753
1192	190.545	193.023		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.018	97	98	9.0	-0.10	0.78		117.54	181.68	177.44	64.11	181.13	146	66	67	65		1.001	6.480	763
1193	190.704	193.185		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	69	0.016	103	104	9.0	0.00	0.76		117.54	181.68	177.44	64.11	180.77	143	66	67	65		1.001	6.313	743
1194	190.864	193.347		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	69	0.018	98	98	9.0	0.00	0.75		117.54	181.68	177.44	64.11	180.54	141	66	67	65		1.001	6.230	733
1195	191.022	193.509		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	69	0.016	103	104	8.9	0.10	0.76		117.54	181.68	177.44	64.11	180.24	138	66	67	65		1.001	6.313	743
1196	191.181	193.671		0.16	0.16	1.32	1.10	0.26	77	77	65	2.03	1.5	68	0.018	97	98	9.0	-0.10	0.78		117.54	181.68	177.44	64.11	179.85	136	66	67	65		1.001	6.480	763
1197	191.340	193.833		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	69	0.017	100	101	9.0	0.00	0.76		117.54	181.68	177.44	64.11	179.45	135	66	66	65		1.001	6.313	743
1198	191.498	193.994		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	68	0.019	94	95	9.1	-0.09	0.80		114.52	179.30	175.23	64.52	179.05	134	66	66	65		1.001	6.633	761
1199	191.657	194.157		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	68	0.017	100	101	9.1	-0.01	0.78		114.25	179.04	174.76	64.57	178.82	133	66	66	65		1.001	6.475	741
1200	191.816	194.319		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	68	0.017	100	101	9.1	0.00	0.76		114.04	178.96	174.64	64.61	178.65	131	66	66	65		1.001	6.309	720
1201	191.974	194.480		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	68	0.018	97	97	9.2	-0.10	0.82		113.69	178.47	174.28	64.64	178.33	130	66	66	65		1.001	6.795	774
1202	192.134	194.642		0.16	0.16	1.33	1.10	0.26	77	77	65	2.01	1.5	68	0.017	101	101	9.1	0.09	0.70		113.39	178.33	174.04	64.66	178.04	128	66	66	65		1.001	5.827	661
1203	192.293	194.804		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	68	0.017	100	101	9.2	-0.08	0.78		113.12	178.04	173.79	64.71	177.83	127	66	66	65		1.001	6.457	731
1204	192.451	194.967		0.16	0.16	1.32	1.09	0.26	77	77	65	2.01	1.5	68	0.017	100	101	9.0	0.17	0.78		112.84	177.69	173.68	64.72	177.56	125	66	66	65		1.001	6.473	731
1205	192.610	195.128		0.16	0.16	1.32	1.09	0.26	77	77	65	2.01	1.5	68	0.018	97	97	9.2	-0.18	0.76		112.65	177.54	173.42	64.75	177.39	124	66	66	65		1.001	6.311	712
1206	192.768	195.290		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	68	0.017	100	101	9.0	0.23	0.76		112.38	177.26	173.22	64.77	177.14	124	66	66	65		1.001	6.312	710
1207	192.927	195.452		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	68	0.017	100	101	9.2	-0.24	0.76		112.18	177.19	173.08	64.80	176.97	122	66	66	65		1.001	6.311	709
1208	193.086	195.615		0.16	0.16	1.33	1.09	0.26	77	77	64	2.02	1.5	68	0.016	103	104	9.1	0.08	0.76		111.91	176.86	172.84	64.81	176.72	122	66	66	64		1.001	6.314	707
1209	193.245	195.776		0.16	0.16	1.33	1.09	0.26	77	77	64	2.02	1.5	68	0.017	100	100	9.1	0.02	0.74		111.67	176.68	172.56	64.83	176.49	120	66	66	64		1.001	6.150	688
1210	193.404	195.938		0.16	0.16	1.33	1.10	0.26	77	77	65	2.01	1.5	68	0.017	100	101	9.1	-0.02	0.70		111.34	176.33	172.20	64.83	176.17	118	66	66	65		1.001	5.829	650
1211	193.563	196.100		0.16	0.16	1.33	1.09	0.26	77	77	64	2.03	1.5	68	0.017	100	101	9.3	-0.13	0.78		110.97	176.06	171.75	64.83	175.79	118	66	66	64		1.001	6.475	719
1212	193.722	196.263		0.16	0.16	1.33	1.09	0.26	77	77	64	2.03	1.5	67	0.016	103	104	9.2	0.04	0.70		110.70	175.69	171.55	64.81	175.51	118	66	66	64		1.001	5.827	646
1213	193.881	196.425		0.16	0.16	1.32	1.09	0.26	77	77	64	2.01	1.5	67	0.016	103	104	9.2	0.07	0.78		110.59	175.51	171.53	64.80	175.39	116	66	66	64		1.001	6.471	716
1214	194.039	196.587		0.16	0.16	1.33	1.09	0.26	77	77	64	2.01	1.5	67	0.018	97	98	9.3	-0.17	0.78		110.31	175.21	171.05	64.79	175.10	115	66	66	64		1.001	6.473	715
1215	194.198	196.749		0.16	0.16	1.33	1.09	0.26	77	77	64	2.01	1.5	67	0.018	97	98	9.2	0.11	0.78		110.02	175.04	170.78	64.77	174.80	114	66	66	64		1.001	6.477	713
1216	194.357	196.912		0.16	0.16	1.33	1.10	0.26	77	77	64	2.01	1.5	67	0.018	97	98	9.4	-0.19	0.70		109.91	174.86	170.68	64.75	174.67	113	66	66	64		1.001	5.830	642
1217	194.516	197.073		0.16	0.16	1.33	1.09	0.26	77	77	64	2.02	1.5	67	0.019	95	95	9.4	0.00	0.72		109.67	174.47	170.34	64.74	174.41	113	65	66	64		1.001	5.993	658
1218	194.675	197.235		0.16	0.16	1.34	1.10	0.26	77	77	64	2.02	1.5	67	0.018	97	98	9.3	0.10	0.78		109.21	174.20	169.99	64.72	173.93	111	65	66	64		1.001	6.477	708
1219	194.835	197.397		0.16	0.16	1.33	1.09	0.26	77	77	63	2.02	1.5	67	0.018	98	98	9.3	-0.03	0.80		108.89	173.82	169.58	64.72	173.61	111	65	65	63		1.001	6.641	724
1220	194.993	197.560		0.16	0.16	1.33	1.10	0.26	77	77	63	2.03	1.5	67	0.017	99	101	9.2	0.14	0.78		108.78	173.73	169.55	64.72	173.49	110	65	65	63		1.001	6.479	706
1221	195.152	197.722		0.16	0.16	1.33	1.10	0.26	77	77	63	2.02	1.5	67	0.018	97	98	9.4	-0.23	0.78		108.60	173.44	169.34	64.72	173.32	108	65	65	63		1.001	6.481	705
1222	195.311	197.884		0.16	0.16	1.33	1.10	0.26	77	77	63	2.03	1.5	67	0.016	103	104	9.3	0.17	0.76		108.17	173.12	168.94	64.72	172.89	109	65	65	63		1.001	6.314	684
1223	195.470	198.046		0.16	0.16	1.33	1.10	0.26	77	77	63	2.03	1.5	67	0.017	100	101	9.4	-0.13	0.72		107.99	172.92	168.79	64.72	172.71	108	65	65	63		1.001	5.996	648
1224	195.629	198.209		0.16	0.16	1.33	1.10	0.26	77	77	63	2.02	1.5	67	0.016	103	104	9.4	-0.05	0.80		107.65	172.50	168.39	64.72	172.37	108	65	65	63		1.001	6.645	716
1225	195.787	198.371		0.16	0.16	1.33	1.10	0.26	77	77	64	2.01	1.5	67	0.016	102	104	9.3	0.09	0.75		107.40	172.29	168.17	64.72	172.12	107	65	65	64		1.001	6.218	669
1226	195.946	198.533		0.16	0.16	1.33	1.10	0.26	77	77	64	2.01	1.5	67	0.017	100	101	9.4	-0.02	0.78		107.11	171.95	167.83	64.70	171.81	104	65	65	64		1.001	6.475	694
1227	196.105	198.695		0.16	0.16	1.34	1.10	0.26	77	77	64	2.03	1.5	69	0.018	97	98	9.5	-0.16	0.84		107.05	171.84	167.77	64.67	171.72	105	65	65	64		1.001	6.960	746

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1228	196.265	198.857		0.16	0.16	1.33	1.10	0.26	77	77	65	2.03	1.5	69	0.018	98	98	9.4	0.13	0.78		106.66	171.46	167.36	64.65	171.31	104	65	65	65		1.001	6.475	691
1229	196.424	199.020		0.16	0.16	1.33	1.10	0.26	77	77	65	2.03	1.5	69	0.016	103	105	9.4	-0.06	0.74		106.47	171.35	167.28	64.69	171.16	104	65	65	65		1.001	6.146	655
1230	196.583	199.181		0.16	0.16	1.32	1.09	0.26	77	77	65	2.02	1.5	68	0.017	100	100	9.3	0.12	0.76		106.10	171.03	166.93	64.74	170.85	102.26807	65	65	65		1.001	6.309	670
1231	196.741	199.343		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	68	0.016	103	104	9.6	-0.23	0.76		105.66	170.61	166.56	64.78	170.44	102.92255	65	65	65		1.001	6.306	667
1232	196.900	199.505		0.16	0.16	1.33	1.10	0.26	77	77	65	2.03	1.5	68	0.017	100	101	9.5	0.02	0.74		105.52	170.42	166.45	64.83	170.36	103.69923	65	65	65		1.001	6.134	648
1233	197.058	199.668		0.16	0.16	1.32	1.09	0.26	77	77	65	2.04	1.5	73	0.019	95	96	9.5	0.02	0.81		105.13	170.14	166.12	64.89	170.02	134.86462	66	66	65		1.001	6.763	712
1234	197.217	199.829		0.16	0.16	1.33	1.09	0.26	77	77	64	2.01	1.5	69	0.017	100	100	9.3	0.19	0.74		104.69	169.66	165.65	64.89	169.58	130.09595	65	65	64		1.001	6.140	644
1235	197.375	199.991		0.16	0.16	1.34	1.09	0.26	77	77	64	2.03	1.5	68	0.019	94	95	9.4	-0.12	0.78		104.47	169.51	165.55	64.95	169.42	125.31593	65	65	64		1.001	6.515	681
1236	197.535	200.153		0.16	0.16	1.33	1.10	0.26	77	77	64	2.03	1.5	69	0.018	98	98	9.5	-0.06	0.78		104.06	169.33	165.19	65.00	169.06	121.20241	65	65	64		1.001	6.461	673
1237	197.694	200.315		0.16	0.16	1.33	1.09	0.26	77	77	64	2.02	1.5	69	0.018	97	98	9.4	0.15	0.74		103.73	168.80	164.83	65.02	168.74	118.73512	65	66	64		1.001	6.142	638
1238	197.852	200.477		0.16	0.16	1.32	1.09	0.26	77	77	65	2.02	1.5	69	0.017	100	101	9.4	-0.09	0.76		103.54	168.71	164.63	65.06	168.60	116.53202	65	66	65		1.001	6.304	654
1239	198.011	200.639		0.16	0.16	1.32	1.09	0.26	77	77	65	2.01	1.5	69	0.017	100	101	9.4	0.04	0.89		103.14	168.37	164.56	65.13	168.27	114.45001	65	66	65		1.001	7.436	768
1240	198.170	200.800		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.016	103	103	9.6	-0.17	0.82		102.86	168.23	164.07	65.12	167.98	112.47911	65	66	65		1.001	6.789	699
1241	198.328	200.963		0.16	0.16	1.34	1.09	0.26	77	77	65	2.03	1.5	69	0.018	97	99	9.5	0.10	0.76		102.69	168.09	163.99	65.14	167.83	111.0732	66	66	65		1.001	6.308	649
1242	198.487	201.125		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.016	103	104	9.2	0.28	0.72		102.39	167.69	163.66	65.17	167.55	109.80708	66	66	65		1.001	6.000	615
1243	198.646	201.287		0.16	0.16	1.33	1.09	0.26	77	77	65	2.02	1.5	69	0.017	100	101	9.4	-0.25	0.80		102.08	167.41	163.36	65.21	167.29	108.03226	66	66	65		1.001	6.625	677
1244	198.805	201.449		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	70	0.017	100	101	9.6	-0.13	0.78		101.82	167.07	163.06	65.17	166.98	107.39792	66	66	65		1.001	6.455	658
1245	198.965	201.612		0.16	0.16	1.32	1.09	0.26	77	77	65	2.02	1.5	70	0.019	96	96	9.3	0.25	0.76		101.38	166.83	162.77	65.25	166.63	106.13566	66	66	65		1.001	6.303	640
1246	199.123	201.773		0.16	0.16	1.32	1.09	0.26	77	77	65	2.02	1.5	70	0.016	103	103	9.4	-0.07	0.80		101.25	166.63	162.58	65.20	166.45	105.11412	66	66	65		1.001	6.625	672
1247	199.282	201.935		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	70	0.018	98	98	9.4	0.02	0.78		100.93	166.27	162.18	65.20	166.13	104.75922	66	66	65		1.001	6.463	653
1248	199.440	202.097		0.16	0.16	1.33	1.09	0.26	77	77	65	2.01	1.5	70	0.018	97	98	9.5	-0.13	0.72		100.64	166.00	161.97	65.19	165.83	104.7226	66	66	65		1.001	5.978	602
1249	199.599	202.259		0.16	0.16	1.33	1.09	0.26	77	77	66	2.01	1.5	70	0.016	103	104	9.7	-0.19	0.78		100.46	165.74	161.88	65.15	165.61	103.2128	66	66	66		1.001	6.463	650
1250	199.757	202.421		0.16	0.16	1.33	1.09	0.26	77	77	65	2.03	1.5	70	0.018	97	98	9.6	0.09	0.84		100.12	165.51	161.40	65.18	165.30	101.59258	66	66	65		1.001	6.952	697
1251	199.916	202.583		0.16	0.16	1.33	1.09	0.26	77	77	66	2.03	1.5	70	0.017	100	101	9.6	-0.01	0.82		99.84	165.20	161.11	65.15	165.00	101.02607	66	66	66		1.001	6.788	678
1252	200.075	202.744		0.16	0.16	1.33	1.09	0.26	77	77	66	2.01	1.5	71	0.018	98	98	9.4	0.21	0.80		99.61	164.87	160.78	65.14	164.76	100.14421	66	66	66		1.001	6.643	662
1253	200.234	202.907		0.16	0.16	1.33	1.09	0.26	77	77	66	2.02	1.5	71	0.017	100	102	9.4	0.01	0.74		99.41	164.66	160.65	65.13	164.53	99.593758	66	67	66		1.001	6.176	615
1254	200.393	203.069		0.16	0.16	1.33	1.09	0.26	77	77	66	2.02	1.5	71	0.016	104	104	9.6	-0.18	0.83		99.07	164.32	160.31	65.12	164.19	100.61108	66	67	66		1.001	6.871	682
1255	200.552	203.230		0.16	0.16	1.32	1.09	0.26	77	77	66	2.03	1.5	71	0.017	100	100	9.4	0.17	0.78		98.78	164.05	159.98	65.09	163.87	99.524414	66	67	66		1.001	6.528	646
1256	200.710	203.393		0.16	0.16	1.32	1.09	0.26	77	77	66	2.02	1.5	71	0.017	100	102	9.6	-0.19	0.76		98.44	163.78	159.80	65.16	163.60	100.0192	66	67	66		1.001	6.301	621
1257	200.869	203.555		0.16	0.16	1.33	1.09	0.26	77	77	66	2.01	1.5	71	0.018	98	98	9.5	0.07	0.74		98.45	163.62	159.60	65.09	163.54	98.02758	67	67	66		1.001	6.141	605
1258	201.027	203.717		0.16	0.16	1.33	1.09	0.26	77	77	66	2.02	1.5	71	0.019	94	95	9.4	0.12	0.85		98.08	163.25	159.17	65.07	163.15	97.898529	67	67	66		1.001	7.109	698
1259	201.186	203.878		0.16	0.16	1.33	1.09	0.26	77	77	66	2.03	1.5	71	0.016	104	103	9.5	-0.06	0.83		97.60	162.91	158.87	65.11	162.72	97.333145	67	67	66		1.001	6.943	678
1260	201.345	204.040		0.16	0.16	1.33	1.09	0.26	77	77	66	2.01	1.5	71	0.019	95	95	9.5	-0.06	0.83		97.41	162.68	158.56	65.08	162.49	96.742317	67	67	66		1.001	6.946	677
1261	201.504	204.203		0.16	0.16	1.33	1.09	0.26	77	77	66	2.03	1.5	71	0.017	100	102	9.6	-0.05	0.81		97.17	162.46	158.36	65.09	162.26	97.805016	67	67	66		1.001	6.783	660
1262	201.663	204.365		0.16	0.16	1.33	1.08	0.26	77	77	66	2.01	1.5	72	0.017	101	101	9.4	0.15	0.83		97.01	162.26	158.13	65.08	162.09	95.728005	67	67	66		1.001	6.922	672
1263	201.822	204.526		0.16	0.16	1.32	1.09	0.26	77	77	66	2.02	1.5	71	0.019	95	95	9.4	0.04	0.83		96.61	161.90	157.83	65.12	161.73	96.319702	67	67	66		1.001	6.877	665
1264	201.980	204.688		0.16	0.16	1.32	1.09	0.26	77	77	66	2.03	1.5	75	0.016	103	104	9.5	-0.12	0.78		96.30	161.60	157.52	65.11	161.40	119.31203	67	67	66		1.001	6.485	625
1265	202.139	204.850		0.16	0.16	1.33	1.09	0.26	77	77	66	2.03	1.5	72	0.018	98	98	9.5	0.00	0.80		95.99	161.17	157.10	65.02	161.01	114.43505	67	67	66		1.001	6.621	636
1266	202.297	205.012		0.16	0.16	1.33	1.09	0.26	78	77	66	2.01	1.5	72	0.018	97	98	9.5	-0.01	0.76		95.79	161.06	157.22	65.08	160.87	111.62836	67	67	66		1.001	6.300	604
1267	202.456	205.173		0.16	0.16	1.33	1.08	0.26	78	77	67	2.03	1.5	74	0.018	98	98	9.5	0.06	0.83		95.50	160.68	156.73	65.07	160.57	118.83978	68	68	67		1.001	6.947	664
1268	202.614	205.335		0.16	0.16	1.33	1.09	0.26	78	77	67	2.02	1.5	78	0.017	100	102	9.5	-0.06	0.81		95.22	160.45	156.45	65.12	160.34	135.38869	68	68	67		1.001	6.783	647
1269	202.774	205.497		0.16	0.16	1.33	1.09	0.26	78	77	67	2.03	1.5	79	0.018	99	99	9.4	0.10	0.87		94.67	159.97	155.95	65.16	159.83	152.60194	68	68	67		1.001	7.270	689
1270	202.932	205.658		0.16	0.16	1.32	1.08	0.26	78	77	67	2.04	1.5	80	0.018	98	98	9.2	0.24	0.76		94.52	159.77	156.05	65.19	159.72	163.33641	68	68	67		1.001	6.295	596
1271	203.091	205.820		0.16	0.16	1.32	1.09	0.26	78	77	67	2.03	1.5	81	0.020	93	94	9.1	0.09	0.85		94.43	159.78	155.70	65.14	159.57	171.19212	68	68	67		1.001	7.103	672
1272	203.249	205.981		0.16	0.16	1.33	1.09	0.26	78	77	67	2.03	1.5	82	0.019	95	96	8.8	0.29	0.85		94.18	159.38	155.46	65.15	159.33	178.80785	68	69	67		1.001	7.096	669
1273	203.407	206.144		0.16	0.16	1.32	1.09	0.26	78	77	67	2.03	1.5	84	0.018	98	100	8.7	0.10	0.92		93.98	159.33	154.97	65.21	159.19	186.97542	68	69	67		1.001	7.681	723
1274	203.565	206.305		0.16	0.16	1.33	1.08	0.26	78	77	66	2.02	1.5	86	0.018	98	99	8.5	0.23	0.82		93.78	159.25	155.01	65.20	158.98	196.51463	69	69	66		1.001	6.803	639
1275	203.724	206.466		0.16	0.16	1.33	1.09	0.26	78	77	67	2.02	1.5	87	0.018	99	99	8.2	0.26	0.93		93.87	159.21	154.85	65.18	159.05	206.49606	69	69	67		1.001	7.758	729
1276	203.883	206.628		0.16	0.16	1.33	1.09	0.26	78	77	66	2.04	1.5	88	0.019	96	97	7.8	0.41	0.89		93.78	159.13	155.18	65.18	158.96	214.69852	69	70	66		1.001	7.436	698
1277	204.042	206.790		0.16	0.16	1.33	1.09	0.26	78	77	66	2.04	1.5	90	0.017	102	103	7.7	0.08	0.89		93.90	159.36	154.88	65.19	159.08	221.47549	69	70	66		1.001	7.437	699
1278	204.200	206.952		0.16	0.16	1.32	1.09	0.26	78	77	66	2.05	1.5	91	0.018	99	100	7.5	0.27	0.89		94.12	159.53	155.33	65.23	159.35	228.19945	69	70	66		1.001	7.437	701
1279	204.358	207.113		0.16	0.16	1.32	1.10	0.26	78	77	66	2.04	1.5	92	0.017	102	102	7.1	0.39	0.82		94.36	159.75	155.33	65.22	159.57	233.52251	70	70	66		1.001	6.790	641
1280	204.516	207.275		0.16	0.16	1.33	1.10	0.26	78	77	66	2.04	1.5	93	0.019	96	97	6.8	0.30	0.87		94.59	160.11	155.59	65.25	159.84	240.81361	70	70	66		1.001	7.276	689
1281	204.674	207.437		0.16	0.16	1.32	1.09	0.26	78	77	66	2.05	1.5	94	0.018	99	100	6.3	0.47	0.91		95.03	160.59	156.08	65.27	160.30	250.31627	70	71	66		1.001	7.597	723
1282	204.833	207.597		0.16	0.16	1.33	1.09	0.26	78	77	67	2.06	1.5	96	0.018	100	99	6.2	0.07	0.87		95.53	161.08	156.71	65.31	160.84	256.74197	70	71	67		1.001	7.272	696
1283	204.991	207.759		0.16	0.16	1.32	1.09	0.26	78	77	67	2.06	1.5	97	0.018	99	100	5.8	0.47	0.87		96.17	161.80	157.17	65.35	161.53	261.30304	70	71	67		1.001	7.272	700
1284	205.149	207.920		0.16	0.16	1.32	1.09	0.26	78	77	67	2.05	1.5	98	0.017	102	103	5.4	0.40	0.87		96.80	162.37	157.97	65.40	162.20	264.68561	71	71	67		1.001	7.275	705
1285	205.307	208.081		0.16	0.16	1.31	1.08	0.26	78	77	67	2.07	1.5	98	0.016	105	106	5.0	0.32	0.87		97.31	163.20	158.62	65.49	162.80	266.31162	71	72	67		1.001	7.265	708
1286	205.464	208.242		0.16	0.16	1.32	1.08	0.26	78	77	67	2.08	1.5	99	0.018	99	100	4.8	0.27	0.91		97.92	163.63	159.20	65.52	163.43	268.09988	71	72	67		1.001	7.592	744
1287	205.621	208.402		0.16	0.16	1.31	1.08	0.26	78	78	67	2.08	1.5	100	0.017	102	102	4.3	0.48	0.81		98.42	164.29	159.75	65.59	164.01	272.34351	71	72	67		1.001	6.780	668
1288	205.778	208.564		0.16	0.16	1.31	1.07	0.26	78	78	67	2.09	1.5	101	0.019	96	98	4.1	0.24	0.89		99.07	164.99	160.47	65.65	164.73	277.66843	72	72	67		1.001	7.425	736
1289	205.936	208.724		0.16	0.16	1.31	1.08	0.26	78	78	67	2.08	1.5	102	0.018	100	99	3.6	0.49	0.87		99.59	165.63	161.02	65.73	165.32	283.74722	72	73	67		1.001	7.265	724

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1290	206.093	208.884		0.16	0.16	1.29	1.07	0.26	78	78	67	2.12	1.6	104	0.017	102	103	3.1	0.45	0.93		100.38	166.46	161.66	65.78	166.16	292.1622	72	73	67		1.001	7.754	779
1291	206.249	209.044		0.16	0.16	1.29	1.07	0.26	78	78	67	2.14	1.6	106	0.017	102	103	2.7	0.41	0.87		101.06	167.31	162.57	65.84	166.90	304.48032	72	73	67		1.001	7.268	735
1292	206.404	209.203		0.16	0.16	1.29	1.07	0.26	78	78	67	2.14	1.6	107	0.016	104	105	2.2	0.48	0.83		101.91	168.10	163.25	65.85	167.75	311.27396	73	73	67		1.001	6.947	709
1293	206.560	209.362		0.16	0.16	1.29	1.06	0.26	78	78	67	2.15	1.6	108	0.016	105	105	1.9	0.36	0.91		102.79	169.05	164.10	65.89	168.68	313.92148	73	74	67		1.001	7.595	782
1294	206.716	209.522		0.16	0.16	1.28	1.06	0.26	78	78	68	2.17	1.6	108	0.018	99	100	1.2	0.64	0.85		103.87	170.20	165.17	65.93	169.80	315.30859	73	74	68		1.001	7.102	739
1295	206.872	209.680		0.16	0.16	1.33	1.06	0.26	78	78	67	2.23	1.6	109	0.017	102	102	0.9	0.35	0.91		105.13	171.47	166.38	65.93	171.06	316.9263	73	74	67		1.001	7.605	800
1296	207.030	209.839		0.16	0.16	1.33	1.06	0.26	78	78	68	2.22	1.6	109	0.018	100	99	0.4	0.44	0.91		106.06	172.44	167.26	65.94	172.01	316.42838	74	74	68		1.001	7.587	806
1297	207.188	209.998	238.07	0.16	0.16	1.33	1.05	0.26	78	78	68	2.25	1.6	109	0.018	100	99	0.0	0.48	0.87		106.90	173.13	168.08	65.92	172.82	315.9516	74	74	68		1.001	7.264	777
	207.188	209.998	238.070			1.32	1.08	0.26	82	82	70			83	0.017					0.81	#DIV/0!	106.5	172.4	168.0	65.7	172.1		72.75	73.14		#DIV/0!			717
																																TOTAL:		929533

TF_{avg}	170.608
TI_{avg}	172.625

Manufacturer: Central Boiler
Model: Edge 560
Date: 10/08/19
Run: 3
Control #: 2374
Test Duration: 1297
Output Category: II

Technicians: _____

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	75.7%	81.5%
Combustion Efficiency	94.2%	94.2%
Heat Transfer Efficiency	80%	86.5%

Output Rate (kJ/h)	40,782	38,687	**(Btu/h)**
Burn Rate (kg/h)	2.71	5.97	**(lb/h)**
Input (kJ/h)	53,890	51,120	**(Btu/h)**

Test Load Weight (dry kg)	58.58	129.10	**dry lb**
MC wet (%)	16.6		
MC dry (%)	19.90		
Particulate (g)	63.81		
CO (g)	5,012		
Test Duration (h)	21.62		

Emissions	**Particulate**	**CO**
g/MJ Output	0.07	5.68
g/kg Dry Fuel	1.09	85.56
g/h	2.95	231.84
lb/MM Btu Output	0.17	13.21

Air/Fuel Ratio (A/F)	20.19

VERSION: **2.2** **12/14/2009**

Manufacturer:	Central Boiler		**Appliance Type:**	Non-Cat	(Cat, Non-	
Model:	Edge 560					
Date:	10/8/2019		**Temp. Units**	F	(F or C)	
Run:	3		**Weight Units**	lb	(kg or lb)	
Control #:	2374					
Test Duration:	1297					
Output Category:	II		**Fuel Data**			
				D. Fir		
Wood Moisture (% wet):	16.60		**HHV**	19,887	kj/kg	
Load Weight (lb wet):	154.80		**%C**	50		
Burn Rate (dry kg/h):	2.71		**%H**	6.6		
Total Particulate Emissions:	63.81	g	**%O**	42.9		
			%ASH	0.5		

Averages	**0.65**	**5.30**	**#DIV/0!**	**172.40**	**71.65**	
					Temp. (ºF)	
Elapsed	**Fuel Weight**	**Flue Gas Composition (%)**			**Flue**	**Room**
Time (min)	**Remaining (lb)**	**CO**	**CO_2**	**O_2**	**Gas**	**Temp**
0	154.8	0.5	6.6		300	68
1	154.4	0.2	7.7		272	68
2	154.0	3.2	18.5		277	68
3	153.7	1.9	19.4		303	68
4	152.8	0.5	19.8		320	68
5	152.0	0.3	19.7		331	68
6	151.1	0.1	18.8		334	68
7	150.4	0.1	18.3		336	69
8	149.7	0.1	10.9		301	68
9	149.2	0.2	6.3		275	68
10	149.3	0.2	4.3		259	68
11	149.3	0.2	3.4		247	68
12	149.3	0.1	3.3		240	68
13	149.2	0.1	3.0		234	68
14	149.3	0.2	2.9		228	68
15	149.3	0.2	2.7		222	68
16	149.2	0.2	2.6		218	68
17	149.3	0.2	2.5		213	68
18	149.2	0.2	2.4		209	68
19	149.3	0.2	2.3		205	68
20	149.3	0.2	2.2		202	68
21	149.2	0.2	2.0		199	68
22	149.3	0.1	1.5		196	68
23	149.2	0.1	1.2		192	68

24	149.3	0.1	1.0		188	68
25	149.2	0.1	0.9		185	69
26	149.3	0.1	0.8		182	68
27	149.3	0.1	0.8		179	68
28	149.4	0.1	0.8		175	68
29	149.3	0.1	0.9		173	68
30	149.2	0.1	1.1		170	68
31	149.2	0.1	1.2		167	68
32	149.3	0.1	1.4		164	68
33	149.4	0.1	1.5		162	68
34	149.4	0.2	2.0		159	68
35	149.4	0.2	2.1		157	68
36	149.4	0.2	2.3		155	68
37	149.4	0.2	2.7		152	68
38	149.5	0.2	2.7		150	68
39	149.5	0.2	2.6		148	68
40	149.4	0.2	2.7		146	68
41	149.5	0.2	2.7		144	68
42	149.5	0.2	2.5		143	68
43	149.5	0.2	2.7		141	68
44	149.4	0.3	2.8		139	68
45	149.6	0.2	2.6		137	68
46	149.7	0.3	2.7		136	69
47	149.6	0.3	2.9		134	69
48	149.6	0.2	2.6		132	69
49	149.7	0.2	2.6		131	69
50	149.5	0.3	2.6		129	69
51	149.7	0.3	2.8		128	68
52	149.6	0.3	2.6		127	68
53	149.6	0.3	2.9		125	68
54	149.4	0.2	2.5		124	68
55	149.7	0.3	2.9		123	68
56	149.8	0.3	2.8		121	68
57	149.7	0.3	2.5		120	69
58	149.8	0.3	2.6		119	69
59	149.7	0.3	2.7		118	68
60	149.6	0.2	2.3		117	68
61	149.6	0.3	2.6		116	69
62	149.8	0.3	2.5		115	68
63	149.7	0.3	2.5		114	68
64	149.8	0.3	2.4		113	69
65	149.9	0.3	2.4		112	69
66	149.7	0.3	2.6		111	69

67	149.9	0.3	2.5		110	69
68	149.8	0.3	2.5		109	69
69	149.9	0.3	2.4		108	69
70	149.9	0.3	2.4		108	69
71	149.9	0.3	2.4		107	69
72	149.9	0.3	2.4		106	69
73	149.8	0.3	2.4		106	69
74	150.0	0.3	2.4		105	69
75	149.9	0.3	2.4		104	69
76	150.0	0.3	2.4		104	69
77	149.9	0.3	2.4		103	69
78	149.9	0.3	2.4		102	69
79	149.9	0.3	2.4		102	69
80	149.8	0.3	2.4		101	69
81	150.0	0.3	2.4		100	69
82	149.9	1.7	2.4		138	69
83	149.8	1.8	2.4		138	69
84	149.8	1.7	2.4		126	70
85	149.9	1.6	2.4		119	70
86	149.9	1.4	2.4		115	69
87	149.8	1.1	2.4		111	70
88	149.9	0.9	2.4		109	70
89	149.8	0.8	2.4		107	70
90	150.0	0.8	2.4		105	70
91	149.9	0.6	2.4		103	70
92	149.9	0.6	2.4		103	70
93	149.8	0.6	2.4		102	71
94	150.0	0.5	2.4		100	71
95	149.9	0.4	2.4		99	71
96	149.9	0.4	2.4		99	71
97	150.0	0.4	2.4		99	71
98	150.0	0.4	2.4		98	71
99	150.0	0.4	2.4		97	71
100	150.0	0.3	2.4		97	71
101	149.9	0.3	2.4		96	71
102	150.0	0.3	2.4		96	71
103	149.9	0.3	2.4		96	72
104	150.1	0.3	2.4		95	72
105	149.9	0.2	2.4		95	72
106	150.2	0.2	2.4		95	72
107	149.8	0.2	2.4		94	73
108	150.0	0.2	2.4		94	73
109	149.9	1.3	2.4		135	72

110	149.7	3.5	2.4		182	72
111	149.3	5.1	2.4		211	72
112	149.0	5.2	2.4		234	72
113	148.2	4.3	2.4		256	73
114	147.4	3.9	2.4		276	73
115	146.5	3.2	2.4		291	73
116	145.9	1.3	2.4		304	72
117	145.0	0.3	2.4		311	72
118	144.1	0.2	2.4		319	72
119	143.5	0.3	2.4		324	72
120	142.6	0.3	2.4		329	72
121	141.7	0.3	2.4		333	73
122	141.2	0.2	2.4		335	73
123	140.5	0.2	2.4		337	73
124	139.8	0.2	2.4		338	73
125	138.9	0.2	2.4		339	73
126	138.3	0.2	2.4		337	73
127	137.5	0.2	2.4		337	73
128	136.9	0.2	2.4		338	73
129	136.3	0.2	2.4		339	73
130	135.6	0.3	2.4		341	73
131	135.1	0.1	2.4		300	73
132	134.7	0.1	2.4		277	73
133	134.5	0.1	2.4		261	73
134	134.4	0.2	2.4		249	73
135	134.5	0.2	2.4		244	73
136	134.2	0.2	2.4		237	73
137	134.3	0.2	2.4		231	73
138	134.3	0.2	3.7		225	73
139	134.2	0.2	3.5		221	73
140	134.2	0.2	3.3		217	73
141	134.2	0.2	3.1		212	73
142	134.1	0.2	3.0		209	73
143	134.1	0.2	2.9		205	73
144	134.2	0.2	2.8		202	74
145	134.0	0.2	2.2		200	73
146	134.1	0.1	1.7		196	73
147	134.2	0.1	1.4		193	73
148	134.1	0.1	1.2		190	73
149	134.2	0.1	1.0		187	73
150	134.2	0.1	0.9		183	73
151	134.3	0.1	0.9		181	73
152	134.1	0.1	1.0		178	73

153	134.2	0.1	1.1		175	73
154	134.1	0.1	1.1		173	73
155	134.2	0.1	1.3		170	73
156	134.3	0.1	1.4		167	73
157	134.2	0.1	1.6		165	73
158	134.3	0.1	1.8		162	73
159	134.2	0.1	1.9		160	73
160	134.3	0.1	2.0		158	73
161	134.3	0.1	1.7		156	73
162	134.3	0.1	1.9		154	74
163	134.4	0.2	2.1		152	73
164	134.4	0.1	2.0		150	73
165	134.2	0.2	2.2		148	74
166	134.5	0.2	2.2		146	74
167	134.4	0.1	2.1		144	74
168	134.5	0.2	2.3		142	74
169	134.4	0.1	2.0		141	74
170	134.4	0.1	2.0		139	74
171	134.5	0.1	2.1		138	74
172	134.4	0.1	1.8		136	73
173	134.5	0.1	2.0		135	74
174	134.5	0.1	1.9		133	74
175	134.5	0.1	1.8		132	74
176	134.5	0.1	2.0		131	74
177	134.4	0.1	2.0		130	74
178	134.5	0.1	1.7		128	74
179	134.4	0.1	1.7		127	74
180	134.5	0.1	1.8		126	74
181	134.6	0.1	1.7		125	74
182	134.6	0.1	1.8		123	74
183	134.5	0.1	1.7		122	74
184	134.6	0.1	1.7		121	74
185	134.5	0.1	1.6		120	74
186	134.5	0.1	1.6		119	74
187	134.4	0.1	1.6		118	74
188	134.6	0.1	1.6		117	74
189	134.6	0.1	1.6		116	74
190	134.6	0.1	1.7		116	74
191	134.6	0.1	1.7		115	74
192	134.5	0.1	1.8		114	74
193	134.7	0.1	1.7		113	74
194	134.6	0.1	1.7		112	74
195	134.6	0.1	1.7		112	74

196	134.6	0.1	1.7		111	74
197	134.7	0.1	1.7		110	74
198	134.7	0.1	1.8		109	74
199	134.6	0.1	1.8		109	74
200	134.6	0.1	1.7		108	74
201	134.7	0.1	1.8		108	74
202	134.7	0.1	1.9		107	74
203	134.6	0.1	1.8		106	74
204	134.3	0.1	1.9		106	74
205	134.8	0.4	5.3		149	74
206	134.6	0.3	3.5		141	74
207	134.5	0.3	3.1		132	74
208	134.6	0.3	2.9		127	74
209	134.4	0.2	2.6		123	74
210	134.5	0.2	2.3		120	74
211	134.7	0.2	2.0		118	74
212	134.6	0.2	1.9		116	74
213	134.6	0.1	1.7		114	74
214	134.7	0.1	1.5		113	74
215	134.6	0.1	1.6		111	74
216	134.5	0.1	1.5		111	74
217	134.5	0.1	1.4		109	74
218	134.5	0.1	1.5		108	74
219	134.5	0.1	1.6		107	74
220	134.6	0.1	1.4		106	74
221	134.7	0.1	1.5		105	74
222	134.6	0.1	1.5		105	74
223	134.7	0.1	1.6		105	74
224	134.7	0.1	1.5		103	74
225	134.6	0.1	1.5		102	74
226	134.6	0.2	1.8		102	74
227	134.7	0.1	1.6		100	74
228	134.6	0.1	1.6		101	74
229	134.5	0.1	1.6		100	74
230	134.7	0.1	1.6		99	74
231	134.5	0.1	1.6		99	74
232	134.6	0.1	1.7		98	74
233	134.8	0.2	2.0		128	74
234	134.5	0.5	3.8		146	74
235	134.5	1.4	4.8		167	74
236	134.2	2.3	6.5		185	74
237	133.8	3.3	9.4		202	75
238	133.5	3.7	10.4		214	75

239	133.1	4.2	11.4		223	74
240	132.7	4.0	11.3		230	74
241	132.2	3.9	11.0		235	74
242	131.8	3.4	11.2		241	74
243	131.3	3.1	11.5		246	74
244	131.0	2.4	12.2		253	75
245	130.3	2.7	12.1		259	75
246	129.8	2.3	12.0		266	75
247	129.3	2.2	12.1		271	75
248	128.9	2.3	11.9		274	75
249	128.4	2.3	11.8		277	75
250	127.6	2.0	12.2		281	75
251	127.0	1.5	12.9		288	75
252	126.4	1.3	13.0		293	75
253	125.9	1.2	12.9		298	75
254	125.1	1.3	12.9		300	75
255	124.5	1.4	12.6		302	75
256	124.0	1.3	12.3		304	75
257	123.5	1.3	12.2		306	75
258	123.0	1.3	12.1		308	75
259	122.4	1.3	12.0		308	75
260	121.9	1.2	11.8		309	75
261	121.1	1.2	11.8		310	75
262	120.7	1.1	12.1		312	75
263	120.1	0.9	12.3		315	76
264	119.7	0.8	12.6		319	75
265	118.9	0.9	12.1		321	75
266	118.4	0.8	12.3		323	76
267	118.0	0.8	12.3		325	75
268	117.5	0.8	12.2		327	76
269	116.8	0.8	12.2		329	76
270	116.3	0.4	9.7		295	76
271	116.0	0.2	12.5		273	75
272	115.8	0.2	11.3		258	76
273	115.5	0.2	9.4		247	75
274	115.5	0.3	7.6		240	75
275	115.3	0.3	8.5		235	75
276	115.2	0.4	6.9		229	75
277	115.2	0.4	5.6		223	75
278	115.3	0.5	4.8		219	75
279	115.1	0.5	4.5		215	75
280	115.0	0.5	4.1		211	75
281	115.0	0.5	3.8		208	75

282	115.1	0.5	3.6		204	75
283	115.0	0.6	3.4		201	75
284	115.0	0.4	2.7		199	75
285	115.0	0.4	2.2		196	75
286	114.9	0.3	2.1		192	75
287	114.9	0.4	2.2		189	75
288	114.9	0.4	2.4		186	75
289	115.0	0.4	2.6		183	75
290	115.0	0.5	2.8		180	75
291	115.0	0.5	3.2		178	75
292	114.9	0.5	3.4		175	75
293	114.9	0.6	3.8		172	75
294	115.1	0.6	4.0		170	75
295	114.9	0.7	4.4		167	75
296	114.9	0.7	4.3		165	75
297	114.9	0.7	4.8		163	75
298	115.0	0.7	4.5		161	75
299	115.1	0.7	4.7		159	75
300	114.9	0.8	4.9		157	75
301	115.1	0.8	4.9		154	75
302	114.9	0.7	4.8		153	75
303	115.1	0.8	5.2		151	75
304	115.1	0.8	5.1		149	75
305	115.0	0.8	5.0		147	75
306	115.0	0.8	4.9		146	75
307	115.2	0.7	4.8		144	75
308	115.1	0.8	5.1		143	75
309	115.2	0.8	5.1		141	75
310	115.2	0.8	5.2		140	75
311	115.1	0.8	5.0		138	75
312	115.1	0.8	5.0		136	75
313	115.2	0.8	5.1		135	75
314	115.2	0.8	4.9		134	75
315	115.2	0.7	4.8		133	75
316	115.2	0.8	5.2		131	75
317	115.2	0.8	5.0		131	75
318	115.2	0.8	5.1		130	75
319	115.3	0.8	5.0		128	75
320	115.2	0.7	4.6		126	75
321	115.2	0.7	4.7		126	75
322	115.3	0.7	4.7		125	75
323	115.3	0.7	4.9		124	75
324	115.3	0.7	4.5		123	75

325	115.3	0.7	4.8		122	75
326	115.3	0.7	4.6		121	75
327	115.3	0.7	4.7		121	75
328	115.4	0.7	4.9		119	75
329	115.2	0.7	4.5		119	75
330	115.3	0.6	4.3		118	75
331	115.3	0.7	4.7		117	75
332	115.5	0.7	4.4		117	75
333	115.3	0.7	4.4		116	75
334	115.4	0.6	4.3		116	75
335	115.4	0.7	4.4		115	75
336	115.3	0.6	4.3		114	75
337	115.4	0.6	4.3		114	75
338	115.6	0.6	4.3		114	75
339	115.5	0.6	4.2		112	75
340	115.5	0.6	3.9		112	75
341	115.5	0.6	4.2		111	75
342	115.5	0.6	4.1		113	75
343	115.6	0.6	4.0		111	75
344	115.5	0.9	6.4		139	75
345	115.4	0.2	1.8		137	75
346	115.4	0.2	1.5		132	75
347	115.4	0.2	1.4		128	75
348	115.4	0.2	1.4		126	75
349	115.5	0.2	1.3		123	75
350	115.4	0.2	1.2		121	75
351	115.3	0.2	1.2		119	75
352	115.3	0.1	1.1		118	75
353	115.3	0.2	1.2		117	75
354	115.3	0.2	1.2		116	75
355	115.2	0.1	1.1		116	75
356	115.3	0.2	1.3		115	75
357	115.4	0.2	1.3		115	75
358	115.5	0.1	1.2		113	75
359	115.4	0.2	1.3		112	75
360	115.5	0.2	1.3		112	75
361	115.3	0.2	1.4		111	75
362	115.3	0.2	1.4		111	75
363	115.4	0.2	1.5		111	75
364	115.4	0.2	1.5		109	75
365	115.4	0.2	1.5		110	75
366	115.4	0.2	1.6		108	75
367	115.5	0.2	1.5		108	75

368	115.4	0.2	1.6		107	75
369	115.5	0.2	1.5		107	75
370	115.5	0.2	1.6		105	75
371	115.3	0.2	1.6		106	75
372	115.5	0.2	1.6		105	75
373	115.5	0.2	1.7		105	75
374	115.3	0.2	1.6		104	75
375	115.6	0.3	3.2		129	75
376	115.4	0.0	0.6		141	75
377	115.3	0.0	0.3		152	75
378	115.3	0.0	0.3		157	75
379	115.1	0.0	0.5		159	75
380	115.0	0.1	0.7		161	75
381	114.9	0.1	1.0		163	75
382	114.8	0.3	1.4		164	75
383	114.8	0.4	1.9		165	75
384	114.6	0.7	2.6		166	75
385	114.7	1.0	3.1		167	75
386	114.4	1.0	3.8		169	75
387	114.2	1.2	4.4		171	75
388	114.1	1.5	5.3		174	75
389	113.8	1.6	6.1		178	75
390	113.5	1.7	7.2		183	75
391	113.2	1.7	8.1		192	75
392	112.9	1.9	8.6		200	75
393	112.6	1.9	9.1		208	75
394	112.3	2.1	9.7		215	75
395	111.9	2.2	10.4		222	75
396	111.4	1.9	11.1		230	75
397	111.1	1.7	12.0		237	75
398	110.5	1.4	12.5		245	75
399	110.2	1.3	12.8		253	75
400	109.7	1.4	13.4		261	75
401	109.2	1.2	14.1		270	75
402	108.4	0.6	16.2		280	75
403	108.1	0.4	16.0		289	75
404	107.4	0.3	15.5		297	75
405	106.8	0.3	16.0		307	75
406	105.9	0.2	16.6		315	75
407	105.5	0.2	17.0		322	75
408	104.7	0.2	16.9		325	75
409	103.9	0.2	16.8		329	75
410	103.3	0.2	16.6		331	75

411	102.7	0.2	16.2		333	75
412	102.1	0.3	16.1		337	75
413	101.3	0.3	16.0		340	75
414	100.5	0.2	15.7		343	75
415	99.7	0.2	15.4		344	75
416	99.2	0.2	15.3		346	75
417	98.4	0.2	16.2		349	75
418	97.8	0.1	17.7		355	75
419	96.9	0.2	18.5		360	76
420	95.9	0.1	17.1		358	76
421	94.9	0.1	16.2		355	75
422	94.5	0.1	14.7		336	75
423	93.8	0.4	14.8		301	75
424	93.5	0.4	11.9		281	75
425	93.4	0.3	9.0		266	76
426	93.1	0.5	6.7		256	75
427	93.0	0.6	6.3		250	75
428	93.0	0.6	5.3		243	75
429	92.9	0.5	4.5		237	75
430	92.9	0.5	3.9		231	75
431	92.8	0.5	3.7		226	75
432	92.7	0.5	3.3		222	75
433	92.7	0.5	3.0		217	75
434	92.7	0.5	2.9		214	75
435	92.6	0.5	2.8		210	75
436	92.7	0.4	2.7		207	75
437	92.6	0.3	2.0		206	75
438	92.6	0.3	1.7		203	75
439	92.6	0.3	1.7		200	75
440	92.7	0.3	1.9		196	75
441	92.6	0.3	1.9		193	75
442	92.7	0.3	2.1		190	75
443	92.5	0.4	2.3		187	75
444	92.8	0.4	2.4		184	75
445	92.6	0.4	2.5		181	75
446	92.7	0.4	2.9		178	75
447	92.7	0.4	2.9		176	75
448	92.8	0.5	3.2		173	75
449	92.8	0.5	3.2		171	75
450	92.7	0.5	3.4		168	75
451	92.6	0.5	3.5		166	75
452	92.7	0.5	3.5		163	75
453	92.7	0.5	3.6		161	75

454	92.7	0.5	3.6		159	75
455	92.6	0.5	3.6		157	75
456	92.8	0.5	3.9		155	75
457	92.7	0.5	3.6		153	75
458	92.7	0.5	3.9		151	75
459	92.8	0.5	3.8		150	75
460	92.8	0.5	3.7		148	75
461	92.8	0.5	3.9		146	75
462	92.9	0.5	3.9		144	75
463	92.7	0.5	3.8		143	75
464	92.8	0.5	3.9		141	75
465	93.0	0.5	3.7		140	75
466	92.8	0.5	4.0		138	75
467	92.9	0.5	3.7		137	75
468	93.0	0.5	3.9		136	75
469	92.9	0.5	3.8		134	75
470	93.0	0.5	3.9		133	75
471	93.0	0.5	3.8		131	75
472	93.0	0.5	3.8		130	75
473	93.0	0.5	3.8		129	75
474	93.1	0.5	3.7		128	75
475	93.0	0.5	3.9		127	75
476	93.1	0.5	3.6		126	75
477	93.0	0.5	3.9		124	75
478	93.0	0.5	3.7		124	75
479	93.0	0.5	3.8		124	75
480	93.1	0.5	3.8		122	75
481	93.2	0.5	3.9		121	75
482	93.0	0.5	3.6		120	75
483	93.1	0.5	3.6		119	75
484	93.2	0.4	3.5		119	75
485	93.1	0.4	3.6		117	75
486	93.2	0.4	3.5		116	75
487	93.2	0.4	3.4		116	75
488	93.1	0.4	3.5		115	75
489	93.1	0.4	3.4		115	75
490	93.2	0.5	3.7		115	75
491	93.2	0.4	3.5		113	75
492	93.2	0.4	3.4		112	75
493	93.2	0.5	3.7		112	75
494	93.2	0.4	3.3		111	75
495	93.1	0.4	3.5		111	75
496	93.2	0.4	3.4		131	75

497	93.2	0.3	2.8		146	75
498	93.0	0.2	2.1		139	75
499	93.2	0.2	2.0		132	75
500	92.9	0.2	1.9		128	75
501	93.0	0.2	1.8		126	75
502	93.0	0.2	1.7		123	75
503	93.0	0.2	1.5		121	75
504	93.1	0.2	1.4		119	75
505	93.1	0.2	1.4		119	75
506	93.2	0.1	1.3		117	75
507	92.9	0.1	1.3		117	75
508	93.1	0.2	1.4		115	75
509	93.1	0.1	1.4		114	75
510	93.2	0.2	1.4		115	75
511	93.1	0.1	1.4		113	75
512	93.1	0.2	1.5		112	75
513	93.1	0.1	1.4		111	75
514	93.2	0.1	1.4		110	75
515	93.2	0.2	1.5		110	75
516	93.2	0.1	1.4		109	75
517	93.2	0.2	1.5		108	75
518	93.2	0.2	1.5		108	75
519	93.2	0.2	1.5		106	75
520	93.3	0.2	1.6		107	75
521	93.1	0.2	1.5		107	75
522	93.3	0.2	1.6		107	75
523	93.2	0.2	1.5		107	75
524	93.3	0.2	1.6		105	75
525	93.2	0.2	1.6		105	75
526	93.2	0.2	1.6		105	75
527	93.2	0.2	1.7		133	75
528	93.3	0.1	1.6		129	75
529	93.2	0.1	1.3		125	75
530	93.1	0.1	1.2		122	75
531	93.1	0.1	1.1		119	75
532	93.0	0.1	1.0		117	75
533	93.1	0.1	0.9		116	75
534	93.2	0.1	0.8		114	75
535	93.2	0.1	0.8		113	75
536	93.1	0.1	0.9		111	75
537	93.1	0.1	0.8		111	75
538	93.1	0.1	0.8		119	75
539	93.1	0.2	1.8		132	75

540	93.1	0.5	1.6		152	75
541	92.9	0.6	2.0		162	75
542	92.8	0.6	3.0		169	75
543	92.4	0.8	4.4		176	75
544	92.3	1.2	5.7		183	75
545	92.2	1.5	6.3		192	75
546	91.7	1.7	7.6		202	75
547	91.6	1.7	9.0		213	75
548	91.2	1.9	9.9		222	75
549	90.7	2.1	11.2		231	75
550	90.5	1.7	12.9		242	75
551	89.9	1.3	14.4		252	75
552	89.3	1.0	14.5		263	75
553	88.8	1.0	14.1		274	75
554	88.2	0.9	13.3		280	75
555	87.8	0.7	13.3		286	75
556	87.1	0.9	13.2		290	75
557	86.7	0.9	13.4		294	75
558	86.1	0.6	13.8		300	75
559	85.5	0.5	14.0		307	75
560	84.9	0.4	14.4		313	75
561	84.1	0.3	14.7		318	75
562	83.6	0.2	14.8		321	75
563	83.1	0.2	14.7		324	75
564	82.2	0.2	14.7		327	75
565	81.7	0.1	14.7		329	75
566	80.8	0.1	14.7		333	75
567	80.0	0.1	14.9		337	75
568	79.5	0.1	15.1		340	75
569	78.9	0.1	15.0		342	75
570	78.1	0.1	14.9		345	75
571	77.2	0.1	15.0		347	75
572	76.7	0.1	15.1		348	75
573	75.9	0.1	14.8		349	75
574	75.3	0.6	15.2		310	75
575	74.9	1.4	17.6		285	75
576	74.4	0.5	15.6		268	75
577	74.1	0.2	12.3		256	75
578	74.0	0.3	9.6		250	75
579	73.8	0.3	10.9		243	75
580	73.8	0.5	7.4		236	75
581	73.7	0.7	4.9		230	75
582	73.5	0.6	3.9		225	75

583	73.6	0.6	3.4		221	75
584	73.5	0.6	3.0		217	75
585	73.6	0.6	2.8		213	75
586	73.5	0.6	2.7		209	75
587	73.5	0.6	2.6		206	75
588	73.6	0.4	2.0		204	75
589	73.4	0.3	1.7		201	75
590	73.5	0.3	1.5		198	75
591	73.6	0.3	1.5		194	75
592	73.5	0.3	1.7		191	75
593	73.6	0.4	1.8		188	75
594	73.5	0.4	2.0		186	75
595	73.6	0.4	2.1		182	75
596	73.6	0.4	2.3		180	75
597	73.7	0.5	2.5		177	75
598	73.5	0.5	2.7		174	75
599	73.6	0.6	2.9		172	75
600	73.6	0.6	3.0		169	75
601	73.6	0.6	3.2		167	75
602	73.6	0.6	3.0		164	75
603	73.7	0.7	3.4		162	75
604	73.7	0.7	3.5		160	75
605	73.7	0.7	3.5		158	75
606	73.7	0.6	3.4		156	75
607	73.7	0.6	3.3		154	75
608	73.7	0.6	3.4		152	75
609	73.7	0.7	4.0		150	75
610	73.7	0.7	3.9		148	75
611	73.7	0.7	3.9		147	75
612	73.8	0.7	3.9		145	75
613	73.7	0.7	3.7		143	75
614	73.8	0.7	3.7		142	75
615	73.8	0.7	3.9		140	75
616	73.9	0.7	4.0		139	75
617	73.8	0.7	3.9		137	75
618	73.9	0.7	3.7		136	75
619	74.0	0.7	4.0		135	75
620	73.9	0.7	3.8		133	75
621	73.9	0.7	4.2		132	75
622	74.0	0.7	3.9		131	75
623	74.1	0.7	4.1		130	75
624	73.9	0.7	3.9		128	75
625	74.0	0.7	4.2		127	75

626	74.0	0.8	4.4		126	75
627	74.0	0.7	4.0		125	75
628	74.0	0.7	3.9		124	75
629	73.9	0.7	4.0		123	75
630	74.0	0.7	4.1		122	75
631	74.0	0.7	3.9		121	75
632	74.0	0.6	3.8		120	75
633	74.1	0.7	4.1		120	75
634	74.1	0.7	4.2		119	75
635	74.1	0.7	4.1		118	75
636	74.1	0.7	4.1		116	75
637	74.1	0.7	4.1		116	75
638	74.2	0.6	3.9		115	75
639	74.2	0.7	3.9		116	74
640	74.1	0.6	3.5		113	75
641	74.2	0.6	3.7		113	75
642	74.1	0.6	3.8		113	75
643	74.0	0.6	3.8		112	75
644	74.2	0.7	4.1		112	75
645	74.0	0.7	4.0		112	75
646	74.2	0.6	3.9		110	74
647	74.2	0.6	3.7		110	74
648	74.2	1.2	7.1		141	74
649	74.2	0.3	2.3		137	74
650	74.1	0.3	2.0		132	74
651	74.1	0.2	1.8		128	74
652	74.0	0.2	1.7		125	74
653	74.0	0.2	1.6		123	74
654	74.1	0.2	1.5		121	73
655	74.0	0.2	1.4		119	73
656	74.0	0.2	1.4		118	73
657	74.1	0.2	1.3		116	73
658	74.1	0.2	1.4		115	73
659	74.2	0.2	1.3		114	73
660	74.2	0.2	1.4		113	73
661	74.3	0.2	1.4		113	73
662	74.0	0.2	1.4		111	73
663	74.1	0.2	1.5		111	72
664	74.1	0.2	1.4		110	72
665	74.1	0.2	1.5		109	72
666	74.0	0.2	1.6		109	72
667	74.0	0.2	1.6		109	72
668	74.1	0.2	1.6		109	72

669	74.1	0.2	1.7		108	72
670	74.1	0.2	1.7		106	71
671	74.1	0.2	1.7		114	72
672	74.1	0.2	1.9		131	71
673	74.1	0.1	1.1		150	71
674	74.0	0.2	1.2		159	71
675	73.7	0.4	1.6		165	71
676	73.9	0.4	2.1		170	71
677	73.6	0.5	2.6		173	71
678	73.3	0.6	3.5		177	71
679	73.3	0.8	4.4		182	71
680	73.1	1.0	5.4		188	71
681	72.8	1.3	6.2		196	71
682	72.5	1.6	7.3		203	71
683	72.3	0.0	0.5		211	71
684	71.9	1.6	9.5		217	71
685	71.4	1.6	10.3		223	71
686	71.3	1.5	10.9		229	71
687	70.8	1.5	11.3		234	71
688	70.3	1.5	11.7		239	71
689	69.9	1.5	12.0		245	70
690	69.6	1.6	12.7		251	70
691	69.0	1.4	13.0		259	70
692	68.4	1.1	13.5		268	70
693	68.0	0.9	13.7		276	70
694	67.4	0.6	14.4		288	70
695	66.9	0.5	14.5		296	70
696	66.2	0.4	14.4		303	70
697	65.7	0.2	14.9		310	70
698	65.1	0.1	15.8		318	70
699	64.4	0.1	16.5		326	70
700	63.6	0.1	16.7		332	70
701	62.8	0.1	16.7		336	70
702	62.0	0.1	17.0		341	70
703	61.4	0.1	16.7		344	70
704	60.7	0.1	16.6		346	70
705	59.8	0.1	16.3		346	70
706	59.2	0.1	16.1		347	70
707	58.5	0.1	15.9		348	70
708	57.8	0.1	16.2		350	70
709	57.1	0.1	16.2		351	70
710	56.6	0.4	15.9		307	70
711	56.0	0.6	16.3		283	70

712	55.8	0.3	14.0		267	70
713	55.5	0.3	11.1		255	70
714	55.3	0.3	10.1		248	70
715	55.2	0.3	9.7		241	70
716	55.1	0.4	7.8		234	69
717	55.0	0.5	6.1		228	70
718	55.0	0.6	5.5		224	70
719	54.9	0.6	4.7		219	69
720	54.8	0.5	4.0		215	70
721	54.7	0.5	3.5		211	69
722	54.8	0.6	3.1		207	69
723	54.7	0.6	2.9		204	69
724	54.8	0.5	2.2		202	69
725	54.7	0.4	1.9		199	69
726	54.5	0.5	2.0		195	69
727	54.7	0.6	2.4		192	69
728	54.6	0.7	2.7		188	69
729	54.6	0.8	3.1		185	69
730	54.6	1.0	3.6		182	69
731	54.7	1.0	3.8		179	69
732	54.8	1.1	4.2		176	69
733	54.8	1.2	4.2		173	69
734	54.8	1.2	4.4		171	69
735	54.9	1.3	4.6		168	69
736	54.7	1.3	4.5		165	69
737	54.8	1.4	5.0		163	69
738	54.8	1.4	5.1		161	69
739	54.7	1.4	5.1		158	69
740	54.7	1.4	4.8		156	69
741	54.9	1.4	4.9		154	69
742	54.8	1.2	4.5		152	69
743	54.8	1.5	5.2		150	69
744	55.0	1.4	5.0		148	69
745	54.9	1.4	5.2		146	69
746	55.0	1.3	4.7		144	69
747	55.1	1.4	4.9		142	69
748	55.0	1.5	5.3		141	69
749	55.0	1.5	5.3		139	69
750	54.9	1.5	5.3		137	69
751	55.0	1.4	5.1		136	69
752	55.1	1.3	4.8		134	69
753	54.9	1.6	5.6		133	68
754	55.0	1.3	4.9		131	68

755	55.0	1.5	5.4		130	68
756	55.0	1.6	5.7		129	68
757	55.2	1.5	5.6		128	68
758	55.1	1.5	5.5		127	68
759	55.1	1.5	5.4		125	68
760	55.1	1.4	5.3		124	68
761	55.2	1.4	5.4		123	68
762	55.0	1.4	5.4		122	68
763	55.3	1.4	5.3		121	68
764	55.2	1.3	5.1		120	68
765	55.3	1.4	5.1		118	68
766	55.2	1.4	5.4		121	68
767	55.3	1.4	5.3		118	68
768	55.2	1.4	5.3		118	68
769	55.3	1.3	5.0		118	68
770	55.4	1.4	5.3		115	68
771	55.3	1.4	5.2		115	68
772	55.3	1.4	5.4		115	68
773	55.3	1.4	5.3		114	68
774	55.4	1.3	5.2		113	68
775	55.4	1.3	5.0		113	68
776	55.3	1.2	4.7		111	68
777	55.3	1.3	5.2		112	68
778	55.4	1.3	5.0		111	68
779	55.3	1.3	5.0		111	68
780	55.5	1.3	5.1		111	68
781	55.5	1.1	4.5		109	68
782	55.5	1.3	5.1		108	68
783	55.5	1.2	4.8		109	68
784	55.5	1.3	5.6		142	68
785	55.5	0.4	2.3		136	68
786	55.3	0.4	2.0		131	68
787	55.3	0.4	1.9		128	68
788	55.2	0.4	1.9		125	67
789	55.3	0.4	1.8		123	67
790	55.3	0.3	1.6		121	67
791	55.4	0.3	1.6		119	67
792	55.4	0.3	1.5		117	67
793	55.3	0.3	1.5		116	67
794	55.3	0.3	1.5		115	67
795	55.4	0.3	1.4		114	67
796	55.3	0.3	1.4		114	67
797	55.4	0.3	1.4		112	67

798	55.6	0.3	1.5		111	67
799	55.5	0.3	1.6		111	67
800	55.4	0.3	1.5		109	67
801	55.5	0.3	1.6		111	67
802	55.5	0.3	1.6		110	67
803	55.4	0.3	1.6		108	67
804	55.5	0.3	1.5		108	67
805	55.5	0.3	1.6		107	67
806	55.5	0.3	1.6		106	67
807	55.4	0.3	1.6		107	67
808	55.4	0.3	1.7		106	67
809	55.6	0.3	1.7		106	67
810	55.6	0.3	1.6		104	67
811	55.6	0.3	1.7		104	67
812	55.7	0.3	1.7		104	67
813	55.6	0.3	1.6		104	67
814	55.7	0.3	1.6		101	67
815	55.7	0.3	2.1		130	67
816	55.5	0.2	1.2		125	67
817	55.5	0.1	1.0		121	67
818	55.5	0.1	0.9		119	67
819	55.5	0.1	0.9		117	67
820	55.4	0.1	0.8		115	67
821	55.4	0.1	0.8		113	67
822	55.6	0.1	0.7		111	67
823	55.4	0.1	0.7		110	67
824	55.6	0.1	0.7		109	67
825	55.5	0.1	0.7		108	67
826	55.4	0.1	0.7		107	67
827	55.6	0.1	0.7		107	67
828	55.5	0.1	0.7		105	67
829	55.5	0.1	0.8		106	67
830	55.6	0.1	0.7		103	67
831	55.7	0.1	0.8		104	67
832	55.5	0.1	0.8		103	67
833	55.5	0.1	0.8		102	67
834	55.6	0.2	1.9		133	67
835	55.6	0.1	0.8		123	67
836	55.6	0.1	0.7		141	67
837	55.3	0.1	0.9		149	67
838	55.4	0.2	1.2		154	67
839	55.1	0.4	1.8		159	67
840	55.1	0.7	2.8		165	67

841	55.0	1.2	4.3		172	67
842	54.6	1.6	5.9		182	67
843	54.5	1.8	6.9		194	67
844	54.3	2.0	8.5		205	67
845	54.1	2.3	10.5		217	67
846	53.5	2.1	11.6		226	67
847	53.2	2.1	12.2		234	67
848	52.8	1.9	12.7		241	67
849	52.3	1.7	12.4		247	67
850	52.1	1.8	12.2		252	67
851	51.7	1.4	12.4		258	67
852	51.2	1.5	12.4		264	67
853	50.7	1.4	12.8		268	67
854	50.2	1.2	13.0		274	67
855	49.6	0.9	13.2		281	67
856	49.3	0.8	13.2		287	67
857	48.7	0.6	13.4		293	67
858	48.2	0.1	15.4		301	67
859	47.6	0.1	15.6		309	67
860	47.1	0.1	15.9		317	66
861	46.6	0.1	16.3		324	67
862	45.9	0.1	15.9		328	66
863	45.1	0.1	15.8		332	66
864	44.5	0.1	15.6		335	66
865	43.9	0.1	15.7		338	66
866	43.2	0.1	15.2		339	66
867	42.5	0.2	14.7		340	66
868	42.3	0.1	14.7		342	66
869	41.6	0.1	14.4		343	66
870	41.0	0.2	14.2		343	66
871	40.6	0.2	13.8		343	66
872	40.0	0.2	13.7		332	66
873	39.7	0.1	12.0		296	66
874	39.4	0.1	12.5		275	66
875	38.9	0.1	11.2		261	66
876	38.7	0.2	9.4		251	66
877	38.7	0.2	9.9		244	66
878	38.6	0.2	8.9		237	66
879	38.6	0.2	7.3		231	66
880	38.5	0.3	5.9		226	66
881	38.6	0.4	5.3		221	66
882	38.3	0.4	4.5		217	66
883	38.3	0.4	3.9		213	66

884	38.2	0.4	3.4		209	66
885	38.3	0.5	3.1		205	66
886	38.2	0.5	2.7		202	66
887	38.1	0.4	2.0		199	66
888	38.3	0.3	1.7		195	66
889	38.3	0.4	1.8		192	66
890	38.4	0.5	2.1		188	66
891	38.1	0.6	2.6		185	66
892	38.3	0.7	3.0		182	66
893	38.4	0.8	3.3		179	66
894	38.2	0.9	3.6		176	66
895	38.3	1.0	4.1		173	66
896	38.3	1.1	4.1		170	66
897	38.3	1.2	4.4		167	66
898	38.4	1.1	4.2		165	66
899	38.3	1.2	4.6		162	66
900	38.2	1.2	4.6		160	66
901	38.4	1.3	5.0		157	66
902	38.3	1.3	4.8		155	66
903	38.4	1.4	5.1		153	66
904	38.3	1.3	5.0		151	66
905	38.4	1.3	5.0		149	66
906	38.4	1.4	5.0		147	66
907	38.5	1.4	5.2		145	66
908	38.4	1.4	5.3		143	66
909	38.5	1.3	5.0		142	66
910	38.5	1.4	5.0		139	66
911	38.3	1.4	5.1		138	66
912	38.5	1.3	4.9		136	66
913	38.5	1.2	4.6		134	65
914	38.5	1.4	5.2		133	65
915	38.5	1.3	4.9		131	66
916	38.4	1.3	4.9		130	66
917	38.6	1.3	4.8		129	66
918	38.5	1.4	5.1		127	66
919	38.6	1.4	5.0		126	66
920	38.5	1.4	5.1		126	65
921	38.7	1.3	4.8		123	66
922	38.6	1.3	5.0		122	66
923	38.6	1.3	4.8		121	66
924	38.7	1.3	4.8		120	65
925	38.6	1.3	5.0		121	66
926	38.7	1.3	4.7		119	66

927	38.7	1.3	4.8		118	66
928	38.8	1.2	4.7		116	66
929	38.9	1.2	4.5		115	66
930	38.9	1.2	4.5		115	66
931	38.7	1.3	4.7		115	65
932	38.6	1.2	4.6		113	66
933	38.7	1.2	4.5		111	66
934	38.7	1.2	4.6		111	65
935	38.7	1.3	4.8		110	65
936	38.8	1.2	4.6		109	65
937	38.8	1.2	4.6		110	65
938	38.8	1.2	4.4		108	65
939	39.0	1.2	4.4		108	65
940	38.9	1.1	4.3		107	65
941	38.9	1.1	4.2		106	65
942	38.8	1.2	4.5		108	65
943	38.9	1.2	4.6		109	65
944	38.8	1.1	4.3		106	66
945	38.9	1.1	4.4		106	65
946	38.9	1.2	4.5		106	65
947	38.9	0.8	3.7		138	65
948	38.9	0.6	2.7		132	65
949	38.8	0.5	2.4		128	65
950	38.8	0.5	2.3		124	66
951	38.8	0.5	2.1		122	65
952	38.7	0.4	2.0		120	65
953	38.7	0.4	1.9		117	65
954	38.9	0.4	1.7		115	65
955	38.8	0.3	1.6		114	65
956	38.9	0.4	1.7		113	65
957	38.8	0.3	1.6		111	65
958	38.8	0.3	1.6		111	65
959	38.8	0.4	1.7		109	65
960	38.8	0.3	1.6		108	65
961	38.9	0.3	1.6		107	65
962	38.7	0.3	1.6		107	65
963	38.8	0.3	1.7		107	65
964	38.8	0.3	1.6		105	65
965	38.9	0.3	1.6		105	65
966	38.9	0.3	1.5		104	65
967	38.8	0.3	1.5		103	65
968	38.9	0.3	1.6		102	65
969	39.0	0.3	1.7		102	65

970	39.0	0.3	1.7		102	65
971	38.9	0.3	1.6		100	65
972	38.9	0.3	1.6		99	65
973	39.0	0.3	1.7		99	65
974	39.0	0.3	1.7		99	65
975	38.9	0.3	1.6		98	65
976	38.9	0.3	1.6		98	65
977	39.0	0.3	2.1		113	65
978	39.0	0.2	1.8		122	65
979	39.0	0.2	1.5		117	65
980	39.0	0.1	1.3		124	65
981	38.9	0.1	1.0		142	65
982	38.9	0.2	1.3		153	65
983	38.7	0.6	2.5		161	65
984	38.7	1.1	4.1		170	65
985	38.4	1.5	5.7		179	65
986	38.0	2.0	6.7		191	65
987	38.0	2.4	7.7		200	65
988	37.7	2.5	8.8		208	65
989	37.4	2.6	11.4		220	65
990	37.0	1.9	13.6		234	65
991	36.7	1.3	14.9		247	65
992	36.1	1.0	14.3		262	65
993	35.7	0.9	14.2		273	65
994	35.2	0.5	14.9		282	65
995	34.8	0.4	14.5		290	65
996	34.3	0.2	15.7		299	65
997	33.7	0.2	15.8		306	65
998	33.2	0.1	16.0		312	65
999	32.6	0.1	16.0		318	65
1000	32.0	0.1	16.0		322	65
1001	31.3	0.1	16.0		327	65
1002	30.6	0.1	15.8		331	65
1003	30.0	0.1	16.7		337	65
1004	29.4	0.1	17.7		344	65
1005	28.8	0.1	17.4		347	65
1006	28.0	0.1	17.2		350	65
1007	27.1	0.1	16.9		352	65
1008	26.6	0.1	16.7		352	65
1009	26.0	0.1	16.3		351	65
1010	25.1	0.1	17.3		354	65
1011	24.6	0.1	13.7		332	65
1012	24.1	0.3	17.0		297	65

1013	23.9	0.2	15.4		277	65
1014	23.5	0.1	13.1		262	65
1015	23.2	0.1	10.0		253	65
1016	23.1	0.1	12.8		245	65
1017	23.0	0.1	11.6		238	65
1018	22.9	0.1	10.3		232	65
1019	22.9	0.1	9.2		226	65
1020	22.8	0.1	8.7		221	65
1021	22.6	0.2	7.8		217	65
1022	22.7	0.2	6.9		213	65
1023	22.6	0.3	6.1		209	65
1024	22.4	0.3	5.7		205	65
1025	22.5	0.2	4.5		202	65
1026	22.4	0.2	3.6		199	65
1027	22.4	0.4	3.7		196	65
1028	22.5	0.8	4.3		192	65
1029	22.3	1.1	4.8		189	65
1030	22.3	1.5	5.5		186	65
1031	22.4	1.8	6.2		182	65
1032	22.3	2.2	7.0		179	65
1033	22.4	2.4	7.6		176	65
1034	22.3	2.5	7.7		173	65
1035	22.3	2.5	7.5		170	65
1036	22.4	2.6	7.5		168	65
1037	22.2	2.4	7.0		165	65
1038	22.4	2.4	6.9		162	65
1039	22.3	2.4	6.9		160	65
1040	22.4	2.4	6.9		157	65
1041	22.4	2.2	6.2		155	65
1042	22.5	2.1	6.0		153	65
1043	22.6	2.5	7.0		151	65
1044	22.5	2.3	6.5		149	65
1045	22.4	2.2	6.2		146	65
1046	22.6	2.1	5.8		144	65
1047	22.5	2.2	6.0		142	65
1048	22.5	2.2	5.9		141	65
1049	22.4	2.1	5.7		139	65
1050	22.4	2.0	5.6		137	65
1051	22.6	2.0	5.3		135	65
1052	22.5	2.1	5.5		133	64
1053	22.6	2.1	5.6		133	65
1054	22.6	1.9	5.0		130	65
1055	22.5	1.9	5.1		128	65

1056	22.6	1.7	4.7		127	65
1057	22.6	1.9	5.0		127	65
1058	22.6	1.9	5.0		125	65
1059	22.7	1.9	5.0		124	65
1060	22.6	1.9	5.0		123	65
1061	22.9	1.8	4.8		121	64
1062	22.8	1.7	4.5		119	64
1063	22.7	1.8	4.6		119	65
1064	22.6	1.8	4.6		118	65
1065	22.6	1.8	4.7		117	65
1066	22.7	1.7	4.4		115	65
1067	22.7	1.6	4.3		115	65
1068	22.9	1.7	4.5		114	65
1069	22.8	1.6	4.3		114	65
1070	22.8	1.7	4.3		112	65
1071	23.0	1.7	4.4		111	65
1072	22.9	1.6	4.2		109	65
1073	22.7	1.7	4.3		108	65
1074	22.9	1.7	4.4		108	65
1075	22.9	1.6	4.2		107	65
1076	22.9	1.7	4.3		108	65
1077	22.9	1.6	4.0		106	65
1078	23.0	1.7	4.4		106	65
1079	23.0	1.7	4.2		105	65
1080	23.0	1.6	4.1		104	65
1081	23.0	1.6	4.1		103	65
1082	22.9	1.4	3.7		101	65
1083	23.0	1.6	4.1		103	65
1084	23.0	1.6	4.1		103	65
1085	23.0	2.9	7.5		136	65
1086	23.0	1.3	4.0		140	65
1087	23.0	1.1	3.5		133	65
1088	22.8	1.1	3.2		128	65
1089	22.8	1.0	3.2		124	65
1090	22.8	1.0	3.1		121	65
1091	22.9	0.9	2.8		119	65
1092	22.9	0.8	2.6		116	65
1093	22.9	0.7	2.3		115	65
1094	22.8	0.7	2.1		113	65
1095	22.9	0.7	2.1		111	65
1096	22.8	0.6	1.8		110	65
1097	23.0	0.6	1.9		110	65
1098	22.8	0.6	1.9		108	65

1099	23.0	0.6	1.8		106	65
1100	22.8	0.6	1.8		107	65
1101	22.8	0.5	1.7		105	65
1102	23.0	0.5	1.7		105	65
1103	22.9	0.5	1.7		103	65
1104	22.9	0.5	1.6		102	65
1105	22.9	0.5	1.7		101	65
1106	22.9	0.5	1.6		101	65
1107	23.0	0.5	1.7		102	65
1108	23.0	0.5	1.7		101	65
1109	23.0	0.5	1.6		100	65
1110	23.0	0.4	1.5		98	65
1111	23.0	0.5	1.6		99	65
1112	23.0	0.5	1.6		98	65
1113	23.0	0.4	1.5		97	65
1114	23.0	0.5	1.6		97	65
1115	23.0	0.5	1.6		96	65
1116	22.8	1.2	4.0		132	65
1117	23.1	0.4	1.8		123	65
1118	23.0	0.4	1.6		119	65
1119	22.9	0.3	1.5		115	65
1120	23.0	0.3	1.3		113	65
1121	22.8	0.3	1.2		111	65
1122	22.9	0.3	1.1		109	65
1123	22.8	0.2	1.0		108	65
1124	22.9	0.2	1.0		106	65
1125	22.9	0.2	0.9		105	65
1126	23.0	0.2	0.9		105	65
1127	22.9	0.5	2.8		127	65
1128	22.9	0.4	2.0		133	65
1129	22.9	1.0	3.0		155	65
1130	22.7	1.9	5.1		170	65
1131	22.6	2.0	6.9		189	65
1132	22.3	2.2	8.7		204	65
1133	22.0	2.5	10.2		215	65
1134	21.6	3.0	12.1		226	65
1135	21.4	1.9	14.5		239	65
1136	21.0	1.1	14.8		258	65
1137	20.4	0.9	14.1		270	65
1138	20.2	0.8	14.2		280	65
1139	19.7	0.7	14.4		288	65
1140	19.2	0.6	14.5		295	65
1141	18.7	0.3	15.1		304	65

1142	18.3	0.3	14.9		310	65
1143	17.6	0.5	14.4		313	65
1144	17.5	0.4	14.3		315	65
1145	16.9	0.4	13.9		319	65
1146	16.1	0.3	13.7		322	65
1147	15.8	0.5	13.7		324	65
1148	15.5	0.6	13.7		326	65
1149	14.9	0.9	13.8		325	65
1150	14.5	1.1	12.8		326	65
1151	13.8	1.2	12.1		325	65
1152	13.4	1.1	12.1		324	65
1153	12.9	1.1	12.1		324	65
1154	12.5	1.1	12.4		325	65
1155	12.2	1.4	12.9		327	65
1156	11.6	1.4	12.2		329	65
1157	11.1	1.5	12.5		329	65
1158	10.5	0.5	14.2		335	65
1159	10.1	0.3	10.1		309	65
1160	9.8	0.1	11.2		282	65
1161	9.5	0.1	10.6		264	65
1162	9.5	0.1	9.5		252	65
1163	9.4	0.3	8.0		245	65
1164	9.3	0.1	9.1		238	65
1165	9.3	0.1	8.0		232	65
1166	9.1	0.2	7.0		226	65
1167	9.1	0.2	6.2		221	65
1168	9.0	0.2	5.8		216	65
1169	9.0	0.2	5.2		212	65
1170	8.8	0.3	4.6		209	65
1171	8.8	0.3	4.3		205	65
1172	8.9	0.3	4.1		202	65
1173	8.8	0.3	3.2		199	65
1174	8.8	0.2	2.7		195	65
1175	8.7	0.3	2.7		191	65
1176	8.8	0.5	3.2		188	65
1177	8.8	0.7	3.5		185	65
1178	9.0	1.0	4.4		181	65
1179	9.0	1.3	5.0		178	65
1180	8.8	1.6	5.8		175	65
1181	8.8	1.7	6.0		172	65
1182	8.9	1.9	6.3		169	65
1183	8.9	2.0	6.4		167	65
1184	8.8	2.1	6.7		164	65

1185	8.8	2.1	6.7		161	65
1186	8.9	2.2	6.7		159	65
1187	8.9	2.2	6.7		157	65
1188	9.0	2.2	6.7		156	65
1189	9.0	2.2	6.5		154	65
1190	8.9	2.0	6.0		150	65
1191	8.9	1.8	5.5		148	65
1192	9.0	1.9	5.7		146	65
1193	9.0	2.0	5.8		143	65
1194	9.0	2.0	5.8		141	65
1195	8.9	2.0	5.7		138	65
1196	9.0	2.2	6.1		136	65
1197	9.0	2.0	5.7		135	65
1198	9.1	1.8	5.2		134	65
1199	9.1	2.1	5.8		133	65
1200	9.1	2.0	5.7		131	65
1201	9.2	2.0	5.6		130	65
1202	9.1	1.7	4.9		128	65
1203	9.2	2.0	5.6		127	65
1204	9.0	1.8	5.2		125	65
1205	9.2	2.0	5.4		124	65
1206	9.0	1.9	5.4		124	65
1207	9.2	1.7	4.9		122	65
1208	9.1	1.9	5.2		122	64
1209	9.1	1.7	4.8		120	64
1210	9.1	1.8	4.9		118	65
1211	9.3	1.9	5.1		118	64
1212	9.2	1.8	5.0		118	64
1213	9.2	1.8	5.0		116	64
1214	9.3	1.8	5.0		115	64
1215	9.2	1.7	4.8		114	64
1216	9.4	1.9	5.1		113	64
1217	9.4	1.6	4.6		113	64
1218	9.3	1.7	4.7		111	64
1219	9.3	1.9	5.1		111	63
1220	9.2	1.8	4.8		110	63
1221	9.4	1.7	4.8		108	63
1222	9.3	1.7	4.8		109	63
1223	9.4	1.8	4.9		108	63
1224	9.4	1.8	4.9		108	63
1225	9.3	1.7	4.7		107	64
1226	9.4	1.8	4.8		104	64
1227	9.5	1.7	4.6		105	64

1228	9.4	1.6	4.3		104	65
1229	9.4	1.7	4.6		104	65
1230	9.3	1.6	4.6		102	65
1231	9.6	1.6	4.5		103	65
1232	9.5	1.7	4.7		104	65
1233	9.5	3.9	10.3		135	65
1234	9.3	1.1	3.8		130	64
1235	9.4	1.0	3.2		125	64
1236	9.5	0.9	3.0		121	64
1237	9.4	0.8	2.8		119	64
1238	9.4	0.8	2.6		117	65
1239	9.4	0.7	2.5		114	65
1240	9.6	0.6	2.2		112	65
1241	9.5	0.6	2.2		111	65
1242	9.2	0.6	2.0		110	65
1243	9.4	0.6	2.0		108	65
1244	9.6	0.5	1.8		107	65
1245	9.3	0.5	1.8		106	65
1246	9.4	0.5	1.9		105	65
1247	9.4	0.5	1.8		105	65
1248	9.5	0.5	1.9		105	65
1249	9.7	0.5	1.8		103	66
1250	9.6	0.4	1.8		102	65
1251	9.6	0.4	1.8		101	66
1252	9.4	0.5	1.9		100	66
1253	9.4	0.5	2.0		100	66
1254	9.6	0.5	2.0		101	66
1255	9.4	0.5	2.0		100	66
1256	9.6	0.5	2.0		100	66
1257	9.5	0.5	2.0		98	66
1258	9.4	0.5	2.0		98	66
1259	9.5	0.5	2.1		97	66
1260	9.5	0.5	2.2		97	66
1261	9.6	0.4	2.1		98	66
1262	9.4	0.5	2.1		96	66
1263	9.4	0.4	2.1		96	66
1264	9.5	0.8	4.3		119	66
1265	9.5	0.3	1.8		114	66
1266	9.5	0.3	1.6		112	66
1267	9.5	0.3	1.5		119	67
1268	9.5	0.2	1.3		135	67
1269	9.4	0.5	1.3		153	67
1270	9.2	0.7	1.8		163	67

1271	9.1	1.0	2.7		171	67
1272	8.8	1.2	3.9		179	67
1273	8.7	1.3	4.7		187	67
1274	8.5	1.8	6.1		197	66
1275	8.2	2.7	7.5		206	67
1276	7.8	2.8	8.4		215	66
1277	7.7	2.9	9.0		221	66
1278	7.5	2.9	9.6		228	66
1279	7.1	2.8	9.9		234	66
1280	6.8	2.6	10.5		241	66
1281	6.3	2.2	12.2		250	66
1282	6.2	1.9	11.7		257	67
1283	5.8	2.2	11.3		261	67
1284	5.4	2.3	11.0		265	67
1285	5.0	2.1	10.7		266	67
1286	4.8	2.4	10.5		268	67
1287	4.3	1.8	10.7		272	67
1288	4.1	2.2	11.7		278	67
1289	3.6	1.9	12.0		284	67
1290	3.1	2.0	11.8		292	67
1291	2.7	0.4	15.8		304	67
1292	2.2	0.7	14.4		311	67
1293	1.9	0.9	13.5		314	67
1294	1.2	1.3	13.5		315	68
1295	0.9	1.2	12.9		317	67
1296	0.4	1.5	12.4		316	68
1297	0.0	1.5	11.9		316	68

Run 3
Proportional Rate verification

Test data was edited by changing recording interval from 1 minute to 10 minutes. This was done to demonstrate maximum data points outside of the 90 to 110 percent proportionate rate specification.

Hydronic Heating Appliances
Test Data

Run: 3

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Test Date: October 8, 2019
Technician: B. Davis
Beginning Clock Time: 15:01
Recording Interval: 10 min.
Total Sampling Time: 1297 min.

Velocity Traverse Data	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Pt.9	Pt.10	Pt.11	Pt.12	Center	
Initial dP	0.009	0.015	0.017	0.018	0.018	0.018	0.011	0.015	0.018	0.017	0.016	0.015	0.018	"H2O
Initial Temp.	67	67	67	67	67	67	67	67	67	67	67	67	67	oF

Air Velocity: Initial: <50 Final: <50 V_{strav} 8.21 ft/sec
Scale Audit: Pre: 10.0 Post: 10.0 Induced Draft: 0 V_{scent} 8.86 ft/sec
Pitot Tube Leak Test: Pre: 0 Post: 0 % Smoke Capture: 100 F_p 0.926
Flue Pipe Cleaned Prior to First Test in Series: Date: 9/17/2019

PM Control Module: 335, 336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.181 "H2O
Pitot Tube Cp: 0.99

Meter Box Y Factor:	(1) 1.009	(2) 0.99	(amb) 0.988

Barometric Pressure:	Begin	Middle	End	Average
	30.08	30.20	30.42	30.23 "Hg

Tunnel Velocity: 8.20 ft/sec.
Intial Tunnel Flow: 382.4 scfm
Average Tunnel Flow: 371.6 scfm
Tunnel Area: 0.785 ft2
Post-Test Leak Check (1): 0.000 cfm @ 10 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ 8 in. Hg
Fuel Moisture (dry basis %): 19.9
Total Particulate (1): 28.2
Total Particulate (2): 26.5

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
0	0.151	0.146	0			1.30	1.10	0.26	72	72	68	1.89	1.4	91	0.020			155.1																
10	1.561	1.594		0.14	0.14	1.30	1.09	0.26	73	73	68	1.9	1.4	85	0.017	91	93		155.10													1.001	0.000	0
20	3.136	3.206		0.16	0.16	1.33	1.09	0.26	74	74	68	1.91	1.4	80	0.016	104	105		0.00													1.001	0.000	0
30	4.726	4.819		0.16	0.16	1.33	1.08	0.26	76	76	68	1.91	1.4	79	0.018	99	99		0.00													1.001	0.000	0
40	6.319	6.436		0.16	0.16	1.33	1.09	0.26	77	77	68	1.91	1.4	79	0.016	105	105		0.00													1.001	0.000	0
50	7.914	8.054		0.16	0.16	1.33	1.08	0.26	78	78	68	1.91	1.4	80	0.017	102	102		0.00													1.001	0.000	0
60	9.515	9.675		0.16	0.16	1.34	1.09	0.26	79	79	68	1.91	1.4	80	0.017	102	102		0.00													1.001	0.000	0
70	10.925	11.136		0.14	0.15	1.33	1.09	0.26	79	79	68	1.91	1.4	81	0.019	85	87		0.00													1.001	0.000	0
80	12.532	12.764		0.16	0.16	1.33	1.09	0.26	80	80	68	1.91	1.4	82	0.019	97	97		0.00													1.001	0.000	0
90	14.136	14.388		0.16	0.16	1.33	1.09	0.26	80	80	68	1.92	1.4	82	0.018	99	99		0.00													1.001	0.000	0
100	15.740	16.012		0.16	0.16	1.34	1.09	0.26	81	81	68	1.91	1.4	81	0.015	109	108		0.00													1.001	0.000	0
110	17.347	17.637		0.16	0.16	1.32	1.08	0.26	81	81	68	1.93	1.4	86	0.019	97	97		0.00													1.001	0.000	0
120	18.947	19.250		0.16	0.16	1.34	1.08	0.26	82	82	68	1.97	1.5	117	0.018	102	101		0.00													1.001	0.000	0
130	20.545	20.856		0.16	0.16	1.33	1.07	0.26	83	83	68	1.98	1.5	119	0.019	99	98		0.00													1.001	0.000	0
140	22.148	22.469		0.16	0.16	1.32	1.08	0.26	83	83	68	1.96	1.4	85	0.017	102	101		0.00													1.001	0.000	0
150	23.754	24.091		0.16	0.16	1.33	1.08	0.26	84	84	68	1.94	1.4	82	0.017	102	101		0.00													1.001	0.000	0
160	25.363	25.714		0.16	0.16	1.33	1.08	0.26	84	84	68	1.95	1.4	82	0.017	102	101		0.00													1.001	0.000	0
170	26.972	27.337		0.16	0.16	1.33	1.08	0.26	84	84	68	1.95	1.4	82	0.017	102	101		0.00													1.001	0.000	0
180	28.582	28.961		0.16	0.16	1.33	1.08	0.26	84	85	68	1.96	1.4	82	0.015	108	108		0.00													1.001	0.000	0
190	30.193	30.586		0.16	0.16	1.34	1.08	0.26	85	85	68	1.96	1.4	82	0.018	99	98		0.00													1.001	0.000	0
200	31.804	32.212		0.16	0.16	1.33	1.08	0.26	85	85	68	1.94	1.4	82	0.019	96	96		0.00													1.001	0.000	0
210	33.416	33.837		0.16	0.16	1.34	1.08	0.26	85	85	68	1.95	1.4	82	0.016	105	104		0.00													1.001	0.000	0
220	35.030	35.464		0.16	0.16	1.34	1.09	0.26	85	85	68	1.94	1.4	82	0.017	102	101		0.00													1.001	0.000	0
230	36.643	37.091		0.16	0.16	1.34	1.09	0.26	85	86	68	1.95	1.4	82	0.020	94	93		0.00													1.001	0.000	0
240	38.255	38.716		0.16	0.16	1.33	1.09	0.26	86	86	68	1.97	1.4	98	0.019	98	97		0.00													1.001	0.000	0
250	39.863	40.338		0.16	0.16	1.34	1.08	0.26	86	86	68	1.98	1.5	110	0.017	104	103		0.00													1.001	0.000	0
260	41.469	41.955		0.16	0.16	1.33	1.08	0.26	86	86	68	1.98	1.5	117	0.018	102	101		0.00													1.001	0.000	0
270	43.070	43.571		0.16	0.16	1.33	1.08	0.26	86	86	68	2	1.5	112	0.017	104	103		0.00													1.001	0.000	0
280	44.677	45.195		0.16	0.16	1.32	1.08	0.26	86	86	68	1.97	1.5	86	0.019	96	96		0.00													1.001	0.000	0
290	46.285	46.821		0.16	0.16	1.32	1.08	0.26	86	87	68	1.97	1.5	83	0.018	99	98		0.00													1.001	0.000	0
300	47.893	48.448		0.16	0.16	1.32	1.08	0.26	86	87	68	1.97	1.5	83	0.018	99	98		0.00													1.001	0.000	0
310	49.503	50.074		0.16	0.16	1.33	1.08	0.26	86	87	68	1.97	1.5	83	0.018	99	98		0.00													1.001	0.000	0
320	51.113	51.700		0.16	0.16	1.32	1.08	0.26	86	87	68	1.97	1.5	83	0.016	105	104		0.00													1.001	0.000	0
330	52.722	53.328		0.16	0.16	1.33	1.08	0.26	86	87	68	1.97	1.5	83	0.019	96	96		0.00													1.001	0.000	0
340	54.332	54.956		0.16	0.16	1.33	1.08	0.26	87	87	68	1.99	1.5	82	0.017	101	101		0.00													1.001	0.000	0
350	55.943	56.584		0.16	0.16	1.33	1.09	0.26	87	87	68	1.98	1.5	83	0.018	99	98		0.00													1.001	0.000	0
360	57.556	58.213		0.16	0.16	1.32	1.09	0.26	87	87	68	1.98	1.5	83	0.017	102	101		0.00													1.001	0.000	0
370	59.167	59.843		0.16	0.16	1.33	1.09	0.26	87	87	68	1.97	1.5	82	0.019	96	96		0.00													1.001	0.000	0
380	60.778	61.471		0.16	0.16	1.32	1.08	0.26	87	87	68	1.97	1.5	90	0.018	99	99		0.00													1.001	0.000	0
390	62.388	63.097		0.16	0.16	1.33	1.08	0.26	87	87	68	1.97	1.5	93	0.018	99	99		0.00													1.001	0.000	0
400	63.997	64.721		0.16	0.16	1.33	1.08	0.26	87	87	68	1.99	1.5	104	0.016	106	106		0.00													1.001	0.000	0
410	65.599	66.337		0.16	0.16	1.32	1.07	0.26	87	87	68	2.02	1.5	120	0.018	101	101		0.00													1.001	0.000	0
420	67.192	67.938		0.16	0.16	1.30	1.05	0.26	87	87	68	2.07	1.6	128	0.017	104	104		0.00													1.001	0.000	0
430	68.785	69.539		0.16	0.16	1.30	1.06	0.26	87	87	68	2.03	1.5	87	0.017	101	100		0.00													1.001	0.000	0
440	70.383	71.153		0.16	0.16	1.30	1.07	0.26	87	87	68	2.02	1.5	83	0.017	101	100		0.00													1.001	0.000	0
450	71.982	72.768		0.16	0.16	1.30	1.07	0.26	87	87	68	2.02	1.5	82	0.016	104	103		0.00													1.001	0.000	0
460	73.580	74.384		0.16	0.16	1.31	1.07	0.26	87	87	68	2.02	1.5	82	0.018	98	97		0.00													1.001	0.000	0
470	75.181	76.001		0.16	0.16	1.31	1.07	0.26	87	87	68	2.03	1.5	82	0.017	101	100		0.00													1.001	0.000	0
480	76.782	77.616		0.16	0.16	1.31	1.07	0.26	87	87	68	2.02	1.5	82	0.018	98	97		0.00													1.001	0.000	0

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
490	78.381	79.232		0.16	0.16	1.31	1.06	0.26	87	87	68	2.02	1.5	81	0.017	101	100		0.00													1.001	0.000	0
500	79.981	80.848		0.16	0.16	1.31	1.07	0.26	87	87	68	2.02	1.5	81	0.017	101	100		0.00													1.001	0.000	0
510	81.582	82.463		0.16	0.16	1.32	1.07	0.26	87	87	68	2.03	1.5	81	0.018	98	97		0.00													1.001	0.000	0
520	83.182	84.081		0.16	0.16	1.32	1.07	0.26	87	87	68	2.02	1.5	81	0.017	101	100		0.00													1.001	0.000	0
530	84.784	85.696		0.16	0.16	1.31	1.07	0.26	87	87	68	2.02	1.5	81	0.018	98	97		0.00													1.001	0.000	0
540	86.385	87.312		0.16	0.16	1.31	1.06	0.26	87	87	68	2.05	1.5	88	0.018	98	98		0.00													1.001	0.000	0
550	87.981	88.923		0.16	0.16	1.30	1.06	0.26	87	87	68	2.06	1.5	99	0.018	99	99		0.00													1.001	0.000	0
560	89.561	90.515		0.16	0.16	1.27	1.04	0.26	87	87	68	2.13	1.6	115	0.018	100	99		0.00													1.001	0.000	0
570	91.117	92.081		0.16	0.16	1.23	0.99	0.26	87	87	68	2.25	1.7	124	0.017	102	101		0.00													1.001	0.000	0
580	92.691	93.648		0.16	0.16	1.33	1.03	0.26	87	87	68	2.28	1.7	87	0.018	97	95		0.00													1.001	0.000	0
590	94.303	95.243		0.16	0.16	1.34	1.05	0.26	87	87	68	2.24	1.7	82	0.017	101	99		0.00													1.001	0.000	0
600	95.919	96.844		0.16	0.16	1.34	1.05	0.26	87	87	68	2.25	1.7	82	0.017	102	99		0.00													1.001	0.000	0
610	97.535	98.445		0.16	0.16	1.35	1.05	0.26	87	87	68	2.25	1.7	81	0.018	99	96		0.00													1.001	0.000	0
620	99.152	100.046		0.16	0.16	1.35	1.04	0.26	87	87	68	2.26	1.7	81	0.016	105	102		0.00													1.001	0.000	0
630	100.769	101.648		0.16	0.16	1.34	1.05	0.26	87	87	68	2.24	1.7	81	0.016	105	102		0.00													1.001	0.000	0
640	102.386	103.251		0.16	0.16	1.34	1.05	0.26	87	87	68	2.24	1.7	82	0.018	99	97		0.00													1.001	0.000	0
650	104.000	104.853		0.16	0.16	1.33	1.05	0.26	87	87	68	2.26	1.7	78	0.017	101	99		0.00													1.001	0.000	0
660	105.614	106.457		0.16	0.16	1.34	1.05	0.26	87	86	68	2.27	1.7	75	0.017	101	99		0.00													1.001	0.000	0
670	107.229	108.062		0.16	0.16	1.34	1.06	0.26	86	86	68	2.25	1.7	74	0.017	101	99		0.00													1.001	0.000	0
680	108.823	109.649		0.16	0.16	1.32	1.04	0.26	86	85	68	2.33	1.7	86	0.017	101	99		0.00													1.001	0.000	0
690	110.378	111.222		0.16	0.16	1.04	0.94	0.26	85	85	68	4.65	2.7	97	0.018	97	97		0.00													1.001	0.000	0
700	111.947	112.745		0.16	0.15	1.32	1.10	0.26	85	84	68	1.94	1.5	115	0.018	99	95		0.00													1.001	0.000	0
710	113.539	114.366		0.16	0.16	1.32	1.08	0.26	84	84	68	1.94	1.5	103	0.017	103	103		0.00													1.001	0.000	0
720	115.136	115.992		0.16	0.16	1.32	1.10	0.26	84	83	68	1.93	1.4	78	0.017	101	101		0.00													1.001	0.000	0
730	116.735	117.630		0.16	0.16	1.33	1.11	0.26	83	83	68	1.93	1.4	74	0.017	101	102		0.00													1.001	0.000	0
740	118.335	119.267		0.16	0.16	1.32	1.11	0.26	83	83	68	1.93	1.4	73	0.017	101	102		0.00													1.001	0.000	0
750	119.936	120.905		0.16	0.16	1.32	1.10	0.26	83	82	68	1.93	1.4	72	0.018	98	99		0.00													1.001	0.000	0
760	121.535	122.544		0.16	0.16	1.33	1.10	0.26	82	82	68	1.93	1.4	72	0.019	95	96		0.00													1.001	0.000	0
770	123.134	124.182		0.16	0.16	1.32	1.11	0.26	82	81	68	1.91	1.4	71	0.018	98	99		0.00													1.001	0.000	0
780	124.735	125.820		0.16	0.16	1.32	1.11	0.26	81	81	68	1.91	1.4	71	0.017	101	102		0.00													1.001	0.000	0
790	126.334	127.458		0.16	0.16	1.33	1.10	0.26	81	81	68	1.92	1.4	71	0.018	98	99		0.00													1.001	0.000	0
800	127.933	129.096		0.16	0.16	1.33	1.11	0.26	80	80	68	1.92	1.4	70	0.017	101	102		0.00													1.001	0.000	0
810	129.532	130.734		0.16	0.16	1.33	1.11	0.26	80	80	68	1.9	1.4	70	0.018	98	99		0.00													1.001	0.000	0
820	131.130	132.372		0.16	0.16	1.33	1.11	0.26	80	80	68	1.91	1.4	70	0.016	104	105		0.00													1.001	0.000	0
830	132.728	134.010		0.16	0.16	1.33	1.11	0.26	79	79	68	1.91	1.4	70	0.017	101	102		0.00													1.001	0.000	0
840	134.325	135.645		0.16	0.16	1.33	1.11	0.26	79	79	68	1.93	1.4	78	0.018	99	100		0.00													1.001	0.000	0
850	135.919	137.279		0.16	0.16	1.34	1.11	0.26	79	79	68	1.92	1.4	92	0.018	100	101		0.00													1.001	0.000	0
860	137.508	138.906		0.16	0.16	1.33	1.11	0.26	79	79	68	1.94	1.4	107	0.018	101	102		0.00													1.001	0.000	0
870	139.094	140.524		0.16	0.16	1.32	1.09	0.26	79	79	68	1.97	1.5	115	0.016	108	108		0.00													1.001	0.000	0
880	140.679	142.144		0.16	0.16	1.32	1.10	0.26	79	79	68	1.94	1.4	76	0.016	104	105		0.00													1.001	0.000	0
890	142.268	143.773		0.16	0.16	1.32	1.10	0.26	79	79	68	1.93	1.4	71	0.019	95	96		0.00													1.001	0.000	0
900	143.857	145.403		0.16	0.16	1.32	1.10	0.26	79	79	68	1.93	1.4	70	0.017	100	102		0.00													1.001	0.000	0
910	145.447	147.033		0.16	0.16	1.32	1.10	0.26	79	78	68	1.93	1.4	69	0.016	103	105		0.00													1.001	0.000	0
920	147.038	148.663		0.16	0.16	1.33	1.11	0.26	79	78	68	1.94	1.4	69	0.017	100	102		0.00													1.001	0.000	0
930	148.629	150.293		0.16	0.16	1.33	1.10	0.26	79	78	68	1.93	1.4	69	0.017	100	102		0.00													1.001	0.000	0
940	150.219	151.923		0.16	0.16	1.33	1.10	0.26	78	78	68	1.94	1.4	69	0.015	107	108		0.00													1.001	0.000	0
950	151.809	153.552		0.16	0.16	1.32	1.11	0.26	78	78	68	1.92	1.4	69	0.017	101	102		0.00													1.001	0.000	0
960	153.401	155.184		0.16	0.16	1.33	1.10	0.26	78	78	68	1.92	1.4	68	0.018	98	99		0.00													1.001	0.000	0
970	154.993	156.812		0.16	0.16	1.32	1.08	0.26	78	78	68	1.93	1.4	68	0.019	95	96		0.00													1.001	0.000	0
980	156.585	158.431		0.16	0.16	1.33	1.08	0.26	78	78	68	1.93	1.4	70	0.018	98	98		0.00													1.001	0.000	0
990	158.176	160.048		0.16	0.16	1.33	1.08	0.26	78	77	68	1.94	1.4	86	0.019	97	97		0.00													1.001	0.000	0
1000	159.761	161.658		0.16	0.16	1.33	1.08	0.26	78	77	68	1.97	1.4	106	0.018	101	101		0.00													1.001	0.000	0
1010	161.336	163.257		0.16	0.16	1.34	1.09	0.26	78	77	68	2.04	1.5	114	0.019	98	98		0.00													1.001	0.000	0
1020	162.928	164.871		0.16	0.16	1.34	1.09	0.26	78	77	68	1.98	1.5	74	0.018	98	98		0.00													1.001	0.000	0
1030	164.526	166.497		0.16	0.16	1.35	1.09	0.26	78	77	68	1.99	1.5	69	0.018	98	99		0.00													1.001	0.000	0
1040	166.124	168.125		0.16	0.16	1.34	1.10	0.26	78	77	68	1.97	1.5	69	0.017	101	102		0.00													1.001	0.000	0
1050	167.722	169.755		0.16	0.16	1.35	1.10	0.26	78	77	68	1.98	1.5	69	0.018	98	99		0.00													1.001	0.000	0
1060	169.321	171.386		0.16	0.16	1.35	1.11	0.26	77	77	68	1.97	1.5	68	0.018	98	99		0.00													1.001	0.000	0
1070	170.921	173.016		0.16	0.16	1.35	1.11	0.26	77	77	68	1.98	1.4	68	0.018	98	99		0.00													1.001	0.000	0
1080	172.519	174.647		0.16	0.16	1.35	1.11	0.26	77	77	68	1.98	1.4	68	0.019	96	96		0.00													1.001	0.000	0
1090	174.119	176.278		0.16	0.16	1.35	1.11	0.26	77	77	68	1.96	1.4	68	0.018	98	99		0.00													1.001	0.000	0

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF										Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1100	175.723	177.913		0.16	0.16	1.35	1.10	0.26	77	77	68	1.97	1.4	68	0.019	96	97		0.00													1.001	0.000	0
1110	177.324	179.547		0.16	0.16	1.35	1.11	0.26	77	77	68	1.96	1.4	68	0.017	101	102		0.00													1.001	0.000	0
1120	178.928	181.181		0.16	0.16	1.35	1.11	0.26	77	77	68	1.96	1.4	68	0.018	99	99		0.00													1.001	0.000	0
1130	180.529	182.814		0.16	0.16	1.36	1.11	0.26	77	77	68	1.96	1.4	76	0.018	99	100		0.00													1.001	0.000	0
1140	182.128	184.444		0.16	0.16	1.35	1.11	0.26	77	77	68	2	1.5	98	0.019	98	99		0.00													1.001	0.000	0
1150	183.720	186.066		0.16	0.16	1.34	1.10	0.26	77	77	68	2.03	1.5	108	0.018	102	102		0.00													1.001	0.000	0
1160	185.306	187.681		0.16	0.16	1.33	1.09	0.26	77	77	68	2.03	1.5	85	0.017	102	102		0.00													1.001	0.000	0
1170	186.895	189.298		0.16	0.16	1.33	1.09	0.26	77	77	68	2.02	1.5	73	0.019	96	96		0.00													1.001	0.000	0
1180	188.482	190.918		0.16	0.16	1.32	1.09	0.26	77	77	68	2.01	1.5	69	0.019	95	96		0.00													1.001	0.000	0
1190	190.069	192.537		0.16	0.16	1.32	1.09	0.26	77	77	68	2.02	1.5	69	0.017	101	101		0.00													1.001	0.000	0
1200	191.657	194.157		0.16	0.16	1.33	1.09	0.26	77	77	68	2.03	1.5	68	0.017	100	101		0.00													1.001	0.000	0
1210	193.245	195.776		0.16	0.16	1.33	1.09	0.26	77	77	68	2.02	1.5	68	0.017	100	101		0.00													1.001	0.000	0
1220	194.835	197.397		0.16	0.16	1.33	1.09	0.26	77	77	68	2.02	1.5	67	0.018	98	98		0.00													1.001	0.000	0
1230	196.424	199.020		0.16	0.16	1.33	1.10	0.26	77	77	68	2.03	1.5	69	0.016	104	105		0.00													1.001	0.000	0
1240	198.011	200.639		0.16	0.16	1.32	1.09	0.26	77	77	68	2.01	1.5	69	0.017	101	101		0.00													1.001	0.000	0
1250	199.599	202.259		0.16	0.16	1.33	1.09	0.26	77	77	68	2.01	1.5	70	0.016	104	104		0.00													1.001	0.000	0
1260	201.186	203.878		0.16	0.16	1.33	1.09	0.26	77	77	68	2.03	1.5	71	0.016	104	104		0.00													1.001	0.000	0
1270	202.774	205.497		0.16	0.16	1.33	1.09	0.26	78	77	68	2.03	1.5	79	0.018	98	99		0.00													1.001	0.000	0
1280	204.358	207.113		0.16	0.16	1.32	1.10	0.26	78	77	68	2.04	1.5	92	0.017	102	103		0.00													1.001	0.000	0
1290	205.936	208.724		0.16	0.16	1.31	1.08	0.26	78	78	68	2.08	1.5	102	0.018	100	101		0.00													1.001	0.000	0
1297	207.188	209.998	238.07	0.13	0.13	1.33	1.05	0.26	78	78	68	2.25	1.6	109	0.018	100	100		0.00													1.001	0.000	0
	207.037	209.852	238.070			1.32	1.08	0.26	82	82	68			83	0.018				0.00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!		#DIV/0!				0
																																TOTAL:		0

TF_{avg}	0.000
TI_{avg}	0.000

Hydronic Heating Appliances - Test Method ASTM 2618
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run: 3
Test Date: October 8, 2019

Average Tunnel Temperature	83 degrees F
Average Gas Velocity in Dilution Tunnel - vs	8.2 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	22293 dscf/hour
Average Delta p	0.018 inches H20
Average Delta H	1.32 inches H20
Total Time of Test	1297 minutes

PARTICULATE EMISSIONS RESULTS

First Hour:	**-0.07**	g/hr
	0.00	g/kg
	#DIV/0!	lb/mmBTU output
Complete Run:	**2.96**	g/hr
	1.09	g/kg
	#DIV/0!	lb/mmBTU output

	SAMPLE TRAIN 1	SAMPLE TRAIN 2	AMBIENT SAMPLE TRAIN
Total Sample Volume - Vm	207.04 cubic feet	209.85 cubic feet	238.07 cubic feet
Average Gas Meter Temperature	82 degrees F	82 degrees F	68 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	206.3 dscf	205.0 dscf	237.7 dscf
Total Particulates - mn	28.2 mg	26.5 mg	0 mg
Particulate Concentration (dry-standard)	0.00014 grams/dscf	0.00013 grams/dscf	0.000000 grams/dscf
Particulate Emissions	65.89 grams	62.28 grams	
Difference from Average	1.80 grams	1.80 grams	

Results Are Acceptable

AVERAGE

Total Sample Volume - Vm	208.44 cubic feet
Average Gas Meter Temperature	82 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	205.6 dscf
Particulate Concentration (dry-standard)	0.00013 grams/dscf
Particulate Emissions	64.09 grams
7.5% of the average particulate emissions	4.81 grams

ADDITIONAL ACCEPTANCE CRITERIA

Boiler Water Return Temperature >120 °F	
Proportional Rate Variation >80%	**Acceptable**
90% of PR Values between 90-110%	**Acceptable**

SAMPLE TRAIN 1 - FIRST HOUR

Total Sample Volume - Vm	95.92 cubic feet
Average Gas Meter Temperature	84 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	94.64 dscf
Total Particulates - mn	-0.3 mg
Particulate Concentration (dry-standard)	0.00000 grams/dscf
Particulate Emissions	-0.07 grams
Burn Rate	58.69 (dry kg/hr)
Heat Output Rate	0 BTU/hr

Run 4

Category 1 attempt, Fire went out

Hydronic Heating Appliances
Fuel Moisture

Manufacturer:	Central Boiler
Model:	Edge 560
Tracking No.:	2374
Project No.:	0117WB038E
Technician:	B. Davis
Run #:	4
Test Date:	October 16, 2019

Wet Weight (lb)	% Moisture				
10.9	19.7	25.8	25.6	26.4	27.2
10.6	19.4	19.8	18.1	20.5	19.2
12.2	25.8	20.1	18.2	20.2	21.3
10.6	24.8	24.9	22.8	22.8	23.3
10.5	19.2	19.9	18.4	20.2	19.3
10.7	23	21	23.3	23.1	21.9
12.3	23	25.7	20.9	24.5	20.5
12.1	24.9	25.8	25.2	20.2	19.4
12	20.5	25	26.1	22.8	25.9
9.5	20.9	25.3	25.8	19.8	22.8
9.2	18.2	20.9	19	19.9	21.3
11.7	19.8	21.1	21.2	19.5	22.5
9.7	20.3	20.5	18.3	21.2	19.3
12.3	22.5	21.2	18.3	23.7	19.7

Total Weight of Load (lb): 154.3

Total Moisture of Load (%): 21.9

Equipment Numbers:

Run: 4

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Test Date: October 16, 2019
Technician: B. Davis
Beginning Clock Time: 15:56
Recording Interval: 1 min.
Total Sampling Time: 739 min.

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Pt.9	Pt.10	Pt.11	Pt.12	Center	
Initial dP	0.016	0.018	0.017	0.018	0.018	0.017	0.014	0.015	0.017	0.018	0.016	0.015	0.018	"H2O
Initial Temp.	76	76	76	76	76	76	76	76	76	76	76	76	76	oF

Air Velocity: Initial: <50 Final: <50 V_{strav} 8.60 ft/sec
Scale Audit: Pre: 10.0 Post: 10.0 Induced Draft: 0 V_{scent} 8.97 ft/sec
Pitot Tube Leak Test: Pre: 0 Post: 0 % Smoke Capture: 100 F_p 0.959
Flue Pipe Cleaned Prior to First Test in Series: Date: 9/17/2019

PM Control Module: 335, 336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.166 "H2O
Pitot Tube Cp: 0.99

	(1)	(2)	(amb)
Meter Box Y Factor:	1.009	0.99	0.988
Barometric Pressure: Begin	29.84	29.84	29.84
Middle			
End			
Average			29.84 "Hg

Tunnel Velocity: 8.32 ft/sec.
Intial Tunnel Flow: 390.1 scfm
Average Tunnel Flow: 377.8 scfm
Tunnel Area: 0.785 ft2
Post-Test Leak Check (1): 0.000 cfm @ 4 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ 8 in. Hg
Fuel Moisture (dry basis %): 21.9
Total Particulate (1): 0.0
Total Particulate (2): 0.0

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF														
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-*F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
0	0.000	0.000				1.05	0.68		74	74		1.89	1.30	92	0.019			154.3		0.54		107.7	173.0	170.0	64.3	172.0	256	70	70	70				
1	0.148	0.156		0.15	0.16	1.38	1.12		74	74		1.95	1.40	86	0.018	90	94	153.1	1.24	0.56		108.4	173.2	170.4	64.3	172.6	242	71	70	70		1.001	4.671	507
2	0.310	0.321		0.16	0.17	1.37	1.10		74	74		1.97	1.40	92	0.017	102	103	152.3	0.72	0.52		108.6	173.6	170.7	64.3	173.0	259	71	71	70		1.001	4.351	473
3	0.472	0.483		0.16	0.16	1.36	1.10		74	74		1.97	1.40	98	0.018	100	99	151.4	0.89	0.52		109.6	174.8	171.8	64.4	174.0	273	73	73	70		1.001	4.352	477
4	0.633	0.646		0.16	0.16	1.36	1.09		74	74		1.97	1.40	100	0.017	102	103	150.7	0.70	0.50		110.6	175.7	172.7	64.5	175.0	284	74	74	70		1.001	4.190	464
5	0.794	0.809		0.16	0.16	1.35	1.10		74	74		1.97	1.40	102	0.018	100	100	149.9	0.81	0.54		111.6	176.8	173.8	64.5	176.1	291	75	75	70		1.001	4.511	504
6	0.955	0.971		0.16	0.16	1.36	1.10		74	74		1.97	1.40	104	0.018	100	100	149.3	0.66	0.54		112.8	178.0	175.0	64.5	177.2	297	75	76	70		1.001	4.505	509
7	1.116	1.134		0.16	0.16	1.35	1.10		74	74		1.97	1.40	104	0.017	103	103	148.6	0.67	0.54		114.0	179.2	176.1	64.5	178.5	300	76	76	70		1.001	4.509	515
8	1.276	1.296		0.16	0.16	1.36	1.09		74	74		1.97	1.40	105	0.017	102	103	148.0	0.62	0.52		115.2	180.5	177.4	64.4	179.6	303	77	77	70		1.001	4.347	501
9	1.436	1.458		0.16	0.16	1.35	1.09		74	74		1.99	1.40	105	0.017	102	103	146.9	1.04	0.49		116.4	181.7	178.6	64.4	180.8	305	77	77	70		1.001	4.101	478
10	1.596	1.620		0.16	0.16	1.35	1.10		74	74		1.97	1.40	99	0.015	108	109	146.9	0.04	0.55		117.8	182.9	179.8	64.4	182.2	278	77	77	70		1.001	4.621	545
11	1.756	1.782		0.16	0.16	1.35	1.09		74	74		1.96	1.40	86	0.017	100	101	146.7	0.20	0.50		118.2	183.3	180.3	64.4	182.6	257	75	75	70		1.001	4.184	495
12	1.916	1.943		0.16	0.16	1.34	1.08		74	74		1.94	1.40	82	0.016	103	103	146.6	0.11	0.54		118.7	183.6	180.6	64.4	183.0	243	74	74	70		1.001	4.504	535
13	2.077	2.105		0.16	0.16	1.35	1.08		75	75		1.93	1.40	80	0.018	98	97	146.6	-0.06	0.54		118.8	183.7	180.7	64.4	183.2	233	73	73	70		1.001	4.504	536
14	2.238	2.267		0.16	0.16	1.35	1.08		75	75		1.92	1.40	79	0.018	97	97	146.6	0.03	0.52		119.0	183.9	180.7	64.4	183.3	227	73	72	70		1.001	4.345	517
15	2.398	2.429		0.16	0.16	1.35	1.08		75	75		1.92	1.40	78	0.016	103	103	146.6	-0.04	0.52		119.2	184.0	180.9	64.4	183.6	222	73	72	70		1.001	4.346	519
16	2.559	2.591		0.16	0.16	1.35	1.08		75	75		1.92	1.40	77	0.017	100	100	146.4	0.24	0.58		119.3	184.0	180.9	64.3	183.6	216	73	73	70		1.001	4.828	577
17	2.720	2.753		0.16	0.16	1.34	1.08		75	75		1.92	1.40	77	0.016	103	103	146.5	-0.09	0.54		119.4	184.1	181.0	64.3	183.7	212	72	72	70		1.001	4.504	538
18	2.880	2.915		0.16	0.16	1.35	1.08		75	75		1.91	1.40	76	0.017	99	100	146.5	0.04	0.52		119.4	184.1	180.9	64.3	183.7	208	72	72	70		1.001	4.347	520
19	3.041	3.078		0.16	0.16	1.34	1.08		75	75		1.91	1.40	76	0.015	106	107	146.5	-0.01	0.46		119.4	184.1	181.1	64.3	183.6	204	71	72	70		1.001	3.864	462
20	3.202	3.240		0.16	0.16	1.34	1.08		76	76		1.92	1.40	76	0.017	100	100	146.5	0.01	0.51		119.5	184.1	181.0	64.3	183.7	200	71	72	70		1.001	4.215	504
21	3.362	3.402		0.16	0.16	1.34	1.09		76	76		1.92	1.40	76	0.017	99	100	146.5	-0.03	0.52		119.4	184.1	181.1	64.3	183.6	197	71	72	70		1.001	4.347	520
22	3.523	3.565		0.16	0.16	1.33	1.09		76	76		1.92	1.40	75	0.018	97	97	146.6	-0.08	0.52		119.5	184.0	181.0	64.2	183.7	194	71	72	70		1.001	4.343	519
23	3.684	3.728		0.16	0.16	1.34	1.08		76	76		1.91	1.40	75	0.018	97	97	146.4	0.14	0.46		119.4	184.0	181.1	64.2	183.6	192	71	71	70		1.001	3.860	461
24	3.844	3.891		0.16	0.16	1.34	1.09		76	76		1.92	1.40	75	0.017	99	100	146.6	-0.14	0.48		119.4	184.0	181.0	64.2	183.7	187	71	71	70		1.001	4.029	482
25	4.005	4.053		0.16	0.16	1.34	1.09		76	76		1.91	1.40	74	0.014	110	110	146.5	0.05	0.50		119.3	183.8	180.8	64.2	183.5	183	71	71	70		1.001	4.186	500
26	4.166	4.216		0.16	0.16	1.34	1.09		76	77		1.92	1.40	74	0.018	97	97	146.5	0.04	0.48		119.4	184.0	181.0	64.2	183.6	180	71	71	70		1.001	4.022	481
27	4.327	4.379		0.16	0.16	1.34	1.09		77	77		1.92	1.40	74	0.017	99	100	146.4	0.08	0.48		119.3	183.9	180.9	64.2	183.5	176	71	71	70		1.001	4.026	481
28	4.488	4.543		0.16	0.16	1.34	1.09		77	77		1.91	1.40	74	0.014	110	111	146.3	0.07	0.48		119.1	183.7	180.8	64.2	183.3	173	71	71	70		1.001	4.026	480
29	4.649	4.705		0.16	0.16	1.34	1.08		77	77		1.92	1.40	74	0.016	102	102	146.5	-0.20	0.48		119.1	183.8	180.8	64.3	183.3	170	71	71	70		1.001	4.025	480
30	4.810	4.868		0.16	0.16	1.34	1.08		77	77		1.92	1.40	74	0.016	102	103	146.4	0.11	0.47		119.1	183.6	180.7	64.2	183.3	168	71	71	69		1.001	3.877	462
31	4.971	5.031		0.16	0.16	1.34	1.09		77	77		1.91	1.40	74	0.017	99	100	146.5	-0.10	0.48		118.9	183.5	180.5	64.2	183.1	165	71	71	69		1.001	4.023	479
32	5.133	5.194		0.16	0.16	1.34	1.09		77	77		1.91	1.40	74	0.016	103	103	146.6	-0.08	0.50		118.9	183.5	180.5	64.2	183.1	162	71	71	69		1.001	4.186	498
33	5.294	5.357		0.16	0.16	1.34	1.09		77	78		1.90	1.40	73	0.017	99	100	146.6	-0.04	0.48		118.9	183.5	180.5	64.2	183.1	160	71	71	70		1.001	4.025	479
34	5.455	5.520		0.16	0.16	1.34	1.08		78	78		1.91	1.40	73	0.017	99	100	146.5	0.14	0.48		118.7	183.2	180.3	64.2	182.9	158	71	71	69		1.001	4.026	478
35	5.616	5.683		0.16	0.16	1.34	1.09		78	78		1.92	1.40	73	0.017	99	100	146.5	-0.02	0.46		118.6	183.2	180.3	64.2	182.8	155	71	71	70		1.001	3.866	459
36	5.778	5.846		0.16	0.16	1.34	1.09		78	78		1.92	1.40	73	0.017	100	100	146.5	-0.02	0.50		118.5	183.1	180.2	64.2	182.7	153	71	71	70		1.001	4.185	496
37	5.939	6.009		0.16	0.16	1.35	1.09		78	78		1.91	1.40	73	0.017	99	100	146.5	0.01	0.46		118.4	183.0	180.1	64.2	182.6	151	71	71	70		1.001	3.862	458
38	6.101	6.174		0.16	0.17	1.35	1.09		78	78		1.92	1.40	73	0.018	97	98	146.4	0.11	0.52		118.2	182.8	179.8	64.2	182.4	149	71	71	70		1.001	4.347	514
39	6.262	6.336		0.16	0.16	1.34	1.08		78	78		1.92	1.40	73	0.017	99	99	146.6	-0.14	0.33		117.9	182.9	181.0	64.3	182.2	147	71	71	70		1.001	2.746	324
40	6.424	6.499		0.16	0.16	1.34	1.09		78	78		1.93	1.40	73	0.017	100	100	146.7	-0.11	0.27		117.8	183.0	181.2	64.4	182.1	145	70	71	69		1.001	2.268	267
41	6.585	6.662		0.16	0.16	1.34	1.09		78	78		1.93	1.40	73	0.016	102	103	146.7	0.03	0.29		117.9	183.0	181.3	64.4	182.3	143	70	71	69		1.001	2.426	286
42	6.747	6.826		0.16	0.16	1.34	1.09		78	79		1.91	1.40	73	0.017	100	100	146.5	0.19	0.43		118.1	182.9	180.4	64.4	182.5	141	70	71	69		1.001	3.543	419
43	6.909	6.990		0.16	0.16	1.35	1.09		79	79		1.92	1.40	73	0.016	103	103	146.7	-0.20	0.44		117.9	182.7	180.1	64.4	182.3	140	70	71	69		1.001	3.700	437
44	7.070	7.153		0.16	0.16	1.35	1.09		79	79		1.91	1.40	73	0.017	99	99	146.7	0.00	0.46		117.7	182.6	179.9	64.4	182.1	138	70	71	69		1.001	3.861	455
45	7.232	7.316		0.16	0.16	1.35	1.09		79	79		1.92	1.40	73	0.015	106	106	146.7	-0.01	0.44		117.6	182.6	180.0	64.4	182.1	136	70	71	69		1.001	3.701	436
46	7.394	7.479		0.16	0.16	1.35	1.09		79	79		1.92	1.40	73	0.018	97	97	146.7	-0.07	0.44		117.6	182.4	179.8	64.4	182.0	134	70	71	69		1.001	3.699	435
47	7.555	7.643		0.16	0.16	1.34	1.09		79	79		1.92	1.40	73	0.015	105	106	146.5	0.21	0.46		117.4	182.3	179.7	64.4	181.9	133	70	71	69		1.001	3.863	454
48	7.717	7.807		0.16	0.16	1.34	1.09		79	79		1.91	1.40	73	0.016	103	103	146.6	-0.05	0.42		117.3	182.2	179.6	64.4	181.7	132	70	71	69		1.001	3.537	415
49	7.879	7.971		0.16	0.16	1.34	1.09		79	79		1.92	1.40	73	0.017	100	100	146.5	0.06	0.44		117.2	182.2	179.5	64.4	181.7	130	70	71	69		1.001	3.701	434
50	8.041	8.134		0.16	0.16	1.34	1.08		79	79		1.92	1.40	73	0.018	97	97	146.9	-0.35	0.43		117.2	182.0	179.5	64.5	181.6	129	70	71	69		1.001	3.540	415
51	8.202	8.297		0.16	0.16	1.34	1.09		79	79		1.92	1.40	73	0.017	99	99	146.7	0.15	0.46		117.0	181.9	179.4	64.4	181.4	128	70	71	69		1.001	3.861	452
52	8.364	8.461		0.16	0.16	1.34	1.09		79	80		1.92	1.40	73	0.018	97	97	146.7	0.06	0.44		117.0	181.8	179.2	64.5	181.4	126	70	71	69		1.001	3.692	432

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF										Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient				
53	8.526	8.624		0.16	0.16	1.35	1.09		79	80		1.93	1.40	73	0.018	97	96	146.7	-0.02	0.44		116.8	181.5	179.1	64.5	181.3	125	70	70	69		1.001	3.700	433
54	8.688	8.789		0.16	0.16	1.35	1.10		80	80		1.93	1.40	73	0.015	106	107	146.8	-0.09	0.48		116.6	181.5	178.9	64.4	181.0	124	70	70	69		1.001	3.981	465
55	8.850	8.953		0.16	0.16	1.34	1.09		80	80		1.92	1.40	73	0.018	97	97	146.7	0.07	0.41		116.8	181.6	179.1	64.4	181.2	123	70	70	69		1.001	3.377	395
56	9.012	9.116		0.16	0.16	1.34	1.09		80	80		1.93	1.40	73	0.016	102	102	146.5	0.25	0.39		116.4	181.3	178.8	64.4	180.9	121	70	70	69		1.001	3.218	375
57	9.175	9.280		0.16	0.16	1.35	1.09		80	80		1.91	1.40	73	0.017	100	100	146.7	-0.24	0.43		116.3	181.1	178.6	64.4	180.7	120	70	70	69		1.001	3.540	412
58	9.337	9.443		0.16	0.16	1.34	1.09		80	80		1.93	1.40	73	0.016	102	102	146.8	-0.13	0.41		116.3	181.0	178.5	64.4	180.7	119	70	70	69		1.001	3.378	393
59	9.499	9.607		0.16	0.16	1.34	1.09		80	80		1.91	1.40	73	0.019	94	94	146.9	-0.03	0.45		116.1	181.0	178.5	64.4	180.5	118	70	70	69		1.001	3.706	431
60	9.661	9.772		0.16	0.17	1.34	1.10		80	80		1.93	1.40	72	0.018	96	98	146.7	0.15	0.43		116.0	180.8	178.4	64.4	180.4	117	70	70	69		1.001	3.543	412
61	9.825	9.936		0.16	0.16	1.37	1.09		80	80		1.87	1.40	72	0.018	98	97	146.7	-0.02	0.45		115.9	180.7	178.2	64.4	180.3	116	71	70	69		1.001	3.708	430
62	9.988	10.100		0.16	0.16	1.34	1.09		80	80		1.92	1.40	72	0.016	103	103	146.7	0.04	0.48		115.8	180.6	178.1	64.4	180.2	115	72	70	69		1.001	4.024	467
63	10.150	10.263		0.16	0.16	1.35	1.09		80	80		1.92	1.40	72	0.018	96	96	146.9	-0.18	0.41		115.7	180.5	178.1	64.4	180.1	114	73	70	69		1.001	3.379	391
64	10.312	10.427		0.16	0.16	1.35	1.09		80	80		1.91	1.40	72	0.017	99	100	146.9	0.01	0.44		115.5	180.4	177.9	64.4	179.9	113	73	70	69		1.001	3.686	426
65	10.475	10.591		0.16	0.16	1.35	1.10		80	80		1.92	1.40	72	0.017	100	100	146.9	-0.05	0.42		115.4	180.2	177.7	64.4	179.8	112	72	70	69		1.001	3.538	409
66	10.637	10.756		0.16	0.17	1.35	1.10		80	80		1.93	1.40	72	0.017	99	100	146.8	0.06	0.43		115.2	179.9	177.5	64.4	179.6	111	72	70	70		1.001	3.592	414
67	10.799	10.919		0.16	0.16	1.35	1.09		80	80		1.92	1.40	72	0.016	102	102	146.8	0.08	0.43		115.1	179.9	177.4	64.4	179.5	111	72	70	69		1.001	3.545	408
68	10.962	11.083		0.16	0.16	1.35	1.09		80	81		1.93	1.40	72	0.018	97	97	146.8	-0.04	0.44		115.0	179.8	177.4	64.4	179.4	110	72	70	69		1.001	3.701	426
69	11.124	11.247		0.16	0.16	1.35	1.09		80	81		1.93	1.40	72	0.017	99	100	146.7	0.10	0.44		114.9	179.7	177.3	64.4	179.3	109	72	70	69		1.001	3.704	426
70	11.286	11.410		0.16	0.16	1.36	1.09		80	81		1.93	1.40	72	0.017	99	99	146.7	-0.04	0.46		114.7	179.5	177.1	64.4	179.1	109	72	70	69		1.001	3.867	444
71	11.448	11.575		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.017	99	100	146.7	0.00	0.46		114.5	179.3	176.8	64.4	178.9	108	72	70	69		1.001	3.864	443
72	11.610	11.739		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.018	96	97	146.8	-0.01	0.43		114.4	179.3	176.8	64.4	178.8	107	72	70	69		1.001	3.549	406
73	11.773	11.903		0.16	0.16	1.35	1.09		81	81		1.91	1.40	72	0.015	106	106	146.8	0.00	0.46		114.3	179.0	176.6	64.4	178.7	106	71	70	69		1.001	3.869	443
74	11.935	12.067		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.017	99	100	146.9	-0.15	0.46		114.1	179.0	176.5	64.4	178.5	106	71	70	70		1.001	3.870	442
75	12.098	12.231		0.16	0.16	1.35	1.10		81	81		1.92	1.40	72	0.017	100	100	146.9	0.01	0.44		114.0	178.9	176.4	64.4	178.4	105	71	70	69		1.001	3.701	422
76	12.260	12.395		0.16	0.16	1.35	1.09		81	81		1.91	1.40	72	0.017	99	100	146.7	0.19	0.44		113.9	178.7	176.2	64.4	178.3	104	71	70	69		1.001	3.702	422
77	12.423	12.559		0.16	0.16	1.36	1.09		81	81		1.93	1.40	72	0.018	97	97	147.0	-0.26	0.43		113.8	178.5	176.0	64.4	178.1	104	71	70	69		1.001	3.543	404
78	12.585	12.723		0.16	0.16	1.35	1.10		81	81		1.93	1.40	72	0.018	96	97	146.8	0.15	0.48		113.6	178.3	175.9	64.4	178.0	103	71	70	69		1.001	3.960	451
79	12.748	12.888		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.015	106	107	146.9	-0.09	0.41		113.4	178.2	175.8	64.4	177.8	103	71	70	69		1.001	3.405	387
80	12.911	13.052		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.018	97	97	146.9	-0.01	0.43		113.4	178.1	175.7	64.4	177.8	102	71	70	69		1.001	3.543	402
81	13.073	13.215		0.16	0.16	1.35	1.09		81	81		1.91	1.40	72	0.015	105	105	147.0	-0.08	0.46		113.2	177.9	175.5	64.4	177.5	101	71	70	69		1.001	3.863	438
82	13.236	13.379		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.015	106	106	147.0	0.01	0.50		113.2	177.8	175.4	64.3	177.5	101	71	70	69		1.001	4.182	474
83	13.398	13.543		0.16	0.16	1.35	1.10		81	81		1.92	1.40	72	0.017	99	100	147.0	0.02	0.48		113.0	177.6	175.2	64.3	177.3	100	71	70	69		1.001	4.022	455
84	13.561	13.707		0.16	0.16	1.34	1.10		81	81		1.92	1.40	72	0.017	100	100	146.7	0.25	0.44		112.9	177.6	175.1	64.3	177.2	139	71	70	69		1.001	3.704	419
85	13.724	13.872		0.16	0.16	1.34	1.09		81	81		1.92	1.40	77	0.018	97	98	146.9	-0.16	0.43		112.7	177.5	175.0	64.3	177.0	137	71	71	69		1.001	3.542	400
86	13.886	14.036		0.16	0.16	1.35	1.09		81	81		1.93	1.40	73	0.017	99	100	146.7	0.15	0.43		112.6	177.4	174.9	64.3	176.9	127	71	70	69		1.001	3.540	399
87	14.049	14.200		0.16	0.16	1.34	1.09		81	81		1.93	1.40	72	0.018	97	97	146.8	-0.05	0.44		112.5	177.2	174.8	64.3	176.8	121	71	70	69		1.001	3.704	417
88	14.212	14.364		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.017	100	100	146.8	0.00	0.46		112.3	177.0	174.6	64.3	176.5	117	71	70	69		1.001	3.869	435
89	14.374	14.528		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.016	102	103	146.8	0.00	0.44		112.3	176.8	174.5	64.3	176.5	113	70	70	69		1.001	3.699	416
90	14.537	14.691		0.16	0.16	1.35	1.10		81	81		1.93	1.40	72	0.018	97	96	146.8	-0.06	0.42		112.1	176.7	174.3	64.3	176.3	111	70	70	69		1.001	3.515	394
91	14.700	14.856		0.16	0.16	1.35	1.09		81	81		1.91	1.40	72	0.018	97	97	146.8	0.07	0.46		112.0	176.7	174.3	64.2	176.2	108	70	70	69		1.001	3.796	426
92	14.862	15.020		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.018	96	97	146.9	-0.13	0.44		111.9	176.5	174.1	64.2	176.2	106	70	70	69		1.001	3.685	413
93	15.024	15.184		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.017	99	100	146.8	0.09	0.48		111.8	176.3	173.9	64.2	176.0	105	70	70	69		1.001	4.022	450
94	15.187	15.348		0.16	0.16	1.36	1.09		81	81		1.92	1.40	72	0.017	100	100	147.0	-0.18	0.39		111.5	176.1	173.7	64.2	175.8	104	70	70	69		1.001	3.222	360
95	15.349	15.512		0.16	0.16	1.35	1.09		81	81		1.91	1.40	72	0.016	102	103	147.0	-0.02	0.39		111.2	176.0	173.6	64.2	175.5	103	70	70	69		1.001	3.218	358
96	15.512	15.676		0.16	0.16	1.35	1.10		81	81		1.93	1.40	72	0.018	97	97	146.9	0.12	0.44		111.1	175.8	173.4	64.2	175.4	102	70	70	69		1.001	3.701	412
97	15.675	15.840		0.16	0.16	1.35	1.10		81	81		1.92	1.40	72	0.016	103	103	146.8	0.04	0.44		111.1	175.7	173.3	64.2	175.4	100	70	70	69		1.001	3.701	412
98	15.837	16.005		0.16	0.16	1.35	1.09		81	81		1.91	1.40	72	0.018	96	97	147.0	-0.11	0.43		110.9	175.6	173.2	64.2	175.2	99	70	70	69		1.001	3.542	393
99	16.000	16.169		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.018	97	97	146.9	0.06	0.46		110.9	175.4	173.0	64.2	175.1	98	70	70	69		1.001	3.863	429
100	16.162	16.333		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.018	96	97	147.0	-0.15	0.44		110.6	175.3	172.9	64.2	174.9	97	70	70	69		1.001	3.699	410
101	16.326	16.497		0.16	0.16	1.35	1.09		81	81		1.93	1.40	72	0.018	97	97	146.8	0.22	0.43		110.6	175.2	172.8	64.2	174.8	97	70	70	69		1.001	3.546	393
102	16.488	16.661		0.16	0.16	1.35	1.10		81	81		1.93	1.40	72	0.015	105	106	146.8	0.05	0.43		110.3	175.0	172.6	64.2	174.6	96	70	70	69		1.001	3.544	392
103	16.651	16.825		0.16	0.16	1.35	1.09		81	81		1.91	1.40	72	0.018	97	97	146.9	-0.13	0.44		110.2	174.8	172.4	64.2	174.4	95	70	70	69		1.001	3.699	408
104	16.814	16.990		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.016	103	103	146.8	0.14	0.46		110.0	174.6	172.3	64.2	174.2	95	70	70	69		1.001	3.790	417
105	16.977	17.154		0.16	0.16	1.34	1.09		81	81		1.93	1.40	72	0.018	97	97	146.9	-0.18	0.43		109.9	174.6	172.3	64.2	174.1	94	70	70	69		1.001	3.543	390
106	17.139	17.318		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.017	99	100	147.0	-0.01	0.44		109.9	174.4	172.1	64.2	174.1	94	70	70	69		1.001	3.705	408
107	17.302	17.482		0.16	0.16	1.34	1.09		81	81		1.93	1.40	72	0.018	97	97	146.9	0.02	0.44		109.6	174.2	171.9	64.2	173.8	93	70	70	69		1.001	3.704	407
108	17.465	17.646		0.16	0.16	1.35	1.10		81	81		1.91	1.40	72	0.018	97	97	147.0	-0.02	0.46		109.5	174.0	171.7	64.2	173.7	93	70	70	69		1.001	3.865	424
109	17.628	17.810		0.16	0.16	1.36	1.09		81	81		1.93	1.40	72	0.017	100	100	147.0	-0.04	0.48		109.3	173.9	171.6	64.2	173.5	93	70	70	69		1.001	4.024	440
110	17.791	17.975		0.16	0.17	1.35	1.10		81	81		1.92	1.40	72	0.017	100	100	146.9	0.06	0.46		109.2	173.8	171.5	64.2	173.4	93	70	70	69		1.001	3.868	423
111	17.954	18.140		0.16	0.16	1.35	1.10		81	81		1.93	1.40	72	0.017	100	100	146.8	0.13	0.46		109.0	173.7	171.3	64.2	173.2	93	70	70	69		1.001	3.864	422
112	18.116	18.303		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.016	102	102	146.9	-0.12	0.41		108.9	173.4	171.1	64.2	173.1	92	70	70	69		1.001	3.382	369
113	18.279	18.467		0.16	0.16	1.36	1.09		81	81		1.93	1.40	72	0.017	100	100	147.0	-0.07	0.46		108.7	173.3	171.0	64.2	172.9	93	70	70	69		1.001	3.868	421
114	18.441	18.631		0.16	0.16	1.36	1.09		82	81		1.91	1.40	72	0.017	99	100	147.0	-0.05	0.42		108.6	173.1	170.8	64.2	172.8	92	70	70	69		1.001	3.534	384

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-*F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
115	18.604	18.795		0.16	0.16	1.36	1.09		81	81		1.93	1.40	72	0.018	97	97	147.0	0.09	0.44		108.3	173.0	170.6	64.2	172.5	132	70	70	69		1.001	3.677	399
116	18.767	18.959		0.16	0.16	1.35	1.10		82	81		1.93	1.40	75	0.018	97	97	146.7	0.21	0.43		108.2	172.9	170.6	64.2	172.3	126	70	70	69		1.001	3.545	384
117	18.930	19.124		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.016	103	103	146.8	-0.05	0.43		108.2	172.8	170.4	64.2	172.4	120	70	70	69		1.001	3.543	384
118	19.092	19.288		0.16	0.16	1.36	1.09		82	81		1.91	1.40	72	0.018	96	97	146.9	-0.11	0.44		108.1	172.7	170.4	64.2	172.3	115	70	70	69		1.001	3.704	401
119	19.255	19.452		0.16	0.16	1.35	1.09		82	81		1.92	1.40	72	0.018	97	97	146.8	0.10	0.42		107.8	172.5	170.1	64.2	172.0	112	70	70	69		1.001	3.538	382
120	19.419	19.616		0.16	0.16	1.35	1.09		82	81		1.92	1.40	72	0.016	103	103	146.9	-0.11	0.44		107.6	172.3	169.9	64.2	171.8	109	70	70	69		1.001	3.705	399
121	19.581	19.780		0.16	0.16	1.35	1.09		82	81		1.91	1.40	72	0.017	99	100	146.9	0.00	0.46		107.6	172.2	169.9	64.2	171.8	107	70	70	69		1.001	3.864	416
122	19.744	19.944		0.16	0.16	1.35	1.09		82	81		1.92	1.40	72	0.018	97	97	146.7	0.23	0.44		107.4	172.0	169.8	64.2	171.6	104	70	70	69		1.001	3.704	398
123	19.907	20.109		0.16	0.17	1.35	1.09		82	82		1.92	1.40	72	0.017	100	100	146.9	-0.24	0.43		107.3	171.9	169.6	64.2	171.5	103	70	70	69		1.001	3.547	381
124	20.070	20.273		0.16	0.16	1.34	1.09		82	82		1.93	1.40	72	0.017	100	99	146.7	0.20	0.41		107.2	171.7	169.4	64.2	171.4	102	70	70	69		1.001	3.385	363
125	20.233	20.437		0.16	0.16	1.34	1.09		82	82		1.92	1.40	72	0.018	97	97	146.8	-0.13	0.42		106.9	171.6	169.2	64.2	171.1	101	70	70	69		1.001	3.539	379
126	20.396	20.601		0.16	0.16	1.34	1.09		82	81		1.91	1.40	72	0.015	106	106	146.8	0.02	0.43		106.8	171.4	169.0	64.2	171.0	99	70	70	69		1.001	3.555	380
127	20.558	20.765		0.16	0.16	1.35	1.09		82	81		1.91	1.40	72	0.015	105	106	146.8	0.07	0.45		106.6	171.2	168.9	64.2	170.8	98	70	70	69		1.001	3.706	395
128	20.722	20.929		0.16	0.16	1.35	1.10		82	81		1.93	1.40	72	0.016	103	103	146.9	-0.12	0.46		106.6	171.2	168.9	64.2	170.8	98	70	70	69		1.001	3.866	413
129	20.884	21.093		0.16	0.16	1.34	1.09		82	82		1.93	1.40	72	0.018	96	97	146.7	0.14	0.41		106.5	171.0	168.8	64.2	170.7	97	70	70	69		1.001	3.383	361
130	21.047	21.258		0.16	0.16	1.36	1.09		82	81		1.93	1.40	71	0.018	97	97	146.9	-0.13	0.46		106.2	170.8	168.6	64.2	170.4	96	70	70	69		1.001	3.868	411
131	21.209	21.422		0.16	0.16	1.35	1.10		82	81		1.93	1.40	71	0.017	99	99	146.8	0.05	0.48		106.0	170.7	168.4	64.2	170.2	95	70	70	69		1.001	4.029	428
132	21.372	21.586		0.16	0.16	1.35	1.09		82	82		1.93	1.40	71	0.017	99	99	146.8	-0.01	0.41		106.0	170.5	168.3	64.2	170.2	95	70	70	69		1.001	3.386	359
133	21.535	21.750		0.16	0.16	1.36	1.09		82	82		1.93	1.40	71	0.018	97	96	146.7	0.11	0.41		105.7	170.4	168.1	64.2	170.0	94	70	70	68		1.001	3.388	359
134	21.698	21.914		0.16	0.16	1.36	1.10		82	82		1.91	1.40	71	0.016	102	102	146.8	-0.09	0.47		105.6	170.2	167.9	64.2	169.8	94	70	70	68		1.001	3.873	410
135	21.861	22.079		0.16	0.16	1.35	1.09		82	82		1.91	1.40	71	0.015	106	106	146.7	0.07	0.43		105.5	170.0	167.8	64.2	169.7	93	70	70	68		1.001	3.552	375
136	22.023	22.243		0.16	0.16	1.35	1.10		81	82		1.91	1.40	71	0.016	102	102	146.9	-0.20	0.45		105.4	169.9	167.6	64.2	169.6	92	69	69	68		1.001	3.712	392
137	22.187	22.408		0.16	0.17	1.35	1.09		81	81		1.92	1.40	71	0.016	103	103	147.0	-0.06	0.39		105.2	169.8	167.5	64.2	169.4	91	69	69	68		1.001	3.231	340
138	22.350	22.572		0.16	0.16	1.35	1.09		81	81		1.92	1.40	71	0.018	97	97	146.7	0.30	0.41		105.0	169.6	167.3	64.2	169.2	91	69	69	68		1.001	3.390	356
139	22.513	22.736		0.16	0.16	1.35	1.09		81	81		1.92	1.40	71	0.017	100	99	146.8	-0.15	0.47		104.9	169.4	167.1	64.2	169.1	90	69	69	68		1.001	3.880	407
140	22.676	22.900		0.16	0.16	1.35	1.10		81	81		1.93	1.40	71	0.017	100	99	147.0	-0.16	0.47		104.7	169.3	167.0	64.2	168.9	90	69	69	69		1.001	3.874	406
141	22.839	23.064		0.16	0.16	1.34	1.10		81	81		1.93	1.40	71	0.018	97	97	146.8	0.16	0.43		104.5	169.1	166.8	64.2	168.8	89	69	69	69		1.001	3.556	372
142	23.002	23.229		0.16	0.16	1.35	1.10		81	81		1.93	1.40	71	0.015	106	107	146.9	-0.04	0.41		104.5	168.9	166.7	64.2	168.7	89	69	69	69		1.001	3.389	354
143	23.165	23.394		0.16	0.16	1.36	1.10		81	81		1.92	1.40	71	0.016	103	103	146.8	0.08	0.44		104.2	168.8	166.5	64.2	168.5	89	69	69	69		1.001	3.705	387
144	23.328	23.559		0.16	0.17	1.35	1.10		81	81		1.93	1.40	72	0.016	103	103	146.9	-0.13	0.43		104.2	168.7	166.4	64.2	168.4	88	69	69	69		1.001	3.542	369
145	23.491	23.723		0.16	0.16	1.36	1.09		81	81		1.93	1.40	71	0.017	100	99	147.0	-0.01	0.44		104.0	168.5	166.3	64.2	168.2	88	69	69	69		1.001	3.703	385
146	23.654	23.886		0.16	0.16	1.35	1.09		81	81		1.94	1.40	72	0.018	97	96	146.6	0.33	0.42		103.8	168.4	166.2	64.2	168.0	126	69	69	69		1.001	3.538	368
147	23.817	24.050		0.16	0.16	1.36	1.09		81	82		1.93	1.40	74	0.016	103	103	146.7	-0.11	0.46		103.7	168.3	166.0	64.2	168.0	118	70	69	69		1.001	3.859	401
148	23.979	24.215		0.16	0.16	1.36	1.10		81	81		1.92	1.40	72	0.017	99	100	146.8	-0.06	0.41		103.5	168.2	165.9	64.2	167.8	114	69	69	69		1.001	3.379	350
149	24.142	24.379		0.16	0.16	1.36	1.10		81	82		1.92	1.40	72	0.018	97	97	146.8	-0.02	0.43		103.4	168.0	165.8	64.2	167.7	111	69	69	69		1.001	3.544	367
150	24.305	24.544		0.16	0.16	1.36	1.10		81	82		1.94	1.40	72	0.017	100	100	146.7	0.08	0.46		103.3	167.8	165.6	64.2	167.5	109	69	69	69		1.001	3.861	399
151	24.468	24.708		0.16	0.16	1.36	1.09		81	81		1.92	1.40	72	0.017	100	100	146.6	0.15	0.40		103.1	167.6	165.3	64.2	167.3	106	69	69	69		1.001	3.345	345
152	24.631	24.872		0.16	0.16	1.35	1.09		81	81		1.92	1.40	72	0.016	103	103	146.8	-0.17	0.43		102.9	167.5	165.2	64.2	167.2	104	69	69	69		1.001	3.541	365
153	24.794	25.036		0.16	0.16	1.36	1.10		81	81		1.93	1.40	72	0.018	97	97	146.7	0.03	0.46		102.9	167.4	165.2	64.2	167.2	103	69	69	69		1.001	3.847	396
154	24.957	25.201		0.16	0.16	1.35	1.10		81	82		1.93	1.40	71	0.018	97	97	146.8	-0.04	0.43		102.7	167.2	165.0	64.2	167.0	101	69	69	69		1.001	3.540	364
155	25.120	25.365		0.16	0.16	1.35	1.10		81	81		1.92	1.40	72	0.016	103	103	146.6	0.13	0.48		102.4	167.1	164.8	64.2	166.7	101	69	69	69		1.001	4.021	412
156	25.283	25.529		0.16	0.16	1.35	1.10		81	81		1.94	1.40	72	0.016	103	103	146.7	-0.02	0.46		102.5	166.9	164.7	64.2	166.7	99	69	69	69		1.001	3.861	396
157	25.446	25.694		0.16	0.16	1.36	1.10		81	81		1.93	1.40	72	0.018	97	97	146.7	-0.01	0.46		102.3	166.8	164.5	64.2	166.5	98	69	69	69		1.001	3.861	396
158	25.609	25.858		0.16	0.16	1.35	1.10		81	81		1.92	1.40	72	0.018	97	97	146.7	0.00	0.44		102.2	166.7	164.4	64.2	166.4	98	69	69	69		1.001	3.702	379
159	25.772	26.023		0.16	0.16	1.34	1.09		81	82		1.92	1.40	71	0.019	94	94	146.7	-0.07	0.46		102.0	166.6	164.3	64.2	166.2	96	69	69	69		1.001	3.861	394
160	25.935	26.187		0.16	0.16	1.36	1.09		81	82		1.94	1.40	71	0.014	110	109	146.8	-0.02	0.44		101.8	166.4	164.2	64.2	166.0	95	69	69	69		1.001	3.699	377
161	26.098	26.351		0.16	0.16	1.35	1.10		81	82		1.94	1.40	72	0.016	103	102	146.8	-0.09	0.39		101.8	166.2	164.0	64.2	166.0	95	69	69	69		1.001	3.220	328
162	26.261	26.515		0.16	0.16	1.36	1.10		81	82		1.93	1.40	71	0.017	100	99	146.7	0.16	0.42		101.6	166.1	163.9	64.2	165.8	94	69	70	69		1.001	3.538	360
163	26.424	26.680		0.16	0.16	1.35	1.10		81	82		1.93	1.40	71	0.017	100	100	146.7	0.00	0.41		101.5	166.0	163.8	64.2	165.7	94	69	69	69		1.001	3.388	344
164	26.587	26.845		0.16	0.16	1.36	1.09		81	82		1.92	1.40	72	0.016	103	103	146.6	0.04	0.43		101.3	165.9	163.7	64.2	165.4	93	69	69	69		1.001	3.564	361
165	26.749	27.009		0.16	0.16	1.36	1.09		81	82		1.92	1.40	71	0.017	99	99	146.6	0.00	0.45		101.1	165.6	163.5	64.2	165.3	93	69	69	69		1.001	3.740	378
166	26.912	27.173		0.16	0.16	1.36	1.09		81	81		1.94	1.40	71	0.016	103	103	146.7	-0.02	0.48		101.0	165.6	163.4	64.2	165.2	92	69	69	69		1.001	3.971	402
167	27.076	27.337		0.16	0.16	1.36	1.10		81	81		1.93	1.40	71	0.016	103	103	146.7	-0.05	0.41		100.8	165.3	163.2	64.2	165.0	91	69	69	69		1.001	3.382	341
168	27.238	27.501		0.16	0.16	1.35	1.10		81	82		1.94	1.40	71	0.016	102	102	146.7	0.01	0.45		100.7	165.1	163.0	64.2	164.9	91	69	69	69		1.001	3.706	374
169	27.401	27.666		0.16	0.16	1.36	1.10		81	82		1.93	1.40	71	0.017	100	100	146.7	0.01	0.46		100.5	165.0	162.8	64.2	164.7	91	69	69	69		1.001	3.862	389
170	27.565	27.830		0.16	0.16	1.36	1.10		81	82		1.92	1.40	71	0.018	97	96	146.8	-0.07	0.48		100.4	164.9	162.7	64.2	164.6	90	69	69	69		1.001	4.024	405
171	27.728	27.995		0.16	0.17	1.35	1.10		81	82		1.93	1.40	71	0.017	100	100	146.7	0.09	0.44		100.2	164.9	162.7	64.2	164.4	90	69	69	69		1.001	3.702	371
172	27.891	28.159		0.16	0.16	1.36	1.10		81	82		1.93	1.40	71	0.017	100	99	146.6	0.03	0.46		100.1	164.6	162.4	64.2	164.3	89	69	69	69		1.001	3.866	388
173	28.054	28.323		0.16	0.16	1.35	1.09		81	82		1.94	1.40	71	0.017	100	99	146.7	-0.11	0.44		99.9	164.4	162.3	64.2	164.1	88	69	69	69		1.001	3.702	370
174	28.217	28.487		0.16	0.16	1.34	1.09		81	82		1.93	1.40	71	0.017	100	99	146.7	0.05	0.43		99.9	164.3	162.1	64.2	164.0	88	69	69	69		1.001	3.540	354
175	28.380	28.651		0.16	0.16	1.35	1.10		81	82		1.93	1.40	71	0.016	103	102	146.8	-0.13	0.46		99.7	164.2	162.0	64.2	163.9	89	69	69	69		1.001	3.860	385
176	28.543	28.816		0.16	0.16	1.35	1.09		81	82		1.93	1.40	71	0.018	97	97	146.7	0.11	0.43		99.6	164.1	161.9	64.2	163.8	88	69	69	69		1.001	3.545	353

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
177	28.706	28.980		0.16	0.16	1.35	1.09		81	82		1.94	1.40	73	0.018	97	97	146.5	0.17	0.46		99.5	163.9	161.8	64.2	163.6	123	69	69	69		1.001	3.816	380
178	28.869	29.145		0.16	0.16	1.35	1.09		81	82		1.93	1.40	74	0.016	103	103	146.6	-0.07	0.41		99.3	163.8	161.6	64.2	163.5	115	69	70	69		1.001	3.435	341
179	29.032	29.309		0.16	0.16	1.36	1.09		82	82		1.92	1.40	72	0.016	103	102	146.6	0.03	0.43		99.2	163.7	161.5	64.2	163.4	112	69	70	69		1.001	3.550	353
180	29.195	29.473		0.16	0.16	1.36	1.10		82	82		1.93	1.40	72	0.016	103	102	146.5	0.05	0.50		99.1	163.5	161.4	64.2	163.2	110	69	70	69		1.001	4.187	415
181	29.357	29.637		0.16	0.16	1.36	1.10		82	82		1.92	1.40	71	0.018	96	96	146.5	0.04	0.41		98.8	163.3	161.2	64.2	163.0	107	69	69	69		1.001	3.385	335
182	29.520	29.802		0.16	0.16	1.36	1.10		81	82		1.92	1.40	71	0.016	103	103	146.5	0.00	0.45		98.7	163.2	161.1	64.2	162.9	106	69	70	69		1.001	3.709	367
183	29.684	29.966		0.16	0.16	1.36	1.10		81	82		1.94	1.40	71	0.016	103	102	146.5	0.02	0.50		98.5	163.0	160.9	64.2	162.7	104	69	69	69		1.001	4.185	413
184	29.846	30.131		0.16	0.16	1.36	1.09		81	82		1.94	1.40	71	0.015	105	106	146.5	-0.07	0.48		98.4	162.9	160.8	64.2	162.6	103	69	69	69		1.001	4.024	396
185	30.009	30.295		0.16	0.16	1.35	1.09		81	82		1.93	1.40	71	0.017	100	99	146.6	-0.05	0.44		98.3	162.8	160.6	64.2	162.4	101	69	69	69		1.001	3.702	364
186	30.173	30.459		0.16	0.16	1.35	1.09		81	82		1.92	1.40	71	0.018	97	96	146.6	0.03	0.46		98.1	162.7	160.6	64.2	162.3	100	69	69	69		1.001	3.866	380
187	30.336	30.623		0.16	0.16	1.35	1.10		81	82		1.92	1.40	71	0.017	100	99	146.6	-0.07	0.46		98.0	162.5	160.4	64.2	162.2	100	69	69	69		1.001	3.862	379
188	30.499	30.788		0.16	0.16	1.35	1.10		81	82		1.94	1.40	71	0.017	100	100	146.5	0.11	0.41		97.9	162.5	160.3	64.2	162.1	99	69	69	69		1.001	3.380	331
189	30.662	30.952		0.16	0.16	1.36	1.09		81	82		1.94	1.40	71	0.018	97	96	146.6	-0.03	0.41		97.8	162.2	160.2	64.2	162.0	97	69	69	69		1.001	3.400	333
190	30.825	31.116		0.16	0.16	1.35	1.10		81	82		1.94	1.40	71	0.018	97	96	146.7	-0.10	0.44		97.6	162.1	160.0	64.2	161.8	97	69	69	69		1.001	3.657	357
191	30.989	31.282		0.16	0.17	1.35	1.09		81	82		1.92	1.40	72	0.017	100	101	146.6	0.09	0.41		97.4	161.9	159.8	64.2	161.6	96	69	69	69		1.001	3.440	335
192	31.151	31.446		0.16	0.16	1.36	1.10		81	82		1.92	1.40	71	0.016	102	102	146.5	0.08	0.45		97.4	161.9	159.8	64.2	161.5	95	69	69	69		1.001	3.720	363
193	31.314	31.610		0.16	0.16	1.36	1.09		81	82		1.92	1.40	72	0.017	100	99	146.6	-0.11	0.41		97.2	161.7	159.6	64.2	161.4	94	69	69	69		1.001	3.381	329
194	31.478	31.774		0.16	0.16	1.36	1.09		82	82		1.92	1.40	71	0.017	100	99	146.5	0.14	0.44		97.1	161.6	159.5	64.2	161.2	94	69	69	69		1.001	3.702	360
195	31.641	31.938		0.16	0.16	1.35	1.10		82	82		1.92	1.40	72	0.017	100	99	146.4	0.08	0.43		97.0	161.4	159.4	64.2	161.1	94	69	69	69		1.001	3.542	344
196	31.803	32.103		0.16	0.17	1.35	1.10		81	82		1.93	1.40	71	0.017	99	100	146.5	-0.14	0.43		96.8	161.3	159.3	64.2	161.0	93	69	69	69		1.001	3.540	343
197	31.966	32.267		0.16	0.16	1.36	1.10		82	82		1.94	1.40	71	0.018	97	96	146.5	0.01	0.44		96.7	161.1	159.1	64.2	160.8	92	69	69	69		1.001	3.703	359
198	32.129	32.432		0.16	0.16	1.36	1.10		82	82		1.94	1.40	71	0.018	97	97	146.6	-0.09	0.46		96.5	160.9	158.9	64.2	160.7	92	69	69	69		1.001	3.865	374
199	32.292	32.596		0.16	0.16	1.36	1.09		82	82		1.94	1.40	74	0.018	97	97	146.3	0.32	0.46		96.3	160.8	158.7	64.2	160.5	126	69	70	69		1.001	3.860	372
200	32.455	32.759		0.16	0.16	1.36	1.09		82	82		1.93	1.40	80	0.017	100	100	145.5	0.76	0.48		96.2	160.8	158.7	64.2	160.4	170	70	70	69		1.001	4.025	388
201	32.617	32.923		0.16	0.16	1.35	1.09		82	82		1.95	1.40	83	0.016	103	104	145.0	0.54	0.43		96.5	161.2	159.1	64.2	160.7	200	70	70	69		1.001	3.546	343
202	32.780	33.087		0.16	0.16	1.36	1.09		81	82		1.94	1.40	86	0.018	98	98	144.4	0.59	0.42		97.0	161.6	159.6	64.2	161.2	218	71	71	69		1.001	3.529	343
203	32.943	33.251		0.16	0.16	1.35	1.09		82	82		1.95	1.40	90	0.018	98	98	143.4	0.96	0.47		97.4	162.3	160.2	64.2	161.6	234	72	71	69		1.001	3.896	380
204	33.106	33.415		0.16	0.16	1.35	1.09		82	82		1.94	1.40	93	0.017	101	101	142.6	0.83	0.43		98.1	162.9	160.8	64.2	162.3	248	72	72	69		1.001	3.543	348
205	33.268	33.578		0.16	0.16	1.35	1.08		82	82		1.95	1.40	96	0.017	101	101	141.8	0.85	0.44		98.8	163.8	161.6	64.2	163.1	261	73	73	69		1.001	3.702	366
206	33.430	33.741		0.16	0.16	1.34	1.08		82	82		1.96	1.40	98	0.017	101	101	140.8	0.92	0.46		99.6	164.7	162.4	64.2	163.9	271	74	74	69		1.001	3.866	386
207	33.592	33.903		0.16	0.16	1.34	1.08		82	82		1.96	1.40	100	0.017	101	101	140.0	0.85	0.37		100.7	165.7	163.4	64.2	164.9	281	74	74	69		1.001	3.062	309
208	33.754	34.066		0.16	0.16	1.34	1.08		82	82		1.98	1.40	102	0.017	102	102	138.9	1.04	0.48		101.6	166.8	164.5	64.3	165.8	291	75	75	69		1.001	4.026	409
209	33.915	34.229		0.16	0.16	1.34	1.08		82	82		1.99	1.40	104	0.017	101	102	138.3	0.59	0.41		102.8	167.9	165.6	64.3	167.1	300	76	76	69		1.001	3.380	348
210	34.077	34.392		0.16	0.16	1.34	1.07		82	82		1.98	1.50	106	0.017	102	102	137.5	0.81	0.39		104.1	169.4	167.1	64.3	168.4	308	76	76	69		1.001	3.220	336
211	34.238	34.553		0.16	0.16	1.34	1.07		82	82		1.98	1.50	107	0.016	105	104	136.8	0.74	0.37		105.6	170.9	168.4	64.3	169.8	313	77	77	69		1.001	3.065	324
212	34.400	34.714		0.16	0.16	1.34	1.07		82	82		2.00	1.50	108	0.018	99	98	135.8	0.96	0.39		107.0	172.4	169.9	64.3	171.3	319	77	78	69		1.001	3.218	345
213	34.561	34.877		0.16	0.16	1.34	1.07		82	82		2.01	1.50	109	0.018	99	99	135.2	0.62	0.46		108.5	173.9	171.3	64.3	172.8	324	78	78	69		1.001	3.865	420
214	34.722	35.037		0.16	0.16	1.34	1.07		82	82		1.99	1.50	110	0.017	102	100	134.3	0.91	0.43		110.0	175.4	172.9	64.3	174.2	327	79	79	69		1.001	3.541	390
215	34.883	35.198		0.16	0.16	1.33	1.07		82	82		2.00	1.50	111	0.017	102	101	133.4	0.87	0.44		111.6	177.0	174.4	64.3	175.9	331	79	79	69		1.001	3.700	413
216	35.044	35.360		0.16	0.16	1.34	1.07		82	82		2.00	1.50	111	0.017	102	102	132.7	0.77	0.43		113.0	178.6	175.9	64.3	177.3	332	79	79	69		1.001	3.542	401
217	35.205	35.521		0.16	0.16	1.33	1.06		82	82		2.01	1.50	111	0.016	105	104	132.3	0.37	0.43		114.6	180.1	177.4	64.3	178.9	331	79	79	69		1.001	3.541	406
218	35.365	35.681		0.16	0.16	1.33	1.07		82	82		2.01	1.50	111	0.017	101	100	131.4	0.92	0.50		116.2	181.6	178.9	64.3	180.5	331	80	80	69		1.001	4.182	487
219	35.526	35.842		0.16	0.16	1.34	1.06		82	82		2.01	1.50	110	0.016	105	104	130.9	0.50	0.50		117.5	183.0	180.3	64.3	181.8	309	80	80	69		1.001	4.185	492
220	35.687	36.005		0.16	0.16	1.34	1.06		82	82		2.01	1.50	91	0.017	100	101	130.6	0.21	0.43		118.7	183.9	181.3	64.3	183.0	281	77	77	69		1.001	3.544	421
221	35.848	36.165		0.16	0.16	1.33	1.06		82	82		1.99	1.50	85	0.018	97	95	130.4	0.24	0.44		119.5	184.5	181.9	64.3	183.8	263	76	77	69		1.001	3.702	443
222	36.010	36.326		0.16	0.16	1.33	1.06		82	82		2.00	1.50	83	0.016	103	102	130.2	0.21	0.41		119.8	184.8	182.2	64.3	184.1	250	75	76	69		1.001	3.382	406
223	36.171	36.488		0.16	0.16	1.33	1.06		82	82		2.00	1.50	81	0.016	102	102	130.1	0.06	0.39		120.2	185.2	182.5	64.3	184.5	242	75	75	69		1.001	3.220	388
224	36.332	36.649		0.16	0.16	1.34	1.06		82	82		1.99	1.50	79	0.015	105	105	130.1	0.06	0.39		120.5	185.4	182.7	64.3	184.8	236	74	74	69		1.001	3.218	388
225	36.494	36.810		0.16	0.16	1.34	1.06		82	82		1.97	1.50	78	0.018	97	95	130.1	-0.04	0.44		120.7	185.6	183.0	64.3	185.0	229	74	73	69		1.001	3.701	447
226	36.656	36.972		0.16	0.16	1.34	1.06		82	82		1.96	1.50	77	0.017	99	99	130.0	0.08	0.44		120.8	185.7	183.1	64.3	185.1	224	74	73	69		1.001	3.702	448
227	36.818	37.134		0.16	0.16	1.34	1.06		82	82		1.98	1.50	77	0.017	99	99	130.1	-0.04	0.44		121.0	185.9	183.2	64.3	185.3	219	73	73	69		1.001	3.700	448
228	36.980	37.296		0.16	0.16	1.34	1.06		82	82		1.96	1.50	76	0.017	99	99	130.0	0.10	0.41		121.2	186.1	183.4	64.3	185.5	214	73	72	69		1.001	3.398	412
229	37.142	37.457		0.16	0.16	1.34	1.06		82	82		1.98	1.50	76	0.018	96	95	130.0	-0.01	0.42		121.4	186.1	183.5	64.3	185.7	210	72	72	69		1.001	3.478	423
230	37.304	37.619		0.16	0.16	1.34	1.06		82	82		1.97	1.50	76	0.017	99	99	129.9	0.05	0.44		121.3	186.3	183.6	64.3	185.6	207	71	71	69		1.001	3.701	449
231	37.467	37.782		0.16	0.16	1.34	1.07		82	82		1.97	1.40	76	0.019	94	94	129.8	0.10	0.43		121.5	186.4	183.7	64.3	185.8	203	71	71	69		1.001	3.541	431
232	37.629	37.945		0.16	0.16	1.34	1.07		82	82		1.95	1.40	75	0.017	99	99	129.9	-0.02	0.44		121.5	186.4	183.7	64.3	185.8	200	70	71	69		1.001	3.703	450
233	37.791	38.106		0.16	0.16	1.34	1.07		82	82		1.96	1.40	75	0.017	99	98	129.8	0.03	0.39		121.6	186.5	183.8	64.3	185.9	197	70	71	69		1.001	3.221	392
234	37.954	38.269		0.16	0.16	1.35	1.07		82	82		1.97	1.40	74	0.017	100	99	129.9	-0.06	0.43		121.7	186.4	183.8	64.3	186.0	193	70	71	69		1.001	3.541	432
235	38.116	38.432		0.16	0.16	1.35	1.08		82	82		1.96	1.40	74	0.016	102	102	129.8	0.07	0.46		121.7	186.4	183.8	64.3	186.0	189	70	70	69		1.001	3.862	471
236	38.279	38.596		0.16	0.16	1.34	1.08		82	82		1.96	1.40	74	0.016	103	103	130.0	-0.15	0.39		121.6	186.4	183.8	64.3	185.9	186	70	70	69		1.001	3.221	392
237	38.441	38.759		0.16	0.16	1.34	1.08		82	82		1.97	1.40	74	0.018	96	96	129.9	0.10	0.43		121.6	186.5	183.8	64.3	185.9	182	70	70	69		1.001	3.543	431
238	38.604	38.921		0.16	0.16	1.34	1.08		82	82		1.95	1.40	74	0.017	100	98	130.0	-0.10	0.43		121.7	186.5	183.9	64.3	185.9	179	70	70	69		1.001	3.540	431

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
239	38.766	39.084		0.16	0.16	1.34	1.08		82	82		1.95	1.40	73	0.017	99	99	129.9	0.05	0.42		121.7	186.4	183.8	64.3	186.0	176	70	70	69		1.001	3.539	431
240	38.929	39.248		0.16	0.16	1.34	1.08		82	82		1.95	1.40	73	0.018	97	97	130.0	-0.07	0.45		121.7	186.4	183.8	64.3	186.0	173	70	70	69		1.001	3.706	451
241	39.091	39.412		0.16	0.16	1.35	1.08		82	82		1.97	1.40	73	0.017	99	99	130.0	-0.02	0.47		121.6	186.5	183.8	64.3	185.9	171	70	70	69		1.001	3.899	475
242	39.254	39.575		0.16	0.16	1.34	1.08		82	82		1.97	1.40	73	0.017	100	99	129.9	0.07	0.45		121.5	186.4	183.8	64.3	185.8	168	70	70	69		1.001	3.786	461
243	39.416	39.739		0.16	0.16	1.34	1.08		82	82		1.96	1.40	73	0.016	102	103	130.0	-0.08	0.43		121.5	186.3	183.7	64.3	185.7	165	70	70	69		1.001	3.564	433
244	39.579	39.902		0.16	0.16	1.34	1.09		82	82		1.96	1.40	73	0.016	103	102	129.9	0.05	0.44		121.6	186.2	183.7	64.3	185.9	163	70	70	69		1.001	3.701	451
245	39.741	40.066		0.16	0.16	1.34	1.09		82	82		1.94	1.40	73	0.016	102	103	130.0	-0.08	0.41		121.4	186.2	183.6	64.3	185.7	160	70	70	69		1.001	3.380	411
246	39.904	40.229		0.16	0.16	1.35	1.09		82	82		1.95	1.40	73	0.016	103	102	130.1	-0.04	0.43		121.4	186.2	183.5	64.3	185.7	158	69	70	69		1.001	3.542	431
247	40.066	40.394		0.16	0.16	1.35	1.09		82	82		1.96	1.40	73	0.017	99	100	130.0	0.09	0.44		121.3	186.1	183.5	64.3	185.5	156	70	70	69		1.001	3.702	449
248	40.228	40.557		0.16	0.16	1.35	1.08		82	82		1.94	1.40	73	0.017	99	99	130.0	0.02	0.44		121.2	186.0	183.4	64.3	185.5	154	70	70	69		1.001	3.704	450
249	40.391	40.721		0.16	0.16	1.35	1.09		82	82		1.96	1.40	73	0.018	97	97	129.9	0.02	0.43		121.2	185.9	183.3	64.3	185.5	151	70	70	69		1.001	3.543	430
250	40.553	40.884		0.16	0.16	1.35	1.09		82	82		1.95	1.40	73	0.017	99	99	129.9	0.02	0.44		121.2	186.0	183.3	64.3	185.5	150	70	70	69		1.001	3.699	449
251	40.716	41.048		0.16	0.16	1.35	1.09		82	82		1.96	1.40	73	0.017	100	99	130.1	-0.19	0.44		121.1	185.9	183.2	64.3	185.3	148	69	70	69		1.001	3.697	448
252	40.878	41.212		0.16	0.16	1.35	1.09		82	82		1.96	1.40	73	0.016	102	103	130.1	0.04	0.44		121.1	185.8	183.2	64.3	185.3	146	69	70	69		1.001	3.694	448
253	41.041	41.376		0.16	0.16	1.35	1.08		82	82		1.95	1.40	73	0.015	106	106	130.1	-0.03	0.48		121.0	185.7	183.2	64.3	185.2	144	69	70	69		1.001	4.028	488
254	41.203	41.540		0.16	0.16	1.35	1.09		82	82		1.96	1.40	73	0.017	99	99	130.0	0.09	0.44		120.9	185.6	183.0	64.3	185.2	142	70	70	69		1.001	3.704	448
255	41.366	41.703		0.16	0.16	1.34	1.08		82	82		1.94	1.40	73	0.017	100	99	130.0	-0.03	0.44		120.8	185.6	183.0	64.3	185.1	140	70	70	69		1.001	3.659	443
256	41.529	41.867		0.16	0.16	1.35	1.09		82	82		1.96	1.40	73	0.016	103	103	130.1	-0.02	0.42		120.7	185.3	182.7	64.3	185.0	139	70	70	69		1.001	3.523	426
257	41.692	42.031		0.16	0.16	1.34	1.09		82	82		1.94	1.40	73	0.017	100	99	130.1	-0.05	0.48		120.5	185.4	182.8	64.3	184.8	137	70	70	69		1.001	4.023	485
258	41.854	42.195		0.16	0.16	1.35	1.09		82	82		1.96	1.40	73	0.015	105	106	130.1	0.03	0.39		120.6	185.3	182.7	64.3	184.9	136	70	70	69		1.001	3.218	389
259	42.017	42.359		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.016	103	102	130.0	0.08	0.48		120.4	185.1	182.5	64.3	184.7	135	70	70	69		1.001	4.025	485
260	42.180	42.522		0.16	0.16	1.34	1.08		82	82		1.94	1.40	72	0.017	100	99	130.1	-0.15	0.41		120.3	185.0	182.4	64.3	184.5	133	70	70	69		1.001	3.381	407
261	42.343	42.686		0.16	0.16	1.34	1.09		82	82		1.94	1.40	72	0.017	100	99	130.0	0.12	0.46		120.2	185.0	182.3	64.2	184.5	131	70	70	69		1.001	3.860	465
262	42.505	42.850		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.016	102	102	130.0	0.05	0.46		120.1	184.9	182.3	64.3	184.4	130	70	70	69		1.001	3.865	465
263	42.668	43.013		0.16	0.16	1.34	1.09		82	82		1.94	1.40	72	0.015	106	105	130.1	-0.09	0.44		120.1	184.9	182.2	64.3	184.4	129	70	70	69		1.001	3.702	445
264	42.831	43.177		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99	130.0	0.02	0.42		119.9	184.6	182.0	64.3	184.2	127	70	70	69		1.001	3.538	425
265	42.994	43.342		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.017	100	100	130.1	-0.04	0.43		119.8	184.6	182.0	64.3	184.0	126	70	70	69		1.001	3.541	425
266	43.156	43.505		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	99	99	130.0	0.07	0.45		119.8	184.5	182.0	64.2	184.1	125	70	70	69		1.001	3.710	445
267	43.319	43.669		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.015	106	106	130.1	-0.09	0.46		119.6	184.3	181.7	64.2	183.9	124	70	70	69		1.001	3.864	463
268	43.481	43.832		0.16	0.16	1.36	1.09		82	82		1.94	1.40	72	0.016	102	102	130.1	0.01	0.42		119.5	184.2	181.6	64.3	183.8	123	70	70	69		1.001	3.473	416
269	43.643	43.996		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.017	99	99	130.1	-0.03	0.46		119.4	184.1	181.6	64.3	183.7	122	70	70	69		1.001	3.833	458
270	43.806	44.160		0.16	0.16	1.36	1.09		82	82		1.96	1.40	72	0.016	103	102	130.1	-0.01	0.44		119.3	183.9	181.4	64.2	183.5	121	70	70	69		1.001	3.702	442
271	43.969	44.325		0.16	0.17	1.35	1.09		82	82		1.94	1.40	72	0.016	103	103	130.2	-0.07	0.43		119.3	183.9	181.3	64.2	183.5	120	70	70	69		1.001	3.543	423
272	44.132	44.488		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.016	103	102	130.2	0.07	0.43		119.1	183.8	181.2	64.2	183.3	118	70	70	69		1.001	3.542	422
273	44.294	44.652		0.16	0.16	1.36	1.09		82	82		1.95	1.40	72	0.017	99	99	130.1	0.01	0.42		119.1	183.7	181.0	64.2	183.3	118	70	70	69		1.001	3.538	422
274	44.457	44.815		0.16	0.16	1.36	1.09		82	82		1.94	1.40	72	0.017	100	99	130.1	0.06	0.50		118.9	183.6	181.0	64.2	183.1	117	70	70	69		1.001	4.186	498
275	44.620	44.979		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	97	97	130.1	-0.06	0.44		118.7	183.4	180.8	64.2	182.9	116	70	70	69		1.001	3.703	440
276	44.783	45.143		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	97	97	130.1	0.07	0.44		118.7	183.3	180.7	64.2	182.9	115	70	70	69		1.001	3.702	440
277	44.945	45.308		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.017	99	100	130.2	-0.13	0.41		118.5	183.2	180.6	64.2	182.7	114	70	70	69		1.001	3.378	401
278	45.108	45.471		0.16	0.16	1.35	1.08		82	82		1.95	1.40	72	0.017	100	99	130.2	0.02	0.41		118.3	183.0	180.4	64.2	182.6	113	70	70	69		1.001	3.381	401
279	45.271	45.635		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.015	106	106	130.2	-0.05	0.42		118.3	182.9	180.3	64.2	182.5	113	70	70	69		1.001	3.533	418
280	45.434	45.798		0.16	0.16	1.34	1.09		82	82		1.95	1.40	72	0.018	97	96	130.2	0.07	0.46		118.1	182.8	180.3	64.2	182.3	111	70	70	69		1.001	3.831	453
281	45.597	45.962		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99	130.2	0.00	0.44		118.0	182.6	180.2	64.2	182.2	110	70	70	69		1.001	3.700	437
282	45.759	46.127		0.16	0.16	1.34	1.09		82	82		1.94	1.40	72	0.016	102	103	130.1	0.08	0.46		117.9	182.6	180.1	64.2	182.2	110	70	70	69		1.001	3.865	456
283	45.922	46.291		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.016	103	102	130.3	-0.22	0.44		117.7	182.4	179.9	64.2	181.9	109	70	70	69		1.001	3.704	436
284	46.085	46.454		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.017	100	99	130.1	0.24	0.41		117.7	182.2	179.8	64.2	181.9	109	70	70	69		1.001	3.382	398
285	46.248	46.618		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.016	103	102	130.3	-0.24	0.41		117.5	182.2	179.7	64.2	181.7	108	70	70	69		1.001	3.385	398
286	46.411	46.781		0.16	0.16	1.34	1.09		82	82		1.96	1.40	72	0.017	100	99	130.3	0.02	0.46		117.4	182.0	179.6	64.2	181.6	108	70	70	69		1.001	3.865	454
287	46.573	46.945		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.016	102	102	130.2	0.09	0.44		117.2	181.9	179.4	64.2	181.4	107	70	70	69		1.001	3.704	435
288	46.736	47.110		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.015	106	106	130.2	0.01	0.46		117.0	181.6	179.2	64.2	181.2	106	70	70	69		1.001	3.863	453
289	46.898	47.274		0.16	0.16	1.36	1.09		82	82		1.95	1.40	72	0.017	99	99	130.3	-0.13	0.44		116.9	181.5	179.0	64.2	181.1	105	70	70	69		1.001	3.701	433
290	47.061	47.437		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.015	106	105	130.2	0.14	0.41		116.9	181.5	179.0	64.2	181.0	105	69	70	69		1.001	3.383	396
291	47.223	47.601		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.016	102	102	130.3	-0.13	0.43		116.7	181.3	178.8	64.2	180.9	104	70	70	69		1.001	3.543	414
292	47.386	47.764		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	100	99	130.2	0.14	0.41		116.4	181.1	178.6	64.2	180.6	104	70	70	69		1.001	3.384	394
293	47.549	47.928		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99	130.2	-0.08	0.43		116.4	181.0	178.5	64.2	180.6	149	70	70	69		1.001	3.587	418
294	47.711	48.093		0.16	0.17	1.34	1.08		82	82		1.97	1.40	83	0.017	100	101	130.1	0.16	0.44		116.2	180.7	178.2	64.2	180.4	145	71	71	69		1.001	3.704	431
295	47.874	48.256		0.16	0.16	1.35	1.09		82	82		1.94	1.40	74	0.017	100	99	129.9	0.14	0.43		116.1	180.6	178.1	64.2	180.3	139	70	70	69		1.001	3.540	411
296	48.037	48.420		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.017	100	99	130.0	-0.04	0.41		116.0	180.5	178.0	64.2	180.2	134	70	70	69		1.001	3.383	393
297	48.200	48.583		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99	130.0	-0.01	0.41		115.8	180.4	177.8	64.2	180.0	130	70	70	69		1.001	3.387	393
298	48.363	48.747		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.017	100	99	130.0	-0.02	0.43		115.6	180.3	177.7	64.2	179.8	127	70	70	69		1.001	3.542	410
299	48.526	48.911		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99	130.1	-0.07	0.43		115.4	180.1	177.7	64.2	179.6	124	70	70	69		1.001	3.544	410
300	48.689	49.076		0.16	0.16	1.34	1.09		82	82		1.95	1.40	72	0.017	100	100	129.9	0.20	0.41		115.4	180.0	177.5	64.2	179.6	122	70	70	69		1.001	3.383	391

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF											Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient				
301	48.852	49.239		0.16	0.16	1.34	1.09		82	82		1.95	1.40	72	0.015	106	105	130.0	-0.10	0.43		115.2	179.9	177.4	64.2	179.4	121	70	70	69		1.001	3.542	409
302	49.014	49.403		0.16	0.16	1.34	1.09		82	82		1.94	1.40	72	0.017	99	99	130.0	-0.01	0.41		115.0	179.7	177.2	64.2	179.2	118	70	70	69		1.001	3.381	389
303	49.177	49.567		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	97	97	130.1	-0.08	0.39		114.9	179.6	177.0	64.2	179.1	118	70	70	69		1.001	3.219	370
304	49.340	49.730		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.016	103	102	130.0	0.06	0.46		114.8	179.3	176.9	64.2	179.0	117	70	70	69		1.001	3.843	442
305	49.503	49.894		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.016	103	102	130.1	-0.05	0.44		114.6	179.3	176.8	64.2	178.8	115	70	70	69		1.001	3.704	425
306	49.666	50.059		0.16	0.16	1.36	1.09		82	82		1.94	1.40	72	0.018	97	97	130.1	-0.08	0.47		114.4	179.1	176.7	64.2	178.6	114	70	70	69		1.001	3.911	448
307	49.828	50.223		0.16	0.16	1.34	1.09		82	82		1.94	1.40	72	0.017	99	99	130.0	0.14	0.41		114.3	178.9	176.5	64.2	178.5	113	70	70	69		1.001	3.375	386
308	49.991	50.387		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	97	97	130.0	0.01	0.39		114.3	178.8	176.3	64.2	178.5	112	70	70	69		1.001	3.220	368
309	50.153	50.550		0.16	0.16	1.36	1.09		82	82		1.95	1.40	72	0.016	102	102	130.1	-0.11	0.45		114.1	178.6	176.2	64.2	178.3	111	70	70	69		1.001	3.707	424
310	50.316	50.714		0.16	0.16	1.36	1.09		82	82		1.96	1.40	72	0.018	97	97	130.0	0.05	0.44		114.0	178.5	176.1	64.2	178.2	110	70	70	69		1.001	3.703	423
311	50.479	50.878		0.16	0.16	1.36	1.09		82	82		1.94	1.40	72	0.017	100	99	130.0	0.04	0.43		113.8	178.3	175.8	64.2	178.0	110	70	70	69		1.001	3.545	404
312	50.642	51.042		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	97	97	130.0	-0.03	0.43		113.6	178.2	175.7	64.2	177.8	109	70	70	69		1.001	3.544	403
313	50.804	51.206		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	99	99	130.1	-0.07	0.43		113.4	178.0	175.6	64.2	177.6	108	70	70	69		1.001	3.544	403
314	50.968	51.370		0.16	0.16	1.36	1.08		82	82		1.95	1.40	72	0.015	107	106	130.0	0.08	0.43		113.2	177.8	175.4	64.2	177.4	108	70	70	69		1.001	3.543	402
315	51.131	51.534		0.16	0.16	1.34	1.09		82	82		1.94	1.40	72	0.017	100	99	130.1	-0.10	0.43		113.1	177.7	175.3	64.2	177.3	107	70	70	69		1.001	3.544	401
316	51.293	51.697		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.015	105	105	130.1	0.03	0.41		113.0	177.6	175.2	64.2	177.2	105	70	70	69		1.001	3.384	383
317	51.456	51.862		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.018	97	97	130.0	0.09	0.39		112.8	177.5	175.0	64.2	177.0	105	70	70	69		1.001	3.230	365
318	51.619	52.026		0.16	0.16	1.34	1.09		82	82		1.96	1.40	72	0.017	100	99	130.1	-0.09	0.44		112.7	177.3	175.0	64.2	176.9	106	70	70	69		1.001	3.701	417
319	51.782	52.190		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	100	99	130.1	-0.03	0.44		112.7	177.2	174.8	64.2	176.9	105	70	70	69		1.001	3.703	418
320	51.945	52.354		0.16	0.16	1.34	1.09		82	82		1.96	1.40	72	0.017	100	99	130.2	-0.09	0.39		112.4	177.0	174.6	64.2	176.6	105	70	70	69		1.001	3.221	362
321	52.108	52.517		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.016	103	102	130.1	0.12	0.43		112.1	176.8	174.4	64.2	176.4	104	70	70	69		1.001	3.543	398
322	52.271	52.681		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	100	99	130.3	-0.20	0.45		112.0	176.6	174.3	64.2	176.2	102	69	70	69		1.001	3.706	416
323	52.434	52.845		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99	130.1	0.24	0.39		111.8	176.5	174.1	64.2	176.0	103	69	70	69		1.001	3.220	361
324	52.597	53.009		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.015	106	106	130.1	-0.05	0.44		111.6	176.4	174.0	64.2	175.8	146	69	70	69		1.001	3.704	414
325	52.759	53.174		0.16	0.16	1.35	1.08		82	82		1.96	1.40	79	0.017	100	101	130.1	-0.01	0.46		111.7	176.2	173.8	64.2	175.9	133	70	70	69		1.001	3.865	432
326	52.921	53.337		0.16	0.16	1.36	1.09		82	82		1.96	1.40	73	0.017	99	99	130.1	0.01	0.43		111.4	176.0	173.6	64.2	175.6	129	69	70	69		1.001	3.542	395
327	53.084	53.500		0.16	0.16	1.36	1.09		82	82		1.95	1.40	72	0.016	103	102	130.0	0.14	0.46		111.4	175.8	173.5	64.2	175.6	126	70	70	69		1.001	3.865	431
328	53.247	53.664		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.016	103	102	129.8	0.18	0.43		111.1	175.7	173.3	64.2	175.3	123	70	70	69		1.001	3.545	394
329	53.410	53.829		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.018	97	97	130.1	-0.30	0.46		110.8	175.5	173.1	64.3	175.1	122	69	70	69		1.001	3.863	429
330	53.573	53.993		0.16	0.16	1.36	1.09		82	82		1.95	1.40	72	0.017	100	99	130.0	0.07	0.41		110.8	175.3	173.0	64.3	175.0	119	70	70	69		1.001	3.373	374
331	53.735	54.157		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	96	97	130.0	0.04	0.41		110.4	175.1	172.7	64.2	174.7	118	69	70	69		1.001	3.383	374
332	53.898	54.321		0.16	0.16	1.36	1.09		82	82		1.94	1.40	72	0.017	100	99	130.0	-0.05	0.48		110.4	175.1	172.7	64.2	174.7	116	69	70	69		1.001	3.959	438
333	54.061	54.484		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.016	103	102	130.0	0.00	0.48		110.3	174.9	172.5	64.2	174.5	114	70	70	69		1.001	4.012	443
334	54.224	54.648		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	100	99	130.0	0.00	0.43		110.1	174.8	172.4	64.2	174.3	114	70	70	69		1.001	3.546	391
335	54.387	54.812		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.018	97	97	130.1	-0.11	0.43		109.9	174.6	172.3	64.2	174.2	113	69	70	69		1.001	3.545	390
336	54.550	54.976		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99	130.1	0.01	0.45		109.9	174.5	172.2	64.3	174.1	110	69	70	69		1.001	3.706	408
337	54.713	55.141		0.16	0.16	1.34	1.09		82	82		1.95	1.40	72	0.014	110	110	129.9	0.22	0.48		109.6	174.2	171.9	64.3	173.9	111	69	70	69		1.001	4.024	442
338	54.876	55.304		0.16	0.16	1.35	1.08		82	82		1.95	1.40	72	0.015	106	105	130.1	-0.18	0.46		109.5	174.1	171.7	64.3	173.7	110	69	70	69		1.001	3.868	424
339	55.039	55.468		0.16	0.16	1.34	1.09		82	82		1.96	1.40	72	0.018	97	97	130.0	0.14	0.41		109.3	174.0	171.6	64.3	173.6	108	69	70	69		1.001	3.382	370
340	55.201	55.631		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	99	99	129.9	0.05	0.46		109.1	173.9	171.5	64.3	173.4	109	69	70	69		1.001	3.867	422
341	55.365	55.795		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.016	103	102	130.0	-0.11	0.44		109.1	173.7	171.4	64.3	173.3	107	69	70	69		1.001	3.705	405
342	55.527	55.959		0.16	0.16	1.34	1.09		82	82		1.96	1.40	72	0.017	99	99	130.0	-0.02	0.44		108.9	173.6	171.3	64.3	173.1	107	69	70	69		1.001	3.702	404
343	55.690	56.124		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	100	130.1	-0.08	0.45		108.8	173.3	171.0	64.3	173.0	106	69	70	69		1.001	3.711	404
344	55.852	56.287		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.016	102	102	130.2	-0.06	0.46		108.6	173.1	170.8	64.3	172.8	106	69	70	69		1.001	3.844	418
345	56.015	56.451		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.018	97	97	130.1	0.12	0.41		108.4	173.0	170.7	64.3	172.6	105	69	70	69		1.001	3.437	373
346	56.177	56.615		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	99	99	130.0	0.06	0.46		108.3	172.9	170.7	64.2	172.6	105	69	70	69		1.001	3.866	419
347	56.340	56.779		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	97	97	129.9	0.06	0.43		108.1	172.7	170.4	64.3	172.4	104	69	70	69		1.001	3.546	384
348	56.503	56.943		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	100	99	130.0	-0.06	0.43		107.9	172.6	170.2	64.3	172.2	103	69	70	69		1.001	3.541	383
349	56.666	57.108		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	100	100	130.1	-0.13	0.43		107.8	172.5	170.1	64.3	172.1	104	69	70	69		1.001	3.544	383
350	56.829	57.271		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.017	99	99	130.1	0.06	0.43		107.6	172.3	169.9	64.3	171.8	102	69	69	69		1.001	3.544	382
351	56.992	57.435		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.015	106	106	130.0	0.06	0.50		107.5	172.1	169.7	64.3	171.8	104	69	69	69		1.001	4.187	451
352	57.155	57.599		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.016	103	102	130.1	-0.13	0.43		107.3	171.9	169.6	64.3	171.5	100	69	69	69		1.001	3.542	380
353	57.318	57.763		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.017	100	99	130.1	-0.01	0.43		107.1	171.7	169.4	64.2	171.4	101	69	69	69		1.001	3.545	380
354	57.481	57.926		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.017	100	99	130.0	0.10	0.43		107.1	171.6	169.3	64.2	171.3	101	69	69	69		1.001	3.543	380
355	57.644	58.092		0.16	0.17	1.34	1.09		82	82		1.94	1.40	72	0.018	97	98	130.0	0.03	0.46		106.8	171.4	169.1	64.2	171.0	141	69	69	69		1.001	3.866	413
356	57.806	58.255		0.16	0.16	1.34	1.08		82	82		1.96	1.40	79	0.018	97	97	130.0	0.01	0.41		106.7	171.2	168.9	64.2	170.9	128	70	70	69		1.001	3.381	361
357	57.969	58.418		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.015	106	105	130.0	-0.06	0.46		106.5	171.1	168.8	64.2	170.7	125	69	70	69		1.001	3.808	406
358	58.132	58.582		0.16	0.16	1.35	1.09		82	82		1.95	1.40	72	0.018	97	97	130.0	0.04	0.42		106.3	171.0	168.6	64.3	170.6	122	69	70	69		1.001	3.517	374
359	58.295	58.746		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.015	106	106	129.9	0.11	0.46		106.3	170.8	168.4	64.2	170.5	119	69	70	69		1.001	3.868	412
360	58.458	58.910		0.16	0.16	1.35	1.09		82	82		1.96	1.40	71	0.016	102	102	130.0	-0.15	0.48		106.0	170.6	168.3	64.2	170.3	117	69	70	69		1.001	4.026	427
361	58.621	59.075		0.16	0.17	1.36	1.09		82	82		1.94	1.40	71	0.017	99	100	129.8	0.22	0.46		106.0	170.5	168.2	64.2	170.2	116	69	70	69		1.001	3.864	410
362	58.783	59.238		0.16	0.16	1.35	1.08		82	82		1.94	1.40	71	0.016	102	102	129.9	-0.09	0.43		105.8	170.3	168.0	64.2	170.0	114	69	70	69		1.001	3.547	376

Elapsed Time	Particulate Sampling Data																		Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)		Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
363	58.945	59.402		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.017	99	99		129.9	0.05	0.43		105.5	170.2	167.9	64.2	169.8	113	69	70	69		1.001	3.550	375
364	59.108	59.566		0.16	0.16	1.36	1.09		82	82		1.94	1.40	71	0.019	94	94		129.9	0.00	0.44		105.4	169.9	167.7	64.2	169.7	111	69	70	69		1.001	3.705	391
365	59.271	59.729		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.017	99	99		129.9	-0.07	0.39		105.3	169.8	167.6	64.2	169.5	110	69	70	69		1.001	3.223	340
366	59.433	59.893		0.16	0.16	1.36	1.09		82	82		1.94	1.40	72	0.018	96	97		130.0	-0.05	0.43		105.1	169.7	167.5	64.2	169.4	109	69	70	69		1.001	3.547	373
367	59.596	60.058		0.16	0.16	1.36	1.09		82	82		1.94	1.40	71	0.017	99	100		130.0	0.01	0.44		105.0	169.5	167.3	64.2	169.2	109	69	70	69		1.001	3.704	389
368	59.759	60.221		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.017	99	99		129.9	0.05	0.46		104.9	169.5	167.2	64.2	169.2	107	69	70	69		1.001	3.867	406
369	59.922	60.385		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.018	97	96		129.9	-0.02	0.46		104.7	169.2	167.0	64.2	168.9	107	69	70	69		1.001	3.854	404
370	60.085	60.549		0.16	0.16	1.36	1.09		82	82		1.96	1.40	71	0.017	99	99		129.9	-0.02	0.46		104.5	169.0	166.8	64.2	168.7	106	69	70	69		1.001	3.821	400
371	60.248	60.713		0.16	0.16	1.35	1.09		82	82		1.96	1.40	71	0.018	97	96		129.9	0.06	0.45		104.3	168.9	166.6	64.2	168.5	106	69	69	69		1.001	3.711	387
372	60.410	60.877		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.018	96	96		129.9	0.00	0.43		104.3	168.7	166.5	64.2	168.5	105	69	69	69		1.001	3.546	370
373	60.573	61.041		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.016	102	102		129.9	-0.05	0.43		104.0	168.6	166.3	64.2	168.2	104	69	69	69		1.001	3.544	369
374	60.736	61.205		0.16	0.16	1.34	1.09		82	82		1.95	1.40	71	0.016	102	102		130.0	-0.06	0.44		103.8	168.4	166.2	64.2	168.0	104	69	69	69		1.001	3.705	385
375	60.899	61.369		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.016	102	102		130.1	-0.12	0.41		103.7	168.4	166.1	64.2	168.0	103	69	69	69		1.001	3.385	351
376	61.062	61.533		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.019	94	94		129.9	0.16	0.43		103.5	168.1	165.9	64.2	167.7	104	69	70	69		1.001	3.542	367
377	61.225	61.696		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.018	97	96		130.0	-0.08	0.46		103.4	168.0	165.8	64.2	167.6	101	69	69	69		1.001	3.867	400
378	61.388	61.860		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.016	102	102		129.9	0.09	0.48		103.3	167.8	165.6	64.2	167.5	101	69	69	68		1.001	4.032	417
379	61.551	62.025		0.16	0.16	1.35	1.08		82	82		1.95	1.40	71	0.018	97	97		129.9	0.01	0.44		103.2	167.7	165.5	64.2	167.5	101	69	69	69		1.001	3.704	383
380	61.714	62.189		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.017	99	99		129.9	-0.02	0.43		103.0	167.5	165.3	64.3	167.2	100	69	69	69		1.001	3.544	365
381	61.876	62.353		0.16	0.16	1.36	1.09		82	82		1.95	1.40	71	0.017	99	99		129.9	0.03	0.44		102.7	167.3	165.2	64.3	166.9	101	69	69	68		1.001	3.705	381
382	62.039	62.517		0.16	0.16	1.36	1.09		82	82		1.94	1.40	71	0.018	97	96		129.9	-0.02	0.48		102.6	167.1	164.9	64.3	166.9	101	69	69	69		1.001	4.027	414
383	62.201	62.680		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.017	99	99		129.9	-0.02	0.42		102.3	167.0	164.8	64.3	166.6	99	69	69	69		1.001	3.519	360
384	62.364	62.845		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.017	99	100		130.0	-0.03	0.45		102.2	166.8	164.6	64.3	166.6	99	69	69	69		1.001	3.706	379
385	62.527	63.009		0.16	0.16	1.36	1.10		82	82		1.96	1.40	71	0.016	102	102		130.0	0.03	0.44		102.1	166.8	164.5	64.3	166.4	98	69	69	69		1.001	3.705	379
386	62.690	63.173		0.16	0.16	1.36	1.09		82	82		1.95	1.40	71	0.018	97	96		129.9	0.03	0.43		101.9	166.5	164.4	64.4	166.2	136	69	69	69		1.001	3.549	362
387	62.853	63.337		0.16	0.16	1.35	1.09		82	82		1.94	1.40	76	0.017	100	100		129.9	0.06	0.46		101.7	166.4	164.2	64.4	166.1	124	70	70	69		1.001	3.871	394
388	63.016	63.500		0.16	0.16	1.35	1.09		82	82		1.96	1.40	72	0.018	97	96		130.0	-0.13	0.45		101.4	166.2	164.0	64.4	165.8	121	69	69	69		1.001	3.707	376
389	63.179	63.664		0.16	0.16	1.35	1.09		82	82		1.94	1.40	72	0.017	100	99		129.8	0.16	0.48		101.2	166.0	163.8	64.4	165.6	118	69	69	69		1.001	4.031	408
390	63.341	63.828		0.16	0.16	1.35	1.09		82	82		1.96	1.40	71	0.016	102	102		129.7	0.10	0.41		101.2	165.9	163.8	64.5	165.6	116	69	69	69		1.001	3.388	343
391	63.505	63.993		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.018	97	97		129.9	-0.16	0.44		100.9	165.7	163.6	64.5	165.4	114	69	69	68		1.001	3.705	374
392	63.668	64.157		0.16	0.16	1.34	1.09		82	82		1.95	1.40	71	0.016	102	102		129.8	0.11	0.43		100.8	165.7	163.5	64.5	165.3	112	69	69	68		1.001	3.547	358
393	63.830	64.320		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.017	99	99		129.8	0.00	0.43		100.6	165.4	163.3	64.5	165.1	111	69	69	69		1.001	3.547	357
394	63.993	64.484		0.16	0.16	1.36	1.09		82	82		1.94	1.40	71	0.015	106	106		129.9	-0.17	0.48		100.4	165.2	163.1	64.5	164.9	109	69	69	69		1.001	4.030	405
395	64.156	64.648		0.16	0.16	1.35	1.09		82	82		1.96	1.40	71	0.016	102	102		129.9	0.03	0.43		100.2	165.1	162.9	64.5	164.7	109	69	69	69		1.001	3.543	355
396	64.319	64.812		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.017	99	99		129.8	0.11	0.39		100.1	164.9	162.7	64.5	164.6	108	69	69	69		1.001	3.223	323
397	64.482	64.976		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.015	106	106		129.9	-0.11	0.42		100.0	164.8	162.6	64.5	164.5	107	69	69	69		1.001	3.491	349
398	64.645	65.141		0.16	0.17	1.36	1.09		82	82		1.95	1.40	71	0.018	97	97		129.8	0.10	0.41		99.9	164.6	162.5	64.5	164.4	107	69	69	68		1.001	3.385	338
399	64.807	65.304		0.16	0.16	1.36	1.09		82	82		1.95	1.40	71	0.017	99	99		129.9	-0.04	0.45		99.6	164.5	162.3	64.5	164.1	104	69	69	68		1.001	3.705	370
400	64.970	65.468		0.16	0.16	1.35	1.09		82	81		1.95	1.40	71	0.016	102	103		129.8	0.05	0.44		99.7	164.4	162.2	64.5	164.2	104	69	69	69		1.001	3.703	369
401	65.133	65.632		0.16	0.16	1.36	1.09		82	82		1.95	1.40	71	0.016	102	102		129.9	-0.11	0.45		99.4	164.2	162.0	64.5	163.9	103	69	69	69		1.001	3.707	369
402	65.296	65.796		0.16	0.16	1.36	1.10		82	82		1.94	1.40	71	0.018	97	96		129.7	0.18	0.43		99.3	164.1	161.9	64.5	163.8	103	69	69	68		1.001	3.547	353
403	65.458	65.960		0.16	0.16	1.35	1.09		82	82		1.96	1.40	71	0.018	96	96		129.9	-0.19	0.43		99.1	163.9	161.8	64.5	163.6	102	69	69	69		1.001	3.544	352
404	65.621	66.125		0.16	0.17	1.35	1.09		82	82		1.94	1.40	71	0.018	97	97		129.9	0.06	0.45		98.9	163.7	161.6	64.5	163.4	102	69	69	69		1.001	3.707	367
405	65.784	66.289		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.017	99	99		129.9	-0.05	0.43		98.8	163.6	161.5	64.5	163.3	102	69	69	68		1.001	3.543	350
406	65.947	66.452		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.018	97	96		129.9	0.01	0.46		98.6	163.5	161.2	64.5	163.1	101	69	69	69		1.001	3.865	382
407	66.110	66.616		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.017	99	99		129.8	0.07	0.46		98.4	163.2	161.1	64.5	162.9	100	69	69	69		1.001	3.867	381
408	66.273	66.780		0.16	0.16	1.35	1.10		82	82		1.96	1.40	71	0.017	99	99		130.0	-0.17	0.41		98.3	163.1	161.0	64.5	162.8	100	69	69	69		1.001	3.386	333
409	66.436	66.944		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.017	99	99		129.8	0.22	0.45		98.2	163.0	160.9	64.5	162.7	100	69	69	68		1.001	3.714	365
410	66.599	67.109		0.16	0.16	1.34	1.09		82	82		1.96	1.40	71	0.017	99	100		129.9	-0.07	0.43		98.0	162.9	160.7	64.5	162.5	100	69	69	68		1.001	3.544	348
411	66.762	67.273		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.017	99	99		130.0	-0.12	0.39		98.0	162.7	160.6	64.5	162.5	100	69	69	68		1.001	3.243	318
412	66.925	67.436		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.017	99	99		129.9	0.10	0.45		97.7	162.5	160.4	64.4	162.2	98	69	69	68		1.001	3.709	363
413	67.088	67.600		0.16	0.16	1.35	1.09		82	82		1.94	1.40	71	0.016	102	102		129.9	-0.03	0.43		97.6	162.3	160.2	64.4	162.1	98	69	69	69		1.001	3.543	346
414	67.251	67.764		0.16	0.16	1.36	1.09		82	82		1.94	1.40	71	0.018	97	96		129.9	-0.01	0.43		97.5	162.3	160.1	64.4	162.0	98	69	69	69		1.001	3.546	346
415	67.414	67.928		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.015	106	106		129.9	0.00	0.41		97.3	162.1	160.0	64.4	161.8	97	69	69	69		1.001	3.387	330
416	67.576	68.092		0.16	0.16	1.36	1.09		82	82		1.95	1.40	71	0.017	99	99		129.9	0.02	0.43		97.2	162.0	159.8	64.4	161.7	97	69	69	69		1.001	3.546	345
417	67.739	68.257		0.16	0.17	1.36	1.09		82	82		1.96	1.40	71	0.018	97	97		129.8	0.06	0.44		97.1	161.8	159.7	64.4	161.5	129	69	69	69		1.001	3.704	360
418	67.901	68.420		0.16	0.16	1.35	1.08		82	82		1.95	1.40	75	0.017	99	99		129.7	0.14	0.43		96.9	161.6	159.5	64.4	161.3	121	69	70	68		1.001	3.543	344
419	68.064	68.584		0.16	0.16	1.36	1.09		82	81		1.96	1.40	72	0.017	100	100		129.8	-0.10	0.44		96.8	161.4	159.3	64.4	161.2	117	69	69	68		1.001	3.705	359
420	68.227	68.747		0.16	0.16	1.36	1.09		82	82		1.96	1.40	71	0.016	102	102		129.8	0.02	0.37		96.6	161.3	159.3	64.4	161.0	115	69	69	68		1.001	3.063	296
421	68.390	68.911		0.16	0.16	1.35	1.09		82	82		1.95	1.40	71	0.014	110	109		129.8	-0.03	0.43		96.4	161.1	159.0	64.4	160.8	113	69	69	69		1.001	3.541	342
422	68.552	69.076		0.16	0.16	1.36	1.09		82	82		1.94	1.40	71	0.017	99	100		129.7	0.07	0.47		96.2	160.9	158.8	64.4	160.6	130	69	69	69		1.001	3.883	374
423	68.716	69.240		0.16	0.16	1.35	1.08		82	82		1.95	1.40	79	0.018	98	97		129.6	0.11	0.46		96.1	160.7	158.6	64.4	160.5	122	70	70	68		1.001	3.866	372
424	68.878	69.403		0.16	0.16	1.35	1.08		82	82		1.95	1.40	80	0.017	100	100		129.4	0.24	0.43		96.0	160.6	158.6	64.4	160.4	133	70	70	69		1.001	3.564	342

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
425	69.041	69.566		0.16	0.16	1.35	1.08		82	82		1.95	1.40	80	0.017	100	100	129.0	0.42	0.43		95.9	160.6	158.5	64.4	160.2	156	70	70	69		1.001	3.544	340
426	69.203	69.730		0.16	0.16	1.35	1.09		82	81		1.95	1.40	81	0.018	97	98	128.6	0.38	0.44		95.8	160.6	158.5	64.4	160.2	178	70	70	69		1.001	3.704	355
427	69.366	69.893		0.16	0.16	1.35	1.09		82	82		1.96	1.40	83	0.018	98	97	128.2	0.38	0.43		96.0	160.8	158.7	64.3	160.3	197	70	70	68		1.001	3.547	341
428	69.529	70.058		0.16	0.17	1.35	1.09		82	82		1.96	1.40	84	0.017	101	101	127.7	0.55	0.41		96.3	161.1	159.0	64.3	160.6	214	71	70	68		1.001	3.385	326
429	69.691	70.221		0.16	0.16	1.35	1.09		82	82		1.97	1.40	87	0.017	100	100	127.1	0.59	0.44		96.8	161.8	159.6	64.3	161.2	232	71	71	68		1.001	3.705	359
430	69.853	70.383		0.16	0.16	1.34	1.09		82	82		1.98	1.40	90	0.017	101	100	126.4	0.64	0.45		97.3	162.3	160.1	64.3	161.7	251	71	71	68		1.001	3.707	361
431	70.016	70.546		0.16	0.16	1.35	1.09		82	81		1.98	1.40	94	0.018	99	98	125.7	0.71	0.43		98.1	163.3	161.0	64.3	162.5	267	72	72	68		1.001	3.544	348
432	70.178	70.709		0.16	0.16	1.36	1.09		82	82		1.98	1.40	97	0.016	104	104	125.1	0.65	0.45		99.2	164.1	161.9	64.3	163.5	278	73	72	68		1.001	3.707	368
433	70.340	70.873		0.16	0.16	1.34	1.09		82	81		1.98	1.40	100	0.017	101	102	124.2	0.92	0.46		100.0	165.2	162.9	64.3	164.3	289	74	73	68		1.001	3.865	387
434	70.501	71.035		0.16	0.16	1.34	1.08		82	82		1.98	1.40	103	0.017	101	101	123.5	0.69	0.41		101.0	166.3	164.0	64.3	165.4	297	75	74	68		1.001	3.380	342
435	70.663	71.198		0.16	0.16	1.34	1.08		82	81		2.00	1.40	105	0.016	105	105	122.8	0.63	0.39		102.3	167.5	165.2	64.3	166.7	303	75	75	68		1.001	3.215	329
436	70.824	71.360		0.16	0.16	1.34	1.08		82	81		1.99	1.50	106	0.016	105	105	122.0	0.86	0.43		103.5	168.8	166.5	64.3	167.8	309	76	76	68		1.001	3.564	369
437	70.986	71.522		0.16	0.16	1.34	1.08		82	81		2.01	1.50	108	0.017	102	102	121.0	0.95	0.44		104.7	170.0	167.6	64.3	169.1	312	77	77	68		1.001	3.660	384
438	71.147	71.684		0.16	0.16	1.34	1.08		82	81		1.99	1.50	108	0.018	99	99	120.2	0.80	0.42		106.0	171.3	168.9	64.3	170.3	313	77	77	68		1.001	3.485	370
439	71.308	71.845		0.16	0.16	1.33	1.07		82	82		2.02	1.50	108	0.017	102	101	119.5	0.74	0.42		107.3	172.6	170.2	64.3	171.6	315	78	78	68		1.001	3.531	379
440	71.469	72.006		0.16	0.16	1.33	1.07		82	81		2.01	1.50	109	0.018	99	98	118.7	0.79	0.43		108.5	173.9	171.5	64.3	172.8	318	78	78	68		1.001	3.544	385
441	71.630	72.168		0.16	0.16	1.33	1.06		82	81		2.03	1.50	110	0.017	102	102	118.1	0.61	0.46		109.8	175.2	172.7	64.3	174.2	324	79	79	68		1.001	3.867	425
442	71.791	72.328		0.16	0.16	1.32	1.06		82	81		2.04	1.50	111	0.017	102	101	117.0	1.10	0.45		111.2	176.6	174.0	64.3	175.5	329	79	79	68		1.001	3.708	413
443	71.951	72.489		0.16	0.16	1.32	1.06		82	81		2.04	1.50	113	0.017	101	101	116.3	0.72	0.42		112.7	178.1	175.5	64.3	177.0	332	80	80	68		1.001	3.537	399
444	72.111	72.650		0.16	0.16	1.32	1.06		82	81		2.06	1.50	114	0.016	105	105	115.5	0.73	0.44		114.0	179.5	176.9	64.3	178.3	335	80	80	68		1.001	3.705	423
445	72.271	72.810		0.16	0.16	1.33	1.05		82	81		2.04	1.50	114	0.017	101	101	114.7	0.85	0.43		115.5	181.0	178.3	64.3	179.9	336	81	81	68		1.001	3.545	410
446	72.431	72.970		0.16	0.16	1.33	1.05		82	81		2.04	1.50	115	0.018	99	98	114.0	0.72	0.41		117.0	182.5	179.8	64.3	181.4	317	81	81	68		1.001	3.382	396
447	72.592	73.130		0.16	0.16	1.32	1.05		82	81		2.03	1.50	93	0.017	100	99	113.7	0.25	0.43		118.2	183.4	180.7	64.3	182.5	285	79	79	68		1.001	3.541	419
448	72.752	73.291		0.16	0.16	1.32	1.05		82	81		2.04	1.50	87	0.017	99	99	113.2	0.48	0.37		118.8	184.0	181.4	64.3	183.1	265	77	78	68		1.001	3.063	364
449	72.913	73.451		0.16	0.16	1.33	1.05		82	81		2.03	1.50	84	0.019	94	93	113.1	0.16	0.45		119.4	184.5	181.9	64.3	183.7	252	77	77	68		1.001	3.706	443
450	73.074	73.611		0.16	0.16	1.33	1.05		82	82		2.01	1.50	82	0.018	96	95	113.0	0.11	0.45		119.8	184.8	182.2	64.3	184.1	243	76	76	69		1.001	3.707	445
451	73.235	73.772		0.16	0.16	1.33	1.04		82	81		2.01	1.50	79	0.016	102	101	112.8	0.16	0.45		120.1	185.1	182.4	64.3	184.4	236	75	75	68		1.001	3.745	450
452	73.396	73.932		0.16	0.16	1.33	1.05		82	81		2.02	1.50	78	0.017	99	98	112.7	0.11	0.43		120.3	185.3	182.7	64.3	184.6	229	74	74	68		1.001	3.542	427
453	73.558	74.093		0.16	0.16	1.33	1.05		82	81		2.00	1.50	77	0.016	102	101	112.7	0.01	0.46		120.6	185.5	182.9	64.3	184.9	223	74	73	68		1.001	3.847	464
454	73.719	74.254		0.16	0.16	1.33	1.05		82	81		2.00	1.50	77	0.016	102	101	112.7	-0.07	0.41		120.7	185.7	183.1	64.3	185.0	218	73	73	68		1.001	3.381	408
455	73.881	74.415		0.16	0.16	1.34	1.05		82	81		1.99	1.50	76	0.018	96	95	112.6	0.14	0.43		120.9	185.9	183.3	64.3	185.2	214	73	72	68		1.001	3.545	429
456	74.042	74.575		0.16	0.16	1.34	1.05		82	81		2.00	1.50	76	0.018	96	95	112.5	0.10	0.46		121.1	185.8	183.1	64.3	185.4	210	72	72	68		1.001	3.863	468
457	74.204	74.737		0.16	0.16	1.34	1.06		82	81		2.00	1.50	76	0.017	99	99	112.6	-0.13	0.44		121.2	185.9	183.3	64.3	185.5	206	72	72	68		1.001	3.704	449
458	74.366	74.899		0.16	0.16	1.34	1.05		82	81		1.99	1.50	75	0.015	106	105	112.5	0.17	0.46		121.3	186.1	183.5	64.3	185.6	203	71	71	68		1.001	3.867	470
459	74.527	75.060		0.16	0.16	1.34	1.06		82	81		2.00	1.50	75	0.014	109	108	112.5	-0.04	0.43		121.3	186.1	183.4	64.3	185.5	199	71	71	68		1.001	3.544	430
460	74.689	75.221		0.16	0.16	1.34	1.06		82	81		1.98	1.50	75	0.017	99	98	112.5	0.04	0.44		121.4	186.2	183.5	64.3	185.7	196	70	70	68		1.001	3.704	450
461	74.851	75.383		0.16	0.16	1.34	1.06		82	82		1.98	1.50	74	0.018	96	96	112.4	0.03	0.46		121.3	186.2	183.5	64.3	185.6	193	70	70	68		1.001	3.861	469
462	75.013	75.544		0.16	0.16	1.34	1.06		82	82		1.98	1.50	73	0.017	99	98	112.4	0.03	0.43		121.5	186.3	183.6	64.3	185.7	190	69	70	68		1.001	3.544	431
463	75.175	75.706		0.16	0.16	1.34	1.07		82	81		1.97	1.40	73	0.018	96	96	112.4	-0.02	0.43		121.5	186.2	183.5	64.3	185.7	187	69	70	68		1.001	3.545	431
464	75.337	75.868		0.16	0.16	1.34	1.07		82	81		1.98	1.40	73	0.017	99	98	112.4	-0.03	0.41		121.5	186.3	183.5	64.3	185.7	183	69	70	68		1.001	3.413	415
465	75.499	76.031		0.16	0.16	1.35	1.07		82	81		1.97	1.40	73	0.015	105	105	112.4	0.09	0.41		121.5	186.3	183.6	64.3	185.8	180	69	70	68		1.001	3.375	411
466	75.661	76.194		0.16	0.16	1.34	1.07		82	81		1.96	1.40	73	0.016	102	102	112.6	-0.28	0.43		121.3	186.2	183.4	64.3	185.6	177	69	69	68		1.001	3.541	430
467	75.823	76.356		0.16	0.16	1.34	1.07		82	81		1.97	1.40	73	0.015	105	105	112.3	0.35	0.41		121.5	186.1	183.5	64.2	185.7	174	69	69	68		1.001	3.382	411
468	75.985	76.519		0.16	0.16	1.34	1.08		82	81		1.97	1.40	73	0.018	96	96	112.6	-0.27	0.44		121.5	186.2	183.5	64.2	185.7	171	69	69	68		1.001	3.704	450
469	76.148	76.682		0.16	0.16	1.34	1.08		82	81		1.97	1.40	73	0.016	103	102	112.4	0.16	0.43		121.3	186.0	183.3	64.2	185.6	169	69	69	68		1.001	3.542	430
470	76.310	76.845		0.16	0.16	1.34	1.08		82	81		1.97	1.40	72	0.016	102	102	112.5	-0.07	0.44		121.3	186.1	183.5	64.2	185.5	166	69	69	68		1.001	3.703	450
471	76.472	77.008		0.16	0.16	1.35	1.08		82	81		1.97	1.40	72	0.018	96	96	112.5	-0.03	0.44		121.3	186.1	183.4	64.2	185.6	164	69	69	68		1.001	3.702	450
472	76.634	77.171		0.16	0.16	1.34	1.08		82	81		1.97	1.40	72	0.017	99	99	112.3	0.16	0.41		121.2	186.0	183.3	64.2	185.4	161	69	69	68		1.001	3.382	411
473	76.796	77.335		0.16	0.16	1.34	1.08		82	81		1.97	1.40	72	0.018	96	97	112.5	-0.15	0.41		121.2	185.9	183.3	64.2	185.4	159	69	69	68		1.001	3.383	410
474	76.958	77.498		0.16	0.16	1.34	1.09		82	81		1.97	1.40	72	0.016	102	102	112.5	-0.04	0.46		121.3	185.9	183.3	64.2	185.5	156	69	69	69		1.001	3.868	470
475	77.120	77.661		0.16	0.16	1.34	1.09		82	81		1.96	1.40	72	0.017	99	99	112.5	0.01	0.41		121.1	185.9	183.3	64.2	185.3	154	69	69	68		1.001	3.385	410
476	77.283	77.825		0.16	0.16	1.34	1.08		82	81		1.97	1.40	72	0.017	100	100	112.4	0.16	0.39		121.0	185.7	183.0	64.2	185.2	152	69	69	68		1.001	3.259	395
477	77.445	77.989		0.16	0.16	1.34	1.08		82	81		1.97	1.40	72	0.018	96	97	112.4	-0.05	0.42		120.9	185.7	183.0	64.2	185.1	150	69	69	68		1.001	3.456	418
478	77.607	78.151		0.16	0.16	1.34	1.08		81	81		1.98	1.40	72	0.017	99	98	112.5	-0.09	0.47		120.9	185.6	182.9	64.2	185.1	149	69	69	68		1.001	3.875	469
479	77.769	78.315		0.16	0.16	1.34	1.08		81	81		1.98	1.40	72	0.017	99	100	112.5	0.00	0.44		120.9	185.6	182.9	64.2	185.1	147	69	69	68		1.001	3.703	448
480	77.932	78.478		0.16	0.16	1.34	1.09		81	81		1.97	1.40	72	0.015	106	105	112.6	-0.06	0.46		120.8	185.5	182.8	64.3	185.0	145	69	69	68		1.001	3.865	467
481	78.094	78.643		0.16	0.17	1.34	1.08		82	81		1.97	1.40	72	0.017	99	100	112.4	0.14	0.41		120.8	185.4	182.8	64.3	185.0	144	69	69	68		1.001	3.383	409
482	78.256	78.806		0.16	0.16	1.35	1.08		81	81		1.97	1.40	72	0.016	102	102	112.6	-0.16	0.41		120.7	185.3	182.7	64.3	185.0	142	69	69	68		1.001	3.385	409
483	78.418	78.969		0.16	0.16	1.34	1.08		81	81		1.97	1.40	72	0.017	99	99	112.5	0.05	0.44		120.4	185.2	182.5	64.3	184.7	140	69	69	68		1.001	3.702	446
484	78.581	79.133		0.16	0.16	1.34	1.08		81	81		1.97	1.40	72	0.017	100	100	112.5	0.03	0.44		120.3	185.2	182.5	64.4	184.6	138	69	69	68		1.001	3.705	446
485	78.743	79.296		0.16	0.16	1.35	1.08		81	81		1.97	1.40	72	0.018	96	96	112.5	-0.02	0.44		120.3	185.1	182.4	64.4	184.7	137	69	69	68		1.001	3.702	446
486	78.905	79.460		0.16	0.16	1.35	1.09		81	81		1.97	1.40	72	0.017	99	100	112.5	0.04	0.44		120.1	185.0	182.3	64.4	184.5	136	69	69	68		1.001	3.703	445

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
487	79.068	79.624		0.16	0.16	1.35	1.08		81	81		1.98	1.40	72	0.017	100	100	112.5	-0.08	0.43		120.0	184.9	182.3	64.4	184.4	134	69	69	68		1.001	3.544	426
488	79.230	79.787		0.16	0.16	1.35	1.08		81	81		1.96	1.40	72	0.017	99	99	112.5	0.06	0.43		120.0	184.7	182.0	64.4	184.4	133	69	69	68		1.001	3.543	426
489	79.392	79.950		0.16	0.16	1.34	1.08		81	81		1.97	1.40	72	0.017	99	99	112.6	-0.14	0.41		119.8	184.7	182.1	64.4	184.2	132	69	69	68		1.001	3.401	408
490	79.554	80.113		0.16	0.16	1.34	1.08		81	81		1.98	1.40	72	0.018	96	96	112.6	-0.01	0.44		119.8	184.6	182.0	64.4	184.2	131	69	69	68		1.001	3.678	441
491	79.716	80.277		0.16	0.16	1.35	1.08		81	81		1.96	1.40	72	0.015	105	106	112.5	0.11	0.45		119.7	184.5	181.9	64.4	184.1	129	69	69	68		1.001	3.739	448
492	79.878	80.441		0.16	0.16	1.34	1.08		81	81		1.96	1.40	72	0.016	102	103	112.5	-0.02	0.46		119.4	184.3	181.6	64.4	183.8	129	69	69	68		1.001	3.862	462
493	80.040	80.604		0.16	0.16	1.35	1.08		81	81		1.97	1.40	72	0.018	96	96	112.6	-0.09	0.47		119.4	184.4	181.7	64.4	183.8	128	69	69	68		1.001	3.884	464
494	80.203	80.767		0.16	0.16	1.35	1.08		81	81		1.97	1.40	72	0.017	100	99	112.5	0.13	0.43		119.4	184.2	181.6	64.4	183.8	125	69	69	68		1.001	3.548	424
495	80.365	80.931		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	102	103	112.6	-0.12	0.46		119.2	184.1	181.4	64.4	183.6	124	69	69	68		1.001	3.867	462
496	80.527	81.095		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.017	99	99	112.6	0.04	0.44		119.0	183.9	181.3	64.4	183.4	124	69	69	68		1.001	3.703	441
497	80.689	81.258		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.014	109	109	112.4	0.22	0.43		119.0	183.8	181.3	64.4	183.4	125	69	69	68		1.001	3.545	422
498	80.851	81.422		0.16	0.16	1.35	1.08		81	81		1.96	1.40	71	0.016	102	103	112.4	-0.07	0.43		118.9	183.7	181.1	64.4	183.3	122	69	69	68		1.001	3.542	422
499	81.014	81.586		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.018	97	97	112.6	-0.20	0.43		118.7	183.5	181.0	64.4	183.1	121	69	69	68		1.001	3.542	421
500	81.176	81.749		0.16	0.16	1.34	1.08		81	81		1.98	1.40	71	0.014	109	109	112.7	-0.04	0.43		118.6	183.4	180.9	64.4	183.0	121	69	69	68		1.001	3.544	421
501	81.338	81.912		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.014	109	109	112.6	0.06	0.46		118.4	183.3	180.7	64.4	182.8	121	69	69	68		1.001	3.867	458
502	81.500	82.076		0.16	0.16	1.35	1.08		81	81		1.96	1.40	71	0.018	96	97	112.7	-0.11	0.46		118.4	183.2	180.6	64.4	182.8	120	69	69	68		1.001	3.869	458
503	81.662	82.240		0.16	0.16	1.34	1.08		81	81		1.97	1.40	71	0.018	96	97	112.8	-0.03	0.41		118.2	183.2	180.6	64.4	182.6	119	69	69	68		1.001	3.431	406
504	81.825	82.403		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.017	100	99	112.6	0.13	0.43		118.2	182.9	180.4	64.4	182.6	119	69	69	68		1.001	3.609	427
505	81.987	82.567		0.16	0.16	1.34	1.08		81	81		1.96	1.40	71	0.015	105	106	112.9	-0.23	0.44		118.0	182.8	180.3	64.4	182.4	120	69	69	68		1.001	3.678	434
506	82.150	82.730		0.16	0.16	1.34	1.08		81	81		1.96	1.40	71	0.016	103	102	112.6	0.24	0.43		117.8	182.6	180.2	64.4	182.2	117	69	69	68		1.001	3.543	418
507	82.312	82.894		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.016	102	103	112.6	-0.02	0.46		117.8	182.6	180.1	64.4	182.2	116	69	69	68		1.001	3.863	456
508	82.474	83.057		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.014	109	109	112.7	-0.04	0.43		117.7	182.4	179.9	64.4	182.1	116	69	69	68		1.001	3.542	417
509	82.636	83.221		0.16	0.16	1.34	1.08		81	81		1.96	1.40	71	0.014	109	110	112.6	0.09	0.44		117.4	182.3	179.8	64.4	181.8	115	69	69	68		1.001	3.703	435
510	82.799	83.385		0.16	0.16	1.34	1.09		81	81		1.98	1.40	71	0.016	103	103	112.6	-0.05	0.44		117.3	182.3	179.7	64.4	181.7	113	69	69	68		1.001	3.704	435
511	82.961	83.548		0.16	0.16	1.34	1.08		81	81		1.98	1.40	71	0.016	102	102	112.7	-0.01	0.45		117.3	182.1	179.5	64.4	181.7	115	69	69	68		1.001	3.707	435
512	83.123	83.711		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	99	99	112.6	0.05	0.48		117.1	181.9	179.4	64.4	181.5	112	69	69	68		1.001	4.029	472
513	83.286	83.875		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.018	97	97	112.7	-0.10	0.44		116.9	181.8	179.2	64.4	181.3	114	69	69	68		1.001	3.704	434
514	83.448	84.039		0.16	0.16	1.34	1.09		81	81		1.98	1.40	71	0.017	99	99	112.7	0.01	0.46		116.8	181.7	179.1	64.4	181.2	115	69	69	68		1.001	3.862	452
515	83.610	84.202		0.16	0.16	1.34	1.08		81	81		1.97	1.40	71	0.018	96	96	112.7	-0.01	0.44		116.8	181.5	179.0	64.4	181.2	113	69	69	68		1.001	3.702	433
516	83.772	84.366		0.16	0.16	1.34	1.08		81	81		1.96	1.40	71	0.017	99	99	112.8	-0.10	0.41		116.6	181.4	178.8	64.4	181.0	111	69	69	68		1.001	3.373	394
517	83.935	84.529		0.16	0.16	1.34	1.08		81	81		1.98	1.40	71	0.016	103	102	112.6	0.18	0.41		116.5	181.2	178.7	64.4	180.8	113	69	69	68		1.001	3.429	400
518	84.097	84.693		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	99	99	112.7	-0.12	0.41		116.3	181.0	178.5	64.3	180.7	113	69	69	68		1.001	3.383	394
519	84.259	84.856		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.016	102	102	112.6	0.14	0.46		116.2	181.0	178.4	64.3	180.5	112	69	69	68		1.001	3.864	449
520	84.422	85.020		0.16	0.16	1.34	1.09		81	81		1.98	1.40	71	0.018	97	97	112.7	-0.14	0.43		116.0	180.9	178.3	64.3	180.4	144	69	69	68		1.001	3.545	412
521	84.584	85.183		0.16	0.16	1.34	1.07		81	81		1.98	1.40	81	0.018	97	97	112.7	0.08	0.39		116.0	180.7	178.3	64.3	180.3	142	70	70	68		1.001	3.221	374
522	84.746	85.346		0.16	0.16	1.35	1.09		81	81		1.96	1.40	73	0.016	102	102	112.5	0.17	0.46		115.7	180.4	177.9	64.3	180.0	137	69	69	68		1.001	3.865	448
523	84.908	85.509		0.16	0.16	1.34	1.09		81	81		1.96	1.40	72	0.017	99	99	112.3	0.18	0.45		115.5	180.4	177.9	64.3	179.8	132	69	69	68		1.001	3.707	429
524	85.070	85.673		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99	112.5	-0.20	0.41		115.5	180.2	177.8	64.3	179.8	130	69	69	68		1.001	3.383	391
525	85.232	85.837		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.015	105	106	112.3	0.25	0.48		115.3	180.1	177.6	64.3	179.6	128	69	69	68		1.001	4.024	465
526	85.394	86.001		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	102	103	112.4	-0.15	0.43		115.2	179.8	177.3	64.3	179.5	125	69	69	68		1.001	3.543	409
527	85.556	86.164		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.017	99	99	112.5	-0.08	0.46		115.0	179.7	177.2	64.3	179.2	124	69	69	68		1.001	3.865	445
528	85.718	86.328		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99	112.4	0.11	0.44		114.9	179.6	177.1	64.3	179.2	123	69	69	68		1.001	3.703	426
529	85.880	86.491		0.16	0.16	1.35	1.08		81	81		1.96	1.40	71	0.016	102	102	112.6	-0.22	0.44		114.8	179.4	176.9	64.3	179.1	122	69	69	68		1.001	3.699	425
530	86.043	86.655		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	100	99	112.5	0.10	0.41		114.8	179.4	176.9	64.3	179.0	120	69	69	68		1.001	3.384	389
531	86.205	86.819		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.015	105	106	112.4	0.07	0.45		114.5	179.1	176.6	64.2	178.8	119	69	69	68		1.001	3.744	429
532	86.368	86.982		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	103	102	112.6	-0.14	0.43		114.4	178.9	176.5	64.2	178.6	118	69	69	68		1.001	3.544	406
533	86.530	87.146		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	99	99	112.4	0.13	0.46		114.3	178.9	176.4	64.2	178.5	117	69	69	68		1.001	3.863	442
534	86.692	87.309		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99	112.5	-0.10	0.45		114.2	178.8	176.3	64.2	178.4	117	69	69	68		1.001	3.711	424
535	86.854	87.473		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	102	103	112.7	-0.12	0.45		114.1	178.6	176.3	64.2	178.3	116	69	69	68		1.001	3.707	423
536	87.017	87.637		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	100	99	112.4	0.23	0.43		113.7	178.4	175.9	64.2	177.9	115	69	69	68		1.001	3.542	403
537	87.179	87.801		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.018	96	97	112.6	-0.12	0.48		113.8	178.3	175.8	64.2	177.9	114	69	69	68		1.001	4.024	458
538	87.342	87.964		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.017	100	99	112.5	0.03	0.46		113.6	178.1	175.6	64.2	177.8	116	69	69	68		1.001	3.868	440
539	87.504	88.127		0.16	0.16	1.34	1.08		81	81		1.95	1.40	71	0.015	105	105	112.6	-0.03	0.43		113.4	178.0	175.5	64.2	177.6	114	69	69	68		1.001	3.547	403
540	87.666	88.291		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.018	96	97	112.6	-0.07	0.43		113.2	177.8	175.3	64.2	177.3	113	69	69	68		1.001	3.541	401
541	87.829	88.454		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.015	106	105	112.5	0.11	0.41		113.2	177.7	175.2	64.2	177.3	113	69	69	68		1.001	3.375	382
542	87.991	88.619		0.16	0.17	1.35	1.09		81	81		1.96	1.40	71	0.016	102	103	112.6	-0.04	0.43		113.0	177.5	175.1	64.2	177.2	111	69	69	68		1.001	3.560	403
543	88.153	88.782		0.16	0.16	1.34	1.08		81	81		1.97	1.40	71	0.017	99	99	112.5	0.01	0.44		112.9	177.4	174.9	64.2	177.1	109	69	69	68		1.001	3.625	410
544	88.316	88.946		0.16	0.16	1.34	1.08		81	81		1.97	1.40	71	0.014	110	110	112.5	0.01	0.44		112.7	177.2	174.7	64.1	176.8	111	69	69	68		1.001	3.704	418
545	88.478	89.109		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.016	102	102	112.6	-0.06	0.44		112.7	177.1	174.6	64.1	176.8	109	69	69	68		1.001	3.695	417
546	88.640	89.273		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.016	102	103	112.6	-0.04	0.41		112.3	177.0	174.5	64.1	176.5	111	69	69	68		1.001	3.384	381
547	88.803	89.436		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	100	99	112.6	0.05	0.45		112.2	176.7	174.3	64.1	176.3	109	69	69	68		1.001	3.706	416
548	88.965	89.601		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.016	102	103	112.7	-0.15	0.39		112.0	176.6	174.1	64.1	176.1	110	69	69	68		1.001	3.220	361

Elapsed Time	Particulate Sampling Data																		Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)		Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
549	89.127	89.764		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.017	99	99		112.7	0.04	0.41		111.8	176.4	173.9	64.1	176.0	109	69	69	68		1.001	3.384	379
550	89.290	89.927		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	100	99		112.7	0.00	0.41		111.7	176.3	173.9	64.1	175.8	108	69	69	68		1.001	3.384	378
551	89.452	90.090		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99		112.6	0.05	0.43		111.8	176.2	173.7	64.1	175.9	146	69	69	68		1.001	3.543	396
552	89.615	90.254		0.16	0.16	1.34	1.08		81	81		1.98	1.40	79	0.016	103	103		112.5	0.17	0.41		111.5	175.9	173.5	64.1	175.6	133	70	70	68		1.001	3.382	378
553	89.776	90.418		0.16	0.16	1.35	1.09		81	81		1.97	1.40	72	0.017	98	100		112.4	0.04	0.44		111.2	175.7	173.3	64.2	175.3	128	69	69	68		1.001	3.705	412
554	89.939	90.581		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	100	99		112.5	-0.10	0.45		110.9	175.6	173.2	64.2	175.1	125	69	69	68		1.001	3.710	412
555	90.101	90.745		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.016	102	103		112.2	0.26	0.44		111.0	175.5	173.1	64.2	175.2	123	69	69	68		1.001	3.704	412
556	90.263	90.908		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	99	99		112.4	-0.16	0.45		110.7	175.3	172.9	64.2	175.0	121	69	69	68		1.001	3.706	411
557	90.425	91.072		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99		112.4	0.02	0.46		110.6	175.1	172.8	64.2	174.8	119	69	69	68		1.001	3.797	420
558	90.587	91.235		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99		112.4	-0.03	0.44		110.3	175.0	172.6	64.3	174.5	118	69	69	68		1.001	3.702	409
559	90.749	91.400		0.16	0.17	1.35	1.08		81	81		1.96	1.40	71	0.015	105	107		112.3	0.10	0.40		110.2	174.9	172.5	64.3	174.5	116	69	69	68		1.001	3.370	372
560	90.912	91.563		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.015	106	105		112.4	-0.04	0.43		110.0	174.7	172.4	64.3	174.3	116	69	69	68		1.001	3.545	390
561	91.074	91.726		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.017	99	99		112.4	0.00	0.41		109.7	174.4	172.2	64.3	174.0	115	69	69	68		1.001	3.385	372
562	91.236	91.890		0.16	0.16	1.35	1.08		81	81		1.96	1.40	71	0.017	99	99		112.3	0.07	0.41		109.5	174.4	172.1	64.4	173.9	113	69	69	68		1.001	3.386	371
563	91.399	92.054		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	103	103		112.5	-0.19	0.46		109.5	174.2	171.9	64.4	173.9	113	69	69	68		1.001	3.864	424
564	91.561	92.218		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.019	94	94		112.4	0.11	0.44		109.2	174.0	171.7	64.4	173.6	111	69	69	68		1.001	3.705	405
565	91.723	92.382		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.018	96	97		112.5	-0.08	0.44		109.1	173.9	171.5	64.4	173.5	111	69	69	68		1.001	3.703	405
566	91.886	92.545		0.16	0.16	1.35	1.08		81	81		1.96	1.40	71	0.017	100	99		112.5	-0.09	0.44		108.8	173.7	171.3	64.4	173.3	110	69	69	68		1.001	3.704	404
567	92.048	92.709		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	99	99		112.4	0.19	0.44		108.7	173.5	171.3	64.4	173.1	110	69	69	68		1.001	3.704	403
568	92.211	92.872		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.018	97	96		112.5	-0.12	0.46		108.5	173.4	171.1	64.5	173.0	108	69	69	68		1.001	3.870	421
569	92.373	93.036		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.016	102	103		112.4	0.08	0.46		108.5	173.3	171.0	64.4	173.0	108	69	69	68		1.001	3.859	419
570	92.535	93.200		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.018	96	97		112.4	-0.06	0.47		108.3	173.1	170.8	64.5	172.7	109	69	69	68		1.001	3.883	421
571	92.698	93.364		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.017	100	99		112.4	0.05	0.43		108.2	172.9	170.6	64.4	172.6	109	69	69	68		1.001	3.578	387
572	92.860	93.527		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.017	99	99		112.5	-0.09	0.43		108.0	172.8	170.6	64.4	172.5	107	69	69	68		1.001	3.605	390
573	93.023	93.691		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.017	100	99		112.3	0.18	0.41		107.8	172.7	170.4	64.4	172.3	105	69	69	68		1.001	3.384	365
574	93.185	93.854		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.017	99	99		112.5	-0.15	0.44		107.7	172.5	170.2	64.4	172.2	108	69	69	68		1.001	3.705	400
575	93.348	94.018		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	100	99		112.6	-0.13	0.44		107.5	172.3	170.1	64.4	172.0	106	69	69	68		1.001	3.704	399
576	93.510	94.183		0.16	0.17	1.34	1.09		81	81		1.95	1.40	71	0.016	102	103		112.5	0.07	0.46		107.5	172.3	170.0	64.4	171.9	104	69	69	68		1.001	3.862	416
577	93.673	94.346		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.017	100	99		112.5	0.03	0.44		107.4	172.0	169.7	64.4	171.8	105	69	69	68		1.001	3.705	398
578	93.835	94.510		0.16	0.16	1.34	1.08		81	81		1.97	1.40	71	0.017	99	99		112.5	-0.01	0.41		107.1	171.8	169.6	64.4	171.5	104	69	69	68		1.001	3.384	363
579	93.997	94.673		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.015	105	105		112.4	0.09	0.43		106.9	171.8	169.5	64.4	171.3	105	69	69	68		1.001	3.547	380
580	94.160	94.837		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.019	94	94		112.6	-0.15	0.41		106.8	171.6	169.3	64.4	171.2	103	69	69	68		1.001	3.386	362
581	94.322	95.000		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.015	105	105		112.5	0.02	0.44		106.7	171.4	169.1	64.4	171.1	103	69	69	68		1.001	3.703	396
582	94.485	95.165		0.16	0.17	1.34	1.09		81	81		1.96	1.40	71	0.016	103	103		112.5	-0.01	0.43		106.5	171.2	168.9	64.4	170.9	140	69	69	68		1.001	3.542	378
583	94.647	95.328		0.16	0.16	1.34	1.08		81	81		1.97	1.40	78	0.017	100	100		112.4	0.15	0.45		106.4	171.1	168.8	64.4	170.8	126	70	70	68		1.001	3.712	396
584	94.809	95.491		0.16	0.16	1.35	1.09		81	81		1.95	1.40	72	0.018	96	96		112.4	-0.02	0.44		106.2	170.9	168.6	64.4	170.6	123	69	69	68		1.001	3.705	394
585	94.971	95.655		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.017	99	99		112.3	0.13	0.44		106.0	170.7	168.4	64.3	170.4	120	69	69	68		1.001	3.705	393
586	95.133	95.819		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.016	102	103		112.4	-0.11	0.39		105.8	170.5	168.2	64.3	170.2	118	69	69	68		1.001	3.225	342
587	95.296	95.982		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.016	103	102		112.4	-0.01	0.46		105.7	170.4	168.1	64.3	170.0	116	69	69	68		1.001	3.866	409
588	95.458	96.147		0.16	0.17	1.35	1.08		81	81		1.96	1.40	71	0.018	96	97		112.3	0.08	0.43		105.5	170.3	168.0	64.3	169.8	115	69	69	68		1.001	3.542	374
589	95.620	96.310		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.018	96	96		112.5	-0.14	0.48		105.5	170.1	167.8	64.3	169.8	114	69	69	68		1.001	4.028	425
590	95.783	96.474		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	100	99		112.4	0.06	0.41		105.3	169.9	167.7	64.3	169.6	112	69	69	68		1.001	3.381	356
591	95.945	96.637		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.016	102	102		112.4	-0.02	0.45		105.1	169.8	167.5	64.3	169.4	110	69	69	68		1.001	3.706	390
592	96.108	96.801		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	103	103		112.4	0.04	0.43		104.9	169.6	167.4	64.3	169.2	109	69	69	68		1.001	3.541	372
593	96.270	96.965		0.16	0.16	1.36	1.09		81	81		1.97	1.40	71	0.018	96	97		112.4	0.01	0.45		104.8	169.5	167.2	64.3	169.1	109	69	69	68		1.001	3.708	389
594	96.432	97.129		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	99	99		112.3	0.04	0.43		104.7	169.3	167.1	64.3	169.0	108	69	69	68		1.001	3.546	372
595	96.595	97.293		0.16	0.16	1.35	1.08		81	81		1.96	1.40	71	0.018	97	97		112.5	-0.13	0.44		104.5	169.2	166.9	64.3	168.8	107	69	69	68		1.001	3.703	388
596	96.757	97.456		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.016	102	102		112.4	0.10	0.39		104.3	168.9	166.7	64.3	168.6	107	69	69	68		1.001	3.225	337
597	96.920	97.620		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.018	97	97		112.5	-0.10	0.43		104.2	168.9	166.6	64.3	168.5	107	69	69	68		1.001	3.565	372
598	97.082	97.783		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.018	96	96		112.3	0.21	0.41		104.0	168.7	166.5	64.3	168.3	106	69	69	68		1.001	3.441	358
599	97.245	97.948		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.018	97	97		112.3	-0.04	0.46		104.0	168.5	166.3	64.3	168.2	105	69	69	68		1.001	3.868	403
600	97.407	98.112		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.017	99	99		112.4	-0.13	0.43		103.8	168.3	166.1	64.2	168.1	104	69	69	68		1.001	3.545	369
601	97.570	98.275		0.16	0.16	1.34	1.08		81	81		1.95	1.40	71	0.015	106	105		112.4	0.04	0.45		103.7	168.2	166.0	64.2	167.9	104	69	69	68		1.001	3.706	385
602	97.732	98.439		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99		112.3	0.07	0.39		103.5	168.0	165.8	64.2	167.8	104	69	69	68		1.001	3.228	335
603	97.895	98.602		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	100	99		112.4	-0.03	0.45		103.3	167.9	165.7	64.2	167.5	104	69	69	68		1.001	3.706	383
604	98.057	98.766		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	99	99		112.6	-0.23	0.46		103.2	167.7	165.5	64.2	167.4	103	69	69	68		1.001	3.865	399
605	98.220	98.930		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	100	99		112.4	0.14	0.41		103.0	167.5	165.3	64.2	167.2	102	69	69	68		1.001	3.386	349
606	98.382	99.094		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	99	99		112.6	-0.16	0.46		102.9	167.4	165.2	64.2	167.0	101	69	69	68		1.001	3.869	398
607	98.544	99.257		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.015	105	105		112.4	0.16	0.45		102.7	167.2	165.0	64.2	166.8	101	69	69	68		1.001	3.706	381
608	98.707	99.421		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.015	106	106		112.5	-0.05	0.43		102.5	167.1	164.9	64.2	166.7	100	69	69	68		1.001	3.546	364
609	98.870	99.585		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.015	106	106		112.5	0.02	0.41		102.5	167.0	164.8	64.2	166.6	101	69	69	68		1.001	3.382	347
610	99.032	99.748		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99		112.5	-0.02	0.41		102.3	166.8	164.6	64.1	166.4	100	69	69	68		1.001	3.381	346

Elapsed Time	Particulate Sampling Data																		Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)		Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
611	99.194	99.913		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	99	100		112.4	0.04	0.41		102.1	166.6	164.4	64.1	166.3	101	69	69	68		1.001	3.387	346
612	99.356	100.076		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	99	99		112.4	0.02	0.37		101.9	166.4	164.2	64.1	166.1	99	69	69	68		1.001	3.094	316
613	99.519	100.239		0.16	0.16	1.36	1.08		81	81		1.96	1.40	71	0.017	100	99		112.5	-0.05	0.46		101.7	166.2	164.0	64.1	165.8	132	69	69	68		1.001	3.850	392
614	99.681	100.403		0.16	0.16	1.35	1.08		81	81		1.96	1.40	76	0.018	97	97		112.6	-0.10	0.42		101.7	166.1	163.9	64.1	165.8	121	69	69	68		1.001	3.498	356
615	99.843	100.567		0.16	0.16	1.35	1.09		81	81		1.96	1.40	72	0.017	99	100		112.4	0.18	0.37		101.5	165.9	163.8	64.1	165.6	117	69	69	68		1.001	3.067	312
616	100.005	100.731		0.16	0.16	1.36	1.09		81	81		1.97	1.40	71	0.015	105	106		112.5	-0.08	0.41		101.3	165.9	163.7	64.1	165.4	115	69	69	68		1.001	3.388	344
617	100.168	100.895		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	100	99		112.5	0.00	0.43		101.3	165.7	163.5	64.1	165.4	114	69	69	68		1.001	3.548	360
618	100.330	101.058		0.16	0.16	1.35	1.08		81	81		1.97	1.40	71	0.018	96	96		112.4	0.03	0.45		101.1	165.5	163.4	64.1	165.2	112	69	69	68		1.001	3.708	375
619	100.493	101.222		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.016	103	103		112.3	0.10	0.41		100.9	165.3	163.2	64.1	165.0	111	69	69	68		1.001	3.390	342
620	100.655	101.385		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.017	99	99		112.4	-0.09	0.39		100.8	165.2	163.0	64.1	164.9	109	69	69	68		1.001	3.227	326
621	100.817	101.549		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.018	96	97		112.4	0.08	0.45		100.7	165.0	162.9	64.1	164.7	108	69	69	68		1.001	3.707	374
622	100.980	101.713		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	100	99		112.4	0.01	0.41		100.5	164.8	162.7	64.0	164.6	107	69	69	68		1.001	3.386	341
623	101.142	101.878		0.16	0.17	1.35	1.09		81	81		1.95	1.40	71	0.018	96	97		112.3	0.01	0.37		100.3	164.7	162.6	64.0	164.4	106	69	69	68		1.001	3.071	308
624	101.305	102.041		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	103	102		112.4	-0.05	0.45		100.2	164.6	162.4	64.0	164.2	105	69	69	68		1.001	3.706	372
625	101.467	102.204		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.015	105	105		112.3	0.10	0.44		100.0	164.4	162.3	64.0	164.1	104	69	69	68		1.001	3.705	371
626	101.630	102.368		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.017	100	99		112.4	-0.14	0.42		99.9	164.3	162.1	64.0	163.9	103	69	69	68		1.001	3.475	348
627	101.792	102.532		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.016	102	103		112.3	0.13	0.41		99.7	164.0	161.9	64.0	163.7	103	69	69	68		1.001	3.387	338
628	101.954	102.696		0.16	0.16	1.34	1.09		81	81		1.96	1.40	71	0.018	96	97		112.4	-0.08	0.45		99.5	163.9	161.8	64.0	163.5	102	69	69	68		1.001	3.707	369
629	102.117	102.860		0.16	0.16	1.34	1.09		81	81		1.95	1.40	71	0.017	100	99		112.4	0.01	0.41		99.4	163.8	161.7	64.0	163.5	102	69	69	68		1.001	3.385	337
630	102.280	103.024		0.16	0.16	1.34	1.08		81	81		1.97	1.40	71	0.015	106	106		112.4	-0.01	0.39		99.2	163.7	161.6	64.0	163.2	101	69	69	68		1.001	3.230	321
631	102.442	103.187		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.016	102	102		112.4	-0.01	0.45		99.2	163.5	161.4	64.0	163.2	101	68	69	68		1.001	3.707	368
632	102.605	103.351		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.017	100	99		112.6	-0.16	0.35		99.1	163.3	161.3	64.1	163.1	99	68	69	68		1.001	2.906	288
633	102.767	103.515		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.016	102	103		112.4	0.20	0.46		98.7	163.1	161.1	64.1	162.8	99	68	69	68		1.001	3.869	382
634	102.929	103.679		0.16	0.16	1.34	1.09		81	81		1.97	1.40	71	0.018	96	97		112.4	0.01	0.43		98.6	163.0	160.9	64.1	162.8	100	68	69	68		1.001	3.548	350
635	103.092	103.843		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.018	97	97		112.4	-0.06	0.45		98.4	162.8	160.8	64.1	162.5	99	68	69	68		1.001	3.707	365
636	103.254	104.006		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.016	102	102		112.5	-0.14	0.46		98.2	162.6	160.6	64.2	162.4	98	68	69	68		1.001	3.868	380
637	103.417	104.170		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.018	97	97		112.4	0.10	0.45		98.0	162.5	160.5	64.2	162.2	97	68	69	68		1.001	3.709	364
638	103.579	104.334		0.16	0.16	1.35	1.09		81	81		1.97	1.40	71	0.013	113	114		112.3	0.12	0.50		97.8	162.3	160.3	64.2	162.0	97	68	69	68		1.001	4.146	406
639	103.741	104.497		0.16	0.16	1.35	1.09		81	81		1.97	1.40	70	0.016	102	102		112.6	-0.23	0.43		97.7	162.2	160.2	64.2	162.0	99	68	69	68		1.001	3.593	352
640	103.904	104.662		0.16	0.17	1.35	1.09		81	81		1.96	1.40	71	0.015	106	107		112.4	0.10	0.43		97.5	162.1	160.1	64.3	161.8	96	68	69	68		1.001	3.549	346
641	104.066	104.826		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.016	102	103		112.5	-0.09	0.41		97.3	162.0	159.9	64.3	161.6	97	68	69	68		1.001	3.387	330
642	104.228	104.989		0.16	0.16	1.35	1.09		81	81		1.95	1.40	71	0.017	99	99		112.4	0.13	0.45		97.2	161.8	159.7	64.3	161.5	95	68	69	68		1.001	3.710	361
643	104.390	105.153		0.16	0.16	1.35	1.09		81	81		1.97	1.40	70	0.017	99	99		112.4	0.00	0.41		97.0	161.6	159.6	64.3	161.3	96	68	69	68		1.001	3.388	329
644	104.553	105.316		0.16	0.16	1.35	1.09		81	81		1.96	1.40	70	0.017	100	99		112.4	0.00	0.45		96.8	161.4	159.4	64.3	161.1	125	68	69	68		1.001	3.711	360
645	104.715	105.480		0.16	0.16	1.35	1.08		81	81		1.97	1.40	76	0.018	97	97		112.5	-0.04	0.41		96.5	161.2	159.3	64.3	160.8	115	69	69	68		1.001	3.389	328
646	104.877	105.644		0.16	0.16	1.35	1.08		81	81		1.98	1.40	77	0.017	100	100		112.2	0.26	0.43		96.4	161.1	159.1	64.3	160.7	117	69	69	68		1.001	3.546	342
647	105.039	105.807		0.16	0.16	1.35	1.08		81	81		1.97	1.40	77	0.018	97	97		112.2	-0.04	0.43		96.3	160.9	159.0	64.3	160.6	126	69	69	68		1.001	3.545	342
648	105.202	105.970		0.16	0.16	1.35	1.08		81	81		1.97	1.40	76	0.017	100	99		112.2	0.06	0.43		96.1	160.8	158.8	64.3	160.4	133	69	69	68		1.001	3.544	341
649	105.364	106.134		0.16	0.16	1.35	1.08		81	81		1.97	1.40	76	0.017	99	100		112.0	0.14	0.47		96.0	160.6	158.6	64.3	160.3	138	69	69	68		1.001	3.873	372
650	105.526	106.297		0.16	0.16	1.35	1.09		81	81		1.97	1.40	76	0.018	97	97		112.1	-0.05	0.46		95.9	160.5	158.5	64.3	160.2	141	69	69	68		1.001	3.870	371
651	105.688	106.461		0.16	0.16	1.35	1.09		81	81		1.96	1.40	76	0.017	99	100		112.1	-0.05	0.41		95.6	160.2	158.2	64.3	159.9	143	69	69	68		1.001	3.390	325
652	105.851	106.625		0.16	0.16	1.35	1.08		81	81		1.95	1.40	76	0.018	97	97		112.0	0.09	0.50		95.5	160.1	158.1	64.3	159.8	145	69	69	68		1.001	4.193	401
653	106.013	106.789		0.16	0.16	1.35	1.08		81	81		1.96	1.40	76	0.017	99	100		111.9	0.09	0.41		95.4	160.0	158.0	64.3	159.7	146	69	69	68		1.001	3.388	324
654	106.176	106.952		0.16	0.16	1.34	1.09		81	81		1.96	1.40	76	0.017	100	99		111.9	0.03	0.43		95.3	159.8	157.8	64.3	159.6	147	69	69	68		1.001	3.551	339
655	106.338	107.115		0.16	0.16	1.35	1.09		81	81		1.97	1.40	76	0.016	103	102		111.9	0.02	0.41		95.1	159.6	157.6	64.3	159.3	148	69	69	68		1.001	3.384	322
656	106.500	107.279		0.16	0.16	1.35	1.09		81	81		1.97	1.40	76	0.016	103	103		112.0	-0.08	0.45		95.0	159.5	157.4	64.3	159.3	149	69	69	68		1.001	3.706	352
657	106.662	107.443		0.16	0.16	1.34	1.09		81	81		1.96	1.40	76	0.017	99	100		111.9	0.10	0.47		94.7	159.3	157.3	64.2	159.0	149	69	69	68		1.001	3.875	368
658	106.825	107.607		0.16	0.16	1.34	1.09		81	81		1.96	1.40	77	0.017	100	100		111.9	-0.03	0.41		94.6	159.1	157.1	64.2	158.9	150	69	69	68		1.001	3.390	321
659	106.987	107.770		0.16	0.16	1.34	1.08		81	81		1.96	1.40	77	0.018	97	97		111.9	0.04	0.43		94.5	159.0	157.0	64.2	158.7	150	69	69	68		1.001	3.546	335
660	107.150	107.934		0.16	0.16	1.34	1.09		81	81		1.96	1.40	77	0.017	100	100		111.7	0.12	0.45		94.2	158.7	156.7	64.2	158.5	150	69	69	68		1.001	3.709	350
661	107.312	108.097		0.16	0.16	1.34	1.09		81	81		1.97	1.40	77	0.018	97	97		111.7	0.06	0.37		94.1	158.6	156.6	64.2	158.3	150	69	69	68		1.001	3.071	289
662	107.475	108.261		0.16	0.16	1.35	1.09		81	81		1.97	1.40	77	0.017	100	100		111.7	-0.07	0.35		93.9	158.4	156.4	64.2	158.1	150	69	69	68		1.001	2.908	273
663	107.637	108.425		0.16	0.16	1.35	1.09		81	81		1.96	1.40	77	0.017	100	100		111.7	0.06	0.43		93.8	158.2	156.2	64.2	158.0	150	69	69	68		1.001	3.555	334
664	107.799	108.589		0.16	0.16	1.35	1.09		81	81		1.96	1.40	77	0.018	97	97		111.7	-0.06	0.43		93.6	158.0	156.0	64.2	157.8	150	69	69	68		1.001	3.545	332
665	107.962	108.752		0.16	0.16	1.35	1.09		81	81		1.96	1.40	77	0.018	97	97		111.7	0.01	0.43		93.4	157.8	155.9	64.2	157.6	150	69	69	68		1.001	3.547	332
666	108.124	108.916		0.16	0.16	1.35	1.09		81	81		1.96	1.40	77	0.018	97	97		111.7	-0.01	0.44		93.2	157.8	155.7	64.2	157.4	150	69	69	68		1.001	3.636	339
667	108.287	109.080		0.16	0.16	1.35	1.09		81	81		1.97	1.40	77	0.016	103	103		111.7	0.04	0.41		93.1	157.6	155.6	64.2	157.3	150	69	69	68		1.001	3.383	315
668	108.449	109.243		0.16	0.16	1.34	1.09		81	81		1.97	1.40	77	0.016	103	102		111.6	0.08	0.50		92.9	157.4	155.4	64.2	157.1	150	70	70	68		1.001	4.190	390
669	108.611	109.408		0.16	0.17	1.35	1.09		81	81		1.96	1.40	78	0.016	103	104		111.6	0.01	0.45		92.7	157.2	155.2	64.2	156.9	150	70	70	68		1.001	3.711	345
670	108.773	109.571		0.16	0.16	1.35	1.08		81	81		1.96	1.40	77	0.017	100	99		111.7	-0.11	0.43		92.6	157.1	155.1	64.2	156.8	150	70	70	68		1.001	3.546	329
671	108.935	109.734		0.16	0.16	1.34	1.09		81	81		1.97	1.40	78	0.018	97	97		111.6	0.09	0.45		92.4	156.8	154.9	64.2	156.6	150	70	70	68		1.001	3.714	344
672	109.097	109.898		0.16	0.16	1.35	1.09		81	81		1.97	1.40	77	0.017	100	100		111.6	-0.02	0.43		92.2	156.6	154.6	64.2	156.3	150	70	70	68		1.001	3.551	328

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
673	109.259	110.062		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.017	100	100	111.8	-0.11	0.46		91.9	156.4	154.4	64.2	156.1	150	70	70	68		1.001	3.870	356
674	109.422	110.226		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.018	97	97	111.6	0.12	0.39		91.9	156.4	154.3	64.2	156.0	150	70	70	68		1.001	3.234	297
675	109.584	110.390		0.16	0.16	1.35	1.09		81	81		1.95	1.40	77	0.018	97	97	111.5	0.12	0.41		91.8	156.2	154.3	64.1	156.0	145	70	70	68		1.001	3.389	312
676	109.746	110.553		0.16	0.16	1.35	1.08		81	81		1.96	1.40	73	0.016	102	102	111.5	-0.03	0.43		91.7	156.1	154.1	64.1	155.8	145	69	69	68		1.001	3.546	325
677	109.909	110.716		0.16	0.16	1.35	1.09		81	81		1.96	1.40	77	0.017	100	99	111.5	0.00	0.45		91.5	156.0	154.0	64.1	155.7	148	70	70	67		1.001	3.714	340
678	110.071	110.880		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.017	100	100	111.5	0.03	0.43		91.4	155.8	153.9	64.1	155.6	149	70	70	68		1.001	3.560	326
679	110.233	111.044		0.16	0.16	1.35	1.09		81	81		1.96	1.40	79	0.016	103	103	111.7	-0.23	0.43		91.3	155.7	153.7	64.1	155.4	149	70	70	68		1.001	3.598	329
680	110.395	111.208		0.16	0.16	1.35	1.08		81	81		1.97	1.40	79	0.017	100	100	111.5	0.21	0.44		91.1	155.5	153.6	64.1	155.2	149	70	70	68		1.001	3.692	337
681	110.558	111.371		0.16	0.16	1.35	1.09		81	81		1.96	1.40	79	0.016	103	103	111.6	-0.08	0.41		91.0	155.3	153.4	64.1	155.1	149	70	70	68		1.001	3.387	309
682	110.720	111.535		0.16	0.16	1.35	1.08		81	81		1.95	1.40	79	0.018	97	97	111.6	0.00	0.43		90.9	155.2	153.2	64.1	155.0	149	70	70	67		1.001	3.550	323
683	110.883	111.699		0.16	0.16	1.34	1.09		81	81		1.96	1.40	79	0.018	98	97	111.6	-0.02	0.43		90.7	155.0	153.1	64.1	154.8	149	70	70	67		1.001	3.548	322
684	111.045	111.862		0.16	0.16	1.35	1.09		81	81		1.97	1.40	79	0.016	103	103	111.7	-0.04	0.41		90.5	154.8	152.9	64.1	154.6	149	70	70	67		1.001	3.390	307
685	111.207	112.026		0.16	0.16	1.34	1.09		81	81		1.97	1.40	79	0.017	100	100	111.6	0.08	0.43		90.4	154.6	152.7	64.1	154.4	149	70	70	67		1.001	3.552	321
686	111.370	112.190		0.16	0.16	1.35	1.09		81	81		1.95	1.40	79	0.016	103	103	111.5	0.05	0.39		90.1	154.5	152.5	64.1	154.2	148	70	70	67		1.001	3.227	291
687	111.532	112.353		0.16	0.16	1.35	1.08		81	81		1.97	1.40	79	0.017	100	100	111.6	-0.01	0.43		90.0	154.3	152.4	64.0	154.0	148	70	70	67		1.001	3.549	320
688	111.694	112.517		0.16	0.16	1.34	1.09		81	81		1.96	1.40	79	0.017	100	100	111.5	0.06	0.39		89.9	154.1	152.2	64.0	153.9	148	70	70	67		1.001	3.230	291
689	111.857	112.680		0.16	0.16	1.34	1.09		81	81		1.97	1.40	79	0.017	100	100	111.5	0.01	0.46		89.7	153.9	152.0	64.0	153.7	148	70	70	67		1.001	3.870	348
690	112.019	112.844		0.16	0.16	1.35	1.09		81	81		1.95	1.40	79	0.017	100	100	111.5	-0.04	0.45		89.5	153.7	151.8	64.0	153.6	148	70	70	67		1.001	3.709	332
691	112.182	113.008		0.16	0.16	1.34	1.09		81	81		1.96	1.40	79	0.016	103	103	111.5	0.01	0.43		89.4	153.6	151.7	64.0	153.4	147	70	70	67		1.001	3.545	317
692	112.344	113.172		0.16	0.16	1.34	1.08		81	81		1.96	1.40	79	0.016	103	103	111.7	-0.16	0.43		89.2	153.5	151.6	64.1	153.2	147	70	70	67		1.001	3.575	319
693	112.506	113.335		0.16	0.16	1.34	1.08		81	81		1.98	1.40	79	0.017	100	100	111.5	0.21	0.43		88.9	153.3	151.4	64.1	153.0	147	70	70	68		1.001	3.549	316
694	112.668	113.499		0.16	0.16	1.35	1.09		81	81		1.95	1.40	79	0.017	100	100	111.6	-0.14	0.41		88.8	153.1	151.2	64.1	152.9	147	70	70	67		1.001	3.417	304
695	112.831	113.662		0.16	0.16	1.35	1.09		81	81		1.97	1.40	79	0.018	98	97	111.6	0.02	0.41		88.5	152.9	151.0	64.1	152.7	147	70	70	67		1.001	3.391	301
696	112.993	113.826		0.16	0.16	1.35	1.09		81	81		1.96	1.40	79	0.017	100	100	111.4	0.22	0.46		88.4	152.8	150.9	64.2	152.6	146	70	70	67		1.001	3.871	343
697	113.156	113.990		0.16	0.16	1.35	1.08		81	81		1.97	1.40	79	0.018	98	97	111.5	-0.10	0.46		88.1	152.6	150.7	64.2	152.3	146	70	70	67		1.001	3.872	341
698	113.318	114.154		0.16	0.16	1.35	1.09		81	81		1.97	1.40	79	0.017	100	100	111.5	-0.09	0.39		88.1	152.5	150.6	64.2	152.3	146	70	70	67		1.001	3.229	285
699	113.480	114.317		0.16	0.16	1.34	1.08		81	81		1.97	1.40	79	0.017	100	100	111.4	0.11	0.43		87.9	152.3	150.4	64.2	152.1	146	70	70	67		1.001	3.548	312
700	113.642	114.481		0.16	0.16	1.35	1.08		81	81		1.97	1.40	79	0.018	97	97	111.5	-0.09	0.41		87.7	152.1	150.3	64.2	151.9	146	70	70	67		1.001	3.388	297
701	113.804	114.644		0.16	0.16	1.35	1.09		81	81		1.96	1.40	79	0.019	94	94	111.5	0.03	0.45		87.5	152.0	150.1	64.2	151.7	145	70	70	67		1.001	3.712	325
702	113.967	114.808		0.16	0.16	1.35	1.09		81	81		1.95	1.40	79	0.019	95	95	111.5	0.03	0.46		87.3	151.8	150.0	64.2	151.6	145	70	70	67		1.001	3.871	339
703	114.129	114.972		0.16	0.16	1.35	1.09		81	81		1.96	1.40	79	0.018	97	97	111.5	-0.04	0.43		87.2	151.6	149.8	64.2	151.5	145	70	70	67		1.001	3.548	310
704	114.291	115.136		0.16	0.16	1.35	1.08		81	81		1.96	1.40	78	0.018	97	97	111.4	0.10	0.48		87.1	151.5	149.6	64.2	151.3	145	70	70	67		1.001	4.038	352
705	114.453	115.299		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.016	103	103	111.3	0.07	0.46		86.8	151.3	149.5	64.2	151.0	145	70	70	67		1.001	3.861	336
706	114.615	115.463		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.019	94	95	111.3	0.09	0.39		86.8	151.2	149.3	64.2	151.0	144	70	70	67		1.001	3.276	285
707	114.778	115.626		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.016	103	103	111.4	-0.17	0.45		86.5	151.0	149.1	64.2	150.6	144	70	70	67		1.001	3.710	321
708	114.940	115.790		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.018	97	97	111.3	0.08	0.39		86.3	150.8	149.0	64.2	150.5	144	70	70	67		1.001	3.227	279
709	115.102	115.955		0.16	0.16	1.34	1.09		81	81		1.95	1.40	78	0.018	97	98	111.4	-0.05	0.45		86.2	150.6	148.8	64.2	150.4	144	70	70	67		1.001	3.714	321
710	115.265	116.118		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.018	97	97	111.5	-0.09	0.41		86.0	150.5	148.7	64.2	150.2	144	70	70	67		1.001	3.389	292
711	115.427	116.281		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.016	103	103	111.5	-0.05	0.45		85.9	150.3	148.5	64.1	150.0	144	70	70	67		1.001	3.708	319
712	115.589	116.445		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.019	94	95	111.4	0.13	0.41		85.8	150.2	148.3	64.1	149.9	143	70	70	67		1.001	3.387	291
713	115.752	116.609		0.16	0.16	1.34	1.09		81	81		1.97	1.40	78	0.018	97	97	111.3	0.06	0.50		85.6	150.0	148.2	64.1	149.7	143	70	70	67		1.001	4.194	359
714	115.914	116.773		0.16	0.16	1.34	1.09		81	81		1.96	1.40	78	0.018	97	97	111.5	-0.16	0.46		85.4	149.8	148.0	64.1	149.6	143	70	70	67		1.001	3.872	331
715	116.077	116.937		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.017	100	100	111.4	0.12	0.39		85.3	149.7	147.9	64.1	149.4	143	70	70	67		1.001	3.228	276
716	116.239	117.100		0.16	0.16	1.35	1.08		81	81		1.97	1.40	78	0.017	100	100	111.3	0.08	0.45		85.1	149.5	147.8	64.1	149.2	143	70	70	67		1.001	3.712	316
717	116.401	117.263		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.017	100	100	111.3	-0.03	0.45		85.0	149.4	147.6	64.1	149.1	142	70	70	67		1.001	3.715	316
718	116.564	117.427		0.16	0.16	1.35	1.09		81	81		1.95	1.40	78	0.018	97	97	111.2	0.16	0.39		84.9	149.2	147.4	64.1	149.0	142	70	70	67		1.001	3.234	275
719	116.726	117.591		0.16	0.16	1.34	1.09		81	81		1.96	1.40	78	0.017	100	100	111.2	-0.07	0.43		84.7	149.1	147.3	64.1	148.8	142	70	70	67		1.001	3.570	303
720	116.888	117.755		0.16	0.16	1.34	1.09		81	81		1.96	1.40	78	0.016	103	103	111.3	-0.09	0.45		84.6	148.9	147.2	64.1	148.7	142	70	70	67		1.001	3.710	314
721	117.051	117.919		0.16	0.16	1.34	1.09		81	81		1.97	1.40	78	0.017	100	100	111.3	0.01	0.41		84.4	148.7	147.0	64.1	148.5	142	70	70	67		1.001	3.391	287
722	117.213	118.083		0.16	0.16	1.34	1.09		81	81		1.96	1.40	78	0.016	103	103	111.5	-0.15	0.43		84.3	148.6	146.8	64.1	148.4	142	70	70	67		1.001	3.551	300
723	117.375	118.246		0.16	0.16	1.34	1.09		81	81		1.96	1.40	78	0.017	100	100	111.3	0.14	0.38		84.1	148.4	146.7	64.1	148.2	141	70	70	67		1.001	3.136	264
724	117.538	118.409		0.16	0.16	1.34	1.09		81	81		1.97	1.40	78	0.017	100	100	111.2	0.08	0.43		84.0	148.3	146.5	64.1	148.1	141	70	70	67		1.001	3.553	299
725	117.700	118.573		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.018	97	97	111.3	-0.09	0.37		83.8	148.1	146.4	64.1	147.9	141	70	70	67		1.001	3.070	258
726	117.862	118.738		0.16	0.17	1.35	1.09		81	81		1.96	1.40	78	0.018	97	98	111.4	-0.07	0.45		83.7	148.0	146.3	64.1	147.8	141	70	70	67		1.001	3.711	311
727	118.025	118.901		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.018	97	97	111.3	0.12	0.41		83.5	147.8	146.1	64.1	147.6	141	70	70	67		1.001	3.388	283
728	118.187	119.064		0.16	0.16	1.34	1.09		81	81		1.96	1.40	78	0.017	100	100	111.3	-0.04	0.39		83.3	147.7	146.0	64.0	147.4	141	70	70	67		1.001	3.230	270
729	118.349	119.228		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.017	100	100	111.3	0.07	0.45		83.2	147.5	145.8	64.0	147.3	140	70	70	67		1.001	3.714	309
730	118.512	119.392		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.018	97	97	111.4	-0.18	0.46		83.0	147.4	145.7	64.0	147.1	140	70	70	67		1.001	3.870	322
731	118.674	119.555		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.017	100	100	111.2	0.22	0.45		83.0	147.3	145.6	64.0	147.0	140	70	70	67		1.001	3.713	309
732	118.836	119.720		0.16	0.16	1.35	1.09		81	81		1.97	1.40	78	0.017	100	101	111.1	0.08	0.41		82.8	147.1	145.4	64.0	146.9	140	70	70	67		1.001	3.392	281
733	118.998	119.883		0.16	0.16	1.35	1.08		81	81		1.97	1.40	78	0.018	97	97	111.3	-0.16	0.45		82.7	146.9	145.2	64.0	146.7	140	70	70	67		1.001	3.718	308
734	119.160	120.047		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.017	100	100	111.3	-0.05	0.43		82.5	146.8	145.1	64.0	146.6	140	70	70	67		1.001	3.572	295

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF													
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-*F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
735	119.322	120.210		0.16	0.16	1.35	1.09		81	81		1.96	1.40	78	0.018	97	97	111.3	0.01	0.46		82.3	146.6	145.0	64.1	146.4	139	70	70	67		1.001	3.830	316
736	119.485	120.374		0.16	0.16	1.35	1.09		81	81		1.97	1.40	77	0.019	95	95	111.2	0.09	0.43		82.2	146.5	144.8	64.1	146.3	137	70	70	67		1.001	3.551	292
737	119.647	120.538		0.16	0.16	1.35	1.09		81	80		1.97	1.40	73	0.016	102	103	111.2	0.06	0.39		82.0	146.3	144.7	64.1	146.1	132	69	70	67		1.001	3.230	265
738	119.809	120.703		0.16	0.17	1.35	1.09		81	81		1.95	1.40	72	0.017	99	100	111.2	-0.03	0.47		81.9	146.2	144.5	64.1	145.9	129	69	69	67		1.001	3.878	318
739	119.972	120.866		0.16	0.16	1.35	1.09		81	81		1.96	1.40	71	0.017	100	99	111.3	-0.05	0.39		81.7	146.1	144.4	64.1	145.8	126	69	69	67		1.001	3.230	264
	119.972	120.866	0.000			1.35	1.09	#####	81	81	#####			75	0.017					0.44	#DIV/0!	107.6	172.2	169.9	64.3	171.8		70.11	70.16		#DIV/0!			393
																															TOTAL:			290545

Run 5

Hydronic Heating Appliances - Test Method ASTM 2618
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run: 5
Test Date: October 17, 2019

Burn Rate	**1.62 kg/hr dry**
Average Tunnel Temperature	75 degrees F
Average Gas Velocity in Dilution Tunnel - vs	8.2 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	22428 dscf/hour
Average Delta p	0.017 inches H20
Average Delta H	1.33 inches H20
Total Time of Test	2114 minutes

PARTICULATE EMISSIONS RESULTS

First Hour:	**-0.48**	g/hr
	-0.17	g/kg
	-0.04	lb/mmBTU output
Complete Run:	**1.67**	g/hr
	1.03	g/kg
	0.15	lb/mmBTU output

	SAMPLE TRAIN 1	SAMPLE TRAIN 2	AMBIENT SAMPLE TRAIN
Total Sample Volume - Vm	340.10 cubic feet	341.25 cubic feet	446.16 cubic feet
Average Gas Meter Temperature	81 degrees F	80 degrees F	68 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	336.3 dscf	330.9 dscf	441.1 dscf
Total Particulates - mn	26 mg	24.1 mg	0.2 mg
Particulate Concentration (dry-standard)	0.000077 grams/dscf	0.000073 grams/dscf	0.000000 grams/dscf
Particulate Emissions	60.74 grams	57.19 grams	
Difference from Average	1.77 grams	1.77 grams	

Results Are Acceptable

AVERAGE

Total Sample Volume - Vm	340.68 cubic feet
Average Gas Meter Temperature	80 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	333.6 dscf
Particulate Concentration (dry-standard)	0.00007 grams/dscf
Particulate Emissions	58.96 grams
7.5% of the average particulate emissions	4.42 grams

ADDITIONAL ACCEPTANCE CRITERIA

Boiler Water Return Temperature >120 °F	**Acceptable**
Proportional Rate Variation >80%	**Acceptable**
90% of PR Values between 90-110%	**Acceptable**

SAMPLE TRAIN 1 - FIRST HOUR

Total Sample Volume - Vm	9.62 cubic feet
Average Gas Meter Temperature	77 degrees F
Total Sample Volume (Standard Conditions) - Vmstd	9.56 dscf
Total Particulates - mn	-0.2 mg
Particulate Concentration (dry-standard)	-0.00002 grams/dscf
Particulate Emissions	-0.48 grams
Burn Rate	2.84 (dry kg/hr)
Heat Output Rate	25340 BTU/hr

Hydronic Heating Appliances
Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Run #: 5
Date: 10/17/19

Equipment Numbers:

TRAIN 1 (First Hour emissions)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
B. Front filter catch	Filter	D922	117.5	117.7	-0.2
C. Rear filter catch	Filter				0.0
D. Probe catch*	Probe				0.0
E. Filter seals catch*	Seals				0.0

Sub-Total | Total Particulate, mg: | -0.2

TRAIN 1 (Post First Hour Change-out)

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
B. Front filter catch	Filter	D928,D923	260.2	236.0	24.2
C. Rear filter catch	Filter	D924	117.8	117.5	0.3
D. Probe catch*	Probe	OES6	113711.4	113709.7	1.7
E. Filter seals catch*	Seals	R897	3402.1	3402.1	0.0

Sub-Total | Total Particulate, mg: | 26.2

Train 1 Aggregate | Total Particulate, mg: | **26.0**

TRAIN 2

Sample Component	Reagent	Filter, Probe or Dish #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch	Filter	D925, D929	258.3	235.9	22.4
B. Rear filter catch	Filter	D926	118.6	118.0	0.6
C. Probe catch*	Probe	8	115598.4	115597.6	0.8
D. Filter seals catch*	Seals	R898	3322.8	3322.5	0.3

Total Particulate, mg: | 24.1

AMBIENT

Sample Component	Reagent	Filter # or Probe #	Weights		
			Final, mg	Tare, mg	Particulate, mg
A. Front filter catch*	Filter	D927	118.0	117.8	0.2

Total Particulate, mg: | 0.2

*Particulate catch that results in a negative number, is assumed to be zero for probes and seals, negative numbers for filters are assumed to be part of the seal weight.

Component	Equations:
A. Front filter catch	Final (mg) - Tare (mg) = Particulate, mg
B. Rear filter catch	Final (mg) - Tare (mg) = Particulate, mg
C. Probe catch	Final (mg) - Tare (mg) = Particulate, mg

Hydronic Heating Appliances
Fuel Moisture

Manufacturer:	Central Boiler
Model:	Edge 560
Tracking No.:	2374
Project No.:	0117WB038E
Technician:	B. Davis
Run #:	5
Test Date:	October 17, 2019

Wet Weight (lb)	% Moisture				
9.7	22.7	24.5	18	21.6	19.5
10.8	20.5	24.5	25.7	21.5	27.5
10.8	20.5	23.2	23.8	21.1	25.7
11	24.5	24.5	20.8	22.6	21.3
9.2	19.5	23.5	23.4	18	18.9
11.6	20.2	20.2	18.7	20.5	19.7
10.5	22.4	22	19.3	21.2	22.5
9.7	19.4	20.9	20.5	21.7	22.6
9.2	20.3	21.3	18.6	22.5	19.3
10	20.8	25.5	21.2	22.7	21.3
10.1	21.1	22.3	18.3	19.3	18.1
9.2	23.6	22.5	19.9	25.3	22.6
10.4	20.4	19.7	18.1	20.5	19.1
11.1	21.4	24.5	26.3	20.2	26.6
9.7	21.2	25.8	25.6	20.2	25.8

Total Weight of Load (lb): 153

Total Moisture of Load (%): 21.8

Equipment Numbers:

Run: 5

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Test Date: October 17, 2019
Technician: B. Davis
Beginning Clock Time: 15:20
Recording Interval: 1 min.
Total Sampling Time: 2114 min.

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	Pt.9	Pt.10	Pt.11	Pt.12	Center	
Initial dP	0.015	0.017	0.016	0.016	0.018	0.016	0.015	0.016	0.018	0.017	0.016	0.014	0.018	"H2O
Initial Temp.	75	75	75	75	75	75	75	75	75	75	75	75	75	oF

Air Velocity: Initial: <50 Final: <50 V_{strav} 8.48 ft/sec
Scale Audit: Pre: 10.0 Post: 10.0 Induced Draft: 0 V_{scent} 8.96 ft/sec
Pitot Tube Leak Test: Pre: 0 Post: 0 % Smoke Capture: 100 F_p 0.947
Flue Pipe Cleaned Prior to First Test in Series: Date: 9/17/2019

PM Control Module: 335, 336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.78 lb/lb-mole
Dilution Tunnel H2O: 2.00 percent
Dilution Tunnel Static: -0.177 "H2O
Pitot Tube Cp: 0.99

	(1)	(2)	(amb)
Meter Box Y Factor:	1.009	0.99	0.988
Barometric Pressure: Begin	29.90		
Middle		29.93	
End			29.96
Average			29.93 "Hg

Tunnel Velocity: 8.20 ft/sec.
Intial Tunnel Flow: 386.1 scfm
Average Tunnel Flow: 373.8 scfm
Tunnel Area: 0.785 ft2
Post-Test Leak Check (1): 0.000 cfm @ 8 in. Hg
Post-Test Leak Check (2): 0.000 cfm @ 8 in. Hg
Fuel Moisture (dry basis %): 21.8
Total Particulate (1): 26.0
Total Particulate (2): 24.1

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack				
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-*F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
0	0.000	0.000	0.000			0.87	0.55	0.26	74	74	70	1.84	0.90	97	0.018			153.0		0.46		103.2	168.5	166.0	64.3	167.6	265	70	70	70				
1	0.150	0.156		0.15	0.16	1.32	1.08	0.26	74	74	70	1.91	1.40	88	0.018	92	96	152.4	0.60	0.48		104.4	169.4	167.0	64.3	168.8	239	71	71	70		1.001	4.026	421
2	0.309	0.319		0.16	0.16	1.31	1.07	0.26	74	74	70	1.89	1.40	85	0.018	98	100	151.6	0.82	0.48		104.8	169.6	167.1	64.3	169.1	244	71	72	70		1.001	4.029	423
3	0.466	0.478		0.16	0.16	1.31	1.07	0.26	74	74	70	1.91	1.40	94	0.018	97	98	151.2	0.41	0.50		105.3	170.6	168.1	64.4	169.7	261	72	73	70		1.001	4.186	442
4	0.624	0.638		0.16	0.16	1.31	1.07	0.26	74	74	70	1.90	1.40	97	0.019	96	96	150.2	0.93	0.48		106.3	171.5	168.9	64.4	170.7	271	73	74	70		1.001	4.005	426
5	0.781	0.799		0.16	0.16	1.31	1.06	0.26	74	74	70	1.91	1.40	99	0.018	98	100	149.5	0.73	0.52		107.3	172.6	170.1	64.4	171.7	279	74	75	70		1.001	4.350	467
6	0.939	0.959		0.16	0.16	1.30	1.06	0.26	74	74	70	1.91	1.40	100	0.017	101	102	148.9	0.61	0.52		108.5	173.7	171.1	64.4	172.9	284	74	75	70		1.001	4.297	467
7	1.097	1.118		0.16	0.16	1.30	1.06	0.26	74	74	70	1.90	1.40	102	0.017	101	102	148.4	0.50	0.46		109.4	174.8	172.2	64.4	173.9	289	75	76	70		1.001	3.863	423
8	1.254	1.279		0.16	0.16	1.29	1.06	0.26	74	75	70	1.92	1.40	103	0.017	101	103	147.8	0.64	0.44		110.6	175.9	173.3	64.4	175.0	293	76	76	70		1.001	3.696	409
9	1.410	1.438		0.16	0.16	1.29	1.05	0.26	74	75	70	1.90	1.40	103	0.017	100	102	147.1	0.67	0.46		111.7	177.2	174.4	64.4	176.2	296	76	77	70		1.001	3.861	432
10	1.567	1.597		0.16	0.16	1.30	1.05	0.26	75	75	70	1.91	1.40	104	0.017	101	102	146.8	0.28	0.48		112.9	178.3	175.5	64.4	177.3	298	76	77	70		1.001	4.020	454
11	1.724	1.757		0.16	0.16	1.30	1.05	0.26	75	75	70	1.91	1.40	105	0.017	101	102	145.8	1.01	0.50		114.2	179.5	176.6	64.4	178.6	301	77	78	70		1.001	4.182	478
12	1.881	1.915		0.16	0.16	1.28	1.05	0.26	75	75	70	1.91	1.40	105	0.017	101	101	145.2	0.57	0.48		115.3	180.7	177.8	64.4	179.7	296	77	78	70		1.001	4.022	464
13	2.037	2.074		0.16	0.16	1.28	1.04	0.26	75	75	70	1.89	1.40	91	0.017	99	101	145.1	0.12	0.48		116.4	181.5	178.7	64.4	180.7	267	75	75	70		1.001	4.021	469
14	2.197	2.233		0.16	0.16	1.35	1.03	0.26	75	75	70	1.95	1.40	84	0.018	98	97	145.1	0.02	0.52		116.9	181.9	179.1	64.4	181.2	249	74	74	70		1.001	4.346	508
15	2.358	2.392		0.16	0.16	1.34	1.03	0.26	75	75	70	1.92	1.40	81	0.017	101	100	145.1	-0.02	0.48		117.2	182.1	179.2	64.3	181.5	237	74	75	70		1.001	4.019	472
16	2.518	2.551		0.16	0.16	1.34	1.04	0.26	75	75	70	1.92	1.40	80	0.017	101	100	145.1	-0.01	0.46		117.3	182.2	179.4	64.3	181.6	228	74	74	70		1.001	3.862	454
17	2.679	2.710		0.16	0.16	1.33	1.03	0.26	75	75	70	1.94	1.40	79	0.018	98	97	144.9	0.18	0.42		117.4	182.3	179.5	64.3	181.8	222	73	74	70		1.001	3.539	416
18	2.839	2.868		0.16	0.16	1.35	1.03	0.26	76	76	70	1.91	1.40	78	0.018	97	96	145.0	-0.02	0.48		117.7	182.4	179.7	64.3	182.0	217	73	73	70		1.001	3.978	469
19	3.000	3.030		0.16	0.16	1.35	1.08	0.26	76	76	70	1.92	1.40	77	0.017	101	101	145.0	-0.05	0.45		117.7	182.4	179.7	64.3	182.0	212	72	73	70		1.001	3.768	444
20	3.161	3.193		0.16	0.16	1.35	1.08	0.26	76	76	70	1.91	1.40	77	0.017	101	102	145.2	-0.21	0.42		117.7	182.5	179.7	64.3	182.0	208	72	73	70		1.001	3.503	413
21	3.322	3.355		0.16	0.16	1.35	1.08	0.26	76	76	70	1.93	1.40	76	0.016	104	104	144.9	0.29	0.46		117.6	182.4	179.7	64.3	181.9	204	72	73	70		1.001	3.859	454
22	3.482	3.517		0.16	0.16	1.34	1.08	0.26	76	76	70	1.91	1.40	76	0.017	100	101	144.9	0.01	0.48		117.9	182.6	179.8	64.2	182.1	200	72	73	70		1.001	4.019	474
23	3.643	3.680		0.16	0.16	1.34	1.08	0.26	76	77	70	1.91	1.40	76	0.016	104	104	144.9	0.00	0.42		117.8	182.6	179.9	64.2	182.1	197	72	73	70		1.001	3.536	417
24	3.804	3.843		0.16	0.16	1.35	1.08	0.26	77	77	70	1.92	1.40	76	0.017	100	101	145.0	-0.10	0.50		117.9	182.6	179.8	64.2	182.1	194	72	73	70		1.001	4.185	494
25	3.965	4.005		0.16	0.16	1.35	1.07	0.26	77	77	70	1.90	1.40	75	0.015	107	107	145.1	-0.05	0.48		117.9	182.6	179.8	64.2	182.1	191	72	72	70		1.001	4.023	475
26	4.126	4.167		0.16	0.16	1.35	1.08	0.26	77	77	70	1.91	1.40	75	0.017	100	101	144.9	0.12	0.44		117.7	182.4	179.7	64.2	181.9	188	72	72	70		1.001	3.699	436
27	4.287	4.330		0.16	0.16	1.35	1.08	0.26	77	77	70	1.91	1.40	75	0.017	100	101	145.0	-0.10	0.42		117.8	182.5	179.7	64.2	182.0	184	72	72	70		1.001	3.537	417
28	4.448	4.493		0.16	0.16	1.35	1.08	0.26	77	77	70	1.92	1.40	74	0.016	103	104	145.2	-0.18	0.46		117.9	182.4	179.7	64.2	182.0	180	71	72	70		1.001	3.859	455
29	4.609	4.655		0.16	0.16	1.35	1.08	0.26	77	77	70	1.92	1.40	74	0.015	107	107	145.0	0.24	0.48		117.8	182.4	179.6	64.2	181.9	176	71	72	70		1.001	4.019	474
30	4.771	4.817		0.16	0.16	1.35	1.08	0.26	77	78	70	1.92	1.40	74	0.018	98	97	145.1	-0.09	0.46		117.7	182.2	179.5	64.2	181.8	173	71	72	70		1.001	3.861	455
31	4.932	4.980		0.16	0.16	1.34	1.08	0.26	78	78	70	1.91	1.40	74	0.017	100	101	145.0	0.02	0.46		117.7	182.2	179.5	64.1	181.8	170	71	72	70		1.001	3.860	455
32	5.093	5.142		0.16	0.16	1.33	1.08	0.26	78	78	70	1.90	1.40	74	0.017	100	100	145.0	0.05	0.44		117.6	182.2	179.3	64.1	181.7	168	71	72	70		1.001	3.696	435
33	5.254	5.306		0.16	0.16	1.34	1.08	0.26	78	78	70	1.90	1.40	74	0.017	100	102	144.9	0.05	0.49		117.5	182.0	179.2	64.1	181.6	165	71	72	70		1.001	4.118	484
34	5.415	5.468		0.16	0.16	1.33	1.07	0.26	78	78	70	1.91	1.40	74	0.017	100	100	145.1	-0.20	0.41		117.4	182.0	179.2	64.1	181.5	162	71	72	70		1.001	3.375	397
35	5.577	5.630		0.16	0.16	1.34	1.08	0.26	78	78	70	1.92	1.40	74	0.017	101	100	145.1	0.05	0.50		117.4	181.9	179.1	64.2	181.5	160	71	72	70		1.001	4.182	491
36	5.738	5.793		0.16	0.16	1.34	1.08	0.26	78	78	70	1.91	1.40	73	0.017	100	101	145.0	0.14	0.46		117.1	181.9	179.1	64.1	181.3	158	71	72	70		1.001	3.859	453
37	5.899	5.956		0.16	0.16	1.34	1.08	0.26	78	78	70	1.92	1.40	73	0.017	100	101	145.0	-0.02	0.44		117.2	181.7	178.9	64.1	181.3	155	71	72	70		1.001	3.703	434
38	6.061	6.119		0.16	0.16	1.35	1.08	0.26	78	79	70	1.90	1.40	73	0.018	98	98	145.2	-0.20	0.48		117.0	181.6	178.8	64.1	181.1	153	71	71	70		1.001	4.020	471
39	6.222	6.281		0.16	0.16	1.35	1.08	0.26	79	79	70	1.90	1.40	73	0.017	100	100	145.1	0.10	0.44		116.9	181.5	178.7	64.1	181.0	151	71	71	70		1.001	3.702	433
40	6.383	6.444		0.16	0.16	1.35	1.08	0.26	79	79	70	1.92	1.40	73	0.018	97	98	145.1	-0.02	0.42		116.9	181.5	178.7	64.1	181.0	149	71	71	70		1.001	3.534	413
41	6.545	6.607		0.16	0.16	1.35	1.08	0.26	79	79	70	1.91	1.40	73	0.016	103	104	145.2	-0.13	0.48		116.7	181.2	178.5	64.1	180.8	147	71	71	70		1.001	4.020	470
42	6.706	6.770		0.16	0.16	1.35	1.08	0.26	79	79	70	1.90	1.40	73	0.016	103	104	145.3	-0.05	0.48		116.7	181.2	178.5	64.1	180.8	145	71	71	70		1.001	4.021	470
43	6.868	6.933		0.16	0.16	1.34	1.08	0.26	79	79	70	1.91	1.40	73	0.018	98	98	145.1	0.17	0.43		116.5	181.1	178.3	64.1	180.6	143	71	71	70		1.001	3.541	413
44	7.029	7.096		0.16	0.16	1.34	1.08	0.26	79	79	69	1.90	1.40	73	0.016	103	104	145.2	-0.08	0.48		116.5	181.0	178.3	64.1	180.6	141	71	71	69		1.001	4.023	469
45	7.191	7.258		0.16	0.16	1.35	1.08	0.26	79	79	69	1.92	1.40	73	0.015	107	106	145.3	-0.13	0.41		116.4	180.8	178.2	64.1	180.5	139	71	71	69		1.001	3.381	394
46	7.353	7.422		0.16	0.16	1.35	1.08	0.26	79	79	69	1.91	1.40	73	0.018	98	98	145.2	0.16	0.43		116.2	180.7	178.2	64.1	180.4	138	71	71	69		1.001	3.557	414
47	7.514	7.585		0.16	0.16	1.35	1.08	0.26	79	80	69	1.92	1.40	73	0.017	100	100	145.0	0.13	0.48		116.2	180.7	178.0	64.1	180.3	136	71	71	69		1.001	3.983	463
48	7.676	7.748		0.16	0.16	1.34	1.08	0.26	79	80	70	1.91	1.40	73	0.018	98	98	145.1	-0.10	0.50		115.9	180.5	177.8	64.1	180.1	134	71	71	70		1.001	4.184	486
49	7.838	7.911		0.16	0.16	1.34	1.08	0.26	79	80	69	1.92	1.40	73	0.017	100	100	145.1	0.03	0.48		115.9	180.4	177.7	64.1	180.0	133	71	71	69		1.001	4.022	467
50	8.000	8.074		0.16	0.16	1.35	1.08	0.26	80	80	69	1.90	1.40	73	0.018	97	98	145.1	0.02	0.43		115.8	180.3	177.7	64.1	179.9	131	71	71	69		1.001	3.540	410
51	8.161	8.237		0.16	0.16	1.35	1.08	0.26	80	80	69	1.91	1.40	73	0.018	97	98	145.2	-0.11	0.48		115.6	180.2	177.4	64.1	179.7	130	71	71	69		1.001	4.026	466
52	8.323	8.401		0.16	0.16	1.34	1.08	0.26	80	80	69	1.91	1.40	73	0.016	103	104	145.2	0.05	0.43		115.5	180.0	177.3	64.1	179.6	128	71	71	69		1.001	3.539	409

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
53	8.485	8.563		0.16	0.16	1.34	1.08	0.26	80	80	69	1.92	1.40	73	0.018	97	97	145.3	-0.15	0.41		115.4	180.0	177.3	64.1	179.6	127	70	71	69		1.001	3.381	391
54	8.647	8.726		0.16	0.16	1.35	1.08	0.26	80	80	70	1.92	1.40	72	0.018	97	98	145.1	0.16	0.46		115.2	179.8	177.1	64.1	179.3	126	70	71	70		1.001	3.860	445
55	8.809	8.889		0.16	0.16	1.34	1.09	0.26	80	80	69	1.92	1.40	72	0.016	103	103	145.2	-0.03	0.48		115.2	179.7	177.1	64.1	179.3	124	70	71	69		1.001	4.020	464
56	8.971	9.053		0.16	0.16	1.35	1.08	0.26	80	80	69	1.91	1.40	72	0.018	97	98	145.3	-0.13	0.44		115.0	179.5	176.9	64.1	179.1	123	70	71	69		1.001	3.700	426
57	9.132	9.216		0.16	0.16	1.34	1.08	0.26	80	80	69	1.92	1.40	72	0.017	100	100	145.4	-0.11	0.48		115.0	179.4	176.7	64.1	179.0	122	70	71	69		1.001	4.021	463
58	9.294	9.379		0.16	0.16	1.34	1.08	0.26	80	80	69	1.91	1.40	72	0.018	97	98	145.3	0.14	0.46		114.9	179.3	176.7	64.1	178.9	121	70	71	69		1.001	3.860	444
59	9.456	9.542		0.16	0.16	1.35	1.08	0.26	80	80	69	1.92	1.40	72	0.016	103	103	145.4	-0.10	0.41		114.9	179.2	176.8	64.0	178.9	120	70	71	69		1.001	3.378	389
60	9.618	9.705		0.16	0.16	1.35	1.08	0.26	80	80	69	1.91	1.40	72	0.018	97	98	145.4	0.01	0.46		114.7	179.0	176.4	64.0	178.7	118	70	71	69		1.001	3.860	443
61	9.780	9.868		0.16	0.16	1.35	1.08	0.26	80	80	69	1.92	1.40	72	0.018	97	98	145.2	0.12	0.49		114.5	178.8	176.2	64.0	178.5	117	70	70	69		1.001	4.051	464
62	9.941	10.032		0.16	0.16	1.35	1.09	0.26	80	80	69	1.91	1.40	72	0.015	106	108	145.3	-0.09	0.48		114.3	178.7	176.1	64.0	178.3	116	70	70	69		1.001	4.023	460
63	10.103	10.196		0.16	0.16	1.35	1.08	0.26	80	81	69	1.92	1.40	72	0.018	97	98	145.3	0.00	0.41		114.2	178.7	176.2	64.0	178.2	115	70	70	69		1.001	3.382	387
64	10.266	10.358		0.16	0.16	1.41	1.08	0.26	80	81	69	1.77	1.40	72	0.018	98	97	145.3	0.08	0.46		114.1	178.5	176.0	64.0	178.1	114	71	70	69		1.001	3.868	442
65	10.428	10.521		0.16	0.16	1.35	1.08	0.26	80	81	69	1.91	1.40	72	0.019	95	95	145.3	-0.09	0.44		113.9	178.4	175.8	64.0	177.9	113	72	70	69		1.001	3.703	422
66	10.591	10.685		0.16	0.16	1.35	1.08	0.26	81	81	69	1.92	1.40	72	0.017	101	101	145.4	-0.03	0.46		113.9	178.1	175.6	64.0	177.8	113	72	70	69		1.001	3.867	441
67	10.753	10.848		0.16	0.16	1.35	1.08	0.26	81	81	69	1.92	1.40	76	0.019	95	95	145.3	0.11	0.52		113.7	178.0	175.4	64.0	177.7	154	72	71	69		1.001	4.345	495
68	10.915	11.012		0.16	0.16	1.35	1.09	0.26	81	81	69	1.92	1.40	74	0.017	100	101	145.2	0.03	0.50		113.6	178.1	175.5	64.0	177.6	139	72	70	69		1.001	4.185	476
69	11.077	11.175		0.16	0.16	1.35	1.08	0.26	81	81	69	1.91	1.40	72	0.015	106	107	145.3	-0.10	0.52		113.6	177.9	175.3	64.0	177.6	131	72	70	69		1.001	4.349	495
70	11.239	11.338		0.16	0.16	1.35	1.08	0.26	81	81	69	1.91	1.40	72	0.017	100	100	145.3	0.05	0.41		113.4	177.7	175.1	64.0	177.4	125	71	70	69		1.001	3.379	384
71	11.401	11.501		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	72	0.017	100	100	145.3	-0.05	0.48		113.2	177.6	175.0	64.0	177.2	121	71	70	69		1.001	4.023	456
72	11.563	11.664		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	72	0.017	100	100	145.3	0.07	0.47		113.1	177.5	175.0	63.9	177.0	118	71	70	69		1.001	3.878	439
73	11.726	11.829		0.16	0.17	1.35	1.08	0.26	81	81	69	1.91	1.40	72	0.017	101	101	145.3	-0.03	0.50		113.1	177.3	174.7	63.9	177.0	116	71	70	69		1.001	4.135	468
74	11.888	11.992		0.16	0.16	1.35	1.08	0.26	81	81	69	1.90	1.40	72	0.017	100	100	145.1	0.19	0.50		112.9	177.2	174.6	63.9	176.8	114	71	70	69		1.001	4.187	473
75	12.050	12.155		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	72	0.017	100	100	145.3	-0.15	0.46		112.7	177.0	174.4	63.9	176.6	113	71	70	69		1.001	3.866	436
76	12.212	12.318		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	72	0.016	103	103	145.2	0.10	0.44		112.7	176.9	174.3	63.9	176.6	111	71	70	69		1.001	3.705	418
77	12.375	12.482		0.16	0.16	1.34	1.08	0.26	81	81	69	1.90	1.40	72	0.016	104	104	145.2	-0.01	0.44		112.5	176.8	174.2	63.9	176.4	110	71	70	69		1.001	3.704	417
78	12.537	12.646		0.16	0.16	1.35	1.08	0.26	81	81	69	1.91	1.40	72	0.017	100	101	145.4	-0.19	0.50		112.4	176.7	174.1	63.9	176.3	109	70	70	69		1.001	4.187	471
79	12.699	12.809		0.16	0.16	1.34	1.09	0.26	81	81	69	1.92	1.40	72	0.018	97	97	145.3	0.04	0.46		112.3	176.5	173.9	63.9	176.1	109	70	70	69		1.001	3.864	434
80	12.861	12.972		0.16	0.16	1.34	1.07	0.26	81	81	69	1.91	1.40	72	0.019	95	95	145.5	-0.14	0.46		112.0	176.3	173.7	63.9	175.9	108	70	70	69		1.001	3.866	433
81	13.024	13.135		0.16	0.16	1.35	1.09	0.26	81	81	69	1.92	1.40	72	0.016	104	103	145.3	0.20	0.46		111.9	176.2	173.6	63.9	175.7	107	70	70	69		1.001	3.864	433
82	13.186	13.299		0.16	0.16	1.35	1.08	0.26	81	81	69	1.92	1.40	72	0.016	103	104	145.2	0.08	0.41		111.8	176.0	173.4	63.8	175.7	106	70	70	69		1.001	3.385	379
83	13.349	13.462		0.16	0.16	1.34	1.09	0.26	81	81	69	1.92	1.40	72	0.018	98	97	145.3	-0.16	0.46		111.6	175.8	173.3	63.8	175.5	105	70	70	69		1.001	3.868	432
84	13.511	13.626		0.16	0.16	1.34	1.09	0.26	81	81	69	1.92	1.40	72	0.017	100	101	145.2	0.12	0.47		111.5	175.7	173.1	63.8	175.4	105	70	70	69		1.001	3.873	433
85	13.673	13.790		0.16	0.16	1.34	1.08	0.26	81	81	69	1.92	1.40	72	0.018	97	98	145.3	-0.06	0.48		111.4	175.7	173.1	63.8	175.2	104	70	70	69		1.001	4.034	450
86	13.835	13.953		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	72	0.017	100	100	145.3	0.00	0.47		111.2	175.4	172.8	63.8	175.1	103	70	70	69		1.001	3.877	432
87	13.998	14.116		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	71	0.016	104	103	145.3	-0.07	0.43		111.0	175.3	172.7	63.9	174.8	102	70	70	69		1.001	3.545	394
88	14.160	14.279		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	71	0.018	97	97	145.3	0.06	0.47		110.9	175.0	172.4	63.8	174.8	101	70	70	69		1.001	3.938	437
89	14.322	14.444		0.16	0.17	1.35	1.08	0.26	81	81	69	1.92	1.40	71	0.017	100	101	145.4	-0.12	0.44		110.7	174.9	172.4	63.8	174.6	101	70	70	69		1.001	3.682	408
90	14.485	14.607		0.16	0.16	1.34	1.08	0.26	81	81	69	1.91	1.40	71	0.015	107	107	145.4	0.00	0.45		110.6	174.8	172.2	63.8	174.5	100	70	70	69		1.001	3.707	410
91	14.647	14.770		0.16	0.16	1.34	1.09	0.26	81	81	69	1.91	1.40	71	0.017	100	100	145.5	-0.09	0.48		110.6	174.7	172.1	63.8	174.4	100	70	70	69		1.001	4.023	445
92	14.809	14.933		0.16	0.16	1.35	1.09	0.26	81	81	69	1.91	1.40	71	0.017	100	100	145.4	0.09	0.46		110.5	174.6	172.0	63.8	174.3	99	70	70	69		1.001	3.864	427
93	14.972	15.097		0.16	0.16	1.36	1.08	0.26	81	81	69	1.92	1.40	71	0.017	100	101	145.4	-0.01	0.50		110.2	174.4	171.8	63.8	174.0	99	70	70	69		1.001	4.190	462
94	15.134	15.261		0.16	0.16	1.34	1.09	0.26	81	81	69	1.91	1.40	71	0.017	100	101	145.5	-0.05	0.46		110.0	174.2	171.5	63.8	173.8	98	70	70	69		1.001	3.866	426
95	15.296	15.425		0.16	0.16	1.35	1.08	0.26	81	81	69	1.91	1.40	71	0.018	97	98	145.4	0.03	0.48		109.9	174.0	171.4	63.8	173.7	98	70	70	69		1.001	4.026	443
96	15.458	15.588		0.16	0.16	1.36	1.08	0.26	81	81	69	1.90	1.40	71	0.015	106	107	145.4	0.05	0.50		109.7	173.9	171.3	63.8	173.5	98	69	69	69		1.001	4.187	460
97	15.620	15.751		0.16	0.16	1.35	1.09	0.26	81	81	69	1.92	1.40	71	0.014	110	110	145.5	-0.10	0.45		109.7	173.8	171.3	63.8	173.5	101	69	70	69		1.001	3.707	407
98	15.783	15.915		0.16	0.16	1.35	1.08	0.26	81	81	69	1.92	1.40	75	0.018	98	98	145.2	0.29	0.46		109.4	173.5	170.9	63.8	173.3	138	70	70	69		1.001	3.865	423
99	15.945	16.078		0.16	0.16	1.36	1.09	0.26	81	81	68	1.92	1.40	73	0.017	100	100	145.2	-0.02	0.44		109.3	173.6	171.0	63.8	173.1	128	70	70	68		1.001	3.702	405
100	16.108	16.243		0.16	0.16	1.35	1.08	0.26	81	81	69	1.91	1.40	72	0.017	101	101	145.3	-0.08	0.50		109.2	173.4	170.8	63.8	173.0	121	69	70	69		1.001	4.188	458
101	16.270	16.406		0.16	0.16	1.35	1.09	0.26	81	81	69	1.92	1.40	71	0.017	100	100	145.2	0.09	0.46		109.1	173.3	170.6	63.8	172.9	116	69	69	69		1.001	3.864	422
102	16.433	16.569		0.16	0.16	1.35	1.08	0.26	81	81	69	1.91	1.40	71	0.015	107	107	145.3	-0.14	0.48		109.1	173.1	170.6	63.8	172.9	112	69	69	69		1.001	3.973	434
103	16.595	16.733		0.16	0.16	1.35	1.09	0.26	81	81	69	1.93	1.40	71	0.017	100	101	145.2	0.11	0.46		108.7	172.9	170.4	63.8	172.5	109	69	69	69		1.001	3.832	417
104	16.758	16.896		0.16	0.16	1.34	1.09	0.26	81	81	69	1.91	1.40	71	0.016	104	103	145.3	-0.04	0.48		108.7	172.7	170.2	63.8	172.5	107	69	69	69		1.001	4.025	438
105	16.921	17.060		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.017	100	101	145.3	-0.04	0.46		108.4	172.5	170.0	63.8	172.2	105	69	69	68		1.001	3.868	420
106	17.083	17.225		0.16	0.17	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.018	97	98	145.2	0.04	0.50		108.4	172.4	169.9	63.8	172.1	103	69	69	68		1.001	4.192	455
107	17.245	17.388		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	71	0.018	97	97	145.3	-0.03	0.48		108.3	172.4	169.8	63.8	172.0	102	69	69	68		1.001	4.030	437
108	17.408	17.551		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.017	100	100	145.3	0.00	0.45		108.1	172.2	169.6	63.8	171.8	101	69	69	68		1.001	3.707	401
109	17.571	17.715		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.017	100	101	145.4	-0.08	0.46		107.9	172.0	169.4	63.8	171.6	100	69	69	68		1.001	3.865	417
110	17.733	17.878		0.16	0.16	1.34	1.09	0.26	81	81	68	1.93	1.40	71	0.014	110	110	145.3	0.03	0.46		107.6	171.9	169.3	63.8	171.4	99	69	69	68		1.001	3.866	417
111	17.896	18.042		0.16	0.16	1.34	1.09	0.26	81	81	68	1.91	1.40	71	0.015	107	107	145.3	0.02	0.45		107.5	171.6	169.1	63.8	171.3	98	69	69	68		1.001	3.707	399
112	18.058	18.206		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.017	100	101	145.5	-0.15	0.48		107.4	171.5	168.9	63.8	171.1	97	69	69	68		1.001	4.027	433
113	18.221	18.369		0.16	0.16	1.34	1.08	0.26	81	81	68	1.91	1.40	71	0.019	95	95	145.4	0.07	0.49		107.2	171.3	168.8	63.7	171.0	97	69	69	68		1.001	4.046	434
114	18.383	18.533		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.017	100	101	145.2	0.17	0.43		107.1	171.2	168.6	63.7	170.8	96	69	69	68		1.001	3.547	380

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
115	18.546	18.696		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.016	104	103	145.3	-0.06	0.50		107.0	171.1	168.6	63.7	170.8	95	69	69	68		1.001	4.148	444
116	18.708	18.860		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.016	103	104	145.3	-0.02	0.44		106.8	170.9	168.4	63.7	170.5	94	69	69	68		1.001	3.705	396
117	18.871	19.024		0.16	0.16	1.34	1.09	0.26	81	81	68	1.92	1.40	71	0.018	98	98	145.4	-0.10	0.48		106.6	170.7	168.2	63.7	170.3	93	69	69	68		1.001	4.025	430
118	19.033	19.188		0.16	0.16	1.35	1.08	0.26	81	81	68	1.91	1.40	71	0.016	103	104	145.2	0.18	0.45		106.5	170.5	168.0	63.7	170.3	92	69	69	68		1.001	3.707	395
119	19.195	19.351		0.16	0.16	1.34	1.08	0.26	81	81	68	1.91	1.40	71	0.018	97	97	145.2	-0.02	0.50		106.4	170.4	167.9	63.7	170.1	92	69	69	68		1.001	4.191	447
120	19.357	19.514		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.016	103	103	145.4	-0.21	0.50		106.3	170.4	167.8	63.7	170.0	91	69	69	68		1.001	4.187	446
121	19.520	19.678		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.015	107	107	145.3	0.12	0.43		106.0	170.1	167.6	63.7	169.7	91	69	69	68		1.001	3.544	376
122	19.682	19.841		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.017	100	100	145.3	0.03	0.50		106.0	170.0	167.5	63.7	169.7	91	69	69	68		1.001	4.187	444
123	19.844	20.006		0.16	0.16	1.35	1.08	0.26	81	81	68	1.91	1.40	71	0.017	100	101	145.4	-0.12	0.52		105.8	169.8	167.3	63.7	169.5	90	69	69	68		1.001	4.351	461
124	20.007	20.169		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	71	0.018	98	97	145.4	-0.03	0.48		105.6	169.6	167.1	63.7	169.3	90	69	69	68		1.001	4.030	426
125	20.169	20.332		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.017	100	100	145.4	0.03	0.45		105.4	169.5	167.0	63.7	169.1	89	69	69	68		1.001	3.715	392
126	20.332	20.496		0.16	0.16	1.35	1.09	0.26	81	81	68	1.90	1.40	71	0.017	100	101	145.4	-0.01	0.45		105.3	169.2	166.7	63.7	169.0	89	69	69	68		1.001	3.718	392
127	20.494	20.659		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.016	103	103	145.4	0.06	0.50		105.2	169.2	166.8	63.7	168.8	89	69	69	68		1.001	4.187	441
128	20.657	20.823		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.015	107	107	145.5	-0.12	0.43		104.9	168.9	166.6	63.7	168.5	109	69	69	68		1.001	3.547	372
129	20.819	20.987		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	75	0.018	97	98	145.2	0.24	0.44		104.8	168.8	166.4	63.7	168.5	127	69	69	68		1.001	3.657	384
130	20.982	21.150		0.16	0.16	1.35	1.08	0.26	81	81	68	1.91	1.40	72	0.017	101	100	145.1	0.10	0.48		104.7	168.8	166.3	63.7	168.4	121	69	69	68		1.001	4.031	423
131	21.144	21.314		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.018	97	98	145.3	-0.20	0.45		104.5	168.5	166.2	63.7	168.1	116	69	69	68		1.001	3.709	388
132	21.307	21.477		0.16	0.16	1.35	1.09	0.26	81	81	68	1.91	1.40	71	0.018	98	97	145.2	0.10	0.48		104.5	168.5	166.1	63.7	168.1	112	69	69	68		1.001	4.032	422
133	21.470	21.641		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.018	98	98	145.2	0.00	0.41		104.4	168.3	166.0	63.7	168.0	109	69	69	68		1.001	3.388	354
134	21.632	21.805		0.16	0.16	1.34	1.09	0.26	81	81	68	1.93	1.40	71	0.018	97	98	145.3	-0.04	0.46		104.1	168.1	165.8	63.6	167.8	107	69	69	68		1.001	3.868	403
135	21.795	21.969		0.16	0.16	1.34	1.09	0.26	81	81	68	1.91	1.40	71	0.017	100	101	145.2	0.11	0.43		104.1	168.1	165.8	63.6	167.7	104	69	69	68		1.001	3.547	370
136	21.958	22.132		0.16	0.16	1.34	1.08	0.26	81	81	68	1.91	1.40	71	0.018	98	97	145.3	-0.09	0.41		103.9	167.9	165.6	63.7	167.6	103	69	69	68		1.001	3.388	353
137	22.120	22.296		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	70	0.016	103	104	145.2	0.03	0.45		103.7	167.7	165.4	63.6	167.3	101	69	69	68		1.001	3.711	385
138	22.283	22.459		0.16	0.16	1.34	1.09	0.26	81	81	68	1.92	1.40	70	0.018	98	97	145.2	0.06	0.46		103.6	167.6	165.3	63.6	167.3	100	69	69	68		1.001	3.870	402
139	22.446	22.623		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	70	0.016	103	104	145.3	-0.13	0.46		103.4	167.4	165.2	63.6	167.1	99	69	69	68		1.001	3.871	401
140	22.608	22.787		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	70	0.017	100	101	145.1	0.16	0.45		103.3	167.3	164.9	63.7	166.9	98	69	69	68		1.001	3.709	384
141	22.771	22.950		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	70	0.018	98	97	145.2	-0.02	0.48		103.1	167.1	164.8	63.6	166.7	96	69	69	68		1.001	3.979	411
142	22.933	23.114		0.16	0.16	1.35	1.08	0.26	81	81	68	1.91	1.40	70	0.016	103	104	145.2	0.01	0.49		103.1	167.0	164.8	63.6	166.7	96	69	69	68		1.001	4.081	421
143	23.095	23.277		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.018	97	97	145.4	-0.22	0.48		103.0	166.9	164.7	63.6	166.6	95	69	69	68		1.001	4.023	415
144	23.258	23.441		0.16	0.16	1.34	1.09	0.26	81	81	68	1.91	1.40	71	0.015	107	107	145.2	0.14	0.41		102.8	166.6	164.4	63.6	166.4	95	69	69	68		1.001	3.386	348
145	23.420	23.605		0.16	0.16	1.35	1.09	0.26	81	81	68	1.90	1.40	71	0.018	97	98	145.2	0.02	0.45		102.6	166.5	164.2	63.6	166.2	94	69	69	68		1.001	3.709	381
146	23.582	23.769		0.16	0.16	1.36	1.09	0.26	81	81	68	1.91	1.40	71	0.018	97	98	145.3	-0.11	0.41		102.5	166.4	164.1	63.6	166.0	93	69	69	68		1.001	3.389	348
147	23.745	23.932		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	71	0.016	104	103	145.2	0.09	0.43		102.4	166.3	164.0	63.6	165.9	92	69	69	68		1.001	3.550	364
148	23.907	24.095		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	70	0.017	100	100	145.3	-0.11	0.46		102.2	166.1	163.8	63.6	165.8	91	69	69	68		1.001	3.870	396
149	24.070	24.259		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	70	0.018	98	98	145.2	0.13	0.41		102.0	166.0	163.7	63.6	165.5	90	69	69	68		1.001	3.387	346
150	24.232	24.422		0.16	0.16	1.36	1.09	0.26	81	81	68	1.92	1.40	70	0.018	97	97	145.3	-0.06	0.45		101.9	165.8	163.6	63.6	165.5	91	69	69	68		1.001	3.708	378
151	24.395	24.587		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	70	0.015	107	108	145.4	-0.09	0.46		101.7	165.5	163.3	63.6	165.3	90	69	69	68		1.001	3.871	394
152	24.557	24.750		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	70	0.018	97	97	145.3	0.11	0.46		101.6	165.5	163.2	63.6	165.2	90	69	69	68		1.001	3.870	394
153	24.720	24.913		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	70	0.017	100	100	145.2	0.06	0.46		101.5	165.3	163.1	63.6	165.0	89	68	69	68		1.001	3.871	393
154	24.883	25.077		0.16	0.16	1.35	1.09	0.26	81	81	68	1.90	1.40	70	0.017	100	101	145.3	-0.12	0.48		101.2	165.1	162.9	63.6	164.7	89	69	69	68		1.001	4.018	407
155	25.045	25.241		0.16	0.16	1.35	1.08	0.26	81	81	68	1.91	1.40	70	0.018	97	98	145.2	0.12	0.41		101.2	165.0	162.8	63.6	164.8	88	68	69	68		1.001	3.434	348
156	25.208	25.405		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	70	0.018	98	98	145.3	-0.15	0.43		101.1	164.9	162.7	63.6	164.7	88	68	69	68		1.001	3.616	366
157	25.370	25.569		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	70	0.017	100	101	145.4	-0.02	0.48		100.8	164.8	162.6	63.6	164.4	87	68	69	68		1.001	4.007	405
158	25.533	25.732		0.16	0.16	1.35	1.09	0.26	81	81	68	1.90	1.40	70	0.017	100	100	145.3	0.07	0.43		100.7	164.6	162.4	63.6	164.3	86	68	69	68		1.001	3.550	358
159	25.696	25.895		0.16	0.16	1.35	1.08	0.26	81	81	68	1.92	1.40	70	0.016	103	103	145.1	0.14	0.43		100.4	164.4	162.2	63.6	164.0	122	68	69	68		1.001	3.543	356
160	25.858	26.059		0.16	0.16	1.34	1.09	0.26	81	81	68	1.92	1.40	75	0.017	100	101	145.2	-0.10	0.46		100.3	164.3	162.1	63.6	163.9	117	69	69	68		1.001	3.872	389
161	26.021	26.223		0.16	0.16	1.35	1.09	0.26	81	81	68	1.92	1.40	71	0.018	98	98	145.1	0.12	0.45		100.3	164.2	162.0	63.6	163.9	113	69	69	68		1.001	3.711	373
162	26.183	26.387		0.16	0.16	1.35	1.09	0.26	81	80	68	1.91	1.40	70	0.018	97	98	145.1	-0.01	0.45		100.2	164.1	161.9	63.6	163.8	110	68	69	68		1.001	3.711	372
163	26.346	26.551		0.16	0.16	1.35	1.09	0.26	81	80	68	1.91	1.40	70	0.017	100	101	145.2	-0.05	0.45		100.0	164.0	161.8	63.7	163.6	107	68	69	68		1.001	3.710	371
164	26.508	26.714		0.16	0.16	1.35	1.08	0.26	81	80	68	1.91	1.40	70	0.017	100	100	145.2	0.03	0.46		99.8	163.8	161.7	63.7	163.4	105	68	69	68		1.001	3.871	387
165	26.671	26.878		0.16	0.16	1.35	1.09	0.26	81	80	68	1.92	1.40	70	0.017	100	101	145.2	0.00	0.46		99.7	163.7	161.5	63.7	163.3	104	68	69	68		1.001	3.871	386
166	26.834	27.041		0.16	0.16	1.34	1.09	0.26	81	80	68	1.92	1.40	70	0.015	107	107	145.0	0.11	0.41		99.5	163.4	161.2	63.7	163.2	101	68	69	68		1.001	3.388	338
167	26.996	27.205		0.16	0.16	1.36	1.09	0.26	81	80	68	1.92	1.40	70	0.017	100	101	145.1	-0.06	0.46		99.3	163.3	161.2	63.6	163.0	101	68	68	68		1.001	3.871	385
168	27.158	27.369		0.16	0.16	1.35	1.09	0.26	81	80	68	1.91	1.40	70	0.017	100	101	145.0	0.07	0.45		99.3	163.2	161.0	63.6	162.9	99	68	68	68		1.001	3.724	370
169	27.320	27.533		0.16	0.16	1.35	1.09	0.26	81	80	68	1.92	1.40	70	0.017	100	101	145.2	-0.16	0.46		99.1	163.0	160.8	63.6	162.7	99	68	69	68		1.001	3.870	384
170	27.482	27.696		0.16	0.16	1.36	1.09	0.26	81	80	68	1.92	1.40	70	0.015	106	107	145.1	0.09	0.46		99.1	162.9	160.7	63.6	162.6	97	68	69	68		1.001	3.871	384
171	27.645	27.860		0.16	0.16	1.35	1.09	0.26	81	80	68	1.91	1.40	70	0.017	100	101	145.2	-0.14	0.41		98.9	162.8	160.6	63.6	162.5	96	68	68	68		1.001	3.388	336
172	27.807	28.023		0.16	0.16	1.35	1.09	0.26	81	80	68	1.91	1.40	70	0.017	100	100	145.2	0.06	0.45		98.7	162.6	160.4	63.5	162.3	95	68	68	68		1.001	3.714	367
173	27.970	28.187		0.16	0.16	1.35	1.09	0.26	81	80	68	1.91	1.40	70	0.016	103	104	145.2	0.00	0.43		98.6	162.4	160.2	63.5	162.1	95	68	68	68		1.001	3.550	350
174	28.133	28.352		0.16	0.16	1.35	1.08	0.26	81	80	68	1.90	1.40	70	0.016	103	105	145.1	0.06	0.50		98.5	162.2	160.1	63.5	162.0	95	68	68	68		1.001	4.193	414
175	28.295	28.515		0.16	0.16	1.35	1.08	0.26	81	80	68	1.90	1.40	70	0.018	97	97	145.1	-0.03	0.46		98.4	162.2	160.0	63.4	161.8	94	68	68	68		1.001	3.872	381
176	28.457	28.678		0.16	0.16	1.35	1.08	0.26	81	80	67	1.90	1.40	70	0.018	97	97	145.2	-0.06	0.45		98.3	162.0	159.8	63.4	161.7	93	68	68	67		1.001	3.714	365

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
177	28.620	28.842		0.16	0.16	1.36	1.09	0.26	81	80	67	1.92	1.40	70	0.016	103	104	145.2	-0.02	0.46		98.2	161.9	159.7	63.4	161.6	93	68	68	67		1.001	3.871	381
178	28.783	29.006		0.16	0.16	1.35	1.09	0.26	81	80	67	1.91	1.40	70	0.015	107	107	145.1	0.11	0.45		98.1	161.7	159.5	63.4	161.4	91	68	68	67		1.001	3.712	364
179	28.945	29.169		0.16	0.16	1.35	1.09	0.26	81	80	68	1.91	1.40	70	0.017	100	100	145.3	-0.22	0.48		97.9	161.7	159.5	63.3	161.2	91	68	68	68		1.001	4.032	395
180	29.108	29.334		0.16	0.16	1.35	1.09	0.26	81	80	67	1.90	1.40	70	0.018	98	99	145.2	0.17	0.48		97.8	161.4	159.3	63.3	161.1	90	68	68	67		1.001	4.022	394
181	29.270	29.497		0.16	0.16	1.34	1.08	0.26	81	80	67	1.90	1.40	70	0.017	100	100	145.1	0.05	0.48		97.7	161.3	159.1	63.3	161.0	90	68	68	67		1.001	3.987	390
182	29.433	29.660		0.16	0.16	1.35	1.09	0.26	81	80	67	1.91	1.40	70	0.018	98	97	145.1	-0.02	0.41		97.6	161.2	159.0	63.3	160.9	90	68	68	67		1.001	3.390	331
183	29.596	29.824		0.16	0.16	1.35	1.09	0.26	80	80	67	1.92	1.40	70	0.016	104	104	145.2	-0.06	0.49		97.5	161.0	158.9	63.3	160.7	89	68	68	67		1.001	4.062	396
184	29.758	29.988		0.16	0.16	1.34	1.08	0.26	81	80	67	1.91	1.40	70	0.018	97	98	144.9	0.27	0.48		97.4	160.9	158.7	63.3	160.6	124	68	68	67		1.001	4.035	393
185	29.921	30.152		0.16	0.16	1.34	1.09	0.26	81	80	67	1.93	1.40	77	0.017	101	101	144.5	0.38	0.48		97.1	160.7	158.5	63.2	160.3	148	69	69	67		1.001	4.032	392
186	30.083	30.315		0.16	0.16	1.35	1.09	0.26	80	80	67	1.92	1.40	80	0.017	101	101	143.9	0.68	0.52		97.1	160.9	158.7	63.2	160.3	188	69	69	67		1.001	4.355	423
187	30.245	30.478		0.16	0.16	1.36	1.09	0.26	80	80	67	1.93	1.40	83	0.016	104	105	143.2	0.65	0.47		97.8	161.5	159.3	63.2	161.0	205	69	70	67		1.001	3.874	379
188	30.407	30.641		0.16	0.16	1.34	1.09	0.26	80	80	67	1.93	1.40	86	0.017	101	102	142.5	0.71	0.52		98.2	161.9	159.6	63.2	161.4	222	70	70	67		1.001	4.356	428
189	30.569	30.804		0.16	0.16	1.35	1.09	0.26	80	80	67	1.93	1.40	89	0.016	105	105	141.9	0.58	0.45		98.7	162.5	160.2	63.2	161.9	240	70	71	67		1.001	3.712	367
190	30.731	30.967		0.16	0.16	1.35	1.08	0.26	80	80	67	1.94	1.40	92	0.018	99	99	141.1	0.78	0.45		99.4	163.3	161.0	63.2	162.6	256	71	72	67		1.001	3.711	369
191	30.893	31.130		0.16	0.16	1.35	1.08	0.26	80	80	67	1.95	1.40	95	0.018	99	100	140.1	1.01	0.41		100.3	164.3	161.9	63.1	163.4	271	72	74	67		1.001	3.390	340
192	31.054	31.292		0.16	0.16	1.35	1.08	0.26	80	80	67	1.96	1.40	98	0.017	102	102	139.4	0.71	0.48		101.4	165.2	162.8	63.1	164.5	284	73	75	67		1.001	4.027	409
193	31.216	31.454		0.16	0.16	1.35	1.08	0.26	80	80	67	1.96	1.40	100	0.017	103	102	138.6	0.83	0.43		102.3	166.4	164.0	63.1	165.5	293	74	75	67		1.001	3.554	364
194	31.377	31.616		0.16	0.16	1.34	1.08	0.26	80	80	67	1.95	1.40	102	0.017	102	103	137.8	0.78	0.42		103.3	167.5	165.1	63.2	166.5	301	75	76	67		1.001	3.539	366
195	31.538	31.779		0.16	0.16	1.34	1.07	0.26	80	80	67	1.95	1.40	104	0.017	102	103	137.1	0.67	0.45		104.5	168.7	166.3	63.2	167.6	308	75	77	67		1.001	3.753	393
196	31.700	31.940		0.16	0.16	1.34	1.07	0.26	80	80	67	1.97	1.40	106	0.017	103	102	136.0	1.10	0.48		105.8	170.0	167.5	63.2	169.0	316	76	77	67		1.001	3.960	420
197	31.861	32.101		0.16	0.16	1.34	1.07	0.26	80	80	67	1.98	1.40	108	0.017	103	102	135.1	0.97	0.46		107.1	171.4	168.9	63.2	170.3	322	77	78	67		1.001	3.860	414
198	32.021	32.262		0.16	0.16	1.33	1.06	0.26	80	80	67	1.98	1.50	109	0.017	102	103	134.6	0.51	0.39		108.8	173.0	170.5	63.2	171.9	324	78	79	67		1.001	3.230	352
199	32.182	32.423		0.16	0.16	1.33	1.06	0.26	80	80	67	1.98	1.50	110	0.018	100	100	133.6	0.93	0.43		110.3	174.6	172.0	63.2	173.4	325	78	79	67		1.001	3.554	392
200	32.343	32.584		0.16	0.16	1.33	1.06	0.26	80	80	67	1.98	1.50	110	0.017	103	103	132.8	0.86	0.47		111.7	176.0	173.4	63.2	174.9	327	78	80	67		1.001	3.873	433
201	32.503	32.744		0.16	0.16	1.33	1.06	0.26	80	80	67	2.00	1.50	110	0.017	102	102	132.0	0.76	0.45		113.2	177.5	174.9	63.2	176.4	328	79	80	67		1.001	3.709	420
202	32.663	32.905		0.16	0.16	1.33	1.05	0.26	80	80	67	1.97	1.50	110	0.016	106	106	131.3	0.73	0.43		114.8	179.1	176.4	63.2	178.0	330	79	80	67		1.001	3.550	408
203	32.823	33.065		0.16	0.16	1.33	1.05	0.26	80	80	67	1.99	1.50	111	0.016	106	105	130.6	0.64	0.41		116.2	180.6	177.8	63.2	179.4	333	79	80	67		1.001	3.390	394
204	32.984	33.226		0.16	0.16	1.33	1.05	0.26	80	80	67	2.00	1.50	112	0.018	100	100	129.6	1.04	0.48		117.8	182.2	179.3	63.2	181.0	336	80	81	67		1.001	4.034	476
205	33.144	33.386		0.16	0.16	1.33	1.05	0.26	80	80	67	1.98	1.50	104	0.017	102	101	129.3	0.30	0.50		119.5	183.6	180.8	63.2	182.7	305	78	79	67		1.001	4.198	502
206	33.304	33.545		0.16	0.16	1.33	1.05	0.26	80	80	67	1.99	1.50	87	0.017	100	99	128.8	0.52	0.48		120.4	184.3	181.5	63.2	183.6	278	76	77	67		1.001	4.036	487
207	33.465	33.706		0.16	0.16	1.33	1.04	0.26	80	80	67	1.98	1.50	83	0.016	104	103	128.9	-0.10	0.47		120.8	184.8	182.0	63.2	184.0	261	75	75	67		1.001	3.878	469
208	33.626	33.867		0.16	0.16	1.33	1.04	0.26	80	80	67	1.98	1.50	80	0.017	100	100	128.6	0.28	0.50		121.3	185.1	182.4	63.2	184.5	249	74	74	67		1.001	4.157	505
209	33.787	34.026		0.16	0.16	1.33	1.04	0.26	80	80	67	1.97	1.50	79	0.018	97	96	128.6	0.00	0.45		121.6	185.3	182.6	63.2	184.8	241	73	73	67		1.001	3.749	456
210	33.948	34.187		0.16	0.16	1.33	1.05	0.26	80	80	67	1.96	1.50	77	0.016	103	103	128.5	0.10	0.47		121.7	185.5	182.8	63.2	184.9	234	73	72	67		1.001	3.873	472
211	34.109	34.348		0.16	0.16	1.33	1.05	0.26	80	80	67	1.96	1.40	76	0.017	100	100	128.5	0.00	0.43		121.9	185.6	182.9	63.2	185.0	228	72	72	67		1.001	3.549	433
212	34.270	34.508		0.16	0.16	1.33	1.04	0.26	80	80	67	1.97	1.50	75	0.017	100	99	128.5	0.03	0.48		122.0	185.7	182.9	63.2	185.2	222	71	71	67		1.001	4.031	493
213	34.431	34.669		0.16	0.16	1.33	1.05	0.26	80	80	67	1.94	1.50	75	0.016	103	102	128.6	-0.09	0.45		122.2	185.8	183.0	63.2	185.4	217	71	72	67		1.001	3.711	454
214	34.593	34.830		0.16	0.16	1.33	1.05	0.26	80	80	67	1.96	1.40	74	0.018	97	97	128.4	0.17	0.48		122.2	186.0	183.1	63.1	185.3	213	70	71	67		1.001	4.033	493
215	34.754	34.991		0.16	0.16	1.33	1.03	0.26	80	80	67	1.95	1.50	74	0.017	100	99	128.4	0.03	0.47		122.4	186.0	183.1	63.1	185.6	209	70	71	67		1.001	3.873	475
216	34.916	35.150		0.16	0.16	1.34	1.03	0.26	80	80	67	1.94	1.50	74	0.018	97	95	128.3	0.04	0.45		122.3	185.9	183.0	63.1	185.4	205	70	70	67		1.001	3.709	454
217	35.077	35.310		0.16	0.16	1.34	1.04	0.26	80	80	67	1.94	1.50	74	0.018	97	96	128.3	0.03	0.46		122.4	186.0	183.1	63.1	185.6	202	69	70	67		1.001	3.871	475
218	35.239	35.472		0.16	0.16	1.34	1.04	0.26	80	80	67	1.94	1.50	73	0.017	100	100	128.5	-0.14	0.50		122.4	185.9	183.0	63.1	185.5	199	69	69	67		1.001	4.197	514
219	35.401	35.632		0.16	0.16	1.34	1.04	0.26	80	80	67	1.94	1.50	73	0.017	100	99	128.5	-0.01	0.46		122.5	186.1	183.1	63.1	185.6	195	68	69	67		1.001	3.872	475
220	35.562	35.793		0.16	0.16	1.34	1.05	0.26	80	80	67	1.93	1.50	72	0.019	94	94	128.3	0.13	0.45		122.5	186.0	183.1	63.1	185.6	192	68	68	67		1.001	3.710	455
221	35.725	35.954		0.16	0.16	1.34	1.05	0.26	80	80	67	1.94	1.40	72	0.018	98	96	128.5	-0.16	0.46		122.5	186.0	183.2	63.1	185.5	188	67	68	67		1.001	3.857	473
222	35.886	36.115		0.16	0.16	1.34	1.05	0.26	80	80	67	1.92	1.40	71	0.017	99	99	128.4	0.07	0.43		122.3	185.9	183.0	63.1	185.4	185	67	68	67		1.001	3.548	434
223	36.048	36.276		0.16	0.16	1.34	1.05	0.26	80	80	67	1.93	1.40	71	0.016	103	102	128.4	0.01	0.47		122.5	185.9	183.1	63.1	185.5	181	67	68	67		1.001	3.874	475
224	36.210	36.437		0.16	0.16	1.35	1.05	0.26	80	80	67	1.94	1.40	71	0.017	100	99	128.3	0.08	0.47		122.3	185.8	182.9	63.1	185.4	178	66	68	67		1.001	3.875	474
225	36.372	36.599		0.16	0.16	1.34	1.06	0.26	80	80	67	1.92	1.40	71	0.018	97	97	128.5	-0.12	0.48		122.3	185.8	183.0	63.1	185.4	175	66	68	67		1.001	4.034	494
226	36.534	36.760		0.16	0.16	1.35	1.06	0.26	80	80	67	1.93	1.40	71	0.018	97	96	128.3	0.18	0.48		122.2	185.7	183.0	63.0	185.3	172	66	68	67		1.001	4.030	493
227	36.696	36.921		0.16	0.16	1.35	1.06	0.26	80	80	67	1.92	1.40	71	0.018	97	96	128.4	-0.10	0.45		122.1	185.6	182.8	63.0	185.2	169	66	68	67		1.001	3.711	454
228	36.858	37.083		0.16	0.16	1.35	1.06	0.26	80	80	67	1.93	1.40	71	0.015	106	106	128.5	-0.08	0.46		122.1	185.6	182.7	63.0	185.1	167	66	68	67		1.001	3.869	473
229	37.020	37.246		0.16	0.16	1.35	1.06	0.26	80	80	67	1.92	1.40	71	0.016	103	103	128.4	0.07	0.50		122.1	185.7	182.8	63.0	185.1	164	67	68	67		1.001	4.194	513
230	37.182	37.407		0.16	0.16	1.35	1.06	0.26	80	80	67	1.92	1.40	71	0.015	106	105	128.5	-0.05	0.46		122.0	185.6	182.7	63.0	185.0	161	67	68	67		1.001	3.872	473
231	37.344	37.569		0.16	0.16	1.34	1.07	0.26	80	80	67	1.93	1.40	71	0.018	97	97	128.5	-0.04	0.48		122.1	185.3	182.4	63.0	185.0	159	67	68	67		1.001	4.030	492
232	37.506	37.732		0.16	0.16	1.35	1.07	0.26	80	80	67	1.93	1.40	71	0.017	100	100	128.4	0.07	0.50		121.8	185.3	182.5	63.0	184.8	156	67	68	67		1.001	4.197	512
233	37.669	37.895		0.16	0.16	1.34	1.07	0.26	80	80	67	1.92	1.40	71	0.018	98	97	128.6	-0.13	0.46		121.8	185.2	182.4	63.0	184.8	154	67	68	67		1.001	3.870	472
234	37.831	38.057		0.16	0.16	1.34	1.07	0.26	80	80	67	1.93	1.40	71	0.016	103	103	128.6	-0.05	0.50		121.6	185.2	182.4	63.0	184.6	152	67	68	67		1.001	4.194	511
235	37.993	38.220		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	71	0.018	97	97	128.5	0.15	0.43		121.5	185.0	182.1	63.0	184.5	150	67	68	67		1.001	3.605	439
236	38.155	38.383		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	71	0.017	100	100	128.5	-0.09	0.50		121.4	185.0	182.3	63.0	184.4	148	67	68	67		1.001	4.195	510
237	38.317	38.546		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	71	0.017	100	100	128.5	0.04	0.48		121.3	184.8	182.0	63.0	184.3	146	67	68	67		1.001	4.031	490
238	38.479	38.709		0.16	0.16	1.34	1.07	0.26	80	80	67	1.91	1.40	71	0.017	100	100	128.5	-0.03	0.46		121.2	184.7	181.9	63.0	184.2	144	67	67	67		1.001	3.871	470

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
239	38.641	38.872		0.16	0.16	1.34	1.07	0.26	80	80	67	1.92	1.40	71	0.015	106	107	128.6	-0.01	0.45		121.2	184.7	181.8	63.0	184.2	142	67	67	67		1.001	3.710	450
240	38.803	39.035		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	71	0.016	103	103	128.5	0.09	0.45		121.1	184.5	181.7	63.0	184.1	140	67	67	67		1.001	3.712	450
241	38.966	39.198		0.16	0.16	1.33	1.08	0.26	80	80	67	1.92	1.40	71	0.017	101	100	128.6	-0.15	0.45		121.0	184.4	181.6	63.0	184.0	138	67	68	67		1.001	3.709	449
242	39.128	39.361		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	70	0.018	97	97	128.6	0.04	0.48		120.8	184.3	181.5	63.0	183.8	136	67	68	67		1.001	4.032	488
243	39.290	39.525		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	70	0.018	97	98	128.6	-0.07	0.50		120.9	184.2	181.4	63.0	183.9	135	67	68	67		1.001	4.194	507
244	39.452	39.688		0.16	0.16	1.34	1.07	0.26	80	80	67	1.93	1.40	70	0.017	100	100	128.6	0.01	0.46		120.6	184.1	181.3	63.0	183.6	133	67	68	67		1.001	3.869	467
245	39.614	39.851		0.16	0.16	1.34	1.08	0.26	80	80	67	1.91	1.40	70	0.018	97	97	128.5	0.12	0.48		120.6	183.9	181.1	63.0	183.6	131	67	68	67		1.001	4.032	487
246	39.776	40.014		0.16	0.16	1.34	1.08	0.26	80	80	67	1.91	1.40	70	0.018	97	97	128.6	-0.05	0.49		120.4	183.8	181.1	63.0	183.3	130	67	68	67		1.001	4.050	488
247	39.939	40.177		0.16	0.16	1.34	1.08	0.26	80	80	67	1.91	1.40	70	0.018	98	97	128.5	0.06	0.46		120.3	183.7	180.9	63.0	183.3	128	67	68	67		1.001	3.799	458
248	40.101	40.341		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	101	128.7	-0.19	0.50		120.1	183.7	180.8	63.0	183.1	127	67	68	67		1.001	4.192	504
249	40.263	40.504		0.16	0.16	1.34	1.07	0.26	80	80	67	1.93	1.40	70	0.016	103	103	128.6	0.05	0.48		119.9	183.4	180.5	63.0	182.9	126	67	68	67		1.001	3.961	476
250	40.425	40.666		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.018	97	97	128.6	0.05	0.43		119.9	183.4	180.5	63.0	182.9	125	67	68	67		1.001	3.550	426
251	40.587	40.829		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.016	103	103	128.7	-0.07	0.45		119.9	183.3	180.5	63.0	182.9	123	67	68	67		1.001	3.707	445
252	40.749	40.992		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.016	103	103	128.6	0.04	0.45		119.7	183.1	180.3	63.0	182.7	122	67	68	67		1.001	3.709	445
253	40.912	41.156		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	70	0.017	101	101	128.8	-0.23	0.45		119.6	183.0	180.3	63.0	182.5	121	67	68	67		1.001	3.710	444
254	41.074	41.319		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	100	128.8	0.03	0.52		119.5	182.8	180.1	63.0	182.4	120	67	68	67		1.001	4.352	521
255	41.236	41.482		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.017	100	100	128.7	0.14	0.41		119.3	182.6	179.9	63.0	182.3	119	67	68	67		1.001	3.387	404
256	41.398	41.645		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	100	128.7	-0.05	0.45		119.1	182.5	179.8	63.0	182.1	118	67	68	67		1.001	3.707	442
257	41.560	41.808		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.018	97	97	128.8	-0.07	0.45		119.1	182.5	179.7	63.0	182.1	117	67	68	67		1.001	3.714	443
258	41.722	41.972		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.017	100	101	128.8	0.03	0.45		118.9	182.3	179.5	63.0	181.9	115	67	68	67		1.001	3.718	443
259	41.884	42.135		0.16	0.16	1.35	1.07	0.26	80	80	67	1.93	1.40	70	0.015	106	107	128.7	0.08	0.47		118.7	182.1	179.5	62.9	181.6	153	67	68	67		1.001	3.900	463
260	42.045	42.297		0.16	0.16	1.35	1.07	0.26	80	80	67	1.93	1.40	77	0.017	100	100	128.5	0.14	0.50		118.6	182.1	179.3	62.9	181.5	153	68	69	67		1.001	4.133	491
261	42.207	42.460		0.16	0.16	1.34	1.08	0.26	80	80	67	1.91	1.40	71	0.019	95	95	128.5	0.01	0.52		118.5	181.8	179.1	62.9	181.5	143	67	68	67		1.001	4.332	514
262	42.369	42.623		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.016	103	103	128.4	0.12	0.52		118.5	181.7	178.9	62.9	181.4	135	68	68	67		1.001	4.357	517
263	42.532	42.787		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.017	101	101	128.5	-0.05	0.52		118.3	181.7	178.9	62.9	181.2	130	68	68	67		1.001	4.358	516
264	42.694	42.950		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.018	97	97	128.6	-0.10	0.43		118.0	181.5	178.7	62.9	181.0	127	68	68	67		1.001	3.549	419
265	42.856	43.112		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.018	97	97	128.5	0.09	0.48		118.0	181.4	178.7	62.9	181.0	125	68	68	67		1.001	4.029	476
266	43.018	43.275		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.018	97	97	128.4	0.04	0.46		117.8	181.0	178.3	62.9	180.7	123	68	68	67		1.001	3.871	456
267	43.180	43.439		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	101	128.5	-0.02	0.45		117.7	180.9	178.2	62.9	180.6	121	68	68	67		1.001	3.709	437
268	43.342	43.603		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	101	128.5	-0.04	0.46		117.5	180.8	178.0	62.9	180.4	119	68	68	67		1.001	3.867	455
269	43.504	43.765		0.16	0.16	1.35	1.07	0.26	80	80	67	1.93	1.40	70	0.017	100	100	128.6	-0.06	0.46		117.4	180.7	177.9	62.9	180.3	118	68	68	67		1.001	3.869	455
270	43.666	43.928		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.016	103	103	128.4	0.12	0.52		117.1	180.5	177.8	62.9	180.0	116	68	68	67		1.001	4.352	510
271	43.829	44.091		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	70	0.018	98	97	128.4	-0.01	0.48		117.1	180.4	177.7	62.9	180.0	115	68	68	67		1.001	4.018	471
272	43.991	44.254		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.017	100	100	128.6	-0.17	0.46		117.0	180.2	177.5	62.9	179.9	114	68	68	67		1.001	3.872	454
273	44.153	44.418		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.016	103	104	128.5	0.07	0.45		116.9	180.1	177.4	62.9	179.8	112	68	68	67		1.001	3.710	434
274	44.316	44.581		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	70	0.017	101	100	128.6	-0.08	0.48		116.7	180.0	177.2	62.9	179.6	111	68	68	67		1.001	3.987	466
275	44.478	44.744		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	100	128.5	0.12	0.50		116.5	179.8	177.0	62.9	179.4	110	68	68	67		1.001	4.199	490
276	44.640	44.907		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.017	100	100	128.5	-0.05	0.54		116.5	179.7	177.0	62.9	179.4	109	68	68	67		1.001	4.518	527
277	44.802	45.070		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.017	100	100	128.6	-0.02	0.46		116.3	179.5	176.8	62.9	179.2	108	68	68	67		1.001	3.872	451
278	44.964	45.234		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.018	97	98	128.6	-0.03	0.45		116.0	179.3	176.6	62.9	179.0	106	68	68	67		1.001	3.714	432
279	45.126	45.396		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	100	128.6	0.04	0.47		115.9	179.1	176.3	62.9	178.8	105	68	68	67		1.001	3.876	450
280	45.289	45.559		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	70	0.016	104	103	128.7	-0.15	0.50		115.6	179.0	176.3	62.9	178.6	105	68	68	67		1.001	4.193	486
281	45.451	45.722		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	70	0.018	97	97	128.7	0.05	0.45		115.5	178.8	176.1	62.9	178.4	103	68	68	67		1.001	3.710	429
282	45.613	45.885		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	70	0.018	97	97	128.6	0.02	0.46		115.5	178.7	176.1	62.9	178.4	103	68	68	67		1.001	3.870	447
283	45.776	46.049		0.16	0.16	1.34	1.08	0.26	80	80	67	1.91	1.40	70	0.017	101	101	128.7	-0.10	0.47		115.3	178.6	176.0	62.9	178.2	101	68	68	67		1.001	3.877	448
284	45.938	46.212		0.16	0.16	1.34	1.07	0.26	80	80	67	1.91	1.40	69	0.018	97	97	128.6	0.15	0.41		115.0	178.4	175.7	63.0	178.0	101	68	68	67		1.001	3.402	392
285	46.100	46.374		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	69	0.015	106	106	128.6	0.01	0.52		115.0	178.3	175.7	62.9	177.9	101	67	68	67		1.001	4.352	501
286	46.262	46.537		0.16	0.16	1.34	1.08	0.26	80	80	67	1.92	1.40	70	0.017	100	100	128.6	-0.01	0.50		114.8	178.1	175.4	62.9	177.8	100	67	68	67		1.001	4.151	477
287	46.424	46.701		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	69	0.017	100	101	128.7	-0.09	0.46		114.6	177.9	175.2	62.9	177.5	99	67	68	67		1.001	3.863	443
288	46.586	46.865		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.015	106	107	128.6	0.05	0.43		114.5	177.7	175.1	62.9	177.4	99	67	68	67		1.001	3.547	407
289	46.749	47.027		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.016	104	103	128.7	-0.05	0.45		114.3	177.6	175.0	62.9	177.3	98	67	68	67		1.001	3.709	425
290	46.911	47.190		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	70	0.019	95	95	128.6	0.11	0.48		114.2	177.4	174.9	62.9	177.2	140	68	68	67		1.001	4.030	461
291	47.073	47.353		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	74	0.016	103	104	128.4	0.21	0.45		114.0	177.3	174.7	62.9	176.9	134	68	68	67		1.001	3.712	424
292	47.235	47.516		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	70	0.018	97	97	128.4	-0.03	0.39		113.8	177.1	174.5	62.9	176.7	129	67	68	67		1.001	3.228	368
293	47.397	47.680		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	70	0.018	97	98	128.4	0.02	0.46		113.5	176.9	174.3	62.9	176.5	125	68	68	67		1.001	3.870	440
294	47.559	47.843		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	70	0.018	97	97	128.4	-0.02	0.45		113.3	176.7	174.1	63.0	176.3	122	67	68	67		1.001	3.715	422
295	47.721	48.005		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	69	0.016	103	103	128.5	-0.14	0.43		113.3	176.7	174.0	63.0	176.2	120	67	68	67		1.001	3.548	402
296	47.883	48.168		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	69	0.017	100	100	128.5	-0.01	0.46		113.2	176.4	173.9	63.0	176.2	118	67	68	67		1.001	3.871	439
297	48.045	48.331		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	69	0.016	103	103	128.5	0.02	0.46		112.9	176.2	173.6	63.0	175.8	117	67	68	67		1.001	3.870	437
298	48.207	48.495		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	69	0.016	103	104	128.5	-0.03	0.49		112.7	176.1	173.5	63.0	175.7	114	67	68	67		1.001	4.110	464
299	48.369	48.658		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	69	0.016	103	103	128.5	0.07	0.45		112.6	176.0	173.3	63.0	175.6	113	67	68	67		1.001	3.709	418
300	48.532	48.821		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	69	0.018	98	97	128.5	-0.02	0.43		112.5	175.9	173.3	63.0	175.4	113	67	68	67		1.001	3.551	400

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
301	48.694	48.984		0.16	0.16	1.35	1.09	0.26	80	80	67	1.93	1.40	69	0.018	97	97	128.5	-0.03	0.52		112.3	175.6	173.0	63.0	175.2	110	67	68	67		1.001	4.357	490
302	48.856	49.147		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	69	0.018	97	97	128.6	-0.08	0.48		112.1	175.4	172.9	63.0	175.0	110	67	68	67		1.001	4.030	452
303	49.018	49.311		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	69	0.018	97	98	128.5	0.10	0.46		111.9	175.4	172.8	63.0	174.9	108	67	68	67		1.001	3.872	434
304	49.180	49.474		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	69	0.015	106	107	128.5	-0.01	0.45		111.8	175.1	172.6	63.0	174.8	108	67	68	67		1.001	3.709	415
305	49.342	49.637		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	69	0.018	97	97	128.6	-0.14	0.45		111.7	175.0	172.4	63.0	174.7	107	67	68	67		1.001	3.708	415
306	49.505	49.800		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	69	0.017	100	100	128.6	0.03	0.50		111.4	174.8	172.2	63.0	174.4	106	67	68	67		1.001	4.192	467
307	49.667	49.963		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	69	0.018	97	97	128.6	0.04	0.52		111.2	174.6	172.0	63.0	174.2	105	67	68	67		1.001	4.352	485
308	49.829	50.127		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	69	0.017	100	101	128.6	-0.01	0.48		111.1	174.4	171.9	63.0	174.1	104	67	68	67		1.001	4.032	449
309	49.991	50.290		0.16	0.16	1.35	1.08	0.26	80	80	67	1.91	1.40	69	0.017	100	100	128.4	0.14	0.48		110.9	174.2	171.7	63.0	173.9	103	67	68	67		1.001	4.026	447
310	50.153	50.453		0.16	0.16	1.35	1.08	0.26	80	80	67	1.92	1.40	69	0.016	103	103	128.7	-0.28	0.48		110.7	174.1	171.6	63.0	173.7	103	67	68	67		1.001	3.982	441
311	50.316	50.616		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	69	0.016	104	103	128.6	0.11	0.45		110.5	174.0	171.5	63.0	173.6	102	67	68	67		1.001	3.709	410
312	50.478	50.779		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	69	0.018	97	97	128.6	0.01	0.48		110.3	173.8	171.3	63.1	173.4	102	67	68	67		1.001	4.037	446
313	50.640	50.943		0.16	0.16	1.35	1.09	0.26	80	79	67	1.91	1.40	69	0.017	100	101	128.7	-0.10	0.43		110.1	173.6	171.1	63.1	173.3	101	67	68	67		1.001	3.555	392
314	50.802	51.107		0.16	0.16	1.35	1.08	0.26	80	79	67	1.93	1.40	69	0.017	100	101	128.8	-0.08	0.43		109.9	173.5	171.0	63.2	173.1	100	67	68	67		1.001	3.551	391
315	50.964	51.269		0.16	0.16	1.35	1.08	0.26	80	79	67	1.91	1.40	69	0.016	103	103	128.6	0.16	0.47		109.7	173.2	170.9	63.2	172.9	100	67	68	67		1.001	3.873	425
316	51.127	51.432		0.16	0.16	1.35	1.08	0.26	80	79	67	1.91	1.40	69	0.017	100	100	128.7	-0.06	0.45		109.7	173.2	170.8	63.2	172.9	100	67	68	67		1.001	3.712	408
317	51.289	51.596		0.16	0.16	1.35	1.08	0.26	80	79	67	1.92	1.40	69	0.017	100	101	128.5	0.14	0.45		109.4	173.0	170.7	63.2	172.7	98	67	68	67		1.001	3.709	406
318	51.451	51.759		0.16	0.16	1.34	1.08	0.26	80	79	67	1.93	1.40	69	0.017	100	100	128.6	-0.07	0.43		109.4	172.9	170.5	63.3	172.6	100	67	68	67		1.001	3.546	388
319	51.613	51.923		0.16	0.16	1.34	1.09	0.26	80	79	67	1.91	1.40	69	0.018	97	98	128.6	-0.02	0.46		109.0	172.7	170.4	63.3	172.3	98	67	68	67		1.001	3.871	422
320	51.776	52.086		0.16	0.16	1.34	1.08	0.26	80	79	67	1.92	1.40	69	0.017	100	100	128.6	0.06	0.45		109.0	172.6	170.2	63.3	172.3	99	67	68	67		1.001	3.710	405
321	51.938	52.249		0.16	0.16	1.34	1.08	0.26	80	79	67	1.93	1.40	72	0.018	97	98	128.4	0.12	0.45		108.7	172.4	170.1	63.3	172.0	134	67	68	67		1.001	3.711	404
322	52.100	52.412		0.16	0.16	1.34	1.08	0.26	80	79	67	1.93	1.40	72	0.017	100	101	128.5	-0.02	0.46		108.5	172.2	169.8	63.3	171.8	126	68	68	67		1.001	3.842	417
323	52.262	52.575		0.16	0.16	1.34	1.08	0.26	80	79	67	1.93	1.40	70	0.018	97	98	128.4	0.06	0.43		108.3	172.0	169.6	63.3	171.7	123	67	68	67		1.001	3.551	385
324	52.425	52.739		0.16	0.16	1.34	1.08	0.26	80	79	67	1.92	1.40	69	0.018	98	98	128.4	0.01	0.50		108.2	171.8	169.5	63.3	171.5	120	67	68	67		1.001	4.194	454
325	52.587	52.902		0.16	0.16	1.35	1.08	0.26	80	79	67	1.93	1.40	69	0.017	100	100	128.5	-0.12	0.46		108.0	171.7	169.4	63.4	171.4	117	67	68	67		1.001	3.872	419
326	52.749	53.065		0.16	0.16	1.35	1.08	0.26	80	79	67	1.93	1.40	69	0.013	114	115	128.4	0.08	0.41		107.8	171.5	169.2	63.4	171.2	115	67	68	67		1.001	3.389	366
327	52.911	53.228		0.16	0.16	1.35	1.09	0.26	80	79	67	1.92	1.40	69	0.015	106	107	128.4	0.00	0.46		107.7	171.3	169.0	63.4	171.0	113	67	68	67		1.001	3.871	417
328	53.074	53.391		0.16	0.16	1.35	1.09	0.26	80	79	67	1.91	1.40	69	0.017	100	100	128.6	-0.15	0.43		107.5	171.2	168.9	63.4	170.9	112	67	68	67		1.001	3.550	382
329	53.236	53.555		0.16	0.16	1.35	1.08	0.26	80	79	67	1.91	1.40	69	0.015	106	107	128.4	0.20	0.43		107.2	171.1	168.7	63.4	170.6	111	67	68	67		1.001	3.554	382
330	53.398	53.718		0.16	0.16	1.34	1.08	0.26	80	79	67	1.93	1.40	69	0.017	100	100	128.5	-0.08	0.46		107.3	170.9	168.6	63.3	170.6	109	67	68	67		1.001	3.872	416
331	53.560	53.881		0.16	0.16	1.35	1.08	0.26	80	79	67	1.91	1.40	69	0.019	94	95	128.5	0.00	0.43		107.0	170.7	168.4	63.3	170.3	108	67	68	67		1.001	3.550	380
332	53.722	54.044		0.16	0.16	1.35	1.08	0.26	80	79	67	1.93	1.40	69	0.017	100	100	128.4	0.08	0.41		106.9	170.6	168.3	63.3	170.3	107	67	68	67		1.001	3.393	363
333	53.884	54.207		0.16	0.16	1.34	1.08	0.26	80	79	67	1.91	1.40	69	0.018	97	97	128.5	-0.12	0.45		106.8	170.4	168.1	63.3	170.1	106	67	68	67		1.001	3.712	397
334	54.046	54.371		0.16	0.16	1.35	1.09	0.26	80	79	67	1.93	1.40	69	0.018	97	98	128.4	0.12	0.45		106.7	170.4	168.0	63.3	170.0	105	67	68	67		1.001	3.718	397
335	54.208	54.534		0.16	0.16	1.35	1.08	0.26	80	79	67	1.91	1.40	69	0.015	106	107	128.3	0.03	0.48		106.5	170.3	167.9	63.3	169.8	105	67	68	67		1.001	4.036	430
336	54.370	54.697		0.16	0.16	1.35	1.08	0.26	80	79	67	1.93	1.40	69	0.018	97	97	128.5	-0.12	0.43		106.4	170.0	167.6	63.3	169.7	104	67	67	67		1.001	3.552	378
337	54.532	54.860		0.16	0.16	1.35	1.09	0.26	79	79	67	1.92	1.40	69	0.018	97	97	128.6	-0.10	0.43		106.2	169.8	167.5	63.3	169.4	102	67	67	67		1.001	3.550	377
338	54.694	55.023		0.16	0.16	1.35	1.08	0.26	79	79	67	1.91	1.40	69	0.018	97	97	128.5	0.12	0.44		105.9	169.6	167.3	63.3	169.2	102	67	67	67		1.001	3.682	390
339	54.857	55.187		0.16	0.16	1.35	1.09	0.26	79	79	67	1.92	1.40	69	0.016	104	104	128.4	0.10	0.45		105.8	169.4	167.1	63.3	169.1	102	67	67	67		1.001	3.714	394
340	55.019	55.350		0.16	0.16	1.35	1.08	0.26	79	79	67	1.92	1.40	70	0.016	103	103	128.5	-0.16	0.43		105.7	169.3	167.0	63.3	169.0	100	67	67	67		1.001	3.555	376
341	55.181	55.513		0.16	0.16	1.35	1.08	0.26	79	79	67	1.93	1.40	71	0.018	97	98	128.6	-0.08	0.37		105.5	169.2	166.9	63.3	168.7	100	67	68	67		1.001	3.072	324
342	55.343	55.676		0.16	0.16	1.35	1.08	0.26	79	79	67	1.92	1.40	71	0.017	100	100	128.5	0.07	0.45		105.3	169.0	166.6	63.3	168.6	99	67	68	67		1.001	3.713	391
343	55.505	55.839		0.16	0.16	1.35	1.09	0.26	79	79	67	1.93	1.40	70	0.017	100	100	128.6	-0.11	0.45		105.1	168.9	166.6	63.4	168.5	99	67	68	67		1.001	3.715	391
344	55.667	56.003		0.16	0.16	1.35	1.08	0.26	79	79	67	1.93	1.40	70	0.017	100	101	128.5	0.15	0.43		104.9	168.7	166.4	63.6	168.4	99	67	68	67		1.001	3.552	373
345	55.829	56.166		0.16	0.16	1.35	1.08	0.26	79	79	67	1.92	1.40	70	0.016	103	103	128.5	0.01	0.46		104.5	168.6	166.3	63.7	168.2	98	67	68	67		1.001	3.871	405
346	55.991	56.329		0.16	0.16	1.36	1.08	0.26	79	79	67	1.92	1.40	70	0.017	100	100	128.7	-0.20	0.46		104.2	168.4	166.0	63.9	168.0	98	67	68	67		1.001	3.869	403
347	56.154	56.492		0.16	0.16	1.35	1.08	0.26	79	79	67	1.91	1.40	70	0.016	104	103	128.6	0.09	0.43		103.9	168.2	165.9	64.0	167.9	98	67	68	67		1.001	3.553	370
348	56.316	56.655		0.16	0.16	1.35	1.08	0.26	79	79	67	1.93	1.40	70	0.016	103	103	128.5	0.09	0.48		103.6	168.1	165.8	64.1	167.8	97	67	68	67		1.001	4.020	417
349	56.478	56.818		0.16	0.16	1.35	1.08	0.26	79	79	67	1.93	1.40	71	0.015	107	107	128.6	-0.08	0.48		103.3	167.9	165.7	64.3	167.6	96	67	68	67		1.001	4.031	417
350	56.640	56.982		0.16	0.16	1.34	1.08	0.26	79	79	67	1.93	1.40	71	0.017	100	101	128.4	0.12	0.40		103.0	167.7	165.5	64.4	167.4	96	68	68	67		1.001	3.338	344
351	56.802	57.144		0.16	0.16	1.34	1.08	0.26	79	79	67	1.93	1.40	71	0.017	100	100	128.5	-0.02	0.46		102.8	167.6	165.4	64.5	167.3	95	68	68	67		1.001	3.863	398
352	56.964	57.307		0.16	0.16	1.34	1.08	0.26	79	79	67	1.92	1.40	75	0.018	98	98	128.4	0.04	0.45		102.6	167.5	165.2	64.6	167.2	129	68	68	67		1.001	3.706	381
353	57.126	57.470		0.16	0.16	1.34	1.08	0.26	80	79	67	1.92	1.40	74	0.017	100	101	128.4	0.06	0.45		102.2	167.2	165.0	64.7	166.8	122	68	68	67		1.001	3.706	379
354	57.288	57.633		0.16	0.16	1.35	1.08	0.26	79	79	67	1.92	1.40	72	0.018	97	98	128.4	-0.06	0.45		102.1	167.1	164.9	64.8	166.8	119	68	68	67		1.001	3.707	379
355	57.450	57.797		0.16	0.16	1.35	1.08	0.26	80	79	68	1.92	1.40	72	0.016	103	104	128.5	-0.03	0.46		101.9	167.0	164.8	64.8	166.7	116	68	68	68		1.001	3.863	394
356	57.612	57.959		0.16	0.16	1.34	1.08	0.26	80	79	68	1.92	1.40	72	0.016	103	103	128.5	-0.01	0.41		101.6	166.7	164.5	64.8	166.5	114	68	68	68		1.001	3.385	344
357	57.775	58.122		0.16	0.16	1.34	1.08	0.26	80	79	68	1.91	1.40	72	0.018	98	98	128.3	0.14	0.46		101.5	166.6	164.4	64.9	166.4	112	68	68	68		1.001	3.866	393
358	57.937	58.285		0.16	0.16	1.35	1.08	0.26	80	80	68	1.93	1.40	72	0.017	100	100	128.4	-0.04	0.46		101.2	166.6	164.3	65.0	166.2	111	68	68	68		1.001	3.865	392
359	58.099	58.448		0.16	0.16	1.34	1.08	0.26	80	79	68	1.92	1.40	72	0.017	100	101	128.3	0.05	0.50		100.9	166.3	164.1	65.0	165.9	109	68	68	68		1.001	4.180	422
360	58.261	58.611		0.16	0.16	1.34	1.08	0.26	80	80	68	1.92	1.40	73	0.017	100	100	128.4	-0.05	0.43		100.9	166.2	164.1	65.1	165.9	108	68	69	68		1.001	3.552	359
361	58.423	58.774		0.16	0.16	1.34	1.08	0.26	80	80	68	1.92	1.40	73	0.016	103	104	128.3	0.05	0.42		100.5	165.9	163.8	65.1	165.6	107	68	69	68		1.001	3.529	355
362	58.585	58.937		0.16	0.16	1.34	1.08	0.26	80	80	68	1.93	1.40	73	0.016	103	104	128.3	0.02	0.43		100.3	165.8	163.6	65.1	165.5	105	68	69	68		1.001	3.577	359

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
363	58.747	59.100		0.16	0.16	1.34	1.08	0.26	80	80	68	1.92	1.40	73	0.019	95	95	128.4	-0.10	0.41		100.2	165.7	163.6	65.2	165.4	105	69	69	68		1.001	3.382	339
364	58.909	59.263		0.16	0.16	1.35	1.08	0.26	80	80	68	1.92	1.40	73	0.016	103	104	128.4	-0.03	0.48		100.1	165.5	163.4	65.2	165.3	104	69	69	68		1.001	4.024	403
365	59.071	59.426		0.16	0.16	1.34	1.08	0.26	80	80	68	1.91	1.40	73	0.016	103	104	128.3	0.09	0.44		99.8	165.3	163.2	65.3	165.1	103	69	69	68		1.001	3.701	370
366	59.233	59.588		0.16	0.16	1.34	1.08	0.26	80	80	68	1.91	1.40	73	0.017	100	100	128.4	-0.05	0.46		99.6	165.1	163.0	65.3	164.9	103	69	69	68		1.001	3.864	385
367	59.395	59.751		0.16	0.16	1.35	1.08	0.26	80	80	68	1.92	1.40	73	0.017	100	100	128.4	0.03	0.44		99.3	165.0	162.9	65.3	164.7	102	69	69	68		1.001	3.700	368
368	59.557	59.914		0.16	0.16	1.34	1.08	0.26	80	80	68	1.92	1.40	73	0.016	103	104	128.4	0.01	0.41		99.3	164.9	162.8	65.4	164.6	101	69	69	68		1.001	3.379	336
369	59.719	60.078		0.16	0.16	1.35	1.08	0.26	80	80	68	1.92	1.40	73	0.017	100	101	128.3	0.08	0.46		99.1	164.8	162.6	65.4	164.5	100	69	69	68		1.001	3.867	384
370	59.882	60.240		0.16	0.16	1.34	1.08	0.26	80	80	68	1.93	1.40	73	0.018	98	97	128.4	-0.11	0.48		98.9	164.6	162.4	65.4	164.3	101	69	69	68		1.001	4.021	398
371	60.044	60.403		0.16	0.16	1.35	1.08	0.26	80	80	68	1.93	1.40	74	0.016	103	104	128.4	-0.03	0.50		98.7	164.4	162.3	65.5	164.1	99	69	69	68		1.001	4.185	413
372	60.206	60.566		0.16	0.16	1.34	1.08	0.26	80	80	69	1.93	1.40	74	0.018	97	98	128.3	0.10	0.39		98.4	164.3	162.1	65.5	163.9	99	69	69	69		1.001	3.220	317
373	60.368	60.729		0.16	0.16	1.34	1.08	0.26	80	80	69	1.93	1.40	74	0.016	103	104	128.3	-0.02	0.41		98.4	164.2	162.0	65.5	163.9	99	69	69	69		1.001	3.386	334
374	60.530	60.892		0.16	0.16	1.34	1.08	0.26	80	80	68	1.93	1.40	73	0.016	103	104	128.4	-0.04	0.39		98.2	164.1	161.9	65.5	163.7	99	69	70	68		1.001	3.223	317
375	60.692	61.055		0.16	0.16	1.35	1.08	0.26	80	80	68	1.92	1.40	74	0.016	103	104	128.4	0.03	0.50		98.0	163.9	161.7	65.5	163.6	98	69	70	68		1.001	4.176	410
376	60.854	61.217		0.16	0.16	1.35	1.08	0.26	80	80	68	1.92	1.40	74	0.017	100	100	128.3	0.02	0.37		97.9	163.7	161.6	65.5	163.4	97	69	70	68		1.001	3.103	304
377	61.016	61.380		0.16	0.16	1.35	1.08	0.26	80	80	68	1.93	1.40	75	0.015	107	107	128.5	-0.15	0.43		97.7	163.5	161.3	65.5	163.3	96	69	70	68		1.001	3.548	347
378	61.178	61.543		0.16	0.16	1.35	1.08	0.26	80	80	69	1.92	1.40	75	0.018	98	98	128.4	0.10	0.43		97.6	163.5	161.4	65.6	163.2	95	70	70	69		1.001	3.546	347
379	61.340	61.707		0.16	0.16	1.35	1.08	0.26	80	80	69	1.93	1.40	75	0.016	103	104	128.4	-0.04	0.45		97.5	163.3	161.2	65.6	163.0	95	70	70	69		1.001	3.705	362
380	61.502	61.870		0.16	0.16	1.35	1.08	0.26	80	80	69	1.92	1.40	74	0.015	107	107	128.4	0.03	0.46		97.2	163.1	160.9	65.6	162.8	94	70	70	69		1.001	3.865	376
381	61.664	62.032		0.16	0.16	1.34	1.08	0.26	80	80	69	1.94	1.40	74	0.017	100	100	128.5	-0.08	0.41		96.9	163.0	160.8	65.7	162.6	94	70	70	69		1.001	3.383	328
382	61.826	62.195		0.16	0.16	1.35	1.08	0.26	80	80	69	1.92	1.40	75	0.017	100	101	128.4	0.02	0.44		96.7	162.8	160.6	65.7	162.4	95	70	70	69		1.001	3.701	358
383	61.988	62.358		0.16	0.16	1.35	1.08	0.26	81	80	69	1.93	1.40	78	0.018	98	98	128.3	0.18	0.46		96.6	162.6	160.5	65.8	162.4	125	70	71	69		1.001	3.865	374
384	62.150	62.521		0.16	0.16	1.35	1.08	0.26	81	80	69	1.93	1.40	76	0.017	100	101	128.2	0.09	0.44		96.5	162.5	160.4	65.8	162.3	119	70	70	69		1.001	3.700	357
385	62.312	62.683		0.16	0.16	1.35	1.08	0.26	81	81	69	1.93	1.40	75	0.017	100	100	128.2	-0.01	0.48		96.3	162.3	160.2	65.8	162.0	116	70	70	69		1.001	4.023	388
386	62.474	62.846		0.16	0.16	1.35	1.08	0.26	81	81	69	1.94	1.40	75	0.017	100	100	128.3	-0.09	0.44		96.1	162.1	160.1	65.8	161.8	113	70	70	69		1.001	3.696	355
387	62.636	63.009		0.16	0.16	1.35	1.08	0.26	81	81	69	1.91	1.40	75	0.017	100	100	128.1	0.18	0.46		95.9	162.0	159.9	65.8	161.7	112	70	70	69		1.001	3.868	371
388	62.798	63.172		0.16	0.16	1.35	1.07	0.26	81	81	69	1.94	1.40	75	0.017	100	100	128.2	-0.14	0.40		95.7	161.9	159.8	65.8	161.5	109	70	70	69		1.001	3.363	322
389	62.960	63.335		0.16	0.16	1.35	1.08	0.26	81	81	69	1.92	1.40	75	0.018	97	98	128.3	-0.05	0.49		95.6	161.7	159.6	65.8	161.4	109	70	70	69		1.001	4.077	390
390	63.122	63.497		0.16	0.16	1.35	1.08	0.26	81	81	69	1.93	1.40	75	0.016	103	103	128.3	0.00	0.48		95.5	161.6	159.5	65.8	161.3	108	70	71	69		1.001	4.023	385
391	63.284	63.660		0.16	0.16	1.35	1.08	0.26	81	81	69	1.94	1.40	75	0.018	97	98	128.2	0.06	0.43		95.4	161.4	159.3	65.8	161.2	106	70	71	69		1.001	3.540	338
392	63.446	63.823		0.16	0.16	1.35	1.08	0.26	81	81	69	1.93	1.40	75	0.017	100	100	128.2	0.05	0.44		95.2	161.3	159.2	65.8	161.0	105	70	71	69		1.001	3.702	353
393	63.608	63.987		0.16	0.16	1.35	1.08	0.26	81	81	69	1.92	1.40	75	0.017	100	101	127.9	0.23	0.48		94.9	161.1	159.1	65.8	160.8	103	70	71	69		1.001	4.023	382
394	63.771	64.149		0.16	0.16	1.34	1.08	0.26	81	81	69	1.93	1.40	75	0.016	104	103	128.2	-0.21	0.43		94.8	161.0	158.9	65.9	160.7	104	70	71	69		1.001	3.539	336
395	63.933	64.312		0.16	0.16	1.34	1.07	0.26	81	81	70	1.94	1.40	79	0.018	98	98	128.1	0.11	0.44		94.6	160.8	158.8	65.9	160.5	122	71	71	70		1.001	3.700	350
396	64.095	64.474		0.16	0.16	1.34	1.07	0.26	81	81	69	1.94	1.40	83	0.017	101	101	127.7	0.32	0.44		94.5	160.6	158.6	65.9	160.4	125	71	72	69		1.001	3.701	350
397	64.257	64.637		0.16	0.16	1.34	1.08	0.26	81	81	69	1.93	1.40	83	0.018	98	98	127.5	0.21	0.41		94.4	160.6	158.5	65.9	160.3	149	71	72	69		1.001	3.375	319
398	64.419	64.800		0.16	0.16	1.34	1.08	0.26	81	81	70	1.93	1.40	84	0.017	101	101	127.0	0.56	0.43		94.3	160.6	158.6	65.9	160.3	170	71	72	70		1.001	3.538	334
399	64.581	64.962		0.16	0.16	1.35	1.08	0.26	81	81	69	1.95	1.40	86	0.018	98	98	126.8	0.17	0.44		94.4	160.6	158.6	65.9	160.3	187	72	72	69		1.001	3.699	349
400	64.743	65.124		0.16	0.16	1.35	1.08	0.26	81	81	70	1.93	1.40	87	0.017	101	101	126.4	0.39	0.44		94.5	160.8	158.7	65.9	160.4	201	72	73	70		1.001	3.700	350
401	64.905	65.287		0.16	0.16	1.35	1.08	0.26	81	81	70	1.94	1.40	88	0.016	105	105	125.9	0.48	0.52		94.5	160.9	158.8	65.9	160.4	212	72	73	70		1.001	4.336	410
402	65.066	65.450		0.16	0.16	1.34	1.08	0.26	81	81	70	1.95	1.40	90	0.017	101	102	125.4	0.48	0.45		94.7	161.2	159.1	65.9	160.7	223	73	73	70		1.001	3.714	352
403	65.228	65.612		0.16	0.16	1.35	1.08	0.26	81	81	70	1.94	1.40	93	0.016	105	105	124.9	0.52	0.42		95.2	161.6	159.5	66.0	161.1	239	73	74	70		1.001	3.498	333
404	65.390	65.774		0.16	0.16	1.35	1.08	0.26	81	81	70	1.95	1.40	96	0.017	102	102	124.4	0.54	0.48		95.6	162.4	160.2	66.0	161.6	255	73	74	70		1.001	4.008	384
405	65.551	65.936		0.16	0.16	1.35	1.08	0.26	81	81	70	1.95	1.40	99	0.017	102	102	123.7	0.69	0.47		96.6	163.3	161.1	66.0	162.5	269	74	75	70		1.001	3.877	375
406	65.713	66.098		0.16	0.16	1.35	1.08	0.26	81	81	70	1.95	1.40	102	0.018	100	99	123.0	0.69	0.41		97.4	164.3	162.0	66.0	163.4	281	75	75	70		1.001	3.382	330
407	65.874	66.260		0.16	0.16	1.35	1.08	0.26	81	81	70	1.96	1.40	104	0.019	97	97	122.2	0.76	0.46		98.4	165.3	163.0	66.0	164.4	290	75	76	70		1.001	3.861	380
408	66.035	66.421		0.16	0.16	1.34	1.08	0.26	81	81	70	1.96	1.40	106	0.017	102	102	121.4	0.80	0.46		99.6	166.5	164.2	66.0	165.7	300	76	77	70		1.001	3.861	385
409	66.197	66.583		0.16	0.16	1.34	1.07	0.26	81	81	70	1.96	1.40	109	0.017	103	103	120.5	0.97	0.46		100.8	167.8	165.5	66.1	166.8	311	77	78	70		1.001	3.861	390
410	66.358	66.745		0.16	0.16	1.34	1.07	0.26	81	81	70	1.96	1.40	111	0.016	106	106	119.8	0.68	0.41		102.2	169.3	166.8	66.1	168.3	315	78	79	70		1.001	3.378	346
411	66.519	66.906		0.16	0.16	1.34	1.07	0.26	81	81	70	1.97	1.50	112	0.016	106	106	119.0	0.84	0.41		103.5	170.7	168.2	66.1	169.6	321	78	79	70		1.001	3.376	350
412	66.679	67.067		0.16	0.16	1.34	1.06	0.26	82	81	70	1.97	1.50	114	0.018	99	100	118.3	0.69	0.46		105.0	172.3	169.8	66.2	171.2	326	79	80	70		1.001	3.859	406
413	66.840	67.227		0.16	0.16	1.34	1.06	0.26	82	81	70	1.99	1.50	114	0.019	97	97	117.4	0.83	0.44		106.5	173.8	171.3	66.2	172.7	329	80	81	70		1.001	3.696	394
414	67.000	67.388		0.16	0.16	1.34	1.05	0.26	82	82	70	1.98	1.50	116	0.016	106	106	116.6	0.87	0.46		108.1	175.4	172.9	66.2	174.3	334	80	81	70		1.001	3.858	417
415	67.161	67.548		0.16	0.16	1.34	1.05	0.26	82	82	70	1.99	1.50	117	0.015	110	109	115.7	0.84	0.46		109.5	176.9	174.4	66.2	175.8	336	81	82	70		1.001	3.853	423
416	67.321	67.707		0.16	0.16	1.34	1.05	0.26	82	82	70	1.99	1.50	117	0.018	100	99	114.6	1.11	0.41		111.3	178.6	176.0	66.3	177.6	335	81	82	70		1.001	3.375	376
417	67.482	67.868		0.16	0.16	1.33	1.05	0.26	82	82	70	2.01	1.50	117	0.019	98	97	114.0	0.60	0.43		112.6	180.1	177.5	66.3	178.9	333	82	82	70		1.001	3.546	400
418	67.642	68.027		0.16	0.16	1.33	1.04	0.26	82	82	70	2.01	1.50	116	0.019	97	96	113.4	0.63	0.44		114.2	181.5	178.9	66.4	180.5	321	82	82	70		1.001	3.642	416
419	67.802	68.187		0.16	0.16	1.33	1.05	0.26	82	82	70	2.00	1.50	96	0.018	98	98	113.0	0.35	0.43		115.3	182.5	179.9	66.4	181.7	288	79	79	70		1.001	3.555	410
420	67.963	68.348		0.16	0.16	1.33	1.04	0.26	82	82	70	1.99	1.50	89	0.017	101	100	112.7	0.28	0.42		115.8	182.9	180.3	66.4	182.2	268	79	79	70		1.001	3.531	409
421	68.124	68.507		0.16	0.16	1.32	1.05	0.26	82	82	70	1.99	1.50	87	0.017	101	99	112.4	0.30	0.48		116.2	183.4	180.7	66.4	182.6	253	78	79	70		1.001	4.015	467
422	68.285	68.667		0.16	0.16	1.33	1.04	0.26	82	82	72	1.98	1.50	87	0.016	104	103	112.4	0.09	0.42		116.7	183.7	181.1	66.5	183.1	243	78	79	72		1.001	3.531	412
423	68.447	68.829		0.16	0.16	1.32	1.04	0.26	82	82	71	1.96	1.50	83	0.017	101	100	112.3	0.09	0.44		116.8	183.9	181.3	66.5	183.2	237	77	78	71		1.001	3.695	432
424	68.608	68.988		0.16	0.16	1.33	1.05	0.26	82	82	71	1.97	1.50	82	0.018	97	96	112.2	0.10	0.41		117.2	184.0	181.4	66.3	183.5	230	76	77	71		1.001	3.373	396

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
425	68.769	69.149		0.16	0.16	1.33	1.05	0.26	82	82	71	1.97	1.50	81	0.019	95	94	112.1	0.02	0.46		117.6	184.2	181.6	66.1	183.6	224	76	76	71		1.001	3.858	454
426	68.931	69.310		0.16	0.16	1.33	1.04	0.26	82	82	71	1.95	1.50	80	0.017	100	100	112.0	0.12	0.46		117.9	184.2	181.7	65.8	183.7	219	75	75	71		1.001	3.862	456
427	69.092	69.471		0.16	0.16	1.34	1.05	0.26	82	82	71	1.96	1.50	79	0.015	106	106	112.0	0.01	0.50		118.2	184.3	181.8	65.6	183.8	215	74	75	71		1.001	4.180	495
428	69.254	69.631		0.16	0.16	1.34	1.05	0.26	82	82	71	1.95	1.40	79	0.016	103	102	112.0	0.00	0.43		118.5	184.4	181.8	65.4	183.9	211	74	74	71		1.001	3.539	420
429	69.416	69.793		0.16	0.16	1.34	1.06	0.26	82	82	71	1.95	1.40	78	0.016	103	103	111.9	0.15	0.44		118.7	184.5	181.9	65.2	183.9	207	73	74	71		1.001	3.703	440
430	69.578	69.955		0.16	0.16	1.33	1.06	0.26	82	82	71	1.95	1.40	78	0.015	107	106	111.9	0.01	0.43		118.9	184.5	181.9	65.1	184.0	203	73	74	71		1.001	3.548	422
431	69.739	70.116		0.16	0.16	1.34	1.06	0.26	82	82	71	1.96	1.40	77	0.017	100	99	112.0	-0.12	0.42		119.1	184.5	181.8	64.9	184.0	200	73	74	71		1.001	3.533	421
432	69.901	70.278		0.16	0.16	1.34	1.07	0.26	82	82	71	1.94	1.40	77	0.019	95	94	111.9	0.05	0.44		119.1	184.5	181.9	64.8	184.0	197	73	74	71		1.001	3.700	441
433	70.063	70.440		0.16	0.16	1.35	1.07	0.26	82	82	70	1.96	1.40	76	0.018	97	97	111.8	0.10	0.45		119.2	184.4	181.8	64.7	183.9	194	72	73	70		1.001	3.764	449
434	70.225	70.602		0.16	0.16	1.33	1.07	0.26	82	82	70	1.94	1.40	75	0.015	106	106	111.8	-0.01	0.46		119.4	184.5	182.0	64.6	184.0	191	72	73	70		1.001	3.857	461
435	70.386	70.764		0.16	0.16	1.34	1.07	0.26	82	82	70	1.95	1.40	75	0.017	99	100	111.9	-0.03	0.39		119.4	184.4	181.8	64.6	184.0	188	72	73	70		1.001	3.216	384
436	70.548	70.926		0.16	0.16	1.34	1.07	0.26	82	82	70	1.95	1.40	75	0.017	100	100	111.7	0.14	0.46		119.6	184.4	181.8	64.5	184.0	184	72	73	70		1.001	3.855	462
437	70.710	71.089		0.16	0.16	1.35	1.07	0.26	82	82	70	1.94	1.40	75	0.017	100	100	111.8	-0.08	0.46		119.6	184.3	181.7	64.4	183.9	181	72	73	70		1.001	3.858	462
438	70.872	71.252		0.16	0.16	1.34	1.08	0.26	82	82	70	1.94	1.40	74	0.017	100	100	111.8	-0.03	0.44		119.6	184.4	181.8	64.3	183.8	178	72	73	70		1.001	3.701	443
439	71.034	71.415		0.16	0.16	1.35	1.07	0.26	82	82	70	1.94	1.40	74	0.018	97	97	111.8	0.05	0.41		119.6	184.3	181.6	64.2	183.8	175	72	73	70		1.001	3.380	405
440	71.196	71.577		0.16	0.16	1.35	1.07	0.26	82	82	70	1.95	1.40	74	0.017	100	100	111.7	0.05	0.44		119.5	184.3	181.5	64.1	183.6	172	72	72	70		1.001	3.700	443
441	71.358	71.740		0.16	0.16	1.35	1.07	0.26	82	82	70	1.94	1.40	74	0.019	95	95	111.9	-0.14	0.50		119.7	184.2	181.5	64.1	183.7	170	72	72	70		1.001	4.179	501
442	71.520	71.902		0.16	0.16	1.35	1.08	0.26	83	83	70	1.94	1.40	74	0.017	100	99	111.8	0.08	0.46		119.7	184.1	181.4	64.0	183.6	167	71	72	70		1.001	3.857	462
443	71.682	72.066		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	73	0.015	106	107	111.9	-0.05	0.46		119.6	184.0	181.3	63.9	183.5	165	71	72	70		1.001	3.857	462
444	71.845	72.228		0.16	0.16	1.35	1.07	0.26	82	82	70	1.95	1.40	73	0.017	100	99	111.8	0.04	0.48		119.6	183.9	181.2	63.9	183.5	162	71	72	70		1.001	4.018	481
445	72.007	72.390		0.16	0.16	1.35	1.07	0.26	83	83	70	1.95	1.40	73	0.018	97	97	111.9	-0.06	0.48		119.5	183.8	181.2	63.8	183.3	160	71	72	70		1.001	4.023	481
446	72.169	72.553		0.16	0.16	1.35	1.07	0.26	82	82	70	1.96	1.40	73	0.016	103	103	111.8	0.07	0.46		119.6	183.8	181.2	63.8	183.3	158	71	72	70		1.001	3.851	461
447	72.331	72.716		0.16	0.16	1.35	1.08	0.26	82	82	70	1.96	1.40	73	0.017	100	100	111.9	-0.08	0.40		119.4	183.7	181.0	63.7	183.1	155	71	72	70		1.001	3.357	401
448	72.493	72.879		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	73	0.016	103	103	111.9	0.02	0.46		119.4	183.7	181.1	63.7	183.1	153	71	71	70		1.001	3.817	456
449	72.655	73.041		0.16	0.16	1.35	1.08	0.26	82	82	70	1.94	1.40	73	0.019	94	94	111.8	0.06	0.46		119.5	183.5	180.9	63.6	183.1	151	71	71	70		1.001	3.862	462
450	72.818	73.204		0.16	0.16	1.34	1.08	0.26	82	82	69	1.94	1.40	73	0.017	100	100	111.7	0.06	0.44		119.4	183.4	180.8	63.6	183.0	149	71	71	69		1.001	3.699	442
451	72.980	73.367		0.16	0.16	1.34	1.08	0.26	82	82	69	1.94	1.40	73	0.015	106	107	111.9	-0.19	0.44		119.3	183.3	180.7	63.6	182.8	147	70	71	69		1.001	3.706	442
452	73.142	73.531		0.16	0.16	1.34	1.07	0.26	82	82	69	1.93	1.40	72	0.017	100	101	111.8	0.10	0.46		119.1	183.2	180.5	63.5	182.7	145	70	71	69		1.001	3.862	461
453	73.305	73.693		0.16	0.16	1.35	1.07	0.26	82	82	69	1.94	1.40	72	0.015	107	106	111.8	0.06	0.43		119.1	183.0	180.4	63.5	182.6	144	70	71	69		1.001	3.546	423
454	73.467	73.856		0.16	0.16	1.34	1.08	0.26	82	82	69	1.94	1.40	72	0.014	110	110	111.9	-0.13	0.48		119.0	182.9	180.3	63.5	182.5	142	70	71	69		1.001	4.025	480
455	73.629	74.018		0.16	0.16	1.34	1.08	0.26	82	82	69	1.95	1.40	72	0.018	97	97	111.8	0.14	0.44		119.1	182.8	180.2	63.4	182.5	140	70	71	69		1.001	3.704	442
456	73.791	74.181		0.16	0.16	1.35	1.08	0.26	82	82	69	1.95	1.40	72	0.017	100	100	111.9	-0.12	0.41		118.8	182.7	179.9	63.4	182.2	139	70	71	69		1.001	3.386	403
457	73.953	74.345		0.16	0.16	1.34	1.07	0.26	82	82	69	1.94	1.40	72	0.017	100	101	111.9	-0.05	0.41		118.9	182.7	180.0	63.4	182.2	137	70	71	69		1.001	3.380	402
458	74.116	74.507		0.16	0.16	1.34	1.07	0.26	82	82	68	1.94	1.40	72	0.017	100	99	111.9	0.02	0.44		118.7	182.7	179.9	63.3	182.1	136	70	71	68		1.001	3.706	440
459	74.278	74.670		0.16	0.16	1.34	1.08	0.26	82	82	69	1.94	1.40	72	0.016	103	103	112.0	-0.06	0.46		118.7	182.5	179.8	63.3	182.1	134	70	70	69		1.001	3.863	459
460	74.441	74.833		0.16	0.16	1.34	1.08	0.26	82	82	68	1.94	1.40	72	0.018	98	97	111.9	0.04	0.48		118.6	182.3	179.6	63.3	181.9	133	70	70	68		1.001	4.024	478
461	74.603	74.995		0.16	0.16	1.34	1.08	0.26	82	82	68	1.93	1.40	72	0.017	100	99	111.9	0.01	0.43		118.4	182.2	179.5	63.3	181.7	131	70	70	68		1.001	3.558	422
462	74.765	75.159		0.16	0.16	1.34	1.08	0.26	82	82	68	1.94	1.40	72	0.015	106	107	111.9	0.07	0.45		118.3	182.2	179.5	63.3	181.6	130	70	70	68		1.001	3.744	443
463	74.927	75.321		0.16	0.16	1.34	1.08	0.26	82	82	69	1.93	1.40	72	0.018	97	97	112.0	-0.16	0.44		118.4	182.0	179.4	63.3	181.6	129	70	70	69		1.001	3.705	439
464	75.089	75.484		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	72	0.018	97	97	112.0	0.04	0.46		118.3	181.9	179.3	63.3	181.5	127	70	70	68		1.001	3.861	457
465	75.252	75.647		0.16	0.16	1.34	1.08	0.26	82	82	68	1.95	1.40	72	0.017	100	100	111.9	0.10	0.46		118.0	181.8	179.2	63.3	181.3	126	70	70	68		1.001	3.863	457
466	75.414	75.810		0.16	0.16	1.35	1.07	0.26	82	82	68	1.95	1.40	72	0.018	97	97	111.9	-0.05	0.44		117.9	181.7	179.1	63.3	181.2	125	69	70	68		1.001	3.703	437
467	75.576	75.973		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.017	100	100	112.0	-0.07	0.46		117.8	181.4	178.8	63.3	181.1	123	69	70	68		1.001	3.868	456
468	75.739	76.135		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.017	100	99	112.0	-0.01	0.45		117.6	181.4	178.7	63.3	180.9	123	69	70	68		1.001	3.706	436
469	75.901	76.298		0.16	0.16	1.34	1.08	0.26	82	82	68	1.93	1.40	71	0.019	94	95	112.0	-0.02	0.45		117.6	181.3	178.7	63.3	180.8	121	69	70	68		1.001	3.707	436
470	76.063	76.461		0.16	0.16	1.35	1.08	0.26	82	82	68	1.93	1.40	71	0.016	103	103	112.1	-0.03	0.43		117.4	181.2	178.6	63.2	180.7	121	69	70	68		1.001	3.550	417
471	76.225	76.625		0.16	0.16	1.35	1.08	0.26	82	82	68	1.93	1.40	71	0.018	97	98	112.0	0.02	0.43		117.3	181.0	178.4	63.2	180.5	120	69	70	68		1.001	3.550	417
472	76.387	76.788		0.16	0.16	1.34	1.08	0.26	82	82	68	1.94	1.40	71	0.017	100	100	111.9	0.10	0.45		117.2	180.8	178.3	63.2	180.4	127	69	69	68		1.001	3.709	435
473	76.549	76.950		0.16	0.16	1.34	1.07	0.26	82	82	68	1.96	1.40	82	0.018	98	97	111.8	0.11	0.43		117.1	180.6	178.1	63.2	180.3	153	70	71	68		1.001	3.547	416
474	76.711	77.112		0.16	0.16	1.35	1.08	0.26	82	82	68	1.95	1.40	73	0.016	103	103	111.9	-0.03	0.46		116.9	180.5	178.0	63.2	180.0	145	69	70	68		1.001	3.862	452
475	76.873	77.275		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	72	0.018	97	97	111.8	0.09	0.41		116.7	180.3	177.7	63.2	179.9	138	69	69	68		1.001	3.388	396
476	77.035	77.439		0.16	0.16	1.35	1.08	0.26	82	82	68	1.93	1.40	71	0.017	100	101	111.8	-0.08	0.47		116.7	180.2	177.6	63.1	179.8	134	69	69	68		1.001	3.880	453
477	77.198	77.602		0.16	0.16	1.35	1.08	0.26	82	82	68	1.95	1.40	71	0.018	97	97	111.7	0.18	0.50		116.6	180.2	177.7	63.1	179.8	132	69	69	68		1.001	4.188	489
478	77.360	77.765		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.018	97	97	111.7	-0.03	0.48		116.5	180.0	177.4	63.1	179.6	129	69	69	68		1.001	4.030	470
479	77.522	77.928		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.017	100	100	111.7	-0.03	0.48		116.3	179.8	177.3	63.1	179.4	127	69	69	68		1.001	4.027	469
480	77.685	78.091		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.018	97	97	111.7	-0.01	0.41		116.3	179.7	177.1	63.1	179.4	125	69	69	68		1.001	3.382	394
481	77.847	78.255		0.16	0.16	1.35	1.08	0.26	82	82	68	1.95	1.40	71	0.016	103	104	111.9	-0.13	0.50		116.0	179.5	177.0	63.1	179.1	124	69	69	68		1.001	4.189	487
482	78.009	78.417		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.015	106	106	111.7	0.14	0.46		116.0	179.3	176.8	63.1	179.1	123	69	69	68		1.001	3.867	449
483	78.172	78.580		0.16	0.16	1.35	1.08	0.26	82	82	68	1.93	1.40	71	0.016	103	103	111.8	-0.09	0.48		115.6	179.1	176.5	63.1	178.7	121	69	69	68		1.001	4.029	466
484	78.334	78.743		0.16	0.16	1.35	1.08	0.26	82	82	68	1.95	1.40	71	0.017	100	100	111.8	0.00	0.46		115.5	179.1	176.5	63.1	178.6	121	69	69	68		1.001	3.868	447
485	78.497	78.906		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.017	100	100	111.8	-0.03	0.41		115.5	179.0	176.4	63.1	178.6	120	69	69	68		1.001	3.387	392
486	78.659	79.070		0.16	0.16	1.34	1.08	0.26	82	82	68	1.93	1.40	71	0.015	106	107	111.8	0.04	0.46		115.4	178.8	176.2	63.1	178.5	119	69	69	68		1.001	3.865	447

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
487	78.821	79.233		0.16	0.16	1.35	1.08	0.26	82	82	68	1.93	1.40	71	0.018	97	97	111.9	-0.07	0.41		115.1	178.6	176.0	63.1	178.2	118	69	69	68		1.001	3.382	390
488	78.984	79.396		0.16	0.16	1.35	1.08	0.26	82	81	68	1.95	1.40	71	0.017	100	100	111.8	0.03	0.44		115.1	178.5	176.0	63.1	178.1	116	69	69	68		1.001	3.705	427
489	79.146	79.559		0.16	0.16	1.34	1.08	0.26	82	81	68	1.93	1.40	71	0.017	100	100	111.8	0.06	0.47		115.0	178.4	175.8	63.0	178.1	115	69	69	68		1.001	3.873	446
490	79.308	79.722		0.16	0.16	1.34	1.08	0.26	82	81	68	1.94	1.40	70	0.018	97	97	111.9	-0.10	0.42		114.7	178.3	175.8	63.1	177.8	114	69	69	68		1.001	3.533	406
491	79.471	79.886		0.16	0.16	1.35	1.08	0.26	82	81	68	1.95	1.40	70	0.018	97	98	111.9	-0.07	0.44		114.7	178.1	175.5	63.0	177.8	113	68	69	68		1.001	3.688	424
492	79.633	80.049		0.16	0.16	1.34	1.08	0.26	82	81	68	1.94	1.40	70	0.019	94	95	111.8	0.15	0.44		114.5	178.0	175.4	63.0	177.5	112	68	69	68		1.001	3.649	418
493	79.796	80.212		0.16	0.16	1.34	1.08	0.26	82	81	68	1.93	1.40	70	0.014	110	110	111.9	-0.08	0.43		114.3	177.8	175.1	63.0	177.3	111	68	69	68		1.001	3.549	406
494	79.958	80.375		0.16	0.16	1.34	1.08	0.26	82	81	67	1.93	1.40	70	0.017	100	100	111.9	0.00	0.43		114.3	177.7	175.1	63.0	177.3	111	68	69	67		1.001	3.546	406
495	80.120	80.538		0.16	0.16	1.35	1.08	0.26	81	81	68	1.95	1.40	70	0.016	103	103	111.9	-0.02	0.48		114.1	177.6	175.0	63.0	177.1	109	68	69	68		1.001	4.028	460
496	80.283	80.702		0.16	0.16	1.35	1.08	0.26	81	81	68	1.93	1.40	70	0.016	103	104	111.8	0.10	0.45		113.9	177.3	174.7	63.0	176.9	109	68	69	68		1.001	3.710	423
497	80.445	80.865		0.16	0.16	1.35	1.08	0.26	81	81	68	1.95	1.40	70	0.017	100	100	112.0	-0.16	0.46		113.8	177.2	174.7	63.0	176.8	109	68	69	68		1.001	3.870	441
498	80.607	81.028		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.016	103	103	111.9	0.06	0.43		113.7	177.1	174.5	63.0	176.7	108	68	69	67		1.001	3.547	404
499	80.770	81.191		0.16	0.16	1.35	1.08	0.26	81	81	67	1.95	1.40	70	0.017	100	100	111.9	-0.02	0.46		113.6	176.9	174.4	63.0	176.5	108	68	69	67		1.001	3.867	440
500	80.932	81.354		0.16	0.16	1.35	1.09	0.26	81	81	67	1.93	1.40	70	0.017	100	100	111.8	0.11	0.45		113.4	176.8	174.3	63.0	176.4	108	68	69	67		1.001	3.708	421
501	81.094	81.517		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.017	100	100	112.0	-0.19	0.46		113.3	176.7	174.1	63.0	176.3	106	68	69	67		1.001	3.870	439
502	81.256	81.681		0.16	0.16	1.36	1.08	0.26	81	81	67	1.93	1.40	70	0.016	103	104	111.9	0.11	0.47		113.1	176.5	173.8	63.0	176.1	106	68	68	67		1.001	3.874	439
503	81.418	81.843		0.16	0.16	1.34	1.08	0.26	81	81	67	1.94	1.40	70	0.017	100	99	111.8	0.08	0.46		112.8	176.3	173.7	63.1	175.9	134	68	68	67		1.001	3.869	437
504	81.580	82.006		0.16	0.16	1.35	1.08	0.26	81	81	67	1.95	1.40	78	0.018	98	98	111.9	-0.04	0.49		112.6	176.0	173.5	63.1	175.7	135	69	69	67		1.001	4.054	457
505	81.742	82.169		0.16	0.16	1.36	1.08	0.26	81	81	67	1.93	1.40	72	0.018	97	97	111.7	0.12	0.44		112.5	175.9	173.3	63.1	175.6	130	68	68	67		1.001	3.637	410
506	81.904	82.333		0.16	0.16	1.36	1.08	0.26	81	81	67	1.93	1.40	70	0.018	97	98	111.7	0.09	0.50		112.2	175.7	173.1	63.1	175.4	127	68	68	67		1.001	4.150	466
507	82.067	82.496		0.16	0.16	1.35	1.08	0.26	81	81	67	1.93	1.40	70	0.018	98	97	111.7	-0.03	0.46		112.0	175.5	173.0	63.2	175.2	124	68	68	67		1.001	3.869	434
508	82.229	82.659		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.017	100	100	111.9	-0.18	0.52		111.7	175.3	172.7	63.2	174.9	122	68	68	67		1.001	4.353	487
509	82.391	82.822		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.017	100	100	111.8	0.06	0.48		111.6	175.2	172.6	63.2	174.8	121	68	68	67		1.001	4.031	450
510	82.553	82.985		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.018	97	97	111.7	0.07	0.48		111.4	175.0	172.4	63.2	174.6	119	68	68	67		1.001	4.031	449
511	82.716	83.148		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.015	107	106	111.9	-0.19	0.46		111.3	174.9	172.3	63.2	174.5	116	68	68	67		1.001	3.870	431
512	82.878	83.311		0.16	0.16	1.36	1.08	0.26	81	81	67	1.93	1.40	70	0.017	100	100	111.7	0.24	0.41		111.1	174.8	172.2	63.2	174.3	116	68	68	67		1.001	3.388	377
513	83.040	83.474		0.16	0.16	1.35	1.08	0.26	81	81	67	1.92	1.40	70	0.017	100	100	111.9	-0.19	0.48		111.0	174.6	172.0	63.1	174.2	115	68	68	67		1.001	4.030	448
514	83.202	83.637		0.16	0.16	1.35	1.08	0.26	81	81	67	1.93	1.40	70	0.016	103	103	111.7	0.13	0.43		111.1	174.4	171.9	63.1	174.2	113	68	68	67		1.001	3.547	394
515	83.364	83.800		0.16	0.16	1.35	1.08	0.26	81	81	67	1.93	1.40	70	0.016	103	103	111.8	-0.03	0.45		110.9	174.2	171.7	63.1	174.0	114	68	68	67		1.001	3.712	412
516	83.527	83.964		0.16	0.16	1.35	1.09	0.26	81	81	67	1.93	1.40	70	0.018	98	98	111.7	0.03	0.43		110.6	174.0	171.5	63.1	173.7	111	68	68	67		1.001	3.550	393
517	83.689	84.127		0.16	0.16	1.35	1.08	0.26	81	81	67	1.93	1.40	70	0.015	106	106	111.9	-0.20	0.48		110.6	173.9	171.4	63.0	173.7	112	68	68	67		1.001	4.033	447
518	83.852	84.290		0.16	0.16	1.35	1.08	0.26	81	81	67	1.95	1.40	70	0.017	100	100	111.9	0.07	0.50		110.3	173.7	171.1	63.0	173.3	111	68	68	67		1.001	4.180	462
519	84.014	84.453		0.16	0.16	1.35	1.09	0.26	81	81	67	1.93	1.40	70	0.016	103	103	111.8	0.07	0.46		110.2	173.6	171.0	63.0	173.2	110	68	68	67		1.001	3.822	422
520	84.176	84.616		0.16	0.16	1.35	1.08	0.26	81	81	67	1.95	1.40	70	0.015	106	106	112.0	-0.15	0.48		110.1	173.3	170.8	63.0	173.0	111	68	68	67		1.001	4.031	444
521	84.338	84.780		0.16	0.16	1.35	1.08	0.26	81	81	67	1.93	1.40	70	0.015	106	107	111.8	0.14	0.46		109.9	173.2	170.7	63.0	172.9	108	68	68	67		1.001	3.868	426
522	84.501	84.943		0.16	0.16	1.34	1.08	0.26	81	81	67	1.93	1.40	70	0.016	103	103	111.8	0.04	0.39		109.9	173.1	170.6	62.9	172.8	109	68	68	67		1.001	3.228	355
523	84.663	85.106		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.016	103	103	112.1	-0.30	0.48		109.8	172.9	170.4	62.9	172.7	108	68	68	67		1.001	4.030	443
524	84.825	85.269		0.16	0.16	1.35	1.08	0.26	81	81	67	1.93	1.40	70	0.018	97	97	111.9	0.15	0.46		109.5	172.7	170.2	62.9	172.4	106	68	68	67		1.001	3.872	424
525	84.988	85.432		0.16	0.16	1.35	1.09	0.26	81	81	67	1.94	1.40	70	0.017	100	100	112.0	-0.09	0.50		109.3	172.5	170.0	62.9	172.1	107	68	68	67		1.001	4.194	459
526	85.150	85.595		0.16	0.16	1.35	1.09	0.26	81	80	67	1.92	1.40	70	0.018	97	97	111.9	0.07	0.47		109.1	172.4	169.8	62.9	172.0	107	68	68	67		1.001	3.874	423
527	85.312	85.759		0.16	0.16	1.34	1.08	0.26	81	80	67	1.92	1.40	70	0.017	100	101	111.8	0.19	0.46		109.0	172.3	169.7	62.9	171.9	106	68	68	67		1.001	3.871	422
528	85.474	85.922		0.16	0.16	1.34	1.08	0.26	81	80	67	1.93	1.40	70	0.018	97	97	111.9	-0.12	0.48		108.8	172.2	169.6	62.9	171.7	106	68	68	67		1.001	4.032	439
529	85.636	86.084		0.16	0.16	1.34	1.08	0.26	81	80	67	1.94	1.40	70	0.017	100	100	112.0	-0.15	0.46		108.8	172.0	169.5	62.8	171.6	104	68	68	67		1.001	3.868	421
530	85.799	86.247		0.16	0.16	1.35	1.08	0.26	81	80	67	1.94	1.40	70	0.018	98	97	111.8	0.20	0.47		108.5	171.8	169.3	62.9	171.4	105	68	68	67		1.001	3.875	421
531	85.961	86.411		0.16	0.16	1.35	1.09	0.26	81	80	67	1.94	1.40	70	0.018	97	98	112.0	-0.14	0.45		108.3	171.6	169.1	62.8	171.2	104	68	68	67		1.001	3.710	402
532	86.123	86.574		0.16	0.16	1.35	1.08	0.26	81	80	67	1.93	1.40	69	0.018	97	97	111.8	0.14	0.48		108.2	171.4	168.9	62.8	171.1	104	68	68	67		1.001	3.958	429
533	86.285	86.737		0.16	0.16	1.35	1.08	0.26	81	80	67	1.94	1.40	69	0.017	100	100	112.0	-0.14	0.50		108.1	171.2	168.7	62.8	170.9	103	68	68	67		1.001	4.193	454
534	86.448	86.900		0.16	0.16	1.35	1.09	0.26	81	80	67	1.93	1.40	69	0.016	103	103	111.9	0.12	0.48		107.9	171.1	168.6	62.8	170.7	141	68	68	67		1.001	4.031	435
535	86.610	87.063		0.16	0.16	1.35	1.08	0.26	81	80	67	1.94	1.40	77	0.017	100	101	111.7	0.14	0.43		107.8	170.9	168.4	62.8	170.6	130	68	69	67		1.001	3.552	383
536	86.772	87.226		0.16	0.16	1.35	1.08	0.26	81	80	67	1.94	1.40	71	0.016	103	103	111.7	0.05	0.47		107.5	170.6	168.1	62.8	170.4	125	67	68	67		1.001	3.874	417
537	86.934	87.390		0.16	0.16	1.35	1.08	0.26	81	80	67	1.92	1.40	70	0.017	100	101	111.8	-0.13	0.45		107.3	170.5	168.1	62.8	170.1	122	67	68	67		1.001	3.711	399
538	87.096	87.553		0.16	0.16	1.36	1.08	0.26	81	80	67	1.94	1.40	69	0.017	100	100	111.9	-0.05	0.50		107.3	170.4	167.9	62.8	170.1	119	68	68	67		1.001	4.194	451
539	87.258	87.715		0.16	0.16	1.36	1.08	0.26	80	80	67	1.95	1.40	69	0.017	100	99	111.8	0.07	0.43		107.0	170.0	167.6	62.8	169.8	118	67	68	67		1.001	3.552	380
540	87.420	87.878		0.16	0.16	1.36	1.09	0.26	80	80	67	1.93	1.40	69	0.018	97	97	111.7	0.06	0.41		106.9	170.0	167.5	62.8	169.7	116	67	68	67		1.001	3.394	363
541	87.582	88.042		0.16	0.16	1.36	1.09	0.26	80	80	67	1.93	1.40	69	0.017	100	101	111.7	0.00	0.45		106.7	169.9	167.4	62.8	169.4	114	67	68	67		1.001	3.707	396
542	87.744	88.206		0.16	0.16	1.36	1.08	0.26	80	80	67	1.93	1.40	69	0.019	94	95	111.9	-0.12	0.45		106.6	169.7	167.2	62.8	169.4	113	67	68	67		1.001	3.707	396
543	87.906	88.368		0.16	0.16	1.36	1.08	0.26	80	80	67	1.94	1.40	69	0.016	103	103	111.8	0.01	0.45		106.4	169.6	167.0	62.8	169.2	112	67	68	67		1.001	3.723	397
544	88.069	88.531		0.16	0.16	1.36	1.09	0.26	80	80	67	1.94	1.40	69	0.017	100	100	112.0	-0.12	0.49		106.2	169.2	166.8	62.8	169.0	110	67	68	67		1.001	4.075	433
545	88.231	88.694		0.16	0.16	1.35	1.09	0.26	80	80	67	1.94	1.40	69	0.017	100	100	111.7	0.27	0.45		106.0	169.2	166.7	62.8	168.8	110	67	68	67		1.001	3.713	394
546	88.393	88.858		0.16	0.16	1.36	1.09	0.26	80	80	67	1.93	1.40	69	0.016	103	104	111.9	-0.16	0.45		106.0	169.0	166.5	62.8	168.8	110	67	68	67		1.001	3.713	394
547	88.555	89.022		0.16	0.16	1.36	1.08	0.26	80	80	67	1.93	1.40	69	0.015	106	107	111.9	0.00	0.48		105.7	168.8	166.4	62.8	168.5	109	67	68	67		1.001	4.034	427
548	88.718	89.184		0.16	0.16	1.36	1.08	0.26	80	80	67	1.93	1.40	69	0.017	100	99	111.8	0.01	0.48		105.7	168.7	166.2	62.8	168.4	107	67	68	67		1.001	4.036	427

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
549	88.880	89.347		0.16	0.16	1.36	1.09	0.26	80	80	67	1.93	1.40	69	0.018	97	97	112.0	-0.12	0.46		105.4	168.5	166.1	62.8	168.1	106	67	68	67		1.001	3.872	408
550	89.042	89.510		0.16	0.16	1.35	1.09	0.26	80	80	67	1.94	1.40	69	0.016	103	103	111.9	0.11	0.47		105.2	168.3	166.0	62.7	168.0	105	67	68	67		1.001	3.875	408
551	89.205	89.673		0.16	0.16	1.35	1.09	0.26	80	80	66	1.94	1.40	69	0.018	98	97	111.8	0.06	0.50		105.1	168.2	165.8	62.8	167.9	105	67	68	66		1.001	4.198	442
552	89.367	89.838		0.16	0.16	1.35	1.08	0.26	80	80	67	1.93	1.40	69	0.017	100	101	111.9	-0.10	0.50		104.9	168.0	165.7	62.7	167.7	104	67	67	67		1.001	4.197	441
553	89.529	90.001		0.16	0.16	1.35	1.08	0.26	80	80	67	1.94	1.40	69	0.018	97	97	112.0	-0.10	0.54		104.8	167.8	165.4	62.7	167.6	104	67	68	67		1.001	4.521	474
554	89.691	90.164		0.16	0.16	1.35	1.09	0.26	80	80	67	1.94	1.40	69	0.017	100	100	111.8	0.15	0.48		104.6	167.7	165.3	62.7	167.4	103	67	67	67		1.001	4.037	423
555	89.854	90.326		0.16	0.16	1.35	1.09	0.26	80	80	67	1.95	1.40	69	0.016	104	103	111.7	0.18	0.43		104.5	167.5	165.2	62.7	167.2	103	67	67	67		1.001	3.557	372
556	90.016	90.490		0.16	0.16	1.35	1.09	0.26	80	80	67	1.94	1.40	69	0.016	103	104	112.0	-0.31	0.50		104.4	167.3	165.0	62.7	167.1	103	67	67	67		1.001	4.182	437
557	90.178	90.654		0.16	0.16	1.35	1.09	0.26	80	80	67	1.93	1.40	69	0.019	94	95	112.1	-0.09	0.43		104.2	167.2	164.8	62.7	166.9	103	67	67	67		1.001	3.551	370
558	90.341	90.817		0.16	0.16	1.35	1.09	0.26	80	80	67	1.94	1.40	69	0.015	107	107	111.9	0.19	0.45		104.0	167.1	164.7	62.7	166.7	102	67	67	67		1.001	3.715	387
559	90.503	90.979		0.16	0.16	1.35	1.08	0.26	80	80	66	1.95	1.40	69	0.016	103	103	111.9	0.01	0.47		103.8	166.9	164.5	62.7	166.5	104	67	67	66		1.001	3.877	403
560	90.665	91.143		0.16	0.16	1.35	1.09	0.26	80	80	66	1.94	1.40	69	0.016	103	104	111.8	0.02	0.48		103.7	166.7	164.3	62.7	166.4	101	67	67	66		1.001	4.035	419
561	90.828	91.306		0.16	0.16	1.35	1.09	0.26	80	80	66	1.93	1.40	69	0.016	104	103	111.9	-0.02	0.48		103.5	166.5	164.2	62.6	166.2	102	67	67	66		1.001	4.033	418
562	90.990	91.470		0.16	0.16	1.34	1.08	0.26	80	80	66	1.94	1.40	69	0.017	100	101	111.9	-0.06	0.48		103.4	166.3	164.0	62.6	166.0	100	67	67	66		1.001	4.035	418
563	91.152	91.633		0.16	0.16	1.35	1.09	0.26	80	80	66	1.93	1.40	69	0.019	94	95	112.0	-0.07	0.48		103.4	166.2	163.9	62.6	166.0	101	67	67	66		1.001	4.037	418
564	91.314	91.796		0.16	0.16	1.35	1.08	0.26	80	80	66	1.94	1.40	69	0.017	100	100	112.0	-0.02	0.48		103.1	166.0	163.7	62.6	165.7	100	67	67	66		1.001	4.037	417
565	91.476	91.959		0.16	0.16	1.35	1.09	0.26	80	80	66	1.93	1.40	69	0.018	97	97	112.0	0.02	0.41		103.0	165.9	163.6	62.6	165.6	137	67	67	66		1.001	3.395	350
566	91.638	92.122		0.16	0.16	1.34	1.08	0.26	80	80	67	1.93	1.40	74	0.018	97	98	111.9	0.06	0.48		102.7	165.6	163.3	62.6	165.4	124	68	68	67		1.001	4.033	415
567	91.801	92.285		0.16	0.16	1.36	1.09	0.26	80	80	66	1.93	1.40	70	0.015	107	107	111.9	0.02	0.48		102.5	165.5	163.2	62.6	165.2	120	67	67	66		1.001	4.033	414
568	91.963	92.448		0.16	0.16	1.36	1.09	0.26	80	80	66	1.93	1.40	69	0.015	106	107	111.8	0.09	0.47		102.4	165.3	163.0	62.6	165.1	118	67	67	66		1.001	3.878	398
569	92.125	92.611		0.16	0.16	1.35	1.08	0.26	80	80	66	1.94	1.40	69	0.016	103	103	111.9	-0.06	0.45		102.2	165.2	162.9	62.7	164.8	115	67	67	66		1.001	3.714	380
570	92.287	92.774		0.16	0.16	1.35	1.09	0.26	80	80	66	1.93	1.40	69	0.017	100	100	112.1	-0.23	0.49		102.0	165.0	162.6	62.7	164.7	113	67	67	66		1.001	4.076	416
571	92.449	92.937		0.16	0.16	1.36	1.09	0.26	80	80	66	1.93	1.40	69	0.018	97	97	111.9	0.18	0.43		101.7	164.7	162.4	62.7	164.5	113	67	67	66		1.001	3.555	362
572	92.611	93.101		0.16	0.16	1.36	1.09	0.26	80	80	66	1.94	1.40	69	0.017	100	101	111.9	0.03	0.48		101.5	164.6	162.3	62.8	164.3	111	67	67	66		1.001	4.035	410
573	92.773	93.264		0.16	0.16	1.35	1.09	0.26	80	80	66	1.95	1.40	69	0.018	97	97	111.9	0.01	0.48		101.4	164.5	162.2	62.8	164.2	109	67	67	66		1.001	4.035	409
574	92.935	93.428		0.16	0.16	1.36	1.08	0.26	80	80	66	1.94	1.40	69	0.017	100	101	111.8	0.10	0.47		101.1	164.3	162.0	62.8	163.9	108	67	67	66		1.001	3.878	393
575	93.097	93.590		0.16	0.16	1.36	1.09	0.26	80	80	66	1.94	1.40	69	0.016	103	103	111.9	-0.13	0.45		100.8	164.2	161.9	62.9	163.7	107	67	67	66		1.001	3.713	375
576	93.260	93.753		0.16	0.16	1.36	1.09	0.26	80	80	66	1.94	1.40	69	0.016	104	103	111.8	0.15	0.45		100.8	164.0	161.7	62.9	163.7	106	67	67	66		1.001	3.714	375
577	93.422	93.917		0.16	0.16	1.35	1.09	0.26	80	79	66	1.92	1.40	69	0.015	106	107	111.8	-0.01	0.47		100.7	163.8	161.5	62.9	163.6	105	67	67	66		1.001	3.877	391
578	93.584	94.081		0.16	0.16	1.36	1.08	0.26	80	80	66	1.94	1.40	69	0.018	97	98	111.8	-0.01	0.47		100.4	163.5	161.3	62.9	163.3	105	67	67	66		1.001	3.875	389
579	93.746	94.243		0.16	0.16	1.35	1.09	0.26	80	80	66	1.94	1.40	69	0.016	103	103	111.9	-0.14	0.47		100.1	163.5	161.2	63.0	163.1	104	67	67	66		1.001	3.876	389
580	93.908	94.406		0.16	0.16	1.35	1.09	0.26	80	79	66	1.94	1.40	69	0.016	103	103	111.8	0.09	0.45		100.0	163.3	161.0	63.0	163.0	103	67	67	66		1.001	3.720	373
581	94.071	94.569		0.16	0.16	1.35	1.09	0.26	80	79	66	1.94	1.40	69	0.017	100	100	111.8	0.05	0.49		99.9	163.2	160.9	63.0	162.9	103	67	67	66		1.001	4.059	406
582	94.233	94.733		0.16	0.16	1.36	1.09	0.26	80	79	66	1.93	1.40	69	0.016	103	104	111.9	-0.16	0.47		99.7	163.0	160.7	63.0	162.7	101	67	67	66		1.001	3.876	387
583	94.395	94.897		0.16	0.16	1.35	1.09	0.26	80	79	66	1.93	1.40	69	0.016	103	104	111.9	0.05	0.48		99.6	162.8	160.6	63.0	162.5	101	67	67	66		1.001	4.036	402
584	94.557	95.060		0.16	0.16	1.36	1.08	0.26	80	79	66	1.93	1.40	69	0.017	100	100	111.8	0.15	0.50		99.4	162.7	160.5	63.0	162.4	101	67	67	66		1.001	4.201	418
585	94.719	95.222		0.16	0.16	1.36	1.09	0.26	80	79	66	1.93	1.40	69	0.017	100	100	112.0	-0.27	0.45		99.3	162.6	160.3	63.0	162.2	100	67	67	66		1.001	3.712	369
586	94.881	95.385		0.16	0.16	1.36	1.09	0.26	80	79	66	1.94	1.40	69	0.017	100	100	111.9	0.14	0.47		99.1	162.3	160.1	63.0	162.0	100	67	67	66		1.001	3.878	385
587	95.044	95.548		0.16	0.16	1.36	1.09	0.26	80	79	66	1.94	1.40	69	0.017	100	100	111.9	-0.05	0.45		98.9	162.2	159.9	62.9	161.9	99	67	67	66		1.001	3.717	368
588	95.206	95.713		0.16	0.16	1.35	1.09	0.26	80	79	66	1.95	1.40	69	0.015	106	108	111.8	0.08	0.47		98.7	162.0	159.8	62.9	161.7	98	67	67	66		1.001	3.876	383
589	95.368	95.876		0.16	0.16	1.35	1.08	0.26	80	79	66	1.94	1.40	69	0.015	106	107	111.8	0.03	0.43		98.6	161.9	159.6	62.9	161.5	99	67	67	66		1.001	3.554	351
590	95.530	96.038		0.16	0.16	1.35	1.09	0.26	80	79	66	1.94	1.40	69	0.018	97	97	112.0	-0.19	0.48		98.5	161.8	159.5	62.9	161.5	99	67	67	66		1.001	4.037	398
591	95.692	96.201		0.16	0.16	1.35	1.09	0.26	80	79	66	1.94	1.40	69	0.017	100	100	112.0	-0.02	0.50		98.4	161.6	159.3	62.9	161.3	98	67	67	66		1.001	4.198	414
592	95.854	96.364		0.16	0.16	1.35	1.09	0.26	80	79	66	1.94	1.40	69	0.017	100	100	112.0	0.00	0.45		98.2	161.4	159.0	62.9	161.1	99	67	67	66		1.001	3.718	366
593	96.016	96.529		0.16	0.16	1.35	1.09	0.26	80	79	66	1.93	1.40	69	0.016	103	105	111.9	0.08	0.47		98.0	161.2	158.9	62.9	160.9	96	67	67	66		1.001	3.883	381
594	96.179	96.692		0.16	0.16	1.35	1.08	0.26	79	79	66	1.93	1.40	69	0.015	107	107	111.9	0.04	0.45		97.9	161.1	158.8	62.9	160.8	95	67	67	66		1.001	3.742	367
595	96.341	96.854		0.16	0.16	1.35	1.08	0.26	79	79	66	1.95	1.40	69	0.017	100	100	111.9	-0.02	0.47		97.8	160.9	158.6	62.9	160.7	132	67	67	66		1.001	3.877	379
596	96.503	97.017		0.16	0.16	1.34	1.08	0.26	80	79	66	1.94	1.40	77	0.019	95	96	111.8	0.09	0.50		97.6	160.7	158.4	62.9	160.5	117	67	68	66		1.001	4.197	410
597	96.665	97.179		0.16	0.16	1.34	1.08	0.26	79	79	66	1.95	1.40	77	0.017	101	100	111.7	0.17	0.52		97.4	160.5	158.2	62.9	160.3	120	68	68	66		1.001	4.361	425
598	96.827	97.343		0.16	0.16	1.35	1.08	0.26	79	79	66	1.95	1.40	77	0.015	107	108	111.5	0.13	0.47		97.2	160.3	158.1	62.9	160.1	136	67	68	66		1.001	3.873	377
599	96.989	97.506		0.16	0.16	1.35	1.08	0.26	79	79	66	1.94	1.40	77	0.018	98	98	111.4	0.18	0.41		97.1	160.3	158.0	62.9	160.0	151	67	68	66		1.001	3.394	330
600	97.150	97.668		0.16	0.16	1.35	1.08	0.26	79	79	66	1.93	1.40	78	0.018	97	98	111.0	0.32	0.50		96.9	160.1	157.8	62.9	159.8	161	67	68	66		1.001	4.199	408
601	97.312	97.831		0.16	0.16	1.35	1.09	0.26	79	79	66	1.93	1.40	78	0.017	101	101	111.0	0.03	0.47		96.9	160.1	157.8	62.9	159.8	170	68	68	66		1.001	3.879	376
602	97.474	97.994		0.16	0.16	1.35	1.09	0.26	79	79	66	1.95	1.40	79	0.018	98	98	110.6	0.35	0.48		96.7	160.0	157.7	62.9	159.6	183	68	68	66		1.001	4.039	391
603	97.636	98.157		0.16	0.16	1.35	1.09	0.26	79	79	66	1.94	1.40	81	0.016	104	105	110.4	0.27	0.43		96.7	160.0	157.7	62.9	159.7	197	68	69	66		1.001	3.557	344
604	97.798	98.320		0.16	0.16	1.35	1.08	0.26	79	79	66	1.95	1.40	83	0.017	101	102	109.8	0.55	0.47		96.9	160.2	157.9	62.9	159.8	210	68	69	66		1.001	3.878	376
605	97.960	98.482		0.16	0.16	1.34	1.09	0.26	79	79	66	1.95	1.40	85	0.017	102	101	109.6	0.19	0.45		97.0	160.4	158.1	62.9	159.9	221	69	69	66		1.001	3.718	361
606	98.122	98.644		0.16	0.16	1.35	1.09	0.26	79	79	66	1.96	1.40	87	0.018	99	98	108.9	0.71	0.48		97.5	160.9	158.6	62.9	160.4	232	69	70	66		1.001	4.038	394
607	98.283	98.807		0.16	0.16	1.35	1.08	0.26	79	79	66	1.94	1.40	89	0.017	101	102	108.4	0.53	0.52		98.0	161.4	159.1	62.9	160.9	248	69	70	66		1.001	4.299	422
608	98.445	98.970		0.16	0.16	1.35	1.09	0.26	79	79	66	1.96	1.40	92	0.017	102	102	107.8	0.56	0.43		98.5	162.1	159.8	62.9	161.4	264	70	71	66		1.001	3.574	353
609	98.606	99.131		0.16	0.16	1.35	1.08	0.26	79	79	66	1.96	1.40	97	0.017	102	102	106.9	0.95	0.47		99.5	163.2	160.8	62.9	162.4	282	71	72	66		1.001	3.877	386
610	98.767	99.293		0.16	0.16	1.34	1.09	0.26	79	79	66	1.97	1.40	100	0.017	102	103	106.3	0.63	0.47		100.6	164.3	161.9	62.9	163.5	296	72	73	66		1.001	3.877	390

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
611	98.928	99.455		0.16	0.16	1.34	1.09	0.26	79	79	66	1.97	1.40	103	0.016	106	106	105.6	0.68	0.43		101.9	165.7	163.2	62.9	164.8	305	73	74	66		1.001	3.557	363
612	99.089	99.617		0.16	0.16	1.34	1.08	0.26	79	79	66	1.97	1.40	105	0.018	100	100	104.7	0.92	0.47		103.1	167.0	164.5	62.9	166.0	312	73	75	66		1.001	3.877	400
613	99.250	99.778		0.16	0.16	1.34	1.08	0.26	79	79	66	1.99	1.40	107	0.017	103	103	103.9	0.77	0.48		104.5	168.4	165.9	62.9	167.4	317	74	76	66		1.001	4.036	422
614	99.410	99.940		0.16	0.16	1.34	1.08	0.26	79	79	66	2.00	1.50	108	0.018	99	100	103.1	0.79	0.47		106.0	169.9	167.2	62.9	168.9	321	75	76	66		1.001	3.875	411
615	99.570	100.101		0.16	0.16	1.34	1.07	0.26	79	79	66	1.99	1.50	109	0.018	100	100	102.2	0.93	0.45		107.3	171.4	168.7	62.9	170.2	324	75	77	66		1.001	3.717	399
616	99.731	100.262		0.16	0.16	1.34	1.07	0.26	79	79	66	2.00	1.50	110	0.018	100	100	101.5	0.69	0.50		108.8	172.8	170.2	62.9	171.7	327	76	77	66		1.001	4.200	457
617	99.891	100.422		0.16	0.16	1.34	1.06	0.26	79	79	66	2.00	1.50	110	0.018	100	99	100.8	0.71	0.48		110.3	174.4	171.6	62.9	173.2	329	77	78	66		1.001	4.036	446
618	100.051	100.582		0.16	0.16	1.33	1.06	0.26	79	79	66	2.02	1.50	112	0.016	106	106	99.7	1.05	0.49		111.8	175.7	173.0	62.9	174.7	332	77	78	66		1.001	4.042	452
619	100.211	100.742		0.16	0.16	1.34	1.05	0.26	79	79	66	2.01	1.50	113	0.018	100	100	99.2	0.53	0.49		113.3	177.2	174.5	62.9	176.2	335	78	79	66		1.001	4.040	458
620	100.371	100.902		0.16	0.16	1.33	1.06	0.26	79	79	67	2.03	1.50	114	0.016	106	106	98.3	0.93	0.43		114.8	178.8	176.0	62.9	177.7	339	78	79	67		1.001	3.594	413
621	100.530	101.062		0.16	0.16	1.33	1.06	0.26	79	79	66	2.03	1.50	116	0.016	106	106	97.3	0.95	0.48		116.3	180.3	177.5	62.9	179.2	343	79	80	66		1.001	4.027	469
622	100.690	101.221		0.16	0.16	1.33	1.04	0.26	79	79	66	2.03	1.50	116	0.017	103	102	96.5	0.79	0.45		117.9	181.9	179.0	62.9	180.8	338	79	80	66		1.001	3.740	441
623	100.850	101.380		0.16	0.16	1.33	1.05	0.26	79	79	66	2.01	1.50	95	0.018	98	97	96.0	0.56	0.49		119.0	183.0	180.2	63.0	182.1	298	76	77	66		1.001	4.041	482
624	101.010	101.540		0.16	0.16	1.32	1.04	0.26	79	79	66	2.01	1.50	87	0.017	100	100	95.6	0.36	0.45		119.8	183.8	181.0	63.1	182.9	275	75	76	66		1.001	3.718	446
625	101.170	101.699		0.16	0.16	1.32	1.04	0.26	79	79	66	2.02	1.50	83	0.017	100	99	95.3	0.30	0.48		120.1	184.1	181.3	63.3	183.4	259	75	75	66		1.001	4.035	485
626	101.330	101.859		0.16	0.16	1.32	1.04	0.26	79	79	67	2.01	1.50	81	0.018	97	97	95.2	0.13	0.45		120.4	184.5	181.7	63.4	183.8	248	74	74	67		1.001	3.714	448
627	101.490	102.019		0.16	0.16	1.32	1.04	0.26	79	79	67	2.00	1.50	79	0.017	100	99	95.0	0.20	0.50		120.6	184.8	182.0	63.6	184.2	241	73	73	67		1.001	4.196	507
628	101.650	102.178		0.16	0.16	1.32	1.04	0.26	79	79	67	2.01	1.50	77	0.016	103	102	94.9	0.12	0.47		120.8	185.0	182.2	63.7	184.5	234	72	72	67		1.001	3.876	469
629	101.810	102.338		0.16	0.16	1.32	1.04	0.26	79	79	67	2.00	1.50	77	0.018	97	96	94.8	0.10	0.52		120.8	185.2	182.4	63.8	184.6	227	72	72	67		1.001	4.356	527
630	101.971	102.498		0.16	0.16	1.32	1.04	0.26	79	79	67	1.99	1.50	76	0.017	100	99	94.6	0.14	0.48		120.8	185.3	182.5	64.0	184.7	221	71	71	67		1.001	4.034	488
631	102.131	102.657		0.16	0.16	1.33	1.04	0.26	79	79	67	1.99	1.50	76	0.019	94	93	94.7	-0.06	0.46		120.8	185.5	182.6	64.1	184.9	217	71	71	67		1.001	3.869	468
632	102.292	102.817		0.16	0.16	1.33	1.05	0.26	79	79	67	1.99	1.50	75	0.017	100	99	94.4	0.26	0.45		120.7	185.5	182.7	64.2	184.9	212	71	71	67		1.001	3.715	449
633	102.453	102.978		0.16	0.16	1.33	1.05	0.26	79	79	67	1.99	1.50	75	0.016	103	103	94.4	0.00	0.42		120.7	185.5	182.7	64.3	185.1	209	70	71	67		1.001	3.514	425
634	102.613	103.138		0.16	0.16	1.33	1.05	0.26	79	79	67	1.98	1.50	75	0.016	102	102	94.5	-0.03	0.46		120.7	185.6	182.8	64.5	185.1	205	70	70	67		1.001	3.871	468
635	102.774	103.298		0.16	0.16	1.34	1.05	0.26	79	79	67	1.97	1.50	75	0.017	100	99	94.4	0.05	0.44		120.6	185.7	182.8	64.6	185.2	202	69	70	67		1.001	3.705	447
636	102.935	103.459		0.16	0.16	1.34	1.05	0.26	79	79	67	1.97	1.50	75	0.016	103	103	94.3	0.15	0.46		120.4	185.6	182.7	64.7	185.1	199	69	69	67		1.001	3.866	466
637	103.096	103.620		0.16	0.16	1.35	1.05	0.26	79	79	67	1.96	1.50	74	0.017	100	100	94.2	0.03	0.46		120.2	185.6	182.8	64.8	185.1	196	69	69	67		1.001	3.866	465
638	103.258	103.780		0.16	0.16	1.35	1.05	0.26	79	79	67	1.97	1.50	73	0.017	100	99	94.2	0.04	0.48		120.2	185.8	182.9	64.9	185.1	192	68	69	67		1.001	4.026	485
639	103.419	103.940		0.16	0.16	1.34	1.06	0.26	79	79	67	1.97	1.40	73	0.017	100	99	94.0	0.14	0.44		120.1	185.6	182.9	65.0	185.1	189	68	68	67		1.001	3.704	445
640	103.580	104.102		0.16	0.16	1.34	1.06	0.26	79	79	67	1.96	1.40	73	0.015	106	106	94.2	-0.19	0.41		120.0	185.6	182.7	65.1	185.0	186	68	68	67		1.001	3.386	407
641	103.741	104.262		0.16	0.16	1.34	1.06	0.26	79	79	67	1.95	1.40	73	0.017	100	99	94.1	0.15	0.44		120.0	185.6	182.8	65.1	185.1	183	67	68	67		1.001	3.705	445
642	103.903	104.424		0.16	0.16	1.34	1.06	0.26	79	79	67	1.96	1.40	73	0.017	100	100	94.2	-0.12	0.45		119.8	185.5	182.7	65.2	185.0	180	67	68	67		1.001	3.706	444
643	104.064	104.586		0.16	0.16	1.35	1.07	0.26	79	79	68	1.96	1.40	73	0.018	97	97	94.2	0.06	0.45		119.7	185.4	182.6	65.2	184.9	177	67	68	68		1.001	3.707	444
644	104.226	104.747		0.16	0.16	1.35	1.06	0.26	79	79	68	1.95	1.40	73	0.016	103	102	94.2	0.00	0.46		119.6	185.4	182.6	65.3	184.9	174	67	68	68		1.001	3.867	463
645	104.387	104.908		0.16	0.16	1.34	1.07	0.26	79	79	68	1.95	1.40	73	0.017	100	99	94.1	0.08	0.48		119.4	185.3	182.5	65.3	184.8	171	67	68	68		1.001	4.029	482
646	104.549	105.070		0.16	0.16	1.35	1.07	0.26	79	79	68	1.96	1.40	73	0.016	103	103	94.1	-0.04	0.46		119.4	185.3	182.5	65.4	184.8	169	67	68	68		1.001	3.862	462
647	104.710	105.233		0.16	0.16	1.34	1.07	0.26	79	79	68	1.96	1.40	73	0.018	97	98	94.1	0.03	0.46		119.4	185.2	182.5	65.4	184.8	166	67	68	68		1.001	3.858	461
648	104.872	105.394		0.16	0.16	1.35	1.07	0.26	80	79	68	1.96	1.40	73	0.016	103	102	94.2	-0.09	0.43		119.2	185.1	182.5	65.4	184.7	164	67	68	68		1.001	3.541	423
649	105.033	105.556		0.16	0.16	1.35	1.07	0.26	80	79	68	1.96	1.40	73	0.016	103	103	94.1	0.05	0.46		119.1	185.0	182.3	65.5	184.6	161	67	68	68		1.001	3.866	461
650	105.195	105.718		0.16	0.16	1.34	1.08	0.26	80	80	68	1.96	1.40	73	0.015	107	106	94.1	-0.02	0.46		119.0	184.9	182.2	65.5	184.5	159	67	68	68		1.001	3.863	460
651	105.356	105.881		0.16	0.16	1.35	1.07	0.26	80	80	68	1.96	1.40	73	0.017	100	100	94.1	0.04	0.46		118.9	184.9	182.1	65.5	184.4	157	68	68	68		1.001	3.861	460
652	105.518	106.043		0.16	0.16	1.35	1.07	0.26	80	80	68	1.96	1.40	73	0.015	107	106	94.2	-0.09	0.43		118.8	184.8	182.1	65.6	184.4	155	68	68	68		1.001	3.542	421
653	105.679	106.205		0.16	0.16	1.35	1.08	0.26	80	80	68	1.96	1.40	73	0.016	103	103	94.2	-0.04	0.46		118.6	184.7	181.9	65.6	184.2	152	68	68	68		1.001	3.868	459
654	105.841	106.367		0.16	0.16	1.34	1.08	0.26	80	80	68	1.95	1.40	74	0.016	103	103	94.2	0.02	0.45		118.5	184.5	181.7	65.6	184.1	151	68	69	68		1.001	3.706	440
655	106.002	106.530		0.16	0.16	1.35	1.08	0.26	80	80	68	1.94	1.40	73	0.019	94	95	94.1	0.08	0.46		118.3	184.4	181.7	65.6	184.0	148	68	69	68		1.001	3.863	458
656	106.164	106.692		0.16	0.16	1.34	1.08	0.26	80	80	68	1.94	1.40	74	0.015	107	106	94.1	0.03	0.45		118.3	184.4	181.7	65.7	184.0	147	68	69	68		1.001	3.708	439
657	106.325	106.854		0.16	0.16	1.35	1.07	0.26	80	80	68	1.94	1.40	74	0.017	100	100	94.1	-0.02	0.45		118.2	184.3	181.6	65.7	183.9	145	68	69	68		1.001	3.709	439
658	106.487	107.016		0.16	0.16	1.35	1.07	0.26	80	80	68	1.96	1.40	74	0.018	97	97	94.1	-0.02	0.45		118.1	184.2	181.5	65.7	183.8	143	68	69	68		1.001	3.733	441
659	106.648	107.178		0.16	0.16	1.35	1.08	0.26	80	80	68	1.94	1.40	74	0.016	103	103	94.1	0.01	0.42		117.9	184.1	181.4	65.8	183.7	141	68	69	68		1.001	3.470	410
660	106.810	107.342		0.16	0.16	1.35	1.07	0.26	80	80	68	1.96	1.40	74	0.016	103	104	94.2	-0.10	0.46		117.8	184.0	181.4	65.8	183.6	140	68	69	68		1.001	3.861	455
661	106.971	107.504		0.16	0.16	1.35	1.07	0.26	80	80	68	1.95	1.40	74	0.017	100	100	94.0	0.18	0.44		117.7	183.9	181.2	65.8	183.5	139	68	69	68		1.001	3.703	436
662	107.133	107.665		0.16	0.16	1.34	1.07	0.26	80	80	68	1.94	1.40	74	0.016	103	102	94.1	-0.02	0.46		117.5	183.8	181.0	65.8	183.3	137	69	69	68		1.001	3.860	454
663	107.295	107.827		0.16	0.16	1.34	1.08	0.26	80	80	69	1.95	1.40	74	0.018	97	97	94.2	-0.17	0.46		117.4	183.7	181.1	65.8	183.2	136	69	69	69		1.001	3.858	453
664	107.456	107.991		0.16	0.16	1.35	1.07	0.26	80	80	69	1.96	1.40	74	0.017	100	101	94.2	0.06	0.46		117.2	183.5	180.8	65.8	183.0	134	69	69	69		1.001	3.868	454
665	107.618	108.153		0.16	0.16	1.34	1.07	0.26	80	80	69	1.96	1.40	74	0.017	100	100	94.1	0.08	0.44		117.2	183.4	180.7	65.9	183.1	133	69	69	69		1.001	3.701	434
666	107.779	108.314		0.16	0.16	1.35	1.07	0.26	80	80	69	1.96	1.40	74	0.017	100	99	94.2	-0.11	0.44		117.0	183.4	180.6	65.9	182.9	131	69	69	69		1.001	3.700	433
667	107.941	108.477		0.16	0.16	1.35	1.08	0.26	80	80	69	1.96	1.40	74	0.016	103	104	94.2	0.00	0.43		116.7	183.1	180.5	65.9	182.6	131	69	69	69		1.001	3.542	414
668	108.102	108.639		0.16	0.16	1.35	1.07	0.26	80	80	69	1.96	1.40	74	0.018	97	97	94.2	-0.06	0.44		116.7	183.1	180.5	65.9	182.6	130	69	69	69		1.001	3.703	433
669	108.264	108.802		0.16	0.16	1.34	1.07	0.26	80	80	69	1.95	1.40	74	0.017	100	101	94.2	0.04	0.46		116.6	182.9	180.3	65.9	182.5	127	69	70	69		1.001	3.861	451
670	108.426	108.963		0.16	0.16	1.35	1.07	0.26	80	80	69	1.94	1.40	74	0.016	103	102	94.3	-0.06	0.39		116.5	182.9	180.2	65.9	182.4	127	69	70	69		1.001	3.230	377
671	108.587	109.125		0.16	0.16	1.34	1.08	0.26	80	80	69	1.96	1.40	74	0.019	94	95	94.2	0.08	0.44		116.4	182.7	180.1	65.9	182.3	126	69	70	69		1.001	3.699	431
672	108.749	109.288		0.16	0.16	1.34	1.08	0.26	80	80	69	1.95	1.40	74	0.018	97	98	94.1	0.09	0.48		116.3	182.6	179.9	65.9	182.3	126	69	70	69		1.001	4.020	468

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
673	108.910	109.451		0.16	0.16	1.35	1.07	0.26	80	80	69	1.94	1.40	74	0.018	97	98	94.2	-0.06	0.48		116.1	182.4	179.7	65.9	182.1	123	69	70	69		1.001	3.972	462
674	109.072	109.612		0.16	0.16	1.35	1.07	0.26	80	80	69	1.95	1.40	74	0.018	97	97	94.1	0.10	0.43		116.0	182.4	179.7	66.0	182.0	125	69	70	69		1.001	3.539	411
675	109.233	109.774		0.16	0.16	1.34	1.07	0.26	80	80	69	1.94	1.40	74	0.017	100	100	94.2	-0.19	0.48		115.9	182.2	179.5	66.0	181.8	123	70	70	69		1.001	4.020	466
676	109.395	109.936		0.16	0.16	1.34	1.08	0.26	81	81	69	1.95	1.40	74	0.018	97	97	94.3	-0.05	0.44		115.8	182.1	179.5	66.0	181.7	121	70	70	69		1.001	3.701	429
677	109.557	110.099		0.16	0.16	1.34	1.07	0.26	81	81	69	1.98	1.40	85	0.017	101	101	94.2	0.08	0.44		115.5	181.8	179.2	66.0	181.5	150	71	72	69		1.001	3.698	428
678	109.718	110.260		0.16	0.16	1.34	1.07	0.26	81	81	69	1.97	1.40	77	0.017	100	99	93.9	0.31	0.46		115.3	181.7	179.0	66.0	181.3	144	70	71	69		1.001	3.861	446
679	109.880	110.423		0.16	0.16	1.35	1.08	0.26	81	81	69	1.94	1.40	75	0.016	103	104	94.0	-0.10	0.41		115.2	181.6	178.9	66.0	181.2	139	70	70	69		1.001	3.380	390
680	110.041	110.585		0.16	0.16	1.34	1.08	0.26	81	81	69	1.96	1.40	74	0.016	103	103	93.9	0.07	0.46		115.1	181.4	178.7	66.0	181.1	136	70	70	69		1.001	3.859	445
681	110.203	110.748		0.16	0.16	1.34	1.07	0.26	81	81	69	1.95	1.40	75	0.016	103	104	93.9	0.05	0.48		115.0	181.3	178.6	66.0	181.0	133	70	70	69		1.001	4.019	463
682	110.365	110.910		0.16	0.16	1.35	1.07	0.26	81	81	69	1.94	1.40	74	0.016	103	103	93.9	0.00	0.48		114.7	181.2	178.6	66.1	180.8	132	70	70	69		1.001	4.023	462
683	110.527	111.072		0.16	0.16	1.35	1.08	0.26	81	81	69	1.95	1.40	75	0.017	100	100	93.8	0.09	0.50		114.5	181.1	178.4	66.1	180.6	130	70	71	69		1.001	4.179	479
684	110.688	111.235		0.16	0.16	1.35	1.08	0.26	81	81	69	1.95	1.40	75	0.017	100	100	94.0	-0.18	0.46		114.3	180.9	178.1	66.2	180.4	129	70	71	69		1.001	3.869	443
685	110.850	111.398		0.16	0.16	1.35	1.08	0.26	81	81	69	1.95	1.40	75	0.018	97	98	93.8	0.18	0.46		114.2	180.7	178.0	66.2	180.4	127	70	71	69		1.001	3.850	440
686	111.012	111.560		0.16	0.16	1.35	1.07	0.26	81	81	69	1.96	1.40	74	0.017	100	100	94.0	-0.20	0.42		114.1	180.7	178.0	66.2	180.3	126	70	71	69		1.001	3.536	404
687	111.174	111.722		0.16	0.16	1.35	1.08	0.26	81	81	69	1.96	1.40	75	0.016	103	103	93.8	0.18	0.47		113.9	180.5	177.9	66.3	180.1	124	70	71	69		1.001	3.941	449
688	111.335	111.885		0.16	0.16	1.35	1.08	0.26	81	81	69	1.95	1.40	75	0.016	103	104	93.9	-0.06	0.44		113.7	180.4	177.8	66.3	180.0	125	70	71	69		1.001	3.694	420
689	111.497	112.047		0.16	0.16	1.35	1.08	0.26	81	81	69	1.96	1.40	75	0.015	107	106	93.9	-0.01	0.46		113.5	180.2	177.6	66.4	179.9	122	70	71	69		1.001	3.857	438
690	111.659	112.210		0.16	0.16	1.35	1.08	0.26	81	81	69	1.96	1.40	75	0.016	103	104	93.9	-0.01	0.44		113.3	180.1	177.4	66.4	179.7	121	70	71	69		1.001	3.697	419
691	111.821	112.372		0.16	0.16	1.35	1.07	0.26	81	81	69	1.94	1.40	75	0.016	103	103	94.0	-0.09	0.44		113.2	179.8	177.3	66.4	179.6	121	70	71	69		1.001	3.700	419
692	111.983	112.535		0.16	0.16	1.35	1.08	0.26	81	81	70	1.94	1.40	75	0.016	103	104	94.0	0.02	0.43		112.8	179.7	177.1	66.4	179.3	122	70	71	70		1.001	3.542	400
693	112.144	112.697		0.16	0.16	1.35	1.08	0.26	81	81	70	1.94	1.40	75	0.019	94	94	93.7	0.24	0.42		112.8	179.7	177.1	66.5	179.3	120	71	71	70		1.001	3.533	399
694	112.306	112.860		0.16	0.16	1.35	1.08	0.26	81	81	70	1.95	1.40	75	0.018	97	98	93.9	-0.16	0.48		112.6	179.5	177.0	66.5	179.1	119	71	71	70		1.001	4.021	454
695	112.468	113.023		0.16	0.16	1.35	1.07	0.26	81	81	69	1.96	1.40	75	0.016	103	104	94.0	-0.09	0.44		112.5	179.3	176.8	66.5	179.0	118	71	71	69		1.001	3.700	417
696	112.630	113.185		0.16	0.16	1.35	1.08	0.26	81	81	70	1.96	1.40	75	0.017	100	100	93.9	0.03	0.48		112.2	179.2	176.6	66.5	178.7	117	71	71	70		1.001	4.022	452
697	112.792	113.347		0.16	0.16	1.34	1.08	0.26	81	81	70	1.94	1.40	75	0.018	97	97	93.9	0.01	0.44		112.2	179.1	176.5	66.5	178.7	117	71	71	70		1.001	3.700	416
698	112.954	113.509		0.16	0.16	1.34	1.08	0.26	81	81	70	1.95	1.40	75	0.018	97	97	93.9	0.04	0.44		112.1	179.1	176.5	66.5	178.6	116	71	71	70		1.001	3.703	416
699	113.116	113.673		0.16	0.16	1.35	1.08	0.26	81	81	70	1.96	1.40	75	0.014	110	111	93.9	0.00	0.48		112.0	178.8	176.2	66.4	178.5	116	71	71	70		1.001	3.976	446
700	113.278	113.835		0.16	0.16	1.35	1.07	0.26	81	81	70	1.95	1.40	75	0.018	97	97	93.9	0.03	0.48		111.7	178.5	175.9	66.4	178.2	116	71	71	70		1.001	4.022	450
701	113.440	113.997		0.16	0.16	1.34	1.08	0.26	81	81	70	1.96	1.40	75	0.017	100	100	93.8	0.10	0.46		111.6	178.4	175.8	66.4	178.1	116	71	71	70		1.001	3.810	426
702	113.602	114.160		0.16	0.16	1.34	1.08	0.26	81	81	70	1.95	1.40	75	0.018	97	98	94.0	-0.19	0.46		111.4	178.3	175.7	66.5	177.9	116	71	71	70		1.001	3.855	430
703	113.763	114.323		0.16	0.16	1.34	1.08	0.26	81	81	70	1.95	1.40	75	0.018	97	98	93.9	0.05	0.48		111.4	178.2	175.6	66.5	177.9	114	71	71	70		1.001	4.019	448
704	113.926	114.485		0.16	0.16	1.35	1.08	0.26	81	81	70	1.95	1.40	75	0.017	101	100	93.9	0.00	0.46		111.2	178.0	175.4	66.5	177.7	113	71	71	70		1.001	3.860	430
705	114.087	114.647		0.16	0.16	1.34	1.08	0.26	81	81	70	1.95	1.40	75	0.019	94	94	93.9	0.04	0.42		111.0	177.8	175.2	66.5	177.5	112	71	71	70		1.001	3.538	393
706	114.249	114.810		0.16	0.16	1.35	1.08	0.26	81	81	70	1.96	1.40	75	0.016	103	104	94.1	-0.21	0.46		110.8	177.8	175.1	66.5	177.3	112	71	71	70		1.001	3.856	428
707	114.411	114.972		0.16	0.16	1.34	1.07	0.26	81	81	70	1.96	1.40	75	0.017	100	100	94.0	0.03	0.46		110.6	177.5	174.9	66.5	177.1	122	71	71	70		1.001	3.857	427
708	114.573	115.135		0.16	0.16	1.34	1.07	0.26	82	82	70	1.96	1.40	83	0.019	95	96	93.9	0.20	0.50		110.6	177.4	174.8	66.5	177.1	137	72	73	70		1.001	4.178	463
709	114.735	115.297		0.16	0.16	1.34	1.07	0.26	82	82	70	1.95	1.40	77	0.016	103	103	93.8	0.06	0.46		110.3	177.1	174.5	66.5	176.8	133	71	71	70		1.001	3.861	426
710	114.897	115.459		0.16	0.16	1.34	1.08	0.26	82	81	70	1.96	1.40	75	0.015	106	106	93.8	-0.01	0.48		110.1	177.0	174.4	66.5	176.6	128	71	71	70		1.001	4.016	443
711	115.058	115.622		0.16	0.16	1.34	1.08	0.26	82	82	70	1.94	1.40	75	0.015	106	107	93.7	0.12	0.46		110.0	176.9	174.4	66.4	176.5	127	71	72	70		1.001	3.859	425
712	115.220	115.785		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	75	0.019	95	95	93.8	-0.14	0.42		109.8	176.6	174.1	66.4	176.3	124	71	72	70		1.001	3.536	389
713	115.383	115.947		0.16	0.16	1.34	1.07	0.26	82	82	70	1.96	1.40	75	0.018	98	97	93.7	0.09	0.43		109.6	176.5	174.0	66.4	176.1	123	71	72	70		1.001	3.566	391
714	115.545	116.109		0.16	0.16	1.34	1.08	0.26	82	82	70	1.96	1.40	75	0.017	100	100	93.8	-0.05	0.42		109.5	176.5	173.9	66.4	176.0	121	71	72	70		1.001	3.536	388
715	115.707	116.272		0.16	0.16	1.34	1.08	0.26	82	82	70	1.96	1.40	75	0.018	97	97	93.8	0.02	0.51		109.5	176.2	173.7	66.5	175.9	120	71	72	70		1.001	4.224	463
716	115.869	116.434		0.16	0.16	1.34	1.08	0.26	82	82	70	1.96	1.40	75	0.018	97	97	93.8	-0.08	0.44		109.2	176.0	173.6	66.5	175.6	119	71	72	70		1.001	3.699	404
717	116.031	116.598		0.16	0.16	1.34	1.07	0.26	82	82	70	1.94	1.40	75	0.017	100	101	93.9	-0.03	0.44		109.0	175.7	173.3	66.5	175.5	118	71	72	70		1.001	3.697	404
718	116.192	116.760		0.16	0.16	1.34	1.07	0.26	82	82	70	1.94	1.40	75	0.019	94	94	93.7	0.18	0.48		108.9	175.7	173.2	66.5	175.4	117	71	72	70		1.001	4.021	438
719	116.354	116.922		0.16	0.16	1.34	1.07	0.26	82	82	70	1.96	1.40	75	0.016	103	103	93.8	-0.07	0.44		108.8	175.6	173.2	66.5	175.2	116	71	72	70		1.001	3.697	403
720	116.516	117.085		0.16	0.16	1.34	1.08	0.26	82	82	70	1.94	1.40	75	0.017	100	100	93.8	0.00	0.48		108.7	175.5	173.0	66.5	175.1	115	71	72	70		1.001	4.026	438
721	116.678	117.248		0.16	0.16	1.35	1.08	0.26	82	82	70	1.96	1.40	75	0.016	103	103	93.8	0.00	0.46		108.5	175.3	172.9	66.5	174.9	114	71	72	70		1.001	3.859	419
722	116.840	117.410		0.16	0.16	1.35	1.07	0.26	82	82	70	1.95	1.40	75	0.015	106	106	93.7	0.04	0.44		108.3	175.1	172.6	66.5	174.7	115	71	72	70		1.001	3.700	401
723	117.002	117.572		0.16	0.16	1.35	1.08	0.26	82	82	70	1.96	1.40	75	0.017	100	100	93.9	-0.16	0.44		108.0	174.9	172.5	66.4	174.5	113	71	72	70		1.001	3.700	400
724	117.165	117.735		0.16	0.16	1.34	1.08	0.26	82	82	70	1.96	1.40	75	0.018	98	97	93.7	0.22	0.44		108.0	174.8	172.2	66.4	174.4	112	71	72	70		1.001	3.699	400
725	117.326	117.897		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	75	0.017	99	100	93.9	-0.20	0.48		107.9	174.7	172.2	66.4	174.4	113	71	72	70		1.001	4.015	434
726	117.489	118.061		0.16	0.16	1.34	1.08	0.26	82	82	70	1.95	1.40	76	0.015	107	108	93.8	0.06	0.48		107.7	174.5	172.0	66.4	174.2	111	72	72	70		1.001	4.022	434
727	117.651	118.223		0.16	0.16	1.34	1.07	0.26	82	82	70	1.96	1.40	76	0.017	100	100	93.7	0.06	0.45		107.6	174.3	171.8	66.4	174.0	111	71	72	70		1.001	3.711	400
728	117.813	118.385		0.16	0.16	1.35	1.08	0.26	82	82	70	1.94	1.40	76	0.015	107	106	93.6	0.14	0.49		107.4	174.1	171.7	66.4	173.8	110	72	72	70		1.001	4.049	435
729	117.975	118.548		0.16	0.16	1.34	1.08	0.26	82	82	70	1.95	1.40	76	0.017	100	100	93.7	-0.13	0.48		107.2	174.0	171.6	66.4	173.6	111	72	72	70		1.001	4.015	431
730	118.137	118.711		0.16	0.16	1.35	1.07	0.26	82	82	70	1.96	1.40	76	0.016	103	103	93.8	-0.05	0.46		107.0	173.8	171.3	66.4	173.5	111	72	72	70		1.001	3.816	409
731	118.298	118.873		0.16	0.16	1.34	1.08	0.26	82	82	70	1.94	1.40	76	0.017	100	100	93.9	-0.10	0.44		107.0	173.7	171.3	66.4	173.4	109	72	72	70		1.001	3.693	396
732	118.461	119.035		0.16	0.16	1.34	1.08	0.26	82	82	70	1.95	1.40	76	0.014	111	110	93.7	0.18	0.44		106.8	173.5	171.1	66.4	173.2	110	72	72	70		1.001	3.693	395
733	118.622	119.198		0.16	0.16	1.35	1.08	0.26	82	82	71	1.95	1.40	77	0.017	100	100	93.8	-0.14	0.46		106.5	173.3	170.9	66.4	173.0	108	72	72	71		1.001	3.857	411
734	118.784	119.360		0.16	0.16	1.35	1.08	0.26	82	82	71	1.94	1.40	76	0.016	103	103	93.8	0.07	0.50		106.5	173.2	170.8	66.5	172.9	108	72	72	71		1.001	4.182	446

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
735	118.946	119.524		0.16	0.16	1.35	1.08	0.26	82	82	71	1.96	1.40	75	0.017	100	101	93.8	-0.01	0.44		106.3	173.0	170.6	66.4	172.8	109	72	72	71		1.001	3.698	394
736	119.108	119.686		0.16	0.16	1.35	1.07	0.26	82	82	71	1.94	1.40	75	0.014	110	110	93.9	-0.09	0.48		106.2	172.8	170.3	66.3	172.5	106	72	72	71		1.001	4.021	427
737	119.270	119.848		0.16	0.16	1.35	1.08	0.26	82	82	71	1.96	1.40	74	0.016	103	103	93.7	0.20	0.48		106.1	172.7	170.2	66.2	172.3	106	72	72	71		1.001	4.025	428
738	119.432	120.011		0.16	0.16	1.35	1.08	0.26	82	82	71	1.96	1.40	74	0.018	97	97	93.9	-0.19	0.45		106.2	172.5	170.0	66.0	172.2	132	72	72	71		1.001	3.705	394
739	119.593	120.173		0.16	0.16	1.34	1.07	0.26	82	82	71	1.97	1.40	81	0.018	97	97	93.8	0.02	0.46		106.1	172.3	169.8	65.8	171.9	130	72	73	71		1.001	3.867	411
740	119.755	120.336		0.16	0.16	1.34	1.07	0.26	82	82	71	1.96	1.40	75	0.016	103	103	93.6	0.23	0.48		106.1	172.2	169.7	65.7	171.8	126	71	72	71		1.001	4.026	428
741	119.917	120.498		0.16	0.16	1.35	1.08	0.26	82	82	71	1.94	1.40	74	0.018	97	97	93.7	-0.08	0.52		106.1	172.0	169.5	65.6	171.7	123	72	72	71		1.001	4.348	462
742	120.079	120.660		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	73	0.015	106	106	93.6	0.06	0.43		106.0	171.8	169.3	65.5	171.4	120	71	72	70		1.001	3.593	381
743	120.241	120.823		0.16	0.16	1.35	1.08	0.26	82	82	70	1.96	1.40	73	0.016	103	103	93.6	-0.01	0.47		106.0	171.7	169.2	65.4	171.4	119	71	72	70		1.001	3.907	415
744	120.403	120.986		0.16	0.16	1.35	1.08	0.26	82	82	70	1.94	1.40	73	0.018	97	97	93.7	-0.02	0.50		105.8	171.6	169.2	65.3	171.1	117	71	72	70		1.001	4.146	439
745	120.565	121.148		0.16	0.16	1.35	1.07	0.26	82	82	70	1.95	1.40	73	0.018	97	97	93.5	0.13	0.44		105.7	171.3	168.8	65.2	170.9	116	71	72	70		1.001	3.698	391
746	120.727	121.311		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	73	0.017	100	100	93.7	-0.20	0.46		105.7	171.2	168.7	65.1	170.8	115	71	72	70		1.001	3.856	408
747	120.889	121.473		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	73	0.017	100	99	93.7	0.03	0.46		105.7	171.0	168.5	65.1	170.8	114	71	72	70		1.001	3.859	408
748	121.051	121.636		0.16	0.16	1.35	1.07	0.26	82	82	70	1.96	1.40	73	0.017	100	100	93.5	0.17	0.41		105.5	170.9	168.4	65.0	170.5	113	71	71	70		1.001	3.386	358
749	121.213	121.799		0.16	0.16	1.35	1.08	0.26	83	82	70	1.96	1.40	73	0.016	103	103	93.5	0.03	0.45		105.5	170.7	168.3	64.9	170.4	112	71	71	70		1.001	3.707	392
750	121.375	121.961		0.16	0.16	1.35	1.08	0.26	82	82	70	1.95	1.40	73	0.017	100	99	93.6	-0.08	0.45		105.3	170.5	168.1	64.8	170.1	111	71	71	70		1.001	3.708	391
751	121.538	122.123		0.16	0.16	1.35	1.08	0.26	83	82	70	1.95	1.40	72	0.019	95	94	93.7	-0.08	0.45		105.3	170.4	167.9	64.7	170.0	109	71	71	70		1.001	3.710	391
752	121.700	122.286		0.16	0.16	1.35	1.08	0.26	83	82	69	1.96	1.40	72	0.016	103	103	93.8	-0.14	0.48		105.3	170.2	167.8	64.7	170.0	110	71	71	69		1.001	4.026	424
753	121.862	122.450		0.16	0.16	1.35	1.08	0.26	83	82	69	1.94	1.40	72	0.017	100	101	93.5	0.33	0.48		105.1	170.0	167.6	64.6	169.7	108	71	71	69		1.001	4.023	424
754	122.024	122.612		0.16	0.16	1.34	1.08	0.26	83	82	69	1.96	1.40	72	0.017	100	99	93.6	-0.16	0.43		105.0	169.8	167.4	64.5	169.5	109	71	71	69		1.001	3.553	373
755	122.186	122.774		0.16	0.16	1.35	1.08	0.26	83	82	69	1.94	1.40	72	0.017	100	99	93.7	-0.03	0.41		105.0	169.8	167.4	64.4	169.4	107	70	71	69		1.001	3.383	356
756	122.348	122.937		0.16	0.16	1.35	1.08	0.26	83	82	69	1.96	1.40	72	0.017	100	100	93.6	0.05	0.43		104.8	169.6	167.2	64.4	169.1	107	70	71	69		1.001	3.543	372
757	122.511	123.100		0.16	0.16	1.35	1.08	0.26	83	82	69	1.95	1.40	72	0.017	100	100	93.6	0.00	0.46		104.8	169.4	167.0	64.3	169.1	106	70	71	69		1.001	3.862	405
758	122.673	123.263		0.16	0.16	1.35	1.08	0.26	82	82	69	1.95	1.40	72	0.018	97	97	93.7	-0.07	0.45		104.6	169.2	166.8	64.2	168.9	106	70	71	69		1.001	3.741	392
759	122.835	123.425		0.16	0.16	1.35	1.08	0.26	82	82	69	1.96	1.40	72	0.018	97	97	93.6	0.04	0.52		104.5	169.0	166.6	64.2	168.7	105	70	71	69		1.001	4.346	455
760	122.997	123.588		0.16	0.16	1.35	1.08	0.26	82	82	69	1.94	1.40	71	0.018	97	97	93.7	-0.07	0.48		104.4	168.8	166.4	64.2	168.5	105	70	70	69		1.001	4.025	421
761	123.159	123.751		0.16	0.16	1.34	1.08	0.26	82	82	69	1.94	1.40	71	0.016	103	103	93.7	0.03	0.46		104.2	168.7	166.3	64.1	168.3	105	70	70	69		1.001	3.865	403
762	123.322	123.914		0.16	0.16	1.34	1.08	0.26	82	82	69	1.96	1.40	71	0.016	103	103	93.6	0.10	0.48		104.1	168.5	166.2	64.1	168.2	105	70	70	69		1.001	4.025	420
763	123.484	124.077		0.16	0.16	1.34	1.08	0.26	82	82	69	1.95	1.40	71	0.017	100	100	93.7	-0.08	0.46		104.1	168.4	166.1	64.1	168.1	104	70	70	69		1.001	3.867	403
764	123.646	124.239		0.16	0.16	1.34	1.08	0.26	82	82	69	1.94	1.40	71	0.017	100	99	93.6	0.08	0.46		103.9	168.2	165.8	64.0	168.0	104	70	70	69		1.001	3.871	403
765	123.808	124.402		0.16	0.16	1.34	1.08	0.26	82	82	68	1.94	1.40	71	0.015	106	106	93.8	-0.21	0.46		103.7	168.0	165.6	64.0	167.7	102	70	70	68		1.001	3.865	401
766	123.971	124.565		0.16	0.16	1.34	1.08	0.26	82	82	68	1.94	1.40	71	0.016	103	103	93.8	-0.04	0.43		103.5	167.9	165.4	64.0	167.4	104	70	70	68		1.001	3.542	367
767	124.133	124.729		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.017	100	101	93.7	0.14	0.46		103.4	167.7	165.3	64.0	167.3	100	69	70	68		1.001	3.865	400
768	124.295	124.891		0.16	0.16	1.34	1.08	0.26	82	82	68	1.94	1.40	71	0.016	103	102	93.6	0.12	0.48		103.3	167.6	165.2	63.9	167.3	103	69	70	68		1.001	4.028	417
769	124.457	125.054		0.16	0.16	1.35	1.08	0.26	82	82	68	1.96	1.40	71	0.017	100	100	93.7	-0.16	0.50		103.2	167.3	165.0	63.9	167.1	136	69	70	68		1.001	4.191	433
770	124.619	125.216		0.16	0.16	1.34	1.08	0.26	82	82	68	1.96	1.40	78	0.017	100	100	93.8	-0.05	0.45		102.9	167.2	164.8	63.9	166.8	124	70	71	68		1.001	3.706	382
771	124.782	125.379		0.16	0.16	1.35	1.08	0.26	82	82	68	1.96	1.40	72	0.016	103	103	93.6	0.20	0.46		102.8	166.9	164.6	63.9	166.7	121	69	70	68		1.001	3.868	398
772	124.944	125.543		0.16	0.16	1.34	1.08	0.26	82	82	68	1.96	1.40	71	0.017	100	101	93.7	-0.16	0.46		102.6	166.8	164.5	63.9	166.4	118	69	70	68		1.001	3.869	397
773	125.106	125.705		0.16	0.16	1.34	1.08	0.26	82	82	68	1.95	1.40	71	0.016	103	102	93.5	0.20	0.43		102.5	166.7	164.3	63.8	166.3	115	69	70	68		1.001	3.549	364
774	125.268	125.868		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.018	97	97	93.6	-0.07	0.46		102.5	166.5	164.2	63.8	166.3	114	69	70	68		1.001	3.870	397
775	125.430	126.031		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	71	0.019	94	95	93.5	0.07	0.45		102.3	166.4	164.0	63.8	166.1	112	69	69	68		1.001	3.707	380
776	125.593	126.194		0.16	0.16	1.35	1.09	0.26	82	82	68	1.94	1.40	71	0.017	100	100	93.5	0.00	0.43		102.1	166.2	163.8	63.8	165.8	110	69	69	68		1.001	3.549	363
777	125.755	126.358		0.16	0.16	1.35	1.08	0.26	82	82	68	1.95	1.40	70	0.017	100	100	93.6	-0.04	0.45		102.0	166.0	163.7	63.7	165.8	109	69	69	68		1.001	3.708	379
778	125.917	126.520		0.16	0.16	1.36	1.08	0.26	82	82	68	1.95	1.40	71	0.017	100	99	93.4	0.18	0.48		101.7	165.8	163.4	63.7	165.5	109	69	69	68		1.001	4.031	411
779	126.079	126.683		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	70	0.017	100	100	93.6	-0.16	0.50		101.6	165.7	163.3	63.7	165.3	107	69	69	68		1.001	4.192	426
780	126.241	126.846		0.16	0.16	1.35	1.09	0.26	82	82	68	1.95	1.40	70	0.017	100	100	93.6	-0.05	0.43		101.5	165.5	163.1	63.7	165.2	107	69	69	68		1.001	3.551	361
781	126.403	127.009		0.16	0.16	1.36	1.08	0.26	82	82	68	1.94	1.40	70	0.017	100	100	93.6	-0.04	0.50		101.5	165.4	163.0	63.6	165.1	106	69	69	68		1.001	4.191	426
782	126.565	127.173		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	70	0.019	94	95	93.6	0.00	0.43		101.3	165.1	162.8	63.6	164.9	105	69	69	68		1.001	3.552	360
783	126.728	127.335		0.16	0.16	1.35	1.08	0.26	82	82	68	1.95	1.40	70	0.016	103	102	93.7	-0.06	0.52		101.0	165.0	162.7	63.6	164.6	105	69	69	68		1.001	4.351	440
784	126.890	127.498		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	70	0.017	100	100	93.6	0.07	0.48		101.0	164.9	162.5	63.6	164.6	104	69	69	68		1.001	4.038	408
785	127.052	127.661		0.16	0.16	1.35	1.08	0.26	82	82	68	1.94	1.40	70	0.018	97	97	93.6	0.04	0.46		100.9	164.7	162.4	63.6	164.5	104	69	69	68		1.001	3.805	384
786	127.214	127.824		0.16	0.16	1.35	1.09	0.26	82	81	68	1.95	1.40	70	0.018	97	97	93.6	0.02	0.48		100.6	164.5	162.2	63.6	164.2	103	69	69	68		1.001	4.030	406
787	127.376	127.988		0.16	0.16	1.35	1.09	0.26	82	81	68	1.95	1.40	70	0.018	97	98	93.6	-0.04	0.46		100.5	164.4	162.1	63.6	164.1	101	69	69	68		1.001	3.872	390
788	127.539	128.150		0.16	0.16	1.35	1.08	0.26	82	81	67	1.95	1.40	70	0.017	100	99	93.7	-0.12	0.43		100.3	164.2	161.9	63.6	163.9	101	68	69	67		1.001	3.548	356
789	127.701	128.313		0.16	0.16	1.36	1.08	0.26	82	81	68	1.95	1.40	70	0.017	100	100	93.6	0.14	0.41		100.1	164.1	161.8	63.6	163.8	101	68	69	68		1.001	3.392	340
790	127.864	128.476		0.16	0.16	1.35	1.08	0.26	82	81	67	1.94	1.40	70	0.017	100	100	93.6	0.00	0.52		99.9	164.0	161.6	63.7	163.6	101	68	69	67		1.001	4.353	435
791	128.026	128.639		0.16	0.16	1.35	1.08	0.26	82	81	67	1.95	1.40	70	0.017	100	100	93.5	0.08	0.41		99.7	163.7	161.3	63.7	163.3	101	68	69	67		1.001	3.390	338
792	128.188	128.803		0.16	0.16	1.35	1.08	0.26	82	81	67	1.94	1.40	70	0.017	100	101	93.7	-0.19	0.43		99.6	163.6	161.3	63.7	163.3	99	68	69	67		1.001	3.548	354
793	128.350	128.965		0.16	0.16	1.35	1.08	0.26	82	81	67	1.94	1.40	70	0.017	100	99	93.5	0.17	0.52		99.4	163.4	161.1	63.7	163.1	100	68	69	67		1.001	4.353	433
794	128.512	129.128		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.016	103	103	93.6	-0.11	0.45		99.2	163.3	160.9	63.7	162.9	99	68	69	67		1.001	3.711	369
795	128.675	129.291		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.017	100	100	93.7	-0.02	0.41		99.1	163.2	160.9	63.7	162.8	98	68	68	67		1.001	3.391	336
796	128.837	129.455		0.16	0.16	1.35	1.09	0.26	81	81	67	1.95	1.40	70	0.018	97	98	93.6	0.04	0.46		98.8	162.8	160.6	63.7	162.5	98	68	68	67		1.001	3.864	382

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
797	128.999	129.618		0.16	0.16	1.35	1.09	0.26	81	81	67	1.95	1.40	70	0.017	100	100	93.7	-0.03	0.48		98.7	162.7	160.5	63.7	162.5	97	68	68	67		1.001	4.003	396
798	129.162	129.781		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.017	100	100	93.6	0.05	0.42		98.5	162.6	160.4	63.7	162.2	97	68	68	67		1.001	3.471	342
799	129.324	129.943		0.16	0.16	1.35	1.09	0.26	81	81	67	1.95	1.40	70	0.017	100	99	93.5	0.06	0.50		98.5	162.4	160.2	63.7	162.2	97	68	68	67		1.001	4.194	413
800	129.486	130.107		0.16	0.16	1.35	1.09	0.26	81	81	67	1.94	1.40	70	0.016	103	104	93.6	-0.01	0.49		98.2	162.3	160.0	63.7	161.9	132	68	68	67		1.001	4.044	398
801	129.648	130.270		0.16	0.16	1.34	1.08	0.26	81	81	67	1.95	1.40	75	0.017	100	100	93.7	-0.16	0.46		98.2	162.1	159.9	63.7	161.9	119	69	69	67		1.001	3.871	381
802	129.811	130.433		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	71	0.013	115	114	93.5	0.20	0.46		98.0	161.9	159.7	63.7	161.7	115	68	68	67		1.001	3.872	380
803	129.973	130.595		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.015	106	106	93.7	-0.17	0.46		97.8	161.7	159.5	63.6	161.4	113	68	68	67		1.001	3.870	379
804	130.135	130.758		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.017	100	100	93.7	-0.02	0.52		97.7	161.6	159.3	63.6	161.3	111	68	68	67		1.001	4.356	426
805	130.297	130.922		0.16	0.16	1.35	1.08	0.26	81	81	67	1.94	1.40	70	0.018	97	98	93.3	0.37	0.52		97.5	161.4	159.2	63.6	161.1	109	68	68	67		1.001	4.355	425
806	130.460	131.085		0.16	0.16	1.35	1.09	0.26	81	81	67	1.94	1.40	70	0.018	98	97	93.6	-0.26	0.54		97.4	161.2	159.0	63.6	161.0	108	68	68	67		1.001	4.517	440
807	130.622	131.248		0.16	0.16	1.35	1.09	0.26	81	81	67	1.94	1.40	70	0.014	110	110	93.5	0.08	0.43		97.2	161.1	158.9	63.6	160.8	110	68	68	67		1.001	3.554	346
808	130.784	131.411		0.16	0.16	1.35	1.08	0.26	81	81	67	1.96	1.40	76	0.016	103	104	93.6	-0.07	0.52		97.0	161.0	158.8	63.6	160.6	116	69	69	67		1.001	4.351	423
809	130.946	131.573		0.16	0.16	1.34	1.08	0.26	81	81	67	1.97	1.40	78	0.018	98	97	93.4	0.19	0.48		97.0	160.7	158.6	63.6	160.5	118	68	69	67		1.001	4.036	392
810	131.108	131.735		0.16	0.16	1.35	1.08	0.26	81	81	67	1.95	1.40	78	0.017	100	100	93.2	0.17	0.47		96.8	160.5	158.3	63.5	160.3	132	68	69	67		1.001	3.894	377
811	131.270	131.899		0.16	0.16	1.35	1.08	0.26	81	81	67	1.95	1.40	77	0.018	98	98	93.2	0.05	0.46		96.6	160.4	158.2	63.5	160.2	142	68	69	67		1.001	3.852	373
812	131.432	132.062		0.16	0.16	1.34	1.08	0.26	81	81	67	1.95	1.40	77	0.017	100	101	93.2	0.01	0.47		96.5	160.2	158.0	63.5	160.0	148	69	69	67		1.001	3.875	374
813	131.593	132.224		0.16	0.16	1.35	1.08	0.26	81	81	67	1.96	1.40	78	0.018	97	97	93.0	0.17	0.44		96.3	160.1	157.9	63.5	159.8	154	69	69	67		1.001	3.666	354
814	131.755	132.387		0.16	0.16	1.36	1.09	0.26	81	81	67	1.96	1.40	78	0.016	104	104	92.9	0.10	0.45		96.1	159.9	157.7	63.5	159.6	160	69	69	67		1.001	3.714	357
815	131.917	132.550		0.16	0.16	1.36	1.09	0.26	81	81	67	1.95	1.40	79	0.017	101	101	92.8	0.14	0.48		96.0	159.8	157.6	63.5	159.5	165	69	69	67		1.001	4.034	388
816	132.079	132.713		0.16	0.16	1.36	1.08	0.26	81	81	67	1.94	1.40	80	0.017	101	101	92.5	0.24	0.47		95.9	159.8	157.6	63.5	159.4	170	69	69	67		1.001	3.875	372
817	132.241	132.876		0.16	0.16	1.36	1.08	0.26	81	81	67	1.95	1.40	80	0.017	101	101	92.3	0.25	0.47		95.9	159.8	157.6	63.5	159.4	176	69	70	67		1.001	3.874	372
818	132.403	133.038		0.16	0.16	1.36	1.08	0.26	81	80	67	1.96	1.40	81	0.018	98	98	92.0	0.28	0.45		96.2	160.2	157.9	63.5	159.7	182	69	70	67		1.001	3.713	358
819	132.565	133.201		0.16	0.16	1.36	1.08	0.26	81	81	67	1.97	1.40	83	0.016	104	104	91.5	0.45	0.45		96.5	160.4	158.2	63.4	159.9	191	69	70	67		1.001	3.713	359
820	132.727	133.364		0.16	0.16	1.36	1.08	0.26	81	80	67	1.96	1.40	85	0.018	98	99	91.0	0.55	0.47		96.9	160.8	158.6	63.4	160.4	200	70	70	67		1.001	3.874	376
821	132.889	133.526		0.16	0.16	1.35	1.08	0.26	81	80	67	1.95	1.40	87	0.018	98	98	90.4	0.58	0.45		97.3	161.2	158.9	63.4	160.7	209	70	71	67		1.001	3.714	362
822	133.050	133.688		0.16	0.16	1.35	1.08	0.26	81	80	67	1.96	1.40	89	0.018	98	98	89.9	0.48	0.46		97.9	161.9	159.6	63.4	161.3	218	70	71	67		1.001	3.872	379
823	133.211	133.850		0.16	0.16	1.35	1.08	0.26	81	80	67	1.98	1.40	90	0.017	101	101	89.3	0.61	0.48		98.7	162.6	160.3	63.4	162.1	225	71	72	67		1.001	4.036	399
824	133.373	134.012		0.16	0.16	1.34	1.07	0.26	81	80	67	1.98	1.40	91	0.016	105	105	88.8	0.56	0.48		99.3	163.5	161.1	63.4	162.8	232	71	72	67		1.001	4.033	401
825	133.534	134.174		0.16	0.16	1.34	1.07	0.26	81	80	67	2.00	1.50	92	0.017	101	102	87.8	0.93	0.46		100.2	164.2	161.9	63.4	163.6	240	71	72	67		1.001	3.872	388
826	133.695	134.334		0.16	0.16	1.34	1.07	0.26	81	80	67	2.00	1.50	93	0.018	98	98	87.4	0.48	0.46		100.9	165.1	162.7	63.4	164.3	247	72	73	67		1.001	3.872	391
827	133.856	134.496		0.16	0.16	1.34	1.07	0.26	81	80	67	2.00	1.50	95	0.018	99	99	86.6	0.74	0.48		101.9	166.3	163.8	63.4	165.3	263	72	73	67		1.001	4.020	410
828	134.016	134.657		0.16	0.16	1.34	1.06	0.26	81	80	67	2.00	1.50	99	0.018	98	99	85.7	0.93	0.45		103.2	167.5	164.9	63.4	166.6	283	73	75	67		1.001	3.712	384
829	134.177	134.818		0.16	0.16	1.32	1.06	0.26	81	80	67	2.03	1.50	103	0.017	102	102	84.9	0.77	0.45		104.4	168.8	166.3	63.4	167.8	300	75	76	67		1.001	3.709	388
830	134.337	134.977		0.16	0.16	1.33	1.06	0.26	81	80	67	2.01	1.50	107	0.016	105	104	83.9	1.07	0.46		105.8	170.2	167.7	63.4	169.2	312	76	77	67		1.001	3.872	410
831	134.496	135.138		0.16	0.16	1.32	1.06	0.26	80	80	67	2.03	1.50	110	0.017	102	103	83.0	0.90	0.45		107.4	171.8	169.2	63.4	170.8	321	77	78	67		1.001	3.710	399
832	134.656	135.298		0.16	0.16	1.32	1.06	0.26	80	80	67	2.05	1.50	111	0.018	100	99	82.1	0.89	0.50		108.7	173.4	170.7	63.4	172.2	327	78	79	67		1.001	4.196	457
833	134.815	135.457		0.16	0.16	1.32	1.05	0.26	80	80	67	2.05	1.50	113	0.016	105	105	81.2	0.88	0.48		110.4	174.9	172.3	63.5	173.8	332	78	79	67		1.001	4.034	446
834	134.975	135.617		0.16	0.16	1.32	1.05	0.26	80	80	67	2.05	1.50	114	0.018	100	99	80.4	0.78	0.48		112.0	176.6	173.8	63.5	175.5	337	79	80	67		1.001	4.031	452
835	135.134	135.776		0.16	0.16	1.32	1.04	0.26	80	80	67	2.05	1.50	115	0.017	102	102	79.4	0.99	0.50		113.5	178.4	175.6	63.5	177.0	343	80	81	67		1.001	4.191	476
836	135.292	135.935		0.16	0.16	1.32	1.04	0.26	80	80	67	2.07	1.50	116	0.018	99	99	78.4	0.99	0.47		115.3	180.2	177.3	63.5	178.9	345	80	81	67		1.001	3.878	448
837	135.451	136.094		0.16	0.16	1.32	1.04	0.26	80	80	67	2.06	1.50	117	0.017	102	102	77.8	0.58	0.43		117.1	181.8	178.9	63.6	180.7	329	80	81	67		1.001	3.563	418
838	135.611	136.252		0.16	0.16	1.31	1.04	0.26	80	80	67	2.07	1.50	92	0.018	98	96	77.3	0.50	0.42		118.1	182.5	179.6	63.6	181.7	289	77	77	67		1.001	3.519	416
839	135.770	136.411		0.16	0.16	1.30	1.03	0.26	80	80	67	2.06	1.50	85	0.018	97	96	77.0	0.35	0.45		118.7	182.8	179.9	63.6	182.3	267	75	76	67		1.001	3.713	441
840	135.930	136.570		0.16	0.16	1.30	1.03	0.26	80	80	67	2.06	1.50	81	0.018	97	96	76.8	0.17	0.45		118.8	183.0	180.2	63.6	182.5	251	74	74	67		1.001	3.711	441
841	136.088	136.728		0.16	0.16	1.30	1.03	0.26	80	80	67	2.07	1.50	80	0.018	96	95	76.5	0.30	0.46		119.1	183.3	180.5	63.6	182.7	241	73	73	67		1.001	3.872	462
842	136.247	136.888		0.16	0.16	1.30	1.04	0.26	80	80	67	2.06	1.50	78	0.015	105	105	76.6	-0.04	0.46		119.2	183.5	180.7	63.6	182.9	233	73	72	67		1.001	3.872	462
843	136.406	137.047		0.16	0.16	1.30	1.03	0.26	80	80	67	2.05	1.50	77	0.018	96	96	76.5	0.06	0.50		119.4	183.6	180.7	63.6	183.0	227	72	71	67		1.001	4.193	501
844	136.566	137.206		0.16	0.16	1.31	1.04	0.26	80	80	67	2.04	1.50	76	0.017	99	98	76.5	0.03	0.46		119.5	183.6	180.8	63.6	183.2	221	71	72	67		1.001	3.872	463
845	136.725	137.366		0.16	0.16	1.31	1.04	0.26	80	80	67	2.03	1.50	75	0.016	102	102	76.3	0.20	0.46		119.6	183.7	180.9	63.6	183.2	216	71	72	67		1.001	3.871	464
846	136.885	137.525		0.16	0.16	1.32	1.04	0.26	80	80	67	2.02	1.50	75	0.015	106	105	76.1	0.18	0.43		119.6	183.7	180.9	63.6	183.2	211	70	71	67		1.001	3.549	425
847	137.045	137.685		0.16	0.16	1.32	1.04	0.26	80	80	67	2.03	1.50	74	0.018	96	96	76.2	-0.10	0.48		119.7	183.7	180.9	63.6	183.3	207	70	71	67		1.001	4.032	483
848	137.205	137.846		0.16	0.16	1.32	1.04	0.26	80	80	67	2.03	1.50	74	0.018	96	97	76.1	0.06	0.45		119.6	183.6	180.9	63.6	183.2	203	69	70	67		1.001	3.713	445
849	137.365	138.005		0.16	0.16	1.32	1.04	0.26	80	80	67	2.02	1.50	74	0.016	102	101	76.2	-0.04	0.45		119.7	183.7	180.8	63.6	183.2	200	69	70	67		1.001	3.715	445
850	137.526	138.165		0.16	0.16	1.33	1.05	0.26	80	80	66	2.01	1.50	73	0.017	100	99	76.0	0.12	0.45		119.5	183.5	180.7	63.5	183.0	197	69	69	66		1.001	3.787	453
851	137.687	138.326		0.16	0.16	1.33	1.05	0.26	80	80	66	2.01	1.50	73	0.017	100	99	76.1	-0.07	0.43		119.6	183.5	180.8	63.5	183.1	194	68	69	66		1.001	3.553	425
852	137.847	138.486		0.16	0.16	1.32	1.05	0.26	80	80	66	2.00	1.50	72	0.014	109	109	76.1	0.03	0.45		119.6	183.5	180.7	63.5	183.1	191	68	68	66		1.001	3.712	444
853	138.008	138.646		0.16	0.16	1.32	1.06	0.26	80	80	66	2.00	1.50	71	0.017	99	98	76.0	0.04	0.47		119.5	183.4	180.6	63.5	182.9	188	67	68	66		1.001	3.875	463
854	138.169	138.807		0.16	0.16	1.33	1.06	0.26	80	80	66	2.01	1.50	71	0.017	99	99	76.1	-0.07	0.45		119.4	183.3	180.6	63.5	182.8	184	67	68	66		1.001	3.710	443
855	138.329	138.969		0.16	0.16	1.33	1.06	0.26	80	80	67	1.99	1.50	71	0.017	99	100	76.0	0.13	0.45		119.4	183.3	180.6	63.5	182.8	181	67	68	67		1.001	3.710	443
856	138.490	139.129		0.16	0.16	1.33	1.06	0.26	80	80	66	2.00	1.40	71	0.017	99	98	76.1	-0.10	0.43		119.4	183.2	180.4	63.4	182.8	178	67	68	66		1.001	3.553	425
857	138.651	139.291		0.16	0.16	1.33	1.06	0.26	80	80	67	2.01	1.40	71	0.017	99	100	75.9	0.15	0.45		119.3	183.1	180.3	63.4	182.7	175	67	68	67		1.001	3.709	443
858	138.812	139.453		0.16	0.16	1.33	1.07	0.26	80	80	66	2.00	1.40	71	0.017	99	100	75.8	0.08	0.48		119.2	183.0	180.3	63.4	182.6	172	67	68	66		1.001	4.033	481

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
859	138.972	139.614		0.16	0.16	1.32	1.06	0.26	80	80	66	2.00	1.40	70	0.016	102	102	76.0	-0.11	0.43		119.0	183.0	180.2	63.4	182.4	169	67	68	66		1.001	3.552	423
860	139.133	139.775		0.16	0.16	1.33	1.07	0.26	80	80	66	1.99	1.40	70	0.016	102	102	75.9	0.02	0.47		119.0	182.8	180.1	63.4	182.4	166	67	68	66		1.001	3.875	462
861	139.294	139.937		0.16	0.16	1.33	1.07	0.26	80	80	66	2.00	1.40	70	0.016	102	103	76.0	-0.09	0.50		118.9	182.8	180.0	63.4	182.3	164	67	68	66		1.001	4.193	499
862	139.455	140.100		0.16	0.16	1.33	1.07	0.26	80	80	66	1.98	1.40	70	0.017	99	100	76.0	-0.02	0.43		118.8	182.6	179.9	63.4	182.2	161	67	67	66		1.001	3.551	423
863	139.615	140.261		0.16	0.16	1.33	1.07	0.26	80	80	67	1.99	1.40	70	0.016	102	102	76.0	0.06	0.43		118.7	182.5	179.7	63.4	182.1	159	67	67	67		1.001	3.568	424
864	139.776	140.423		0.16	0.16	1.33	1.07	0.26	80	80	66	1.98	1.40	70	0.017	99	100	75.9	0.04	0.43		118.7	182.4	179.7	63.4	182.0	156	67	67	66		1.001	3.550	422
865	139.937	140.585		0.16	0.16	1.33	1.07	0.26	80	80	66	1.99	1.40	70	0.015	106	106	76.0	-0.04	0.41		118.5	182.4	179.6	63.3	181.9	154	67	67	66		1.001	3.451	409
866	140.098	140.748		0.16	0.16	1.33	1.07	0.26	80	80	66	1.98	1.40	70	0.018	97	97	76.1	-0.09	0.50		118.4	182.2	179.4	63.3	181.7	152	67	67	66		1.001	4.200	498
867	140.259	140.909		0.16	0.16	1.33	1.07	0.26	80	80	66	1.98	1.40	69	0.017	99	99	76.0	0.05	0.45		118.3	182.0	179.2	63.3	181.6	150	67	67	66		1.001	3.717	440
868	140.420	141.070		0.16	0.16	1.33	1.07	0.26	80	79	66	1.98	1.40	69	0.017	99	99	76.0	0.00	0.49		118.2	181.9	179.2	63.3	181.5	148	67	67	66		1.001	4.040	478
869	140.581	141.233		0.16	0.16	1.34	1.07	0.26	80	80	66	1.98	1.40	70	0.017	99	100	76.0	0.02	0.48		118.0	181.8	179.1	63.3	181.3	146	67	67	66		1.001	4.037	477
870	140.741	141.395		0.16	0.16	1.34	1.07	0.26	80	80	66	1.99	1.40	70	0.016	102	103	76.1	-0.09	0.47		117.9	181.6	178.9	63.3	181.2	144	67	67	66		1.001	3.876	457
871	140.902	141.557		0.16	0.16	1.33	1.07	0.26	80	79	66	2.00	1.40	70	0.016	102	103	76.1	0.03	0.45		117.8	181.6	178.8	63.3	181.1	143	67	67	66		1.001	3.717	438
872	141.063	141.718		0.16	0.16	1.34	1.07	0.26	80	79	66	1.98	1.40	70	0.017	99	99	76.0	0.06	0.47		117.8	181.5	178.7	63.3	181.1	141	67	67	66		1.001	3.874	457
873	141.224	141.880		0.16	0.16	1.34	1.07	0.26	80	79	66	1.98	1.40	69	0.017	99	100	76.0	-0.05	0.46		117.5	181.3	178.5	63.3	180.8	140	67	67	66		1.001	3.872	456
874	141.385	142.043		0.16	0.16	1.34	1.07	0.26	80	79	66	1.99	1.40	70	0.017	99	100	76.0	0.08	0.47		117.4	181.1	178.3	63.3	180.7	138	67	67	66		1.001	3.874	455
875	141.546	142.205		0.16	0.16	1.34	1.07	0.26	80	79	66	1.98	1.40	70	0.016	102	103	76.2	-0.23	0.45		117.3	181.0	178.2	63.4	180.7	136	67	67	66		1.001	3.725	437
876	141.707	142.366		0.16	0.16	1.34	1.07	0.26	80	79	66	1.98	1.40	69	0.017	99	99	76.2	-0.02	0.50		117.1	180.9	178.1	63.4	180.5	134	67	67	66		1.001	4.204	493
877	141.868	142.528		0.16	0.16	1.34	1.08	0.26	80	79	66	2.00	1.40	69	0.017	99	100	76.2	0.07	0.43		116.9	180.6	177.9	63.4	180.3	134	67	67	66		1.001	3.598	421
878	142.028	142.691		0.16	0.16	1.33	1.08	0.26	80	79	66	1.98	1.40	69	0.017	99	100	76.2	-0.04	0.45		116.7	180.6	177.8	63.5	180.1	133	67	67	66		1.001	3.708	433
879	142.189	142.852		0.16	0.16	1.33	1.07	0.26	80	79	66	1.98	1.40	69	0.016	102	102	76.2	0.04	0.45		116.5	180.6	177.8	63.5	180.0	131	67	67	66		1.001	3.712	433
880	142.350	143.014		0.16	0.16	1.34	1.07	0.26	80	79	66	1.99	1.40	69	0.014	109	110	76.1	0.05	0.48		116.5	180.3	177.6	63.5	180.0	129	67	67	66		1.001	4.038	471
881	142.511	143.176		0.16	0.16	1.34	1.07	0.26	80	79	66	1.98	1.40	69	0.017	99	100	76.1	-0.03	0.48		116.3	180.2	177.5	63.5	179.8	128	67	67	66		1.001	4.037	470
882	142.672	143.338		0.16	0.16	1.34	1.07	0.26	80	79	66	1.98	1.40	69	0.016	102	103	76.2	-0.03	0.46		116.2	180.1	177.3	63.5	179.7	127	67	67	66		1.001	3.872	450
883	142.833	143.500		0.16	0.16	1.34	1.07	0.26	80	79	66	1.98	1.40	69	0.018	96	97	76.2	-0.01	0.48		115.9	179.9	177.2	63.5	179.4	125	67	67	66		1.001	4.038	469
884	142.995	143.661		0.16	0.16	1.34	1.07	0.26	80	79	66	1.99	1.40	69	0.017	100	99	76.3	-0.08	0.45		115.9	179.7	177.0	63.5	179.4	125	67	67	66		1.001	3.713	431
885	143.156	143.823		0.16	0.16	1.34	1.08	0.26	80	79	66	1.99	1.40	69	0.016	102	103	76.2	0.04	0.45		115.8	179.5	176.8	63.5	179.3	123	67	67	66		1.001	3.713	430
886	143.317	143.986		0.16	0.16	1.33	1.07	0.26	80	79	66	1.99	1.40	69	0.018	96	97	76.2	-0.02	0.48		115.6	179.4	176.7	63.5	179.1	124	67	67	66		1.001	4.036	467
887	143.478	144.148		0.16	0.16	1.33	1.07	0.26	79	79	66	1.98	1.40	69	0.017	99	100	76.3	-0.10	0.47		115.4	179.4	176.7	63.5	178.9	122	67	67	66		1.001	3.878	448
888	143.638	144.309		0.16	0.16	1.33	1.07	0.26	80	79	66	2.00	1.40	69	0.017	99	99	76.2	0.18	0.47		115.4	179.2	176.4	63.5	178.8	121	67	67	66		1.001	3.874	448
889	143.799	144.471		0.16	0.16	1.33	1.07	0.26	79	79	66	2.00	1.40	69	0.015	106	106	76.2	-0.03	0.43		115.3	179.1	176.4	63.4	178.7	120	67	67	66		1.001	3.553	410
890	143.960	144.634		0.16	0.16	1.34	1.07	0.26	79	79	66	2.00	1.40	69	0.019	94	95	76.3	-0.10	0.49		115.0	178.9	176.2	63.4	178.4	119	67	67	66		1.001	4.062	468
891	144.121	144.796		0.16	0.16	1.34	1.07	0.26	79	79	66	2.00	1.40	69	0.017	99	100	76.3	-0.02	0.47		114.9	178.7	176.0	63.4	178.3	136	67	67	66		1.001	3.877	446
892	144.282	144.957		0.16	0.16	1.33	1.06	0.26	79	79	66	2.02	1.40	79	0.017	100	100	76.1	0.18	0.48		114.8	178.6	175.9	63.4	178.2	145	68	68	66		1.001	4.036	464
893	144.442	145.118		0.16	0.16	1.33	1.07	0.26	79	79	66	2.01	1.40	71	0.018	96	96	76.0	0.14	0.47		114.6	178.3	175.6	63.4	177.9	139	67	67	66		1.001	3.877	445
894	144.603	145.281		0.16	0.16	1.33	1.07	0.26	79	79	66	1.99	1.40	69	0.018	97	97	76.1	-0.10	0.47		114.4	178.2	175.5	63.3	177.7	135	66	67	66		1.001	3.875	444
895	144.764	145.442		0.16	0.16	1.33	1.07	0.26	79	79	66	1.98	1.40	69	0.018	97	96	76.1	0.04	0.48		114.4	178.1	175.5	63.3	177.7	131	67	67	66		1.001	4.036	462
896	144.925	145.604		0.16	0.16	1.33	1.07	0.26	79	79	66	1.98	1.40	69	0.018	97	97	76.0	0.01	0.48		114.3	177.9	175.3	63.3	177.6	129	67	67	66		1.001	4.039	462
897	145.085	145.766		0.16	0.16	1.33	1.07	0.26	79	79	66	1.99	1.40	69	0.017	99	100	76.1	-0.11	0.48		114.2	177.8	175.2	63.3	177.5	128	67	67	66		1.001	4.037	461
898	145.246	145.928		0.16	0.16	1.33	1.07	0.26	79	79	66	1.99	1.40	69	0.019	94	94	76.1	0.08	0.45		114.0	177.6	175.0	63.3	177.2	126	67	67	66		1.001	3.715	424
899	145.407	146.090		0.16	0.16	1.33	1.07	0.26	79	79	66	1.99	1.40	69	0.017	99	100	75.9	0.16	0.45		113.9	177.5	174.9	63.3	177.2	124	67	67	66		1.001	3.717	424
900	145.568	146.252		0.16	0.16	1.34	1.07	0.26	79	79	66	2.00	1.40	69	0.017	99	100	76.2	-0.25	0.43		113.8	177.3	174.7	63.3	177.0	123	67	67	66		1.001	3.559	405
901	145.729	146.413		0.16	0.16	1.34	1.07	0.26	79	79	66	1.98	1.40	68	0.018	97	96	76.0	0.17	0.47		113.5	177.1	174.5	63.2	176.8	122	67	67	66		1.001	3.879	441
902	145.890	146.576		0.16	0.16	1.34	1.07	0.26	79	79	67	2.00	1.40	68	0.017	99	100	76.0	0.01	0.49		113.4	176.9	174.3	63.2	176.6	121	67	67	67		1.001	4.043	459
903	146.051	146.738		0.16	0.16	1.33	1.07	0.26	79	79	65	1.98	1.40	71	0.017	100	100	76.0	-0.05	0.46		113.2	176.9	174.3	63.2	176.4	121	67	67	65		1.001	3.830	434
904	146.211	146.899		0.16	0.16	1.34	1.07	0.26	79	79	65	1.99	1.40	71	0.016	102	102	76.0	0.04	0.43		113.1	176.7	174.1	63.2	176.3	119	67	67	65		1.001	3.564	404
905	146.372	147.061		0.16	0.16	1.34	1.07	0.26	79	79	66	1.99	1.40	70	0.016	103	103	76.1	-0.15	0.47		112.9	176.5	173.9	63.2	176.1	119	67	67	66		1.001	3.882	439
906	146.533	147.224		0.16	0.16	1.34	1.07	0.26	79	79	65	1.99	1.40	70	0.015	106	107	76.1	0.00	0.51		112.8	176.3	173.7	63.3	176.0	117	67	67	65		1.001	4.207	475
907	146.694	147.386		0.16	0.16	1.34	1.07	0.26	79	79	65	1.99	1.40	69	0.017	99	100	76.2	-0.08	0.47		112.4	176.2	173.6	63.4	175.8	116	67	67	65		1.001	3.887	437
908	146.855	147.547		0.16	0.16	1.34	1.07	0.26	79	79	65	1.98	1.40	69	0.018	97	96	76.2	0.00	0.47		112.2	176.1	173.5	63.5	175.7	116	67	67	65		1.001	3.887	437
909	147.016	147.709		0.16	0.16	1.34	1.08	0.26	79	79	65	1.98	1.40	70	0.017	99	100	76.2	0.03	0.47		112.0	175.9	173.3	63.6	175.7	116	67	67	65		1.001	3.888	436
910	147.177	147.872		0.16	0.16	1.34	1.08	0.26	79	79	65	1.98	1.40	70	0.016	103	103	76.2	-0.04	0.41		111.7	175.8	173.3	63.7	175.4	115	67	67	65		1.001	3.400	380
911	147.338	148.034		0.16	0.16	1.34	1.07	0.26	79	79	66	1.98	1.40	70	0.016	103	103	76.2	0.06	0.47		111.5	175.6	173.1	63.9	175.3	113	67	67	66		1.001	3.884	433
912	147.498	148.195		0.16	0.16	1.34	1.07	0.26	79	79	66	1.99	1.40	71	0.016	102	102	76.2	-0.01	0.47		111.2	175.5	173.0	64.0	175.2	112	67	67	66		1.001	3.879	432
913	147.659	148.357		0.16	0.16	1.34	1.07	0.26	79	79	66	1.99	1.40	71	0.016	103	103	76.2	-0.07	0.41		110.8	175.3	172.7	64.1	175.0	113	67	67	66		1.001	3.402	377
914	147.820	148.520		0.16	0.16	1.34	1.07	0.26	79	79	66	1.98	1.40	71	0.017	100	100	76.1	0.12	0.48		110.5	175.0	172.5	64.3	174.8	111	67	67	66		1.001	3.998	442
915	147.981	148.682		0.16	0.16	1.34	1.07	0.26	79	79	66	1.98	1.40	71	0.016	103	103	76.2	-0.12	0.41		110.3	175.1	172.5	64.4	174.6	112	67	67	66		1.001	3.381	373
916	148.142	148.843		0.16	0.16	1.34	1.07	0.26	79	79	66	1.99	1.40	71	0.017	100	99	76.2	0.02	0.41		109.9	174.8	172.3	64.5	174.4	109	67	67	66		1.001	3.395	373
917	148.303	149.005		0.16	0.16	1.34	1.07	0.26	79	79	66	1.98	1.40	71	0.017	100	100	76.2	-0.03	0.48		109.6	174.6	172.1	64.6	174.2	108	67	67	66		1.001	4.037	443
918	148.464	149.167		0.16	0.16	1.33	1.08	0.26	79	79	66	1.98	1.40	71	0.016	103	103	76.1	0.14	0.48		109.4	174.5	172.0	64.7	174.1	110	67	67	66		1.001	4.037	442
919	148.625	149.329		0.16	0.16	1.34	1.07	0.26	79	79	67	1.99	1.40	71	0.016	103	103	76.3	-0.15	0.45		109.1	174.4	171.8	64.8	174.0	109	67	67	67		1.001	3.712	406
920	148.786	149.490		0.16	0.16	1.34	1.07	0.26	79	79	67	1.99	1.40	71	0.016	103	102	76.2	0.01	0.48		108.9	174.1	171.6	64.9	173.8	107	67	67	67		1.001	4.038	440

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
921	148.947	149.652		0.16	0.16	1.34	1.07	0.26	79	79	67	1.98	1.40	71	0.018	97	97	76.1	0.17	0.48		108.6	174.0	171.5	65.0	173.7	110	67	67	67		1.001	4.036	439
922	149.108	149.814		0.16	0.16	1.34	1.07	0.26	79	79	67	1.98	1.40	72	0.017	100	100	76.2	-0.16	0.50		108.3	173.9	171.3	65.1	173.5	141	67	68	67		1.001	4.190	455
923	149.268	149.976		0.16	0.16	1.33	1.06	0.26	79	79	67	2.00	1.50	79	0.018	97	98	76.1	0.12	0.46		108.2	173.6	171.2	65.2	173.4	131	68	69	67		1.001	3.870	419
924	149.429	150.137		0.16	0.16	1.34	1.07	0.26	79	79	67	1.98	1.40	73	0.017	100	99	76.2	-0.05	0.50		107.8	173.4	170.9	65.3	173.1	126	67	68	67		1.001	4.196	453
925	149.589	150.298		0.16	0.16	1.33	1.06	0.26	79	79	67	1.98	1.40	72	0.016	102	102	76.1	0.04	0.46		107.5	173.2	170.7	65.4	172.9	124	68	68	67		1.001	3.871	417
926	149.750	150.461		0.16	0.16	1.33	1.07	0.26	79	79	67	1.98	1.40	72	0.017	100	101	76.1	-0.02	0.46		107.3	173.2	170.7	65.4	172.8	122	68	68	67		1.001	3.867	416
927	149.911	150.622		0.16	0.16	1.33	1.07	0.26	79	79	67	1.98	1.40	72	0.017	100	99	76.1	-0.01	0.48		107.2	172.9	170.5	65.5	172.6	119	68	68	67		1.001	4.032	433
928	150.071	150.783		0.16	0.16	1.33	1.07	0.26	79	79	67	2.00	1.40	72	0.016	102	102	76.2	-0.02	0.45		106.9	172.9	170.4	65.5	172.5	118	68	68	67		1.001	3.732	400
929	150.232	150.945		0.16	0.16	1.33	1.07	0.26	79	79	67	1.99	1.40	72	0.016	103	103	76.1	0.10	0.47		106.8	172.7	170.2	65.6	172.4	116	68	68	67		1.001	3.873	414
930	150.393	151.107		0.16	0.16	1.33	1.07	0.26	79	79	67	2.00	1.40	72	0.018	97	97	76.1	-0.04	0.50		106.5	172.4	170.0	65.6	172.1	114	68	68	67		1.001	4.189	447
931	150.553	151.269		0.16	0.16	1.33	1.07	0.26	79	79	67	1.98	1.40	72	0.015	105	106	76.2	-0.06	0.45		106.3	172.3	169.9	65.6	171.9	114	68	68	67		1.001	3.709	395
932	150.714	151.430		0.16	0.16	1.34	1.07	0.26	79	79	67	1.99	1.40	72	0.017	100	99	76.2	-0.02	0.46		106.2	172.2	169.7	65.6	171.8	112	68	68	67		1.001	3.866	411
933	150.875	151.591		0.16	0.16	1.33	1.07	0.26	79	79	68	1.98	1.40	72	0.017	100	99	76.2	0.01	0.47		106.0	171.9	169.5	65.6	171.6	111	68	68	68		1.001	3.872	411
934	151.035	151.754		0.16	0.16	1.33	1.07	0.26	79	79	68	1.99	1.40	72	0.017	99	101	76.1	0.04	0.46		105.9	171.9	169.4	65.6	171.5	111	68	68	68		1.001	3.865	410
935	151.196	151.915		0.16	0.16	1.34	1.06	0.26	79	79	68	1.99	1.40	72	0.017	100	99	76.1	0.08	0.47		105.7	171.7	169.3	65.6	171.3	110	68	68	68		1.001	3.871	409
936	151.357	152.076		0.16	0.16	1.34	1.07	0.26	79	79	68	2.00	1.40	72	0.017	100	99	76.1	-0.06	0.43		105.5	171.5	169.1	65.6	171.1	109	68	68	68		1.001	3.549	375
937	151.517	152.238		0.16	0.16	1.34	1.07	0.26	79	79	68	2.00	1.40	72	0.018	96	97	76.1	-0.03	0.41		105.3	171.4	168.9	65.7	171.0	109	68	69	68		1.001	3.395	358
938	151.678	152.401		0.16	0.16	1.34	1.07	0.26	79	79	68	2.00	1.40	73	0.017	100	101	76.2	-0.07	0.46		105.2	171.2	168.8	65.7	170.9	108	68	69	68		1.001	3.865	407
939	151.839	152.562		0.16	0.16	1.34	1.06	0.26	79	79	68	1.99	1.40	73	0.016	103	102	76.2	0.03	0.43		105.0	171.0	168.6	65.7	170.7	108	69	69	68		1.001	3.585	377
940	152.000	152.723		0.16	0.16	1.34	1.07	0.26	80	79	68	1.98	1.40	73	0.016	103	102	76.0	0.17	0.42		104.8	170.9	168.5	65.7	170.5	107	69	69	68		1.001	3.535	371
941	152.161	152.885		0.16	0.16	1.33	1.07	0.26	80	79	68	1.99	1.40	73	0.018	97	97	76.1	-0.05	0.39		104.8	170.8	168.5	65.7	170.5	108	69	69	68		1.001	3.225	338
942	152.321	153.047		0.16	0.16	1.34	1.07	0.26	80	80	68	1.99	1.40	73	0.018	96	97	76.1	-0.07	0.46		104.5	170.5	168.2	65.7	170.2	106	69	69	68		1.001	3.821	400
943	152.482	153.208		0.16	0.16	1.34	1.07	0.26	80	80	68	1.98	1.40	73	0.016	103	102	76.2	-0.07	0.45		104.3	170.4	168.0	65.7	170.0	106	69	69	68		1.001	3.707	387
944	152.643	153.369		0.16	0.16	1.33	1.07	0.26	80	80	68	1.99	1.40	73	0.017	100	99	76.2	0.05	0.43		104.2	170.3	167.9	65.7	170.0	106	69	69	68		1.001	3.545	370
945	152.804	153.531		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	73	0.015	106	106	76.1	0.04	0.48		104.1	170.1	167.8	65.7	169.9	105	69	69	68		1.001	4.028	420
946	152.965	153.693		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	73	0.017	100	100	76.1	-0.01	0.48		103.8	170.0	167.6	65.8	169.6	105	69	69	68		1.001	4.024	418
947	153.126	153.854		0.16	0.16	1.33	1.07	0.26	80	80	68	2.00	1.40	73	0.016	103	102	76.2	-0.04	0.44		103.7	169.8	167.4	65.8	169.4	104	69	69	68		1.001	3.702	384
948	153.287	154.016		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	73	0.019	94	94	76.1	0.07	0.50		103.6	169.7	167.4	65.8	169.4	104	69	69	68		1.001	4.186	434
949	153.448	154.178		0.16	0.16	1.33	1.06	0.26	80	80	69	2.00	1.40	73	0.016	103	103	76.1	0.02	0.45		103.4	169.5	167.1	65.8	169.2	104	69	69	69		1.001	3.708	384
950	153.609	154.340		0.16	0.16	1.33	1.06	0.26	80	80	68	2.00	1.40	73	0.016	103	103	76.1	-0.03	0.46		103.2	169.3	167.0	65.8	169.0	103	69	69	68		1.001	3.869	400
951	153.769	154.501		0.16	0.16	1.33	1.07	0.26	80	80	68	1.99	1.40	73	0.016	102	102	76.3	-0.14	0.47		103.0	169.1	166.8	65.8	168.7	103	69	69	68		1.001	3.872	399
952	153.930	154.662		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	73	0.017	100	99	76.2	0.06	0.45		102.9	168.9	166.6	65.8	168.6	103	69	69	68		1.001	3.738	385
953	154.091	154.825		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	74	0.016	103	104	76.1	0.11	0.48		102.7	168.7	166.4	65.8	168.5	138	69	69	68		1.001	3.984	410
954	154.251	154.986		0.16	0.16	1.32	1.06	0.26	80	80	68	2.00	1.40	79	0.017	100	100	76.0	0.08	0.50		102.4	168.6	166.2	65.8	168.3	124	70	70	68		1.001	4.198	431
955	154.412	155.147		0.16	0.16	1.32	1.07	0.26	80	80	68	1.98	1.40	75	0.016	103	102	76.2	-0.21	0.45		102.3	168.4	166.1	65.9	168.2	120	69	69	68		1.001	3.770	386
956	154.573	155.308		0.16	0.16	1.33	1.06	0.26	80	80	68	2.00	1.40	74	0.017	100	99	76.0	0.17	0.46		102.0	168.3	166.0	65.9	167.9	117	69	69	68		1.001	3.869	395
957	154.734	155.471		0.16	0.16	1.33	1.07	0.26	80	80	68	1.99	1.40	74	0.015	106	107	76.0	0.05	0.46		101.7	168.1	165.8	66.0	167.7	116	69	70	68		1.001	3.869	394
958	154.894	155.632		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	74	0.017	99	99	76.0	-0.01	0.46		101.6	168.0	165.7	66.0	167.7	114	69	70	68		1.001	3.866	393
959	155.055	155.793		0.16	0.16	1.33	1.07	0.26	80	80	68	1.99	1.40	74	0.016	103	102	76.2	-0.15	0.41		101.3	167.8	165.5	66.1	167.4	113	69	70	68		1.001	3.380	343
960	155.216	155.955		0.16	0.16	1.33	1.07	0.26	80	80	68	1.99	1.40	74	0.017	100	100	76.1	0.09	0.48		101.2	167.7	165.4	66.1	167.3	111	69	70	68		1.001	4.028	408
961	155.377	156.117		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	74	0.017	100	100	76.0	0.10	0.50		101.0	167.4	165.1	66.2	167.2	111	69	70	68		1.001	4.189	424
962	155.538	156.278		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	74	0.016	103	102	76.1	-0.11	0.46		100.7	167.3	165.0	66.2	166.9	109	69	70	68		1.001	3.867	390
963	155.699	156.440		0.16	0.16	1.33	1.07	0.26	80	80	69	1.98	1.40	74	0.016	103	103	76.0	0.09	0.45		100.6	167.1	164.8	66.2	166.8	108	69	70	69		1.001	3.709	374
964	155.860	156.602		0.16	0.16	1.34	1.07	0.26	80	80	68	2.00	1.40	74	0.017	100	100	76.0	-0.06	0.46		100.4	167.1	164.8	66.2	166.7	108	69	70	68		1.001	3.863	388
965	156.020	156.764		0.16	0.16	1.33	1.07	0.26	80	80	68	1.98	1.40	74	0.016	102	103	76.1	-0.01	0.43		100.3	166.9	164.6	66.2	166.5	105	70	70	68		1.001	3.545	356
966	156.181	156.925		0.16	0.16	1.34	1.06	0.26	80	80	69	2.00	1.40	74	0.018	97	97	76.0	0.04	0.43		100.2	166.7	164.4	66.2	166.4	105	70	70	69		1.001	3.554	356
967	156.342	157.086		0.16	0.16	1.34	1.07	0.26	80	80	69	1.98	1.40	74	0.017	100	99	76.1	-0.05	0.47		99.9	166.5	164.2	66.2	166.2	105	70	70	69		1.001	3.896	390
968	156.503	157.248		0.16	0.16	1.34	1.07	0.26	80	80	69	1.99	1.40	74	0.018	97	97	76.1	-0.07	0.46		99.8	166.4	164.1	66.2	166.0	105	70	70	69		1.001	3.865	386
969	156.664	157.411		0.16	0.16	1.34	1.07	0.26	80	80	69	1.99	1.40	74	0.017	100	101	75.9	0.20	0.50		99.7	166.2	164.0	66.2	166.0	104	70	70	69		1.001	4.189	418
970	156.825	157.572		0.16	0.16	1.34	1.07	0.26	80	80	69	1.98	1.40	74	0.017	100	99	76.1	-0.15	0.43		99.6	166.2	163.9	66.2	165.8	103	70	70	69		1.001	3.543	353
971	156.986	157.733		0.16	0.16	1.34	1.07	0.26	80	80	69	2.00	1.40	74	0.017	100	99	76.2	-0.09	0.46		99.5	165.9	163.6	66.2	165.7	103	70	70	69		1.001	3.864	385
972	157.147	157.895		0.16	0.16	1.33	1.07	0.26	80	80	69	2.00	1.40	74	0.016	103	103	76.2	-0.01	0.45		99.2	165.7	163.4	66.2	165.4	102	70	70	69		1.001	3.707	368
973	157.308	158.057		0.16	0.16	1.34	1.07	0.26	80	80	69	2.00	1.40	74	0.017	100	100	76.0	0.18	0.50		99.0	165.5	163.2	66.2	165.2	101	70	70	69		1.001	4.189	415
974	157.468	158.219		0.16	0.16	1.33	1.07	0.26	80	80	69	1.99	1.40	74	0.016	102	103	76.0	0.05	0.48		99.0	165.4	163.1	66.2	165.2	101	70	70	69		1.001	4.023	399
975	157.629	158.380		0.16	0.16	1.33	1.07	0.26	81	80	69	1.99	1.40	74	0.018	97	97	76.1	-0.13	0.46		98.7	165.3	163.0	66.2	165.0	100	70	70	69		1.001	3.863	382
976	157.791	158.542		0.16	0.16	1.34	1.07	0.26	81	80	69	1.98	1.40	74	0.016	103	103	76.0	0.08	0.50		98.6	165.1	162.9	66.2	164.8	100	70	70	69		1.001	4.183	413
977	157.952	158.704		0.16	0.16	1.33	1.06	0.26	80	80	69	1.99	1.40	74	0.018	97	97	76.0	-0.03	0.50		98.4	164.9	162.7	66.2	164.6	100	70	70	69		1.001	4.183	412
978	158.113	158.866		0.16	0.16	1.34	1.07	0.26	81	80	69	2.00	1.40	74	0.017	100	100	76.1	-0.05	0.52		98.3	164.8	162.6	66.2	164.4	99	70	70	69		1.001	4.349	428
979	158.274	159.027		0.16	0.16	1.34	1.07	0.26	81	80	69	1.99	1.40	74	0.016	103	102	76.1	-0.02	0.48		98.1	164.7	162.4	66.2	164.3	99	70	70	69		1.001	4.026	395
980	158.435	159.189		0.16	0.16	1.34	1.07	0.26	81	81	69	1.98	1.40	74	0.017	100	100	76.0	0.09	0.44		98.0	164.5	162.2	66.2	164.2	99	70	70	69		1.001	3.702	363
981	158.596	159.351		0.16	0.16	1.34	1.07	0.26	81	81	69	1.99	1.40	74	0.014	110	110	76.1	-0.11	0.44		97.8	164.3	162.1	66.2	164.0	100	70	70	69		1.001	3.699	362
982	158.757	159.512		0.16	0.16	1.34	1.07	0.26	81	81	69	2.00	1.40	74	0.015	106	106	76.0	0.12	0.48		97.7	164.2	161.9	66.2	163.9	98	70	70	69		1.001	4.025	394

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
983	158.918	159.674		0.16	0.16	1.34	1.07	0.26	81	81	69	1.98	1.40	74	0.016	103	103	76.1	-0.08	0.48		97.5	163.9	161.7	66.2	163.7	99	70	70	69		1.001	4.030	393
984	159.080	159.836		0.16	0.16	1.34	1.07	0.26	81	81	69	1.99	1.40	74	0.016	103	103	76.1	-0.04	0.48		97.4	163.9	161.7	66.2	163.6	130	70	70	69		1.001	4.025	393
985	159.241	159.997		0.16	0.16	1.33	1.06	0.26	81	81	69	1.99	1.40	78	0.017	100	100	76.0	0.11	0.46		97.1	163.6	161.4	66.1	163.3	118	70	71	69		1.001	3.866	376
986	159.402	160.159		0.16	0.16	1.34	1.07	0.26	81	81	69	1.99	1.40	75	0.015	106	106	76.0	0.01	0.44		97.0	163.5	161.2	66.2	163.2	115	70	71	69		1.001	3.704	360
987	159.562	160.320		0.16	0.16	1.34	1.07	0.26	81	81	69	1.99	1.40	74	0.015	105	106	76.1	-0.05	0.46		96.9	163.3	161.1	66.2	163.1	113	70	71	69		1.001	3.863	375
988	159.723	160.483		0.16	0.16	1.33	1.07	0.26	81	81	69	2.00	1.40	74	0.017	100	100	75.9	0.13	0.46		96.7	163.2	160.9	66.2	162.8	110	70	71	69		1.001	3.864	374
989	159.884	160.644		0.16	0.16	1.33	1.06	0.26	81	81	69	1.99	1.40	74	0.016	103	102	76.0	-0.07	0.41		96.6	163.0	160.8	66.2	162.7	109	70	71	69		1.001	3.386	327
990	160.045	160.806		0.16	0.16	1.33	1.07	0.26	81	81	69	2.00	1.40	74	0.018	97	97	75.9	0.13	0.48		96.4	162.9	160.7	66.2	162.6	108	70	71	69		1.001	4.032	389
991	160.206	160.967		0.16	0.16	1.33	1.07	0.26	81	81	69	1.98	1.40	75	0.015	106	106	75.8	0.10	0.43		96.3	162.7	160.5	66.2	162.5	107	70	71	69		1.001	3.547	342
992	160.367	161.130		0.16	0.16	1.33	1.07	0.26	81	81	69	1.99	1.40	75	0.018	97	98	75.9	-0.12	0.52		96.0	162.5	160.3	66.2	162.2	106	70	71	69		1.001	4.349	418
993	160.529	161.291		0.16	0.16	1.33	1.07	0.26	81	81	69	1.98	1.40	75	0.017	100	99	75.9	-0.02	0.48		96.0	162.5	160.3	66.2	162.2	105	70	71	69		1.001	4.029	387
994	160.690	161.453		0.16	0.16	1.33	1.07	0.26	81	81	69	1.99	1.40	75	0.017	100	100	75.9	0.01	0.47		95.8	162.3	160.2	66.3	162.0	104	70	71	69		1.001	3.948	378
995	160.851	161.614		0.16	0.16	1.33	1.07	0.26	81	81	69	1.99	1.40	75	0.016	103	102	76.0	-0.09	0.41		95.5	162.1	160.1	66.3	161.8	103	70	71	69		1.001	3.389	324
996	161.012	161.777		0.16	0.16	1.33	1.07	0.26	81	81	69	1.99	1.40	75	0.017	100	100	75.9	0.10	0.43		95.4	162.0	159.9	66.3	161.7	103	70	71	69		1.001	3.544	338
997	161.173	161.938		0.16	0.16	1.33	1.07	0.26	81	81	69	1.98	1.40	75	0.015	106	106	75.9	-0.02	0.44		95.1	161.8	159.7	66.4	161.5	101	70	71	69		1.001	3.702	352
998	161.334	162.099		0.16	0.16	1.33	1.07	0.26	81	81	69	2.00	1.40	75	0.018	97	96	75.9	0.04	0.50		95.0	161.7	159.6	66.4	161.4	101	70	71	69		1.001	4.188	398
999	161.494	162.261		0.16	0.16	1.33	1.07	0.26	81	81	69	1.99	1.40	75	0.016	102	103	76.0	-0.10	0.41		94.7	161.5	159.4	66.5	161.2	100	70	71	69		1.001	3.379	320
1000	161.655	162.424		0.16	0.16	1.33	1.07	0.26	81	81	69	1.99	1.40	74	0.017	100	100	75.8	0.15	0.45		94.5	161.3	159.2	66.5	161.0	100	71	71	69		1.001	3.705	350
1001	161.816	162.585		0.16	0.16	1.33	1.06	0.26	81	81	69	1.98	1.40	74	0.016	103	102	76.0	-0.15	0.44		94.3	161.2	159.1	66.6	160.8	100	71	71	69		1.001	3.702	349
1002	161.978	162.746		0.16	0.16	1.33	1.07	0.26	81	81	70	1.98	1.40	75	0.016	103	102	75.9	0.05	0.46		94.2	161.1	159.0	66.6	160.8	99	71	71	70		1.001	3.864	365
1003	162.139	162.908		0.16	0.16	1.33	1.07	0.26	81	81	69	2.00	1.40	75	0.018	97	97	76.1	-0.11	0.41		94.1	160.9	158.8	66.6	160.6	123	71	71	69		1.001	3.380	318
1004	162.300	163.070		0.16	0.16	1.32	1.06	0.26	81	81	69	2.00	1.50	81	0.017	100	100	76.0	0.10	0.45		93.8	160.7	158.7	66.6	160.4	114	71	72	69		1.001	3.706	348
1005	162.461	163.231		0.16	0.16	1.33	1.06	0.26	81	81	69	1.99	1.40	81	0.019	95	94	75.8	0.14	0.44		93.7	160.6	158.5	66.6	160.3	117	71	72	69		1.001	3.702	347
1006	162.621	163.392		0.16	0.16	1.33	1.07	0.26	81	81	69	2.01	1.40	81	0.017	100	100	75.6	0.17	0.46		93.6	160.4	158.4	66.6	160.2	129	71	72	69		1.001	3.814	357
1007	162.782	163.554		0.16	0.16	1.32	1.06	0.26	81	81	69	1.99	1.40	81	0.017	100	100	75.4	0.20	0.43		93.4	160.3	158.3	66.6	160.0	138	71	72	69		1.001	3.543	331
1008	162.943	163.715		0.16	0.16	1.33	1.06	0.26	81	81	69	1.99	1.40	81	0.018	97	97	75.4	0.02	0.50		93.2	160.1	158.1	66.6	159.8	145	71	72	69		1.001	4.148	387
1009	163.103	163.877		0.16	0.16	1.34	1.06	0.26	81	81	70	2.00	1.40	82	0.016	103	104	75.4	0.04	0.45		93.0	159.9	157.9	66.6	159.6	151	71	72	70		1.001	3.704	345
1010	163.265	164.038		0.16	0.16	1.33	1.07	0.26	81	81	70	1.99	1.40	82	0.017	101	100	75.1	0.25	0.44		93.0	159.9	157.9	66.6	159.6	156	72	72	70		1.001	3.704	345
1011	163.425	164.200		0.16	0.16	1.33	1.07	0.26	81	81	70	2.00	1.40	83	0.016	103	104	75.2	-0.08	0.43		92.9	159.7	157.8	66.6	159.5	161	72	72	70		1.001	3.542	329
1012	163.586	164.361		0.16	0.16	1.33	1.06	0.26	81	81	70	2.00	1.40	84	0.018	98	97	74.8	0.42	0.44		92.8	159.7	157.7	66.6	159.4	166	72	72	70		1.001	3.698	343
1013	163.747	164.522		0.16	0.16	1.33	1.07	0.26	81	81	70	1.98	1.40	84	0.015	107	107	74.6	0.20	0.50		92.8	159.7	157.6	66.6	159.4	170	72	73	70		1.001	4.184	389
1014	163.908	164.683		0.16	0.16	1.34	1.06	0.26	81	81	70	2.00	1.40	85	0.017	101	100	74.4	0.23	0.41		92.9	159.8	157.7	66.6	159.5	174	72	73	70		1.001	3.382	315
1015	164.069	164.845		0.16	0.16	1.34	1.07	0.26	81	81	70	1.99	1.40	85	0.017	101	101	74.3	0.04	0.46		93.0	159.9	157.8	66.6	159.5	177	72	73	70		1.001	3.862	359
1016	164.230	165.006		0.16	0.16	1.34	1.06	0.26	81	81	70	2.01	1.40	86	0.016	104	103	74.0	0.37	0.46		93.2	160.1	158.0	66.5	159.7	182	72	73	70		1.001	3.864	360
1017	164.390	165.167		0.16	0.16	1.33	1.07	0.26	81	81	70	2.02	1.50	87	0.017	100	100	73.4	0.54	0.52		93.5	160.5	158.4	66.5	160.0	189	73	73	70		1.001	4.349	407
1018	164.551	165.329		0.16	0.16	1.33	1.06	0.26	81	81	70	2.01	1.50	89	0.017	101	101	73.3	0.08	0.44		94.0	160.9	158.7	66.5	160.4	196	73	73	70		1.001	3.702	348
1019	164.711	165.489		0.16	0.16	1.33	1.06	0.26	81	81	70	2.03	1.50	90	0.017	100	100	72.8	0.50	0.44		94.4	161.4	159.2	66.5	160.8	202	73	74	70		1.001	3.704	350
1020	164.871	165.649		0.16	0.16	1.32	1.06	0.26	81	81	70	2.05	1.50	91	0.018	98	97	72.3	0.52	0.41		95.0	162.1	159.9	66.5	161.5	208	73	74	70		1.001	3.388	322
1021	165.031	165.810		0.16	0.16	1.31	1.05	0.26	81	81	70	2.04	1.50	92	0.017	101	101	72.0	0.27	0.48		95.8	162.6	160.4	66.4	162.2	214	74	74	70		1.001	4.022	386
1022	165.190	165.970		0.16	0.16	1.30	1.05	0.26	81	81	70	2.07	1.50	93	0.017	100	100	71.5	0.51	0.46		96.3	163.4	161.1	66.4	162.7	219	74	74	70		1.001	3.866	373
1023	165.350	166.130		0.16	0.16	1.34	1.07	0.26	81	81	70	2.10	1.50	93	0.017	101	100	71.0	0.59	0.44		97.0	164.1	161.9	66.4	163.4	225	74	75	70		1.001	3.704	360
1024	165.510	166.291		0.16	0.16	1.33	1.07	0.26	82	81	70	2.12	1.50	95	0.018	98	98	70.4	0.53	0.42		97.8	164.8	162.5	66.4	164.2	233	74	75	70		1.001	3.510	344
1025	165.671	166.453		0.16	0.16	1.33	1.06	0.26	81	81	70	2.14	1.50	96	0.017	102	102	69.7	0.71	0.56		98.6	165.8	163.0	66.4	165.0	243	75	75	70		1.001	4.668	461
1026	165.831	166.613		0.16	0.16	1.33	1.06	0.26	82	81	70	2.14	1.60	98	0.017	101	101	69.3	0.43	0.64		99.7	166.6	163.4	66.3	166.0	254	75	76	70		1.001	5.317	530
1027	165.992	166.773		0.16	0.16	1.33	1.06	0.26	82	81	70	2.15	1.60	101	0.016	105	104	68.5	0.75	0.58		100.7	167.7	164.4	66.3	166.9	267	75	76	70		1.001	4.828	487
1028	166.151	166.934		0.16	0.16	1.33	1.06	0.26	82	81	70	2.16	1.60	103	0.017	101	102	67.9	0.64	0.60		101.9	168.9	165.6	66.2	168.1	278	76	77	70		1.001	4.988	509
1029	166.311	167.094		0.16	0.16	1.33	1.05	0.26	82	81	70	2.17	1.60	105	0.017	102	101	67.1	0.76	0.62		103.3	170.0	166.9	66.0	169.3	286	76	78	70		1.001	5.150	533
1030	166.471	167.253		0.16	0.16	1.32	1.05	0.26	82	81	70	2.18	1.60	107	0.017	102	101	66.4	0.74	0.58		104.8	171.3	168.1	65.9	170.7	293	77	78	70		1.001	4.830	507
1031	166.630	167.414		0.16	0.16	1.32	1.05	0.26	82	82	70	2.19	1.60	108	0.018	98	99	65.4	0.99	0.46		105.9	172.8	170.5	65.9	171.8	299	77	79	70		1.001	3.862	410
1032	166.790	167.572		0.16	0.16	1.32	1.05	0.26	82	81	70	2.19	1.60	110	0.017	102	101	64.7	0.71	0.46		107.3	174.4	172.0	65.9	173.2	306	78	79	70		1.001	3.861	415
1033	166.949	167.732		0.16	0.16	1.32	1.04	0.26	82	82	70	2.20	1.60	111	0.018	99	99	64.1	0.63	0.45		108.9	175.9	173.5	66.0	174.9	310	78	80	70		1.001	3.705	404
1034	167.108	167.891		0.16	0.16	1.31	1.04	0.26	82	82	70	2.21	1.60	112	0.017	102	101	63.2	0.90	0.43		110.2	177.4	175.0	66.1	176.3	315	79	80	70		1.001	3.574	394
1035	167.267	168.049		0.16	0.16	1.30	1.04	0.26	82	82	70	2.20	1.60	113	0.017	102	101	62.6	0.60	0.37		111.4	178.8	176.2	66.2	177.6	319	79	80	70		1.001	3.081	344
1036	167.425	168.208		0.16	0.16	1.31	1.04	0.26	82	82	70	2.22	1.60	114	0.017	101	101	62.0	0.59	0.39		112.9	180.2	177.6	66.3	179.2	322	79	81	70		1.001	3.256	368
1037	167.583	168.367		0.16	0.16	1.30	1.03	0.26	82	82	70	2.21	1.60	114	0.017	101	101	61.1	0.91	0.43		114.1	181.7	179.1	66.4	180.5	317	80	81	70		1.001	3.542	405
1038	167.742	168.525		0.16	0.16	1.31	1.04	0.26	82	82	70	2.20	1.60	95	0.019	95	94	60.7	0.39	0.43		115.5	182.8	180.3	66.4	181.9	282	78	78	70		1.001	3.545	410
1039	167.901	168.685		0.16	0.16	1.31	1.03	0.26	82	82	69	2.18	1.60	89	0.017	99	100	60.5	0.17	0.62		116.2	183.1	179.4	66.4	182.7	262	77	78	69		1.001	5.157	600
1040	168.060	168.844		0.16	0.16	1.15	1.03	0.26	82	82	69	2.42	1.60	88	0.017	99	99	60.4	0.13	0.58		116.5	183.3	179.6	66.4	182.9	248	77	78	69		1.001	4.835	564
1041	168.221	169.006		0.16	0.16	1.33	1.09	0.26	82	82	70	2.20	1.60	86	0.017	100	101	60.0	0.40	0.64		116.9	183.6	179.9	66.3	183.2	238	77	77	70		1.001	5.318	622
1042	168.382	169.169		0.16	0.16	1.34	1.09	0.26	82	82	70	2.20	1.60	83	0.017	100	101	60.0	-0.02	0.60		117.4	183.9	180.2	66.0	183.4	232	76	76	70		1.001	4.993	587
1043	168.543	169.333		0.16	0.16	1.33	1.09	0.26	82	82	70	2.19	1.60	81	0.016	103	105	59.8	0.24	0.62		117.9	183.9	180.3	65.7	183.6	225	75	76	70		1.001	5.156	608
1044	168.705	169.496		0.16	0.16	1.34	1.09	0.26	82	82	70	2.20	1.60	80	0.017	100	101	59.7	0.07	0.60		118.2	184.0	180.3	65.5	183.6	219	74	75	70		1.001	4.996	591

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1045	168.866	169.659		0.16	0.16	1.34	1.09	0.26	82	82	70	2.18	1.60	79	0.018	97	98	59.6	0.07	0.61		118.4	184.2	180.5	65.3	183.7	214	74	74	70		1.001	5.065	600
1046	169.027	169.822		0.16	0.16	1.34	1.10	0.26	82	82	70	2.17	1.60	78	0.016	103	104	59.6	-0.02	0.62		118.7	184.0	180.2	65.0	183.7	210	74	74	70		1.001	5.152	612
1047	169.189	169.986		0.16	0.16	1.33	1.09	0.26	82	82	70	2.18	1.60	78	0.018	97	98	59.4	0.23	0.60		118.8	184.0	180.4	64.8	183.6	206	73	74	70		1.001	4.995	594
1048	169.350	170.150		0.16	0.16	1.34	1.10	0.26	82	82	70	2.17	1.60	78	0.017	100	101	59.4	-0.01	0.56		118.8	184.0	180.6	64.7	183.6	202	73	74	70		1.001	4.672	556
1049	169.511	170.315		0.16	0.16	1.33	1.10	0.26	82	82	70	2.18	1.60	77	0.016	103	105	59.5	-0.05	0.52		119.0	184.0	180.7	64.6	183.6	199	73	74	70		1.001	4.348	518
1050	169.673	170.479		0.16	0.16	1.33	1.10	0.26	82	82	70	2.16	1.60	77	0.018	97	98	59.3	0.11	0.50		119.1	184.0	180.6	64.5	183.6	196	73	74	70		1.001	4.188	499
1051	169.835	170.643		0.16	0.16	1.34	1.10	0.26	82	82	70	2.17	1.60	76	0.017	100	101	59.2	0.15	0.52		119.1	183.9	180.6	64.4	183.5	193	73	74	70		1.001	4.352	519
1052	169.996	170.808		0.16	0.16	1.35	1.11	0.26	82	82	70	2.17	1.60	75	0.015	106	108	59.3	-0.07	0.56		119.1	183.9	180.6	64.4	183.5	190	73	73	70		1.001	4.674	558
1053	170.158	170.972		0.16	0.16	1.34	1.11	0.26	82	82	70	2.15	1.60	74	0.015	106	107	59.2	0.03	0.48		119.1	183.8	180.9	64.3	183.4	186	73	73	70		1.001	4.029	480
1054	170.320	171.137		0.16	0.16	1.35	1.11	0.26	82	82	70	2.15	1.60	74	0.015	106	108	59.1	0.16	0.48		119.0	183.8	181.0	64.3	183.3	183	72	73	70		1.001	4.018	479
1055	170.482	171.302		0.16	0.16	1.33	1.11	0.26	82	82	70	2.15	1.60	74	0.018	97	99	59.2	-0.08	0.50		119.1	183.8	181.0	64.2	183.3	180	72	73	70		1.001	4.185	499
1056	170.643	171.467		0.16	0.17	1.35	1.10	0.26	82	82	70	2.15	1.60	73	0.016	102	104	59.2	-0.04	0.51		119.2	183.7	180.9	64.2	183.3	177	72	73	70		1.001	4.272	510
1057	170.805	171.633		0.16	0.17	1.35	1.11	0.26	82	82	69	2.15	1.60	73	0.018	97	99	59.1	0.12	0.03		118.7	183.8	182.5	64.2	182.9	175	72	73	69		1.001	0.262	31
1058	170.967	171.797		0.16	0.16	1.35	1.11	0.26	82	82	69	2.17	1.60	73	0.015	106	107	59.1	-0.01	0.25		119.0	184.0	182.8	64.2	183.2	172	72	72	69		1.001	2.120	253
1059	171.129	171.961		0.16	0.16	1.34	1.11	0.26	82	82	69	2.17	1.60	73	0.018	97	98	59.1	-0.02	0.03		118.8	184.1	182.9	64.3	183.2	169	72	72	69		1.001	0.261	31
1060	171.290	172.126		0.16	0.16	1.34	1.11	0.26	82	82	69	2.16	1.60	73	0.016	102	104	59.1	0.06	0.25		118.8	184.2	183.0	64.4	183.2	167	72	72	69		1.001	2.115	251
1061	171.452	172.291		0.16	0.16	1.34	1.11	0.26	82	82	69	2.15	1.60	73	0.017	100	101	59.1	-0.01	0.25		118.8	184.2	183.0	64.4	183.2	164	71	72	69		1.001	2.112	251
1062	171.614	172.456		0.16	0.16	1.35	1.11	0.26	82	82	69	2.16	1.60	73	0.017	100	101	59.1	-0.07	0.03		119.0	184.2	183.1	64.5	183.5	162	71	72	69		1.001	0.262	31
1063	171.776	172.621		0.16	0.17	1.35	1.11	0.26	82	82	69	2.16	1.60	73	0.017	100	101	59.1	0.08	0.25		118.6	184.3	183.0	64.5	183.1	160	71	72	69		1.001	2.115	251
1064	171.938	172.786		0.16	0.16	1.35	1.11	0.26	82	82	69	2.16	1.60	73	0.016	103	104	59.2	-0.10	0.24		118.9	184.2	182.7	64.5	183.4	158	71	72	69		1.001	1.962	233
1065	172.099	172.951		0.16	0.16	1.35	1.11	0.26	82	82	69	2.16	1.60	72	0.016	102	104	59.1	0.02	0.39		119.0	184.2	182.2	64.5	183.5	156	71	72	69		1.001	3.228	385
1066	172.261	173.116		0.16	0.17	1.35	1.10	0.26	82	82	69	2.16	1.60	72	0.017	100	101	59.0	0.16	0.37		119.2	184.1	182.1	64.4	183.6	155	71	71	69		1.001	3.063	365
1067	172.423	173.280		0.16	0.16	1.35	1.11	0.26	82	82	69	2.16	1.60	72	0.016	103	104	59.0	-0.02	0.39		119.0	184.0	181.9	64.4	183.4	152	71	71	69		1.001	3.221	384
1068	172.585	173.445		0.16	0.16	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.016	103	104	59.0	0.01	0.41		119.0	183.9	181.9	64.3	183.3	150	71	71	69		1.001	3.389	404
1069	172.747	173.609		0.16	0.16	1.35	1.11	0.26	82	82	69	2.16	1.60	72	0.016	103	104	59.1	-0.09	0.37		119.0	183.9	181.8	64.3	183.3	148	71	71	69		1.001	3.060	364
1070	172.909	173.775		0.16	0.17	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.017	100	102	59.1	0.00	0.37		119.1	183.8	181.7	64.3	183.4	147	70	71	69		1.001	3.056	364
1071	173.071	173.939		0.16	0.16	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.017	100	101	59.1	-0.02	0.37		119.0	183.7	181.6	64.2	183.2	146	70	71	69		1.001	3.069	366
1072	173.233	174.105		0.16	0.17	1.35	1.11	0.26	82	82	69	2.16	1.60	72	0.015	106	108	59.0	0.08	0.41		118.8	183.7	181.6	64.2	183.1	145	70	71	69		1.001	3.445	410
1073	173.395	174.270		0.16	0.17	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.016	103	104	59.0	0.03	0.36		118.8	183.6	181.5	64.2	183.0	143	70	71	69		1.001	2.962	352
1074	173.557	174.435		0.16	0.16	1.35	1.10	0.26	82	82	69	2.15	1.60	72	0.016	103	104	59.2	-0.22	0.39		118.8	183.5	181.4	64.2	183.0	143	70	71	69		1.001	3.217	383
1075	173.718	174.599		0.16	0.16	1.35	1.11	0.26	82	82	69	2.16	1.60	72	0.017	99	101	59.0	0.18	0.39		118.8	183.5	181.4	64.2	183.0	141	70	71	69		1.001	3.226	384
1076	173.880	174.764		0.16	0.17	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.018	97	98	59.0	0.03	0.41		118.6	183.3	181.2	64.2	182.7	141	70	70	69		1.001	3.389	402
1077	174.042	174.929		0.16	0.16	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.016	103	104	59.1	-0.13	0.37		118.5	183.2	181.2	64.1	182.6	140	70	70	69		1.001	3.064	363
1078	174.204	175.094		0.16	0.16	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.017	100	101	59.0	0.10	0.39		118.5	183.2	181.1	64.1	182.6	138	70	70	69		1.001	3.225	382
1079	174.366	175.259		0.16	0.16	1.35	1.11	0.26	82	82	69	2.16	1.60	72	0.016	103	104	59.2	-0.14	0.37		118.5	183.1	181.0	64.1	182.6	137	70	70	69		1.001	3.063	363
1080	174.528	175.424		0.16	0.17	1.35	1.11	0.26	82	82	68	2.15	1.60	72	0.017	100	101	59.0	0.13	0.35		118.3	183.0	180.9	64.1	182.4	137	70	70	68		1.001	2.903	344
1081	174.690	175.589		0.16	0.16	1.35	1.11	0.26	82	82	68	2.15	1.60	72	0.018	97	98	59.1	-0.02	0.35		118.3	182.9	180.8	64.1	182.3	137	70	70	68		1.001	2.905	344
1082	174.852	175.754		0.16	0.16	1.35	1.11	0.26	82	82	69	2.15	1.60	72	0.016	103	104	59.2	-0.15	0.35		118.3	182.8	180.7	64.0	182.3	135	70	70	69		1.001	2.905	344
1083	175.014	175.919		0.16	0.17	1.34	1.11	0.26	82	81	68	2.15	1.60	71	0.018	97	98	59.1	0.12	0.35		118.1	182.8	180.8	64.0	182.1	135	70	70	68		1.001	2.902	343
1084	175.176	176.084		0.16	0.16	1.35	1.11	0.26	82	81	68	2.16	1.60	72	0.017	100	101	59.0	0.13	0.33		118.3	182.6	180.6	64.0	182.2	134	70	70	68		1.001	2.748	325
1085	175.338	176.249		0.16	0.16	1.35	1.11	0.26	82	81	68	2.15	1.60	71	0.017	100	101	59.2	-0.24	0.37		118.0	182.5	180.5	63.9	181.9	135	69	70	68		1.001	3.064	362
1086	175.500	176.414		0.16	0.16	1.35	1.12	0.26	82	81	68	2.16	1.60	71	0.017	100	101	59.0	0.17	0.37		118.2	182.4	180.4	63.9	182.1	133	69	70	68		1.001	3.072	364
1087	175.662	176.579		0.16	0.17	1.35	1.11	0.26	82	81	68	2.15	1.60	71	0.016	103	104	59.2	-0.17	0.35		117.8	182.3	180.3	63.9	181.7	133	69	70	68		1.001	2.908	343
1088	175.824	176.744		0.16	0.16	1.35	1.12	0.26	82	81	68	2.16	1.60	71	0.017	100	101	59.2	0.04	0.37		117.8	182.2	180.2	63.8	181.7	133	69	70	68		1.001	3.093	365
1089	175.986	176.910		0.16	0.17	1.35	1.11	0.26	82	81	68	2.14	1.60	71	0.015	106	109	59.2	-0.05	0.37		117.9	182.2	180.1	63.8	181.7	132	69	70	68		1.001	3.070	362
1090	176.149	177.074		0.16	0.16	1.35	1.11	0.26	82	81	68	2.16	1.60	71	0.015	107	107	59.2	0.05	0.37		117.6	182.0	180.0	63.8	181.4	132	69	70	68		1.001	3.067	361
1091	176.310	177.239		0.16	0.16	1.35	1.11	0.26	82	81	68	2.14	1.60	71	0.015	105	108	59.1	0.04	0.37		117.6	182.0	179.9	63.8	181.4	132	69	70	68		1.001	3.065	361
1092	176.472	177.404		0.16	0.16	1.33	1.10	0.26	82	81	68	2.20	1.60	82	0.017	101	102	59.0	0.10	0.33		117.6	181.9	179.8	63.8	181.4	144	70	71	68		1.001	2.746	323
1093	176.633	177.568		0.16	0.16	1.34	1.10	0.26	82	81	68	2.18	1.60	74	0.014	109	111	58.8	0.18	0.35		117.4	181.7	179.7	63.8	181.3	140	70	70	68		1.001	2.904	341
1094	176.795	177.732		0.16	0.16	1.35	1.12	0.26	81	81	68	2.16	1.60	72	0.017	100	101	59.1	-0.22	0.43		117.2	181.6	179.5	63.8	181.0	135	69	69	68		1.001	3.552	417
1095	176.957	177.897		0.16	0.16	1.35	1.12	0.26	81	81	68	2.15	1.60	71	0.015	106	108	58.9	0.14	0.33		117.2	181.6	179.6	63.9	181.1	132	69	69	68		1.001	2.750	323
1096	177.119	178.063		0.16	0.17	1.35	1.12	0.26	81	81	68	2.15	1.60	71	0.019	94	96	58.8	0.08	0.37		117.0	181.4	179.3	63.9	180.8	131	69	69	68		1.001	3.065	359
1097	177.281	178.229		0.16	0.17	1.35	1.12	0.26	82	81	68	2.14	1.60	71	0.017	100	102	58.9	-0.01	0.41		116.8	181.4	179.3	63.9	180.7	129	69	69	68		1.001	3.382	396
1098	177.443	178.393		0.16	0.16	1.35	1.12	0.26	81	81	68	2.15	1.60	71	0.017	100	101	59.0	-0.18	0.33		116.8	181.2	179.1	63.9	180.7	128	69	69	68		1.001	2.744	321
1099	177.612	178.559		0.17	0.17	1.37	1.11	0.26	81	81	68	2.16	1.60	71	0.017	104	102	59.0	0.08	0.33		116.5	181.1	179.1	64.0	180.5	127	69	69	68		1.001	2.757	322
1100	177.773	178.722		0.16	0.16	1.34	1.08	0.26	81	81	68	2.13	1.50	71	0.017	99	100	58.9	0.10	0.39		116.6	181.0	179.0	64.0	180.6	126	69	69	68		1.001	3.228	377
1101	177.935	178.885		0.16	0.16	1.34	1.08	0.26	81	81	68	2.13	1.50	71	0.016	103	103	58.8	0.02	0.37		116.3	181.0	178.9	64.0	180.4	126	69	69	68		1.001	3.051	355
1102	178.096	179.048		0.16	0.16	1.34	1.09	0.26	81	81	68	2.13	1.50	71	0.015	106	107	58.9	-0.05	0.41		116.2	180.8	178.8	64.0	180.2	126	69	69	68		1.001	3.380	393
1103	178.257	179.212		0.16	0.16	1.34	1.08	0.26	81	81	68	2.13	1.50	71	0.017	99	101	58.8	0.08	0.35		116.1	180.7	178.7	64.1	180.2	126	69	69	68		1.001	2.907	338
1104	178.418	179.374		0.16	0.16	1.34	1.08	0.26	81	81	68	2.13	1.50	71	0.017	99	99	58.9	-0.10	0.38		116.0	180.6	178.6	64.1	180.1	126	69	69	68		1.001	3.127	363
1105	178.580	179.537		0.16	0.16	1.34	1.08	0.26	81	81	68	2.14	1.50	71	0.018	97	97	58.9	-0.01	0.40		115.9	180.5	178.4	64.1	179.9	125	69	69	68		1.001	3.357	389
1106	178.741	179.700		0.16	0.16	1.34	1.09	0.26	81	81	68	2.13	1.50	71	0.016	102	103	59.1	-0.16	0.35		115.8	180.4	178.3	64.1	179.9	124	69	69	68		1.001	2.907	337

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1107	178.902	179.863		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	71	0.017	99	100	59.0	0.07	0.39		115.8	180.4	178.4	64.1	179.9	123	69	69	68		1.001	3.225	374
1108	179.063	180.027		0.16	0.16	1.34	1.09	0.26	81	81	68	2.13	1.50	71	0.018	96	98	59.0	-0.03	0.37		115.5	180.2	178.2	64.1	179.6	125	69	69	68		1.001	3.065	354
1109	179.225	180.189		0.16	0.16	1.33	1.08	0.26	81	81	68	2.14	1.50	71	0.018	97	97	59.0	0.07	0.39		115.6	180.1	178.1	64.1	179.7	124	69	69	68		1.001	3.222	373
1110	179.386	180.352		0.16	0.16	1.33	1.09	0.26	81	81	68	2.13	1.50	71	0.018	96	97	59.0	-0.04	0.37		115.2	180.0	177.9	64.1	179.3	123	69	69	68		1.001	3.067	354
1111	179.548	180.515		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	71	0.017	100	100	59.0	0.01	0.35		115.4	179.9	177.9	64.1	179.5	123	69	69	68		1.001	2.911	336
1112	179.709	180.678		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	71	0.015	106	107	59.0	-0.04	0.35		115.1	179.7	177.7	64.1	179.2	121	69	69	68		1.001	2.906	335
1113	179.870	180.842		0.16	0.16	1.34	1.08	0.26	81	81	68	2.13	1.50	71	0.015	106	107	59.0	0.05	0.37		115.0	179.7	177.7	64.1	179.1	121	69	69	68		1.001	3.070	354
1114	180.032	181.005		0.16	0.16	1.34	1.08	0.26	81	81	68	2.13	1.50	71	0.016	103	103	58.8	0.17	0.37		115.0	179.6	177.6	64.1	179.1	121	69	69	68		1.001	3.066	353
1115	180.193	181.167		0.16	0.16	1.33	1.09	0.26	81	81	68	2.12	1.50	71	0.017	99	99	59.0	-0.22	0.56		114.9	179.2	176.0	64.0	178.9	121	69	69	68		1.001	4.680	538
1116	180.354	181.330		0.16	0.16	1.33	1.08	0.26	81	81	68	2.12	1.50	70	0.017	99	100	58.9	0.12	0.52		114.8	178.9	175.7	63.9	178.7	121	69	69	68		1.001	4.363	501
1117	180.515	181.493		0.16	0.16	1.33	1.09	0.26	81	81	68	2.13	1.50	70	0.016	102	103	59.1	-0.19	0.63		114.6	178.8	175.5	63.8	178.4	121	69	69	68		1.001	5.241	601
1118	180.677	181.657		0.16	0.16	1.33	1.09	0.26	81	81	68	2.13	1.50	70	0.017	100	101	59.1	0.02	0.58		114.5	178.5	175.3	63.7	178.3	121	69	69	68		1.001	4.845	555
1119	180.838	181.819		0.16	0.16	1.33	1.08	0.26	81	81	67	2.12	1.50	70	0.018	96	97	59.0	0.06	0.54		114.4	178.4	175.2	63.7	178.1	121	69	69	67		1.001	4.518	517
1120	180.999	181.982		0.16	0.16	1.33	1.08	0.26	81	81	67	2.13	1.50	70	0.015	106	106	59.2	-0.16	0.54		114.1	178.0	174.8	63.6	177.7	120	69	69	67		1.001	4.523	517
1121	181.161	182.145		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	70	0.017	100	100	59.1	0.06	0.60		113.9	177.9	174.7	63.6	177.5	119	69	69	68		1.001	5.005	571
1122	181.322	182.308		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	70	0.018	96	97	59.3	-0.14	0.62		113.8	177.6	174.4	63.5	177.3	121	69	69	68		1.001	5.167	589
1123	181.483	182.471		0.16	0.16	1.32	1.07	0.26	81	81	67	2.17	1.60	79	0.018	97	98	59.0	0.24	0.58		113.7	177.4	174.0	63.4	177.2	133	69	70	67		1.001	4.845	552
1124	181.643	182.633		0.16	0.16	1.33	1.08	0.26	81	81	68	2.14	1.50	72	0.016	102	103	59.1	-0.08	0.52		113.4	177.1	173.9	63.4	176.8	129	68	69	68		1.001	4.353	494
1125	181.804	182.796		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	71	0.018	96	97	58.9	0.23	0.56		113.5	177.0	173.7	63.3	176.8	126	68	69	68		1.001	4.683	532
1126	181.965	182.959		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	71	0.017	99	100	59.1	-0.27	0.60		113.2	176.7	173.4	63.2	176.4	123	69	69	68		1.001	5.000	567
1127	182.126	183.122		0.16	0.16	1.33	1.08	0.26	81	81	68	2.12	1.50	70	0.017	99	100	59.1	0.09	0.60		113.1	176.5	173.2	63.2	176.2	121	69	69	68		1.001	5.000	566
1128	182.288	183.285		0.16	0.16	1.34	1.08	0.26	81	81	68	2.12	1.50	70	0.017	100	100	59.1	-0.07	0.58		112.8	176.2	172.9	63.2	176.0	120	69	69	68		1.001	4.806	543
1129	182.449	183.447		0.16	0.16	1.33	1.08	0.26	81	80	68	2.12	1.50	70	0.018	96	97	59.0	0.08	0.58		112.7	176.0	172.8	63.1	175.8	119	68	69	68		1.001	4.836	546
1130	182.610	183.610		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	70	0.017	99	100	59.2	-0.11	0.56		112.3	175.9	172.5	63.1	175.4	117	68	69	68		1.001	4.680	526
1131	182.771	183.773		0.16	0.16	1.34	1.09	0.26	81	81	68	2.12	1.50	70	0.017	99	100	59.1	0.05	0.54		112.2	175.6	172.4	63.1	175.2	117	68	69	68		1.001	4.513	507
1132	182.933	183.936		0.16	0.16	1.34	1.08	0.26	81	80	68	2.12	1.50	70	0.015	106	107	59.0	0.06	0.60		112.1	175.5	172.3	63.0	175.1	116	68	69	68		1.001	5.001	561
1133	183.094	184.099		0.16	0.16	1.34	1.08	0.26	81	80	68	2.12	1.50	70	0.016	102	103	59.0	0.06	0.56		111.9	175.2	171.9	63.0	175.0	116	68	69	68		1.001	4.677	524
1134	183.255	184.262		0.16	0.16	1.34	1.09	0.26	81	80	68	2.12	1.50	70	0.016	102	103	59.0	-0.07	0.56		111.6	174.9	171.7	63.0	174.7	115	68	69	68		1.001	4.673	522
1135	183.417	184.424		0.16	0.16	1.34	1.09	0.26	81	80	68	2.12	1.50	70	0.017	100	100	59.1	-0.06	0.56		111.4	174.7	171.5	63.0	174.4	114	68	69	68		1.001	4.678	522
1136	183.578	184.587		0.16	0.16	1.34	1.08	0.26	81	80	68	2.12	1.50	70	0.017	99	100	59.1	0.01	0.56		111.3	174.6	171.5	63.0	174.3	114	68	68	68		1.001	4.670	520
1137	183.739	184.751		0.16	0.16	1.34	1.08	0.26	81	80	68	2.13	1.50	70	0.017	99	101	59.1	0.00	0.57		111.1	174.4	171.2	63.0	174.1	113	68	68	68		1.001	4.741	527
1138	183.900	184.914		0.16	0.16	1.34	1.09	0.26	81	80	68	2.13	1.50	70	0.018	96	97	59.1	0.02	0.53		110.9	174.1	170.9	63.0	173.9	113	68	68	68		1.001	4.455	495
1139	184.062	185.077		0.16	0.16	1.34	1.09	0.26	81	80	68	2.13	1.50	70	0.014	110	110	59.1	-0.06	0.58		110.6	174.0	170.8	63.0	173.6	111	68	68	68		1.001	4.834	535
1140	184.223	185.239		0.16	0.16	1.34	1.09	0.26	81	80	68	2.13	1.50	70	0.017	99	100	59.2	-0.03	0.54		110.4	173.6	170.5	63.0	173.4	113	68	68	68		1.001	4.513	499
1141	184.384	185.402		0.16	0.16	1.34	1.09	0.26	81	80	67	2.14	1.50	70	0.016	102	103	59.2	0.03	0.56		110.1	173.4	170.2	63.0	173.1	112	68	68	67		1.001	4.683	516
1142	184.545	185.567		0.16	0.17	1.34	1.09	0.26	81	80	68	2.13	1.50	70	0.017	99	101	59.2	-0.03	0.56		110.0	173.2	170.0	63.0	173.0	112	68	68	68		1.001	4.674	515
1143	184.707	185.729		0.16	0.16	1.34	1.08	0.26	81	80	68	2.13	1.50	70	0.016	103	103	59.1	0.08	0.52		109.8	172.9	169.8	63.0	172.8	112	68	68	68		1.001	4.360	479
1144	184.868	185.892		0.16	0.16	1.34	1.09	0.26	81	80	68	2.13	1.50	70	0.015	106	107	59.3	-0.17	0.58		109.5	172.8	169.7	63.0	172.5	112	68	68	68		1.001	4.845	531
1145	185.029	186.055		0.16	0.16	1.34	1.09	0.26	81	80	68	2.12	1.50	70	0.018	96	97	59.2	0.06	0.58		109.2	172.4	169.3	63.0	172.1	111	68	68	68		1.001	4.843	529
1146	185.191	186.218		0.16	0.16	1.35	1.08	0.26	81	80	67	2.13	1.50	70	0.016	103	103	59.1	0.10	0.58		109.1	172.4	169.2	63.0	172.1	110	68	68	67		1.001	4.845	529
1147	185.352	186.382		0.16	0.16	1.34	1.08	0.26	81	80	68	2.13	1.50	70	0.016	102	104	59.2	-0.11	0.56		108.9	172.1	169.0	63.0	171.9	109	68	68	68		1.001	4.681	510
1148	185.513	186.544		0.16	0.16	1.34	1.09	0.26	80	80	68	2.13	1.50	70	0.018	97	97	59.2	-0.02	0.58		108.8	172.0	168.9	63.0	171.8	109	68	68	68		1.001	4.819	525
1149	185.675	186.707		0.16	0.16	1.35	1.09	0.26	81	80	68	2.12	1.50	70	0.017	100	100	59.2	0.09	0.58		108.4	171.7	168.5	63.0	171.4	109	68	68	68		1.001	4.840	525
1150	185.836	186.870		0.16	0.16	1.34	1.09	0.26	80	80	68	2.12	1.50	70	0.016	102	103	59.2	-0.03	0.56		108.1	171.5	168.3	63.0	171.1	110	68	68	68		1.001	4.680	506
1151	185.997	187.033		0.16	0.16	1.35	1.09	0.26	80	80	68	2.12	1.50	70	0.016	102	103	59.4	-0.23	0.58		108.0	171.2	168.1	63.0	171.0	108	68	68	68		1.001	4.841	524
1152	186.159	187.197		0.16	0.16	1.34	1.09	0.26	80	80	68	2.12	1.50	70	0.018	97	98	59.2	0.15	0.60		107.8	171.0	167.9	63.0	170.8	108	68	68	68		1.001	5.003	540
1153	186.320	187.360		0.16	0.16	1.34	1.08	0.26	80	80	67	2.12	1.50	70	0.016	102	103	59.3	0.00	0.56		107.5	170.8	167.7	63.0	170.6	127	68	68	67		1.001	4.685	504
1154	186.481	187.522		0.16	0.16	1.32	1.07	0.26	80	80	67	2.15	1.60	77	0.017	100	100	59.1	0.13	0.58		107.3	170.6	167.5	63.0	170.3	124	69	69	67		1.001	4.844	520
1155	186.641	187.684		0.16	0.16	1.34	1.09	0.26	80	80	68	2.12	1.50	71	0.017	99	100	59.2	-0.04	0.54		107.0	170.4	167.3	63.0	170.0	121	68	68	68		1.001	4.520	484
1156	186.803	187.847		0.16	0.16	1.34	1.09	0.26	80	80	68	2.13	1.50	70	0.016	103	103	59.2	-0.07	0.58		106.8	170.1	167.1	63.0	169.8	118	68	68	68		1.001	4.843	518
1157	186.964	188.011		0.16	0.16	1.34	1.08	0.26	80	80	68	2.13	1.50	70	0.018	97	98	59.1	0.17	0.58		106.7	170.0	167.0	63.0	169.7	116	68	68	68		1.001	4.839	517
1158	187.125	188.174		0.16	0.16	1.34	1.08	0.26	80	80	68	2.13	1.50	70	0.015	106	107	59.2	-0.10	0.56		106.5	169.8	166.8	63.0	169.5	114	68	68	68		1.001	4.646	495
1159	187.286	188.336		0.16	0.16	1.35	1.09	0.26	80	80	68	2.12	1.50	70	0.019	94	94	59.1	0.04	0.54		106.1	169.6	166.5	63.0	169.1	112	68	68	68		1.001	4.503	478
1160	187.448	188.499		0.16	0.16	1.35	1.09	0.26	80	80	67	2.13	1.50	70	0.018	97	97	59.1	0.00	0.52		106.1	169.3	166.4	63.1	169.1	112	68	68	67		1.001	4.327	460
1161	187.609	188.663		0.16	0.16	1.34	1.09	0.26	80	80	67	2.12	1.50	70	0.018	97	98	59.1	0.02	0.56		105.9	169.2	166.2	63.1	168.9	110	68	68	67		1.001	4.680	496
1162	187.770	188.826		0.16	0.16	1.35	1.08	0.26	80	80	67	2.12	1.50	70	0.016	102	103	59.3	-0.20	0.52		105.5	169.0	166.1	63.1	168.6	110	68	68	67		1.001	4.364	461
1163	187.932	188.989		0.16	0.16	1.34	1.08	0.26	80	80	67	2.13	1.50	70	0.017	100	100	59.2	0.10	0.56		105.4	168.7	165.9	63.1	168.5	109	68	68	67		1.001	4.684	494
1164	188.093	189.151		0.16	0.16	1.35	1.08	0.26	80	80	67	2.11	1.50	70	0.018	97	97	59.2	0.02	0.58		105.2	168.6	165.7	63.1	168.3	108	68	68	67		1.001	4.842	510
1165	188.254	189.314		0.16	0.16	1.35	1.09	0.26	80	80	67	2.13	1.50	70	0.018	97	97	59.3	-0.11	0.56		104.9	168.3	165.4	63.1	168.0	108	68	68	67		1.001	4.679	491
1166	188.416	189.478		0.16	0.16	1.34	1.09	0.26	80	80	67	2.13	1.50	70	0.016	103	104	59.4	-0.06	0.60		104.7	168.1	165.2	63.1	167.8	107	68	68	67		1.001	5.000	524
1167	188.577	189.641		0.16	0.16	1.34	1.09	0.26	80	80	67	2.11	1.50	70	0.017	99	100	59.2	0.18	0.60		104.5	167.9	164.9	63.1	167.6	107	68	68	67		1.001	5.003	523
1168	188.739	189.804		0.16	0.16	1.34	1.08	0.26	80	80	67	2.13	1.50	70	0.016	103	103	59.2	-0.03	0.60		104.2	167.6	164.7	63.1	167.4	106	68	68	67		1.001	4.992	521

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1169	188.900	189.967		0.16	0.16	1.34	1.09	0.26	80	80	67	2.12	1.50	70	0.017	99	100	59.3	-0.12	0.56		104.0	167.4	164.5	63.1	167.1	106	68	68	67		1.001	4.681	488
1170	189.061	190.130		0.16	0.16	1.35	1.09	0.26	80	80	67	2.11	1.50	70	0.016	102	103	59.3	0.07	0.53		103.7	167.1	164.1	63.1	166.8	106	68	68	67		1.001	4.431	460
1171	189.223	190.293		0.16	0.16	1.34	1.09	0.26	80	80	67	2.13	1.50	70	0.019	95	95	59.2	0.04	0.51		103.6	167.0	164.0	63.1	166.7	104	68	68	67		1.001	4.221	438
1172	189.384	190.456		0.16	0.16	1.34	1.09	0.26	80	80	67	2.13	1.50	70	0.016	102	103	59.2	0.01	0.62		103.4	166.8	163.9	63.1	166.6	104	68	68	67		1.001	5.166	535
1173	189.545	190.619		0.16	0.16	1.34	1.08	0.26	80	80	67	2.12	1.50	70	0.017	99	100	59.4	-0.25	0.56		103.3	166.6	163.7	63.1	166.4	104	68	68	67		1.001	4.680	484
1174	189.706	190.782		0.16	0.16	1.34	1.08	0.26	80	80	67	2.13	1.50	70	0.017	99	100	59.5	-0.02	0.56		103.1	166.5	163.6	63.1	166.3	104	68	68	67		1.001	4.679	483
1175	189.868	190.945		0.16	0.16	1.33	1.09	0.26	80	80	67	2.11	1.50	70	0.017	100	100	59.2	0.27	0.56		102.9	166.2	163.3	63.1	166.0	103	68	68	67		1.001	4.678	482
1176	190.029	191.108		0.16	0.16	1.34	1.09	0.26	80	80	67	2.12	1.50	70	0.019	94	95	59.3	-0.09	0.60		102.7	166.0	163.1	63.1	165.8	103	68	68	67		1.001	5.001	514
1177	190.190	191.271		0.16	0.16	1.34	1.09	0.26	80	80	67	2.13	1.50	70	0.016	102	103	59.3	-0.03	0.58		102.4	165.8	162.8	63.1	165.5	103	68	68	67		1.001	4.843	497
1178	190.352	191.434		0.16	0.16	1.34	1.09	0.26	80	80	67	2.14	1.50	69	0.014	110	110	59.2	0.10	0.52		102.2	165.5	162.6	63.1	165.3	103	68	68	67		1.001	4.365	447
1179	190.513	191.597		0.16	0.16	1.35	1.09	0.26	80	80	67	2.13	1.50	70	0.015	106	107	59.3	-0.11	0.56		102.1	165.4	162.5	63.1	165.2	102	68	68	67		1.001	4.678	478
1180	190.674	191.760		0.16	0.16	1.34	1.09	0.26	80	80	67	2.12	1.50	70	0.015	106	107	59.3	0.01	0.56		101.9	165.2	162.3	63.1	165.0	102	68	68	67		1.001	4.673	477
1181	190.835	191.923		0.16	0.16	1.35	1.09	0.26	80	80	67	2.12	1.50	70	0.017	99	100	59.5	-0.15	0.59		101.6	165.0	162.2	63.1	164.7	102	68	68	67		1.001	4.929	501
1182	190.996	192.087		0.16	0.16	1.34	1.09	0.26	80	80	67	2.13	1.50	70	0.014	109	111	59.4	0.07	0.51		101.4	164.6	161.7	63.0	164.4	103	68	68	67		1.001	4.255	432
1183	191.157	192.249		0.16	0.16	1.34	1.08	0.26	80	80	67	2.11	1.50	70	0.018	97	97	59.3	0.10	0.58		101.2	164.5	161.6	63.1	164.2	102	68	68	67		1.001	4.841	490
1184	191.319	192.412		0.16	0.16	1.34	1.08	0.26	80	80	67	2.13	1.50	70	0.018	97	97	59.4	-0.12	0.56		101.1	164.4	161.5	63.0	164.1	125	68	68	67		1.001	4.683	474
1185	191.480	192.574		0.16	0.16	1.32	1.08	0.26	80	80	67	2.15	1.60	75	0.018	97	97	59.2	0.18	0.54		100.8	164.1	161.2	63.0	163.8	117	69	69	67		1.001	4.527	457
1186	191.641	192.738		0.16	0.16	1.33	1.08	0.26	80	80	67	2.14	1.50	71	0.018	97	98	59.1	0.13	0.52		100.6	163.9	161.2	63.0	163.7	113	68	68	67		1.001	4.361	439
1187	191.802	192.901		0.16	0.16	1.33	1.08	0.26	80	80	67	2.12	1.50	70	0.017	99	100	59.2	-0.13	0.52		100.4	163.7	161.0	63.0	163.4	111	68	68	67		1.001	4.357	438
1188	191.963	193.063		0.16	0.16	1.33	1.09	0.26	80	80	67	2.13	1.50	70	0.017	99	100	59.2	0.00	0.60		100.2	163.4	160.7	63.0	163.3	109	68	68	67		1.001	5.000	502
1189	192.124	193.226		0.16	0.16	1.33	1.09	0.26	80	80	67	2.13	1.50	70	0.015	106	107	59.2	-0.02	0.54		100.0	163.2	160.5	63.0	163.0	108	68	68	67		1.001	4.525	453
1190	192.285	193.389		0.16	0.16	1.33	1.09	0.26	80	80	67	2.11	1.50	70	0.018	97	97	59.4	-0.14	0.54		99.9	163.0	160.3	63.0	162.9	107	68	68	67		1.001	4.515	451
1191	192.446	193.553		0.16	0.16	1.34	1.09	0.26	80	80	67	2.11	1.50	70	0.018	97	98	59.1	0.24	0.58		99.6	162.9	160.3	63.0	162.7	106	68	68	67		1.001	4.841	483
1192	192.608	193.715		0.16	0.16	1.34	1.09	0.26	80	80	68	2.11	1.50	70	0.018	97	97	59.2	-0.11	0.56		99.4	162.8	160.1	63.0	162.4	105	68	68	68		1.001	4.686	466
1193	192.769	193.878		0.16	0.16	1.34	1.08	0.26	80	80	67	2.12	1.50	70	0.018	97	97	59.3	-0.05	0.54		99.3	162.5	159.7	63.0	162.3	104	68	68	67		1.001	4.523	450
1194	192.930	194.040		0.16	0.16	1.34	1.09	0.26	80	80	67	2.12	1.50	70	0.018	97	97	59.4	-0.14	0.58		99.0	162.3	159.5	63.0	162.1	103	68	68	67		1.001	4.851	481
1195	193.091	194.203		0.16	0.16	1.33	1.09	0.26	80	80	67	2.13	1.50	70	0.015	106	107	59.5	-0.03	0.54		98.8	162.1	159.3	63.0	161.8	103	68	68	67		1.001	4.519	447
1196	193.252	194.367		0.16	0.16	1.34	1.09	0.26	80	80	67	2.13	1.50	70	0.018	97	98	59.3	0.20	0.56		98.6	161.9	159.1	63.0	161.6	102	68	68	67		1.001	4.687	463
1197	193.413	194.530		0.16	0.16	1.33	1.08	0.26	80	80	67	2.12	1.50	70	0.017	99	100	59.2	0.08	0.62		98.4	161.7	158.9	63.0	161.4	102	68	68	67		1.001	5.169	509
1198	193.574	194.693		0.16	0.16	1.34	1.09	0.26	80	80	67	2.13	1.50	70	0.017	99	100	59.1	0.09	0.58		98.2	161.4	158.6	63.0	161.2	101	68	68	67		1.001	4.848	477
1199	193.736	194.855		0.16	0.16	1.34	1.09	0.26	80	80	67	2.12	1.50	70	0.016	103	103	59.3	-0.22	0.52		98.1	161.3	158.5	63.0	161.1	101	68	68	67		1.001	4.363	428
1200	193.897	195.018		0.16	0.16	1.34	1.09	0.26	80	80	67	2.11	1.50	70	0.017	99	100	59.3	0.00	0.54		97.9	161.2	158.4	63.0	160.9	100	68	68	67		1.001	4.521	443
1201	194.058	195.182		0.16	0.16	1.34	1.08	0.26	80	80	67	2.11	1.50	70	0.018	97	98	59.3	0.00	0.56		97.7	160.9	158.1	63.0	160.7	99	68	68	67		1.001	4.653	455
1202	194.219	195.345		0.16	0.16	1.33	1.08	0.26	80	80	67	2.14	1.50	74	0.017	100	101	59.2	0.13	0.52		97.4	160.7	157.9	63.0	160.4	114	68	69	67		1.001	4.362	425
1203	194.380	195.506		0.16	0.16	1.33	1.08	0.26	80	80	67	2.16	1.50	77	0.019	95	94	59.2	-0.06	0.52		97.2	160.5	157.7	63.0	160.2	117	68	69	67		1.001	4.370	425
1204	194.540	195.669		0.16	0.16	1.33	1.08	0.26	80	80	67	2.14	1.50	77	0.018	97	98	59.1	0.10	0.58		97.1	160.4	157.6	63.0	160.1	132	68	69	67		1.001	4.868	473
1205	194.700	195.832		0.16	0.16	1.33	1.08	0.26	80	80	67	2.14	1.50	78	0.018	97	98	59.1	0.07	0.56		96.8	160.1	157.3	63.0	159.9	145	68	69	67		1.001	4.680	454
1206	194.861	195.994		0.16	0.16	1.33	1.08	0.26	80	80	67	2.14	1.50	78	0.017	100	100	58.8	0.22	0.54		96.7	160.0	157.2	63.0	159.8	155	69	69	67		1.001	4.518	438
1207	195.022	196.156		0.16	0.16	1.34	1.09	0.26	80	80	67	2.15	1.50	79	0.018	97	98	58.7	0.16	0.52		96.7	160.0	157.2	63.0	159.7	165	69	69	67		1.001	4.361	422
1208	195.182	196.318		0.16	0.16	1.33	1.08	0.26	80	80	67	2.14	1.50	80	0.018	97	98	58.2	0.47	0.56		96.6	160.0	157.2	63.0	159.7	176	69	69	67		1.001	4.681	453
1209	195.343	196.481		0.16	0.16	1.34	1.08	0.26	80	80	67	2.15	1.50	81	0.016	103	104	57.9	0.29	0.56		96.5	159.9	157.1	63.0	159.6	186	69	69	67		1.001	4.686	453
1210	195.503	196.644		0.16	0.16	1.33	1.08	0.26	80	80	67	2.14	1.50	83	0.017	100	101	57.9	0.05	0.60		96.7	160.0	157.3	63.0	159.7	196	69	70	67		1.001	5.000	484
1211	195.664	196.806		0.16	0.16	1.34	1.08	0.26	80	80	67	2.15	1.50	85	0.017	101	101	57.4	0.43	0.56		96.8	160.3	157.6	63.0	159.9	206	69	70	67		1.001	4.673	453
1212	195.824	196.967		0.16	0.16	1.33	1.08	0.26	80	80	67	2.17	1.60	86	0.017	100	100	57.0	0.42	0.64		97.0	160.5	157.7	63.0	160.0	217	70	70	67		1.001	5.327	517
1213	195.984	197.129		0.16	0.16	1.32	1.08	0.26	80	80	67	2.18	1.60	87	0.017	100	101	56.7	0.32	0.58		97.6	161.0	158.2	63.0	160.6	227	70	71	67		1.001	4.846	473
1214	196.144	197.292		0.16	0.16	1.32	1.08	0.26	80	80	67	2.19	1.60	89	0.017	100	102	56.2	0.49	0.56		97.9	161.5	158.6	63.0	160.9	238	70	71	67		1.001	4.699	461
1215	196.303	197.452		0.16	0.16	1.32	1.07	0.26	80	80	67	2.21	1.60	91	0.017	100	100	55.8	0.37	0.58		98.6	162.2	159.3	63.0	161.6	250	70	71	67		1.001	4.846	478
1216	196.462	197.613		0.16	0.16	1.31	1.07	0.26	80	80	67	2.23	1.60	94	0.017	100	101	55.1	0.78	0.54		99.5	163.0	160.1	63.0	162.4	261	70	72	67		1.001	4.520	450
1217	196.620	197.775		0.16	0.16	1.30	1.07	0.26	80	80	67	2.23	1.60	96	0.018	97	99	54.6	0.43	0.56		100.4	164.0	161.0	63.0	163.4	272	71	72	67		1.001	4.688	471
1218	196.778	197.935		0.16	0.16	1.30	1.06	0.26	80	80	67	2.25	1.60	99	0.017	100	101	53.9	0.70	0.52		101.3	165.0	162.0	63.0	164.3	281	71	73	67		1.001	4.363	442
1219	196.936	198.094		0.16	0.16	1.30	1.06	0.26	80	80	67	2.27	1.60	101	0.018	97	98	53.3	0.60	0.54		102.4	166.0	163.0	63.0	165.4	291	72	73	67		1.001	4.519	463
1220	197.093	198.254		0.16	0.16	1.29	1.05	0.26	80	80	68	2.29	1.60	102	0.018	97	98	52.7	0.66	0.54		103.4	167.3	164.4	63.0	166.5	299	72	74	68		1.001	4.527	469
1221	197.250	198.414		0.16	0.16	1.29	1.05	0.26	80	80	67	2.30	1.60	104	0.018	97	99	52.1	0.56	0.58		104.9	168.7	165.7	63.0	167.9	305	73	74	67		1.001	4.846	509
1222	197.406	198.572		0.16	0.16	1.27	1.05	0.26	80	80	67	2.32	1.70	105	0.018	97	97	51.5	0.64	0.52		106.1	170.0	166.8	63.1	169.2	311	73	75	67		1.001	4.358	463
1223	197.562	198.732		0.16	0.16	1.27	1.04	0.26	80	80	67	2.33	1.70	106	0.017	99	102	50.9	0.60	0.59		107.4	171.2	168.1	63.1	170.4	315	74	75	67		1.001	4.951	532
1224	197.718	198.890		0.16	0.16	1.26	1.04	0.26	80	80	67	2.33	1.70	107	0.018	97	98	50.2	0.63	0.60		108.7	172.5	169.3	63.1	171.8	318	74	75	67		1.001	5.001	544
1225	197.874	199.048		0.16	0.16	1.26	1.03	0.26	80	80	67	2.35	1.70	107	0.017	100	100	49.7	0.60	0.60		110.0	173.8	170.6	63.1	173.1	320	74	75	67		1.001	4.961	546
1226	198.029	199.206		0.16	0.16	1.25	1.03	0.26	80	80	67	2.36	1.70	108	0.018	96	98	49.1	0.57	0.56		111.3	175.1	171.8	63.1	174.4	323	75	76	67		1.001	4.683	522
1227	198.183	199.364		0.15	0.16	1.25	1.03	0.26	80	80	67	2.38	1.70	109	0.019	93	95	48.3	0.73	0.58		112.5	176.5	173.1	63.1	175.6	325	75	76	67		1.001	4.845	546
1228	198.338	199.522		0.16	0.16	1.24	1.02	0.26	80	80	67	2.42	1.70	109	0.018	96	98	47.5	0.88	0.56		113.8	177.9	174.4	63.1	177.0	327	75	77	67		1.001	4.678	533
1229	198.491	199.678		0.15	0.16	1.23	1.02	0.26	80	80	67	2.43	1.70	111	0.016	101	103	47.0	0.44	0.54		115.2	179.3	175.7	63.1	178.3	329	75	77	67		1.001	4.519	521
1230	198.644	199.836		0.15	0.16	1.22	1.01	0.26	80	80	67	2.44	1.70	112	0.018	95	98	46.6	0.45	0.54		116.5	180.6	177.0	63.1	179.7	332	76	77	67		1.001	4.513	527

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-*F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1231	198.798	199.991		0.15	0.16	1.21	1.01	0.26	80	80	67	2.47	1.70	112	0.018	96	96	45.8	0.73	0.58		118.1	182.0	178.5	63.1	181.2	322	76	77	67		1.001	4.844	572
1232	198.950	200.148		0.15	0.16	1.22	1.01	0.26	80	80	67	2.44	1.70	90	0.018	93	96	45.4	0.43	0.56		119.3	183.0	179.5	63.1	182.4	288	74	76	67		1.001	4.677	558
1233	199.103	200.305		0.15	0.16	1.21	1.01	0.26	80	80	67	2.45	1.70	84	0.017	96	98	45.5	-0.06	0.58		119.8	183.4	179.8	63.1	182.9	268	74	75	67		1.001	4.839	580
1234	199.257	200.462		0.15	0.16	1.21	1.01	0.26	80	80	67	2.45	1.70	82	0.016	99	101	45.2	0.31	0.56		120.3	183.9	180.4	63.1	183.4	254	74	75	67		1.001	4.682	564
1235	199.409	200.619		0.15	0.16	1.21	1.00	0.26	80	80	67	2.46	1.70	81	0.017	95	97	44.9	0.23	0.56		120.6	184.3	180.7	63.1	183.7	244	73	74	67		1.001	4.680	565
1236	199.563	200.776		0.15	0.16	1.22	1.01	0.26	80	80	67	2.42	1.70	78	0.017	96	97	44.8	0.12	0.60		121.0	184.6	181.1	63.1	184.1	237	72	73	67		1.001	5.000	606
1237	199.717	200.934		0.15	0.16	1.22	1.01	0.26	80	80	67	2.41	1.70	77	0.017	96	98	44.7	0.09	0.58		121.1	184.7	181.2	63.1	184.2	231	72	72	67		1.001	4.841	587
1238	199.871	201.091		0.15	0.16	1.23	1.02	0.26	80	80	67	2.41	1.70	76	0.018	93	94	44.5	0.26	0.60		121.4	185.0	181.4	63.1	184.5	224	71	72	67		1.001	5.000	608
1239	200.025	201.249		0.15	0.16	1.23	1.02	0.26	80	80	67	2.39	1.70	76	0.017	96	98	44.6	-0.15	0.56		121.5	185.0	181.5	63.1	184.6	219	70	71	67		1.001	4.679	569
1240	200.181	201.406		0.16	0.16	1.24	1.02	0.26	80	80	67	2.37	1.70	75	0.015	103	103	44.4	0.21	0.60		121.6	185.1	181.7	63.1	184.6	215	70	71	67		1.001	5.006	609
1241	200.337	201.564		0.16	0.16	1.28	1.02	0.26	80	80	67	2.42	1.70	75	0.017	97	98	44.4	0.02	0.60		121.6	185.1	181.7	63.1	184.7	211	70	71	67		1.001	5.000	609
1242	200.498	201.725		0.16	0.16	1.33	1.07	0.26	80	80	67	2.46	1.70	74	0.017	100	99	44.5	-0.13	0.60		121.8	185.3	181.8	63.1	184.9	207	70	71	67		1.001	5.004	610
1243	200.658	201.886		0.16	0.16	1.33	1.07	0.26	80	80	67	2.47	1.70	74	0.017	99	99	44.3	0.21	0.54		121.8	185.3	181.7	63.0	184.9	203	70	71	67		1.001	4.498	549
1244	200.819	202.048		0.16	0.16	1.33	1.08	0.26	80	80	67	2.46	1.70	74	0.017	100	100	44.3	0.00	0.58		121.8	185.2	181.7	63.0	184.8	200	70	71	67		1.001	4.816	587
1245	200.981	202.210		0.16	0.16	1.33	1.07	0.26	80	80	67	2.47	1.70	74	0.017	100	100	44.3	-0.04	0.53		121.8	185.2	181.9	63.0	184.9	197	70	71	67		1.001	4.384	535
1246	201.142	202.373		0.16	0.16	1.35	1.08	0.26	80	80	67	2.44	1.70	73	0.018	97	98	44.3	0.08	0.56		121.8	185.2	181.7	63.1	184.9	194	70	71	67		1.001	4.677	570
1247	201.304	202.535		0.16	0.16	1.35	1.08	0.26	80	80	67	2.43	1.70	72	0.017	100	100	44.3	-0.02	0.56		121.7	185.1	181.7	63.1	184.8	190	69	70	67		1.001	4.679	570
1248	201.466	202.697		0.16	0.16	1.35	1.08	0.26	80	80	67	2.43	1.70	72	0.017	100	100	44.3	-0.01	0.56		121.7	185.1	181.6	63.1	184.8	186	69	70	67		1.001	4.680	570
1249	201.628	202.860		0.16	0.16	1.35	1.08	0.26	80	80	67	2.43	1.70	72	0.016	103	103	44.3	0.00	0.54		121.5	185.1	181.5	63.1	184.5	183	69	70	67		1.001	4.521	550
1250	201.790	203.023		0.16	0.16	1.35	1.08	0.26	80	80	67	2.43	1.70	72	0.016	103	103	44.3	-0.06	0.54		121.5	185.0	181.4	63.1	184.6	180	69	70	67		1.001	4.518	550
1251	201.952	203.186		0.16	0.16	1.35	1.08	0.26	80	80	67	2.41	1.70	72	0.018	97	98	44.2	0.13	0.56		121.5	184.8	181.4	63.1	184.6	177	69	70	67		1.001	4.686	570
1252	202.114	203.348		0.16	0.16	1.35	1.08	0.26	80	80	67	2.43	1.70	72	0.017	100	100	44.2	-0.03	0.56		121.3	184.8	181.4	63.1	184.4	174	69	70	67		1.001	4.683	569
1253	202.277	203.510		0.16	0.16	1.35	1.08	0.26	80	80	67	2.42	1.70	72	0.015	107	106	44.4	-0.15	0.58		121.3	184.8	181.3	63.1	184.4	171	69	70	67		1.001	4.835	587
1254	202.439	203.673		0.16	0.16	1.35	1.09	0.26	80	80	68	2.43	1.70	72	0.019	95	95	44.3	0.05	0.61		121.3	184.7	181.2	63.1	184.4	168	69	70	68		1.001	5.060	615
1255	202.601	203.836		0.16	0.16	1.35	1.08	0.26	80	80	68	2.41	1.70	72	0.018	97	98	44.2	0.10	0.55		121.1	184.5	181.1	63.1	184.2	166	69	70	68		1.001	4.617	560
1256	202.763	203.998		0.16	0.16	1.34	1.08	0.26	80	80	68	2.41	1.70	72	0.018	97	97	44.3	-0.10	0.43		121.0	184.5	181.7	63.1	184.1	163	69	70	68		1.001	3.572	433
1257	202.926	204.161		0.16	0.16	1.35	1.08	0.26	80	80	68	2.43	1.70	72	0.016	104	103	44.2	0.14	0.48		120.8	184.5	181.7	63.1	184.0	161	69	70	68		1.001	4.032	488
1258	203.088	204.323		0.16	0.16	1.35	1.08	0.26	80	80	68	2.41	1.70	71	0.017	100	100	44.2	-0.03	0.50		120.7	184.5	181.7	63.2	183.8	158	69	70	68		1.001	4.193	507
1259	203.250	204.487		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	71	0.016	103	104	44.1	0.10	0.50		120.7	184.3	181.5	63.2	183.9	156	69	69	67		1.001	4.191	506
1260	203.412	204.649		0.16	0.16	1.35	1.07	0.26	80	80	68	2.41	1.70	71	0.017	100	100	44.4	-0.30	0.50		120.7	184.4	181.5	63.2	183.9	154	69	69	68		1.001	4.194	507
1261	203.574	204.811		0.16	0.16	1.35	1.08	0.26	80	80	68	2.41	1.70	71	0.016	103	103	44.3	0.17	0.50		120.5	184.2	181.4	63.2	183.7	152	69	69	68		1.001	4.194	506
1262	203.736	204.974		0.16	0.16	1.35	1.08	0.26	80	80	68	2.42	1.70	71	0.015	106	107	44.2	0.10	0.46		120.5	184.1	181.3	63.2	183.7	150	69	69	68		1.001	3.870	467
1263	203.898	205.137		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	71	0.018	97	97	44.3	-0.16	0.45		120.3	184.0	181.2	63.3	183.6	148	69	69	67		1.001	3.715	448
1264	204.060	205.300		0.16	0.16	1.35	1.08	0.26	80	80	67	2.41	1.70	71	0.018	97	97	44.2	0.13	0.43		120.1	184.0	181.1	63.3	183.4	146	69	69	67		1.001	3.555	427
1265	204.222	205.462		0.16	0.16	1.35	1.08	0.26	80	80	67	2.42	1.70	71	0.017	100	100	44.5	-0.25	0.45		120.1	183.8	181.0	63.3	183.4	145	69	69	67		1.001	3.712	446
1266	204.384	205.624		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	71	0.018	97	97	44.1	0.32	0.46		120.0	183.8	181.0	63.3	183.3	143	69	69	67		1.001	3.835	461
1267	204.547	205.787		0.16	0.16	1.36	1.08	0.26	80	80	67	2.41	1.70	71	0.016	104	103	44.5	-0.34	0.49		120.0	183.6	180.8	63.3	183.3	142	69	69	67		1.001	4.048	486
1268	204.709	205.950		0.16	0.16	1.36	1.08	0.26	80	80	68	2.42	1.70	71	0.018	97	97	44.1	0.39	0.48		119.8	183.7	180.8	63.3	183.1	140	69	69	68		1.001	4.038	484
1269	204.871	206.113		0.16	0.16	1.36	1.08	0.26	80	80	67	2.41	1.70	71	0.019	95	95	44.4	-0.31	0.49		119.8	183.5	180.6	63.3	183.1	139	69	69	67		1.001	4.040	485
1270	205.033	206.275		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	71	0.018	97	97	44.2	0.15	0.45		119.7	183.4	180.6	63.3	183.0	135	69	69	67		1.001	3.715	445
1271	205.195	206.438		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	71	0.017	100	100	44.3	-0.05	0.47		119.5	183.4	180.5	63.3	182.8	133	68	69	67		1.001	3.874	463
1272	205.357	206.601		0.16	0.16	1.36	1.08	0.26	80	80	67	2.41	1.70	71	0.019	95	95	44.2	0.07	0.50		119.5	183.3	180.6	63.3	182.8	132	68	69	67		1.001	4.199	502
1273	205.519	206.764		0.16	0.16	1.36	1.08	0.26	80	80	67	2.41	1.70	71	0.017	100	100	44.2	-0.01	0.43		119.4	183.1	180.5	63.3	182.7	131	68	69	67		1.001	3.554	425
1274	205.681	206.926		0.16	0.16	1.36	1.08	0.26	80	80	67	2.41	1.70	71	0.017	100	100	44.3	-0.07	0.47		119.2	183.0	180.2	63.3	182.5	130	68	69	67		1.001	3.879	463
1275	205.843	207.089		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	71	0.016	103	103	44.3	0.00	0.43		119.2	182.9	180.1	63.3	182.5	129	68	69	67		1.001	3.556	424
1276	206.005	207.252		0.16	0.16	1.36	1.08	0.26	80	80	67	2.40	1.70	71	0.018	97	97	44.3	0.04	0.47		119.0	182.7	180.0	63.3	182.3	128	68	69	67		1.001	3.880	462
1277	206.167	207.415		0.16	0.16	1.36	1.09	0.26	80	80	67	2.41	1.70	71	0.017	100	100	44.4	-0.14	0.49		118.9	182.7	180.0	63.3	182.2	126	68	69	67		1.001	4.040	481
1278	206.330	207.578		0.16	0.16	1.36	1.09	0.26	80	80	67	2.40	1.70	71	0.017	101	100	44.3	0.11	0.45		118.9	182.6	179.8	63.3	182.1	125	68	69	67		1.001	3.718	442
1279	206.492	207.740		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	71	0.018	97	97	44.4	-0.07	0.46		118.7	182.4	179.6	63.3	181.9	126	68	69	67		1.001	3.842	456
1280	206.654	207.903		0.16	0.16	1.36	1.08	0.26	80	80	67	2.41	1.70	70	0.016	103	103	44.5	-0.09	0.48		118.6	182.5	179.7	63.3	181.9	125	68	68	67		1.001	4.004	475
1281	206.816	208.066		0.16	0.16	1.36	1.08	0.26	80	80	67	2.42	1.70	70	0.018	97	97	44.4	0.07	0.47		118.6	182.2	179.4	63.3	181.9	123	68	68	67		1.001	3.882	461
1282	206.978	208.229		0.16	0.16	1.36	1.08	0.26	80	80	68	2.41	1.70	70	0.018	97	97	44.5	-0.16	0.48		118.4	182.1	179.4	63.3	181.6	123	68	68	68		1.001	4.037	478
1283	207.140	208.392		0.16	0.16	1.36	1.08	0.26	80	80	68	2.41	1.70	73	0.017	100	100	44.4	0.14	0.47		118.2	181.9	179.2	63.3	181.4	121	68	69	68		1.001	3.879	459
1284	207.302	208.554		0.16	0.16	1.36	1.09	0.26	80	80	68	2.41	1.70	72	0.015	107	106	44.6	-0.18	0.47		118.0	181.8	179.0	63.3	181.3	123	68	69	68		1.001	3.880	458
1285	207.464	208.717		0.16	0.16	1.35	1.09	0.26	80	80	67	2.40	1.70	71	0.015	106	107	44.5	0.06	0.47		118.0	181.7	179.0	63.3	181.4	123	68	68	67		1.001	3.880	458
1286	207.624	208.878		0.16	0.16	1.29	1.05	0.26	80	80	67	2.61	1.80	81	0.017	100	100	44.3	0.19	0.45		117.7	181.5	178.7	63.4	181.1	146	69	69	67		1.001	3.721	438
1287	207.783	209.040		0.16	0.16	1.31	1.07	0.26	80	80	67	2.53	1.70	72	0.017	98	100	44.3	0.04	0.49		117.3	181.4	178.6	63.6	180.9	138	68	68	67		1.001	4.040	475
1288	207.943	209.202		0.16	0.16	1.36	1.09	0.26	80	80	67	2.41	1.70	71	0.017	99	100	44.3	0.02	0.47		117.1	181.4	178.6	63.7	180.9	133	68	68	67		1.001	3.876	455
1289	208.106	209.364		0.16	0.16	1.36	1.09	0.26	80	80	67	2.41	1.70	71	0.017	101	100	44.4	-0.09	0.45		116.9	181.2	178.5	63.9	180.8	129	68	68	67		1.001	3.713	435
1290	208.268	209.528		0.16	0.16	1.37	1.09	0.26	80	80	68	2.39	1.70	71	0.019	95	95	44.3	0.11	0.47		116.5	181.1	178.3	64.0	180.5	127	68	68	68		1.001	3.874	452
1291	208.431	209.692		0.16	0.16	1.36	1.09	0.26	80	80	68	2.38	1.70	71	0.017	101	101	44.2	0.11	0.52		116.4	180.9	178.2	64.1	180.5	125	68	68	68		1.001	4.356	507
1292	208.593	209.855		0.16	0.16	1.37	1.09	0.26	80	80	68	2.38	1.70	72	0.015	107	107	44.2	-0.06	0.43		116.0	180.8	178.2	64.3	180.3	123	68	69	68		1.001	3.547	412

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1293	208.756	210.018		0.16	0.16	1.37	1.09	0.26	80	80	68	2.39	1.70	72	0.018	98	98	44.4	-0.18	0.43		115.8	180.6	177.9	64.4	180.2	122	68	69	68		1.001	3.550	412
1294	208.919	210.181		0.16	0.16	1.37	1.09	0.26	80	80	68	2.37	1.70	72	0.016	104	103	44.2	0.15	0.50		115.6	180.4	177.9	64.5	180.1	121	68	69	68		1.001	4.192	485
1295	209.082	210.345		0.16	0.16	1.37	1.09	0.26	80	80	68	2.37	1.70	74	0.015	107	108	44.3	-0.11	0.45		115.3	180.4	177.7	64.7	179.9	119	68	69	68		1.001	3.711	428
1296	209.245	210.508		0.16	0.16	1.37	1.10	0.26	80	80	67	2.36	1.70	72	0.017	101	100	44.3	0.07	0.45		115.2	180.3	177.7	64.8	179.9	117	68	69	67		1.001	3.711	428
1297	209.408	210.672		0.16	0.16	1.37	1.09	0.26	80	80	67	2.36	1.70	71	0.016	104	104	44.2	0.11	0.48		114.9	180.0	177.4	64.8	179.7	116	68	69	67		1.001	4.032	464
1298	209.572	210.836		0.16	0.16	1.36	1.09	0.26	80	80	67	2.37	1.70	71	0.018	98	98	44.3	-0.16	0.43		114.8	180.0	177.4	64.8	179.6	117	68	69	67		1.001	3.551	408
1299	209.735	210.999		0.16	0.16	1.36	1.09	0.26	80	80	67	2.36	1.70	71	0.017	101	100	44.4	-0.02	0.47		114.7	179.8	177.2	64.7	179.4	116	68	68	67		1.001	3.872	445
1300	209.898	211.162		0.16	0.16	1.37	1.10	0.26	80	80	67	2.38	1.70	71	0.017	101	100	44.2	0.15	0.48		114.7	179.6	176.9	64.6	179.3	114	68	68	67		1.001	4.035	463
1301	210.061	211.326		0.16	0.16	1.38	1.09	0.26	80	80	67	2.36	1.70	70	0.018	98	98	44.3	-0.05	0.45		114.7	179.5	176.9	64.5	179.2	114	68	68	67		1.001	3.710	426
1302	210.224	211.490		0.16	0.16	1.36	1.09	0.26	80	80	67	2.36	1.70	70	0.015	107	107	44.4	-0.19	0.45		114.6	179.4	176.8	64.4	179.0	113	68	68	67		1.001	3.712	426
1303	210.387	211.653		0.16	0.16	1.37	1.09	0.26	80	80	67	2.36	1.70	70	0.015	107	107	44.3	0.13	0.45		114.5	179.4	176.7	64.4	178.9	111	68	68	67		1.001	3.713	426
1304	210.550	211.817		0.16	0.16	1.37	1.09	0.26	80	80	67	2.36	1.70	70	0.018	98	98	44.3	-0.03	0.45		114.5	179.1	176.5	64.3	178.8	111	68	68	67		1.001	3.719	426
1305	210.713	211.980		0.16	0.16	1.38	1.09	0.26	80	80	67	2.36	1.70	70	0.018	98	97	44.5	-0.16	0.46		114.4	179.0	176.4	64.3	178.6	110	68	68	67		1.001	3.865	443
1306	210.876	212.144		0.16	0.16	1.37	1.10	0.26	80	80	67	2.37	1.70	70	0.018	98	98	44.6	-0.14	0.50		114.2	178.9	176.3	64.2	178.4	108	68	68	67		1.001	4.180	478
1307	211.039	212.307		0.16	0.16	1.38	1.09	0.26	80	80	67	2.36	1.70	70	0.017	101	100	44.4	0.27	0.47		114.1	178.7	176.1	64.2	178.3	109	68	68	67		1.001	3.873	442
1308	211.202	212.472		0.16	0.17	1.38	1.09	0.26	80	80	67	2.36	1.70	70	0.018	98	99	44.3	0.03	0.50		113.9	178.5	175.9	64.2	178.0	109	68	68	67		1.001	4.199	479
1309	211.365	212.635		0.16	0.16	1.37	1.09	0.26	80	80	68	2.37	1.70	73	0.016	104	104	44.4	-0.05	0.49		113.8	178.3	175.7	64.1	177.9	110	68	68	68		1.001	4.039	460
1310	211.528	212.798		0.16	0.16	1.37	1.10	0.26	80	80	67	2.36	1.70	72	0.017	101	100	44.3	0.06	0.43		113.8	178.3	175.7	64.1	177.9	107	68	68	67		1.001	3.559	405
1311	211.692	212.961		0.16	0.16	1.37	1.09	0.26	80	80	67	2.36	1.70	71	0.018	98	97	44.4	-0.11	0.47		113.6	178.2	175.6	64.1	177.7	108	68	68	67		1.001	3.877	441
1312	211.855	213.125		0.16	0.16	1.37	1.09	0.26	80	80	67	2.37	1.70	71	0.015	107	107	44.4	0.03	0.52		113.4	178.0	175.3	64.1	177.5	106	68	68	67		1.001	4.359	495
1313	212.018	213.289		0.16	0.16	1.37	1.10	0.26	80	80	67	2.36	1.70	71	0.017	101	101	44.4	-0.01	0.45		113.1	177.8	175.2	64.2	177.3	105	68	68	67		1.001	3.713	420
1314	212.181	213.453		0.16	0.16	1.36	1.10	0.26	80	80	67	2.37	1.70	72	0.016	104	104	44.5	-0.03	0.43		112.9	177.7	175.1	64.4	177.3	104	68	69	67		1.001	3.554	402
1315	212.345	213.616		0.16	0.16	1.38	1.09	0.26	80	80	68	2.37	1.70	72	0.017	101	100	44.4	0.09	0.48		112.5	177.4	174.8	64.5	177.0	106	68	69	68		1.001	4.035	455
1316	212.508	213.779		0.16	0.16	1.37	1.09	0.26	80	80	68	2.37	1.70	72	0.017	101	100	44.4	-0.04	0.48		112.4	177.3	174.8	64.6	177.0	125	68	69	68		1.001	4.035	454
1317	212.670	213.942		0.16	0.16	1.31	1.06	0.26	80	80	68	2.53	1.70	78	0.016	104	104	44.4	0.03	0.48		112.2	177.1	174.7	64.7	176.9	128	69	69	68		1.001	4.034	453
1318	212.830	214.105		0.16	0.16	1.36	1.09	0.26	80	80	68	2.38	1.70	73	0.018	96	98	44.5	-0.18	0.48		111.8	176.9	174.5	64.8	176.6	124	68	69	68		1.001	4.006	448
1319	212.993	214.268		0.16	0.16	1.37	1.09	0.26	80	80	68	2.36	1.70	73	0.016	104	104	44.4	0.19	0.50		111.5	176.8	174.3	64.9	176.4	121	68	69	68		1.001	4.182	467
1320	213.156	214.431		0.16	0.16	1.37	1.09	0.26	80	80	68	2.37	1.70	73	0.018	98	98	44.5	-0.19	0.43		111.3	176.7	174.3	65.0	176.3	118	69	69	68		1.001	3.550	395
1321	213.317	214.594		0.16	0.16	1.32	1.09	0.26	80	80	68	2.32	1.70	73	0.017	100	100	44.2	0.30	0.48		111.0	176.5	174.0	65.1	176.1	117	69	69	68		1.001	4.032	448
1322	213.478	214.758		0.16	0.16	1.32	1.10	0.26	80	80	68	2.31	1.70	74	0.018	97	98	44.5	-0.23	0.48		110.9	176.5	174.0	65.2	176.1	115	69	69	68		1.001	4.033	448
1323	213.638	214.921		0.16	0.16	1.33	1.10	0.26	80	80	68	2.31	1.70	74	0.018	96	98	44.4	0.10	0.45		110.6	176.2	173.8	65.3	175.9	114	69	69	68		1.001	3.710	411
1324	213.799	215.086		0.16	0.17	1.33	1.09	0.26	80	80	68	2.32	1.70	73	0.017	100	102	44.4	0.01	0.47		110.3	176.2	173.6	65.4	175.7	112	69	69	68		1.001	3.873	427
1325	213.960	215.249		0.16	0.16	1.33	1.09	0.26	80	80	68	2.32	1.70	74	0.016	103	104	44.5	-0.09	0.46		110.1	176.0	173.5	65.5	175.6	111	69	69	68		1.001	3.871	427
1326	214.120	215.412		0.16	0.16	1.33	1.09	0.26	80	80	68	2.30	1.70	74	0.015	105	107	44.5	0.01	0.50		109.8	175.8	173.3	65.6	175.3	109	69	69	68		1.001	4.189	460
1327	214.281	215.575		0.16	0.16	1.33	1.10	0.26	80	80	68	2.30	1.70	75	0.017	100	101	44.3	0.11	0.48		109.8	175.7	173.2	65.6	175.4	109	69	69	68		1.001	4.034	443
1328	214.442	215.739		0.16	0.16	1.33	1.10	0.26	80	80	68	2.31	1.70	75	0.015	106	108	44.4	-0.09	0.47		109.4	175.4	173.0	65.7	175.2	108	69	69	68		1.001	3.875	425
1329	214.603	215.903		0.16	0.16	1.32	1.10	0.26	80	80	68	2.31	1.70	75	0.018	97	98	44.5	-0.02	0.45		109.1	175.3	172.8	65.8	174.9	107	69	69	68		1.001	3.712	406
1330	214.763	216.067		0.16	0.16	1.33	1.10	0.26	80	80	68	2.30	1.70	75	0.018	96	98	44.5	-0.05	0.45		108.9	175.2	172.7	65.9	174.8	107	69	69	68		1.001	3.716	405
1331	214.924	216.231		0.16	0.16	1.33	1.09	0.26	80	80	68	2.31	1.70	76	0.016	103	104	44.6	-0.09	0.46		108.8	175.0	172.5	65.9	174.7	106	69	69	68		1.001	3.860	420
1332	215.085	216.394		0.16	0.16	1.34	1.10	0.26	80	80	68	2.29	1.70	76	0.014	110	111	44.4	0.24	0.48		108.6	174.8	172.4	66.0	174.6	105	69	69	68		1.001	3.981	433
1333	215.246	216.558		0.16	0.16	1.33	1.10	0.26	80	80	68	2.31	1.70	76	0.017	100	101	44.5	-0.09	0.43		108.2	174.7	172.3	66.1	174.3	105	69	70	68		1.001	3.549	385
1334	215.407	216.721		0.16	0.16	1.34	1.09	0.26	80	80	68	2.30	1.70	76	0.016	103	104	44.5	-0.07	0.48		108.0	174.5	172.2	66.1	174.1	103	69	70	68		1.001	3.994	432
1335	215.568	216.886		0.16	0.16	1.34	1.10	0.26	80	80	69	2.30	1.70	76	0.018	97	99	44.6	-0.11	0.45		107.8	174.3	172.0	66.2	174.0	104	69	70	69		1.001	3.709	400
1336	215.729	217.049		0.16	0.16	1.33	1.09	0.26	80	80	69	2.30	1.70	75	0.018	97	98	44.4	0.24	0.39		107.7	174.3	171.9	66.2	173.9	103	69	70	69		1.001	3.232	348
1337	215.891	217.213		0.16	0.16	1.34	1.09	0.26	80	80	68	2.29	1.70	76	0.018	98	99	44.4	0.01	0.46		107.5	174.1	171.8	66.3	173.7	102	69	70	68		1.001	3.870	416
1338	216.052	217.376		0.16	0.16	1.34	1.09	0.26	80	80	68	2.29	1.70	75	0.015	106	107	44.4	-0.07	0.41		107.2	173.9	171.5	66.3	173.5	103	70	70	68		1.001	3.392	364
1339	216.212	217.540		0.16	0.16	1.33	1.10	0.26	80	80	68	2.30	1.70	74	0.016	102	104	44.3	0.11	0.45		107.1	173.9	171.5	66.3	173.4	102	69	70	68		1.001	3.707	397
1340	216.373	217.704		0.16	0.16	1.34	1.10	0.26	80	80	68	2.31	1.70	74	0.015	106	108	44.5	-0.19	0.41		107.0	173.7	171.3	66.3	173.3	102	69	70	68		1.001	3.387	363
1341	216.534	217.868		0.16	0.16	1.33	1.09	0.26	80	80	68	2.30	1.70	74	0.018	97	98	44.3	0.19	0.45		106.8	173.5	171.2	66.4	173.2	100	70	70	68		1.001	3.706	396
1342	216.695	218.031		0.16	0.16	1.34	1.09	0.26	80	80	68	2.31	1.70	75	0.016	103	104	44.5	-0.13	0.43		106.6	173.4	171.1	66.4	173.0	101	70	70	68		1.001	3.556	379
1343	216.856	218.195		0.16	0.16	1.34	1.09	0.26	80	80	68	2.30	1.70	75	0.019	94	96	44.4	0.03	0.46		106.5	173.2	170.9	66.4	172.9	101	70	70	68		1.001	3.868	412
1344	217.017	218.358		0.16	0.16	1.34	1.10	0.26	80	80	68	2.30	1.70	74	0.017	100	101	44.4	0.08	0.46		106.3	173.0	170.7	66.4	172.8	99	70	70	68		1.001	3.843	409
1345	217.178	218.521		0.16	0.16	1.34	1.06	0.26	80	80	68	2.29	1.60	73	0.018	97	98	44.4	-0.03	0.43		106.1	172.9	170.6	66.5	172.5	99	70	70	68		1.001	3.570	379
1346	217.340	218.683		0.16	0.16	1.34	1.06	0.26	80	80	67	2.29	1.60	74	0.018	97	97	44.5	-0.10	0.48		105.9	172.7	170.5	66.5	172.4	99	69	70	67		1.001	4.023	427
1347	217.501	218.844		0.16	0.16	1.34	1.06	0.26	80	80	67	2.29	1.60	73	0.018	97	96	44.3	0.17	0.47		105.8	172.6	170.3	66.5	172.3	127	69	70	67		1.001	3.879	411
1348	217.660	219.003		0.16	0.16	1.28	1.04	0.26	80	80	67	2.44	1.70	79	0.017	99	99	44.6	-0.29	0.47		105.6	172.4	170.1	66.5	172.1	119	70	70	67		1.001	3.873	409
1349	217.820	219.164		0.16	0.16	1.33	1.06	0.26	80	80	68	2.33	1.60	74	0.014	109	109	44.6	0.03	0.46		105.4	172.3	170.0	66.5	171.9	115	69	70	68		1.001	3.868	408
1350	217.980	219.326		0.16	0.16	1.33	1.06	0.26	80	80	68	2.31	1.60	73	0.015	105	106	44.5	0.12	0.41		105.2	172.2	169.8	66.5	171.7	113	69	70	68		1.001	3.391	357
1351	218.141	219.486		0.16	0.16	1.33	1.06	0.26	80	80	68	2.31	1.60	74	0.018	97	96	44.6	-0.15	0.41		105.1	171.8	169.5	66.5	171.6	110	69	70	68		1.001	3.390	357
1352	218.302	219.647		0.16	0.16	1.32	1.06	0.26	80	80	68	2.32	1.60	75	0.016	103	102	44.4	0.24	0.45		104.9	171.8	169.5	66.5	171.4	109	69	70	68		1.001	3.709	389
1353	218.463	219.809		0.16	0.16	1.33	1.06	0.26	80	80	68	2.31	1.60	75	0.015	106	106	44.4	-0.06	0.41		104.8	171.7	169.3	66.5	171.3	107	69	70	68		1.001	3.390	356
1354	218.624	219.970		0.16	0.16	1.33	1.06	0.26	80	80	68	2.32	1.60	75	0.019	94	94	44.5	-0.04	0.52		104.6	171.5	168.8	66.5	171.1	106	69	70	68		1.001	4.355	456

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1355	218.785	220.131		0.16	0.16	1.34	1.06	0.26	80	80	68	2.30	1.60	74	0.018	97	97	44.5	-0.01	0.50		104.5	171.3	168.6	66.5	171.0	105	69	70	68		1.001	4.190	438
1356	218.946	220.292		0.16	0.16	1.33	1.07	0.26	80	80	68	2.30	1.60	75	0.016	103	102	44.4	0.05	0.56		104.2	171.1	168.4	66.5	170.7	104	69	70	68		1.001	4.672	488
1357	219.107	220.454		0.16	0.16	1.34	1.06	0.26	80	80	68	2.30	1.60	75	0.018	97	97	44.6	-0.15	0.48		104.1	170.9	168.2	66.5	170.5	103	70	70	68		1.001	4.021	419
1358	219.268	220.615		0.16	0.16	1.33	1.06	0.26	80	80	68	2.29	1.60	75	0.018	97	97	44.5	0.11	0.52		103.9	170.7	168.0	66.4	170.3	102	70	70	68		1.001	4.318	449
1359	219.429	220.776		0.16	0.16	1.34	1.07	0.26	80	80	68	2.31	1.60	75	0.017	100	99	44.6	-0.13	0.52		103.8	170.6	167.9	66.4	170.2	102	70	70	68		1.001	4.299	447
1360	219.590	220.938		0.16	0.16	1.33	1.06	0.26	80	80	68	2.30	1.60	75	0.016	103	103	44.5	0.15	0.48		103.7	170.4	167.7	66.4	170.1	100	70	70	68		1.001	4.035	419
1361	219.751	221.099		0.16	0.16	1.33	1.06	0.26	80	80	68	2.29	1.60	74	0.018	97	97	44.5	0.00	0.50		103.4	170.2	167.5	66.4	169.8	100	70	70	68		1.001	4.189	434
1362	219.912	221.260		0.16	0.16	1.33	1.06	0.26	80	80	68	2.31	1.60	74	0.016	103	102	44.6	-0.14	0.45		103.3	170.0	167.6	66.4	169.7	99	70	70	68		1.001	3.708	384
1363	220.073	221.421		0.16	0.16	1.33	1.06	0.26	80	80	68	2.31	1.60	74	0.016	103	102	44.7	-0.04	0.48		103.1	169.9	167.2	66.4	169.5	99	70	70	68		1.001	4.033	416
1364	220.234	221.583		0.16	0.16	1.33	1.06	0.26	80	80	68	2.30	1.60	75	0.018	97	97	44.3	0.31	0.52		102.9	169.7	167.0	66.4	169.3	98	70	70	68		1.001	4.356	449
1365	220.395	221.743		0.16	0.16	1.33	1.06	0.26	80	80	68	2.29	1.60	75	0.018	97	96	44.6	-0.24	0.47		102.8	169.6	166.9	66.4	169.2	97	70	70	68		1.001	3.874	399
1366	220.556	221.905		0.16	0.16	1.33	1.06	0.26	80	80	68	2.31	1.60	75	0.016	103	103	44.5	0.05	0.54		102.6	169.2	166.5	66.4	169.0	98	70	70	68		1.001	4.521	464
1367	220.717	222.066		0.16	0.16	1.33	1.07	0.26	80	80	68	2.29	1.60	75	0.018	97	97	44.5	0.01	0.56		102.4	169.0	166.3	66.3	168.7	97	70	70	68		1.001	4.679	480
1368	220.878	222.228		0.16	0.16	1.33	1.06	0.26	80	80	68	2.29	1.60	76	0.017	100	100	44.6	-0.12	0.48		102.2	168.8	166.2	66.3	168.5	97	70	70	68		1.001	4.023	411
1369	221.039	222.389		0.16	0.16	1.33	1.06	0.26	80	80	68	2.29	1.60	75	0.017	100	99	44.6	0.08	0.48		102.1	168.6	166.1	66.3	168.4	96	70	70	68		1.001	4.027	412
1370	221.200	222.550		0.16	0.16	1.33	1.06	0.26	80	81	69	2.31	1.60	75	0.017	100	99	44.4	0.14	0.51		101.9	168.4	165.8	66.3	168.2	95	70	70	69		1.001	4.243	433
1371	221.361	222.712		0.16	0.16	1.33	1.06	0.26	80	80	69	2.31	1.60	75	0.015	106	106	44.6	-0.12	0.52		101.7	168.3	165.5	66.3	168.0	96	70	70	69		1.001	4.351	443
1372	221.522	222.873		0.16	0.16	1.34	1.06	0.26	80	80	69	2.29	1.60	75	0.018	97	97	44.6	-0.07	0.52		101.5	168.1	165.5	66.3	167.8	95	70	70	69		1.001	4.352	442
1373	221.683	223.033		0.16	0.16	1.33	1.06	0.26	80	80	69	2.31	1.60	75	0.018	97	96	44.5	0.10	0.50		101.3	167.9	165.3	66.2	167.5	95	70	70	69		1.001	4.191	425
1374	221.844	223.195		0.16	0.16	1.34	1.06	0.26	80	80	69	2.29	1.60	75	0.016	103	103	44.7	-0.14	0.50		101.3	167.8	165.0	66.2	167.5	93	70	70	69		1.001	4.190	425
1375	222.006	223.356		0.16	0.16	1.34	1.06	0.26	80	80	69	2.30	1.60	75	0.018	98	97	44.6	0.09	0.48		101.0	167.6	164.8	66.2	167.3	94	70	70	69		1.001	4.024	407
1376	222.167	223.517		0.16	0.16	1.34	1.06	0.26	80	81	69	2.29	1.60	75	0.017	100	99	44.6	-0.03	0.54		101.0	167.4	164.7	66.2	167.2	93	70	70	69		1.001	4.510	456
1377	222.327	223.678		0.16	0.16	1.34	1.06	0.26	80	81	69	2.29	1.60	75	0.019	94	94	44.7	-0.08	0.52		100.7	167.3	164.5	66.2	166.9	93	70	70	69		1.001	4.351	439
1378	222.488	223.840		0.16	0.16	1.34	1.06	0.26	81	81	68	2.30	1.60	75	0.018	97	97	44.5	0.21	0.45		100.8	167.1	164.4	66.1	166.9	120	70	70	68		1.001	3.707	374
1379	222.648	224.000		0.16	0.16	1.32	1.05	0.26	80	81	69	2.35	1.60	79	0.017	100	99	44.6	-0.12	0.58		100.5	166.8	164.2	66.1	166.6	111	70	71	69		1.001	4.836	486
1380	222.809	224.160		0.16	0.16	1.34	1.06	0.26	81	81	69	2.31	1.60	76	0.012	119	117	44.5	0.06	0.56		100.1	166.5	163.8	66.1	166.2	108	70	71	69		1.001	4.669	468
1381	222.970	224.322		0.16	0.16	1.34	1.06	0.26	81	81	69	2.31	1.60	74	0.017	100	100	44.5	0.07	0.54		100.0	166.4	163.7	66.1	166.1	106	70	70	69		1.001	4.519	453
1382	223.132	224.483		0.16	0.16	1.33	1.06	0.26	81	81	69	2.31	1.60	73	0.018	97	96	44.5	-0.01	0.54		100.0	166.3	163.6	65.9	165.9	104	70	70	69		1.001	4.509	451
1383	223.293	224.644		0.16	0.16	1.34	1.06	0.26	81	81	69	2.30	1.60	72	0.018	97	96	44.6	-0.15	0.52		100.1	166.1	163.4	65.7	165.8	102	70	70	69		1.001	4.353	436
1384	223.454	224.805		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	74	0.017	100	99	44.6	0.04	0.52		100.1	165.9	163.2	65.5	165.6	101	70	70	69		1.001	4.351	436
1385	223.615	224.967		0.16	0.16	1.34	1.06	0.26	81	81	69	2.30	1.60	72	0.019	94	94	44.5	0.05	0.56		100.0	165.6	163.0	65.4	165.3	100	70	70	69		1.001	4.676	468
1386	223.776	225.128		0.16	0.16	1.34	1.06	0.26	81	81	69	2.30	1.60	72	0.017	99	99	44.6	-0.05	0.54		99.9	165.5	162.8	65.2	165.1	99	70	70	69		1.001	4.511	451
1387	223.937	225.289		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	72	0.017	99	99	44.5	0.12	0.52		99.9	165.3	162.6	65.1	164.9	99	70	70	69		1.001	4.350	435
1388	224.098	225.450		0.16	0.16	1.34	1.06	0.26	81	81	69	2.30	1.60	72	0.016	102	102	44.6	-0.11	0.50		100.0	165.2	162.6	64.9	164.9	97	70	70	69		1.001	4.188	420
1389	224.259	225.611		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	72	0.017	99	99	44.5	0.06	0.54		99.9	165.0	162.4	64.8	164.7	97	70	70	69		1.001	4.516	452
1390	224.420	225.772		0.16	0.16	1.34	1.06	0.26	81	81	69	2.31	1.60	71	0.019	94	94	44.5	0.05	0.52		99.7	164.7	162.0	64.7	164.4	97	70	70	69		1.001	4.353	435
1391	224.582	225.933		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	71	0.017	100	99	44.6	-0.10	0.54		99.7	164.6	162.0	64.6	164.4	96	70	70	69		1.001	4.514	451
1392	224.743	226.095		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	71	0.016	102	103	44.5	0.02	0.54		99.6	164.4	161.8	64.5	164.1	96	70	70	69		1.001	4.520	451
1393	224.904	226.256		0.16	0.16	1.33	1.06	0.26	81	81	69	2.29	1.60	71	0.015	106	105	44.6	-0.09	0.49		99.5	164.2	161.5	64.4	163.9	95	70	70	69		1.001	4.112	410
1394	225.065	226.417		0.16	0.16	1.33	1.06	0.26	81	81	69	2.29	1.60	71	0.018	96	96	44.7	-0.09	0.57		99.3	163.9	161.3	64.4	163.7	94	70	70	69		1.001	4.728	470
1395	225.226	226.578		0.16	0.16	1.32	1.06	0.26	81	81	69	2.29	1.60	71	0.018	96	96	44.5	0.18	0.52		99.2	163.7	161.1	64.3	163.5	94	70	70	69		1.001	4.351	432
1396	225.388	226.740		0.16	0.16	1.33	1.06	0.26	81	81	69	2.29	1.60	70	0.016	103	102	44.5	0.00	0.56		99.0	163.6	161.0	64.3	163.3	93	70	70	69		1.001	4.677	464
1397	225.549	226.900		0.16	0.16	1.33	1.06	0.26	81	81	70	2.30	1.60	70	0.017	99	98	44.6	-0.01	0.50		98.9	163.4	160.8	64.2	163.1	92	70	70	70		1.001	4.194	415
1398	225.710	227.061		0.16	0.16	1.33	1.06	0.26	81	81	69	2.31	1.60	70	0.015	106	105	44.6	-0.04	0.52		98.7	163.1	160.6	64.2	162.9	93	70	70	69		1.001	4.352	430
1399	225.871	227.223		0.16	0.16	1.34	1.06	0.26	81	81	69	2.30	1.60	70	0.017	99	99	44.5	0.05	0.50		98.6	163.0	160.5	64.1	162.7	91	70	70	69		1.001	4.191	414
1400	226.032	227.384		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	70	0.017	99	99	44.7	-0.14	0.54		98.5	162.9	160.3	64.1	162.6	93	70	70	69		1.001	4.514	445
1401	226.193	227.545		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	70	0.015	106	105	44.5	0.15	0.52		98.5	162.7	160.1	64.0	162.5	92	70	70	69		1.001	4.352	429
1402	226.354	227.706		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	70	0.017	99	99	44.6	-0.11	0.50		98.2	162.4	159.9	64.0	162.2	91	70	70	69		1.001	4.190	412
1403	226.515	227.868		0.16	0.16	1.33	1.06	0.26	81	81	69	2.30	1.60	70	0.016	102	102	44.7	-0.03	0.56		98.1	162.3	159.8	64.0	162.1	92	70	70	69		1.001	4.678	460
1404	226.676	228.029		0.16	0.16	1.34	1.06	0.26	81	81	69	2.29	1.60	70	0.014	109	109	44.7	0.00	0.51		98.0	162.2	159.6	63.9	161.9	91	70	70	69		1.001	4.267	419
1405	226.837	228.189		0.16	0.16	1.34	1.06	0.26	81	81	69	2.28	1.60	70	0.017	99	98	44.7	-0.04	0.53		97.8	161.9	159.3	63.9	161.7	90	70	70	69		1.001	4.430	434
1406	226.999	228.351		0.16	0.16	1.33	1.06	0.26	81	81	69	2.29	1.60	69	0.017	100	99	44.7	0.04	0.57		97.6	161.6	159.1	63.8	161.5	90	70	70	69		1.001	4.711	461
1407	227.160	228.512		0.16	0.16	1.33	1.06	0.26	81	81	69	2.30	1.60	69	0.018	96	96	44.7	-0.03	0.49		97.5	161.6	159.0	63.8	161.3	90	70	70	69		1.001	4.041	394
1408	227.321	228.673		0.16	0.16	1.33	1.06	0.26	81	81	69	2.30	1.60	69	0.016	102	102	44.6	0.08	0.54		97.3	161.4	158.8	63.8	161.1	89	70	70	69		1.001	4.514	440
1409	227.482	228.834		0.16	0.16	1.33	1.06	0.26	81	81	69	2.31	1.60	69	0.017	99	99	44.6	0.01	0.52		97.2	161.3	158.8	63.8	161.0	113	70	70	69		1.001	4.356	424
1410	227.642	228.995		0.16	0.16	1.31	1.05	0.26	81	81	69	2.35	1.60	72	0.016	102	102	44.6	0.03	0.56		97.1	161.0	158.5	63.8	160.8	105	70	70	69		1.001	4.673	454
1411	227.802	229.156		0.16	0.16	1.32	1.05	0.26	81	81	69	2.32	1.60	70	0.016	102	102	44.5	0.06	0.54		96.8	160.8	158.4	63.7	160.5	110	70	70	69		1.001	4.515	437
1412	227.962	229.316		0.16	0.16	1.31	1.05	0.26	81	81	69	2.38	1.70	76	0.018	96	96	44.5	-0.02	0.52		96.7	160.6	158.1	63.7	160.4	124	70	70	69		1.001	4.352	421
1413	228.121	229.476		0.16	0.16	1.32	1.05	0.26	81	81	69	2.35	1.60	77	0.018	96	96	44.4	0.15	0.50		96.5	160.4	158.0	63.7	160.2	142	70	70	69		1.001	4.192	405
1414	228.281	229.637		0.16	0.16	1.32	1.04	0.26	81	81	69	2.36	1.60	77	0.017	99	99	44.3	0.08	0.46		96.4	160.4	157.9	63.7	160.1	151	70	70	69		1.001	3.868	373
1415	228.441	229.797		0.16	0.16	1.32	1.05	0.26	81	81	69	2.33	1.60	78	0.019	94	94	44.3	0.03	0.56		96.1	160.1	157.7	63.7	159.8	157	70	70	69		1.001	4.687	451
1416	228.601	229.957		0.16	0.16	1.32	1.06	0.26	81	81	69	2.33	1.60	78	0.018	96	96	44.3	0.03	0.54		95.9	159.9	157.4	63.7	159.6	164	70	70	69		1.001	4.514	434

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1417	228.761	230.119		0.16	0.16	1.33	1.05	0.26	81	81	69	2.34	1.60	79	0.017	99	100	43.9	0.38	0.54		95.8	159.8	157.3	63.7	159.5	170	70	70	69		1.001	4.484	430
1418	228.922	230.279		0.16	0.16	1.32	1.05	0.26	81	81	69	2.33	1.60	80	0.018	97	96	43.9	-0.06	0.54		95.8	159.7	157.2	63.7	159.5	176	70	70	69		1.001	4.513	433
1419	229.082	230.440		0.16	0.16	1.32	1.05	0.26	81	81	69	2.34	1.60	81	0.018	97	97	43.6	0.31	0.50		95.6	159.7	157.1	63.7	159.3	183	70	70	69		1.001	4.190	401
1420	229.242	230.601		0.16	0.16	1.30	1.05	0.26	81	81	69	2.35	1.60	83	0.017	100	100	43.5	0.16	0.48		95.7	159.7	157.2	63.7	159.4	193	70	71	69		1.001	4.031	386
1421	229.402	230.760		0.16	0.16	1.31	1.05	0.26	81	81	69	2.36	1.70	85	0.017	100	99	43.2	0.24	0.50		95.8	159.8	157.2	63.6	159.4	202	70	71	69		1.001	4.194	402
1422	229.561	230.920		0.16	0.16	1.30	1.05	0.26	81	81	69	2.38	1.70	86	0.018	97	97	42.9	0.36	0.54		96.0	160.1	157.5	63.6	159.6	211	71	71	69		1.001	4.512	433
1423	229.719	231.081		0.16	0.16	1.29	1.05	0.26	81	81	69	2.41	1.70	87	0.017	99	100	42.4	0.44	0.54		96.3	160.2	157.7	63.6	159.9	218	71	71	69		1.001	4.515	435
1424	229.877	231.240		0.16	0.16	1.28	1.04	0.26	81	81	69	2.44	1.70	88	0.018	96	96	42.3	0.13	0.52		96.5	160.7	158.1	63.6	160.1	226	71	71	69		1.001	4.354	421
1425	230.037	231.400		0.16	0.16	1.33	1.05	0.26	81	81	69	2.56	1.70	89	0.017	100	100	41.8	0.49	0.58		97.1	161.3	158.6	63.6	160.7	234	71	71	69		1.001	4.835	470
1426	230.196	231.561		0.16	0.16	1.31	1.05	0.26	81	81	69	2.60	1.70	91	0.017	100	101	41.3	0.53	0.54		97.7	161.9	159.2	63.6	161.3	243	71	72	69		1.001	4.514	442
1427	230.355	231.719		0.16	0.16	1.29	1.04	0.26	81	81	69	2.67	1.80	92	0.018	97	96	41.0	0.24	0.52		98.5	162.7	160.0	63.6	162.1	251	71	72	69		1.001	4.354	429
1428	230.512	231.878		0.16	0.16	1.26	1.03	0.26	81	81	69	2.73	1.80	94	0.017	99	100	40.4	0.63	0.50		99.1	163.4	160.7	63.6	162.7	260	71	72	69		1.001	4.201	417
1429	230.667	232.036		0.16	0.16	1.23	1.02	0.26	81	81	69	2.83	1.80	96	0.016	101	102	40.1	0.36	0.54		100.1	164.5	161.7	63.6	163.7	270	72	72	69		1.001	4.468	448
1430	230.820	232.192		0.15	0.16	1.21	1.01	0.26	81	81	69	2.88	1.90	98	0.018	94	95	39.6	0.46	0.56		101.1	165.5	162.7	63.6	164.7	279	72	72	69		1.001	4.671	473
1431	230.973	232.349		0.15	0.16	1.18	1.00	0.26	81	81	69	2.95	1.90	100	0.018	94	96	38.9	0.68	0.56		102.3	166.6	163.7	63.6	165.9	287	73	73	69		1.001	4.674	479
1432	231.130	232.508		0.16	0.16	1.33	1.10	0.26	81	81	69	3.31	2.00	101	0.017	99	100	38.4	0.54	0.52		103.4	167.8	164.9	63.6	167.0	292	72	73	69		1.001	4.349	450
1433	231.291	232.669		0.16	0.16	1.32	1.07	0.26	81	81	69	3.43	2.00	103	0.017	102	102	37.9	0.45	0.56		104.6	169.0	166.2	63.6	168.2	297	73	73	69		1.001	4.673	490
1434	231.449	232.830		0.16	0.16	1.28	1.05	0.26	81	81	69	3.57	2.10	104	0.017	100	102	37.3	0.60	0.52		105.9	170.3	167.4	63.6	169.5	302	73	74	69		1.001	4.349	461
1435	231.605	232.989		0.16	0.16	1.25	1.04	0.26	81	81	69	3.71	2.10	105	0.018	96	98	36.9	0.45	0.52		107.1	171.6	168.6	63.6	170.7	306	73	74	69		1.001	4.352	467
1436	231.760	233.147		0.16	0.16	1.21	1.03	0.26	81	81	69	3.94	2.20	106	0.017	99	100	36.1	0.74	0.48		108.4	172.9	169.9	63.6	172.0	312	73	74	69		1.001	4.026	437
1437	231.918	233.308		0.16	0.16	1.25	1.05	0.26	81	81	68	4.48	2.30	108	0.016	104	105	35.5	0.67	0.54		109.8	174.3	171.2	63.6	173.4	321	73	74	68		1.001	4.507	495
1438	232.068	233.467		0.15	0.16	1.18	1.03	0.26	81	81	68	4.78	2.40	109	0.017	96	101	35.0	0.49	0.52		111.2	175.7	172.6	63.6	174.8	327	74	75	68		1.001	4.350	484
1439	232.180	233.624		0.11	0.16	0.58	1.01	0.26	81	81	68	3.50	2.50	111	0.018	70	97	34.3	0.71	0.48		112.6	177.2	174.1	63.7	176.3	332	74	75	68		1.001	4.027	454
1440	232.284	233.779		0.10	0.16	0.54	0.98	0.26	81	81	68	3.64	2.60	112	0.017	67	99	33.5	0.76	0.51		114.1	178.7	175.5	63.7	177.7	337	74	75	68		1.001	4.234	484
1441	232.384	233.933		0.10	0.15	0.51	0.96	0.26	81	81	68	3.79	2.70	113	0.018	62	95	32.7	0.78	0.52		115.5	180.3	177.1	63.7	179.2	342	74	76	68		1.001	4.352	503
1442	232.481	234.084		0.10	0.15	0.48	0.93	0.26	81	81	68	3.91	2.80	113	0.018	60	94	32.0	0.71	0.52		117.1	181.9	178.6	63.7	180.9	344	74	76	68		1.001	4.352	510
1443	232.576	234.234		0.09	0.15	0.47	0.94	0.26	81	81	68	3.96	2.70	93	0.018	58	91	31.8	0.26	0.50		118.6	183.2	180.0	63.7	182.3	306	73	75	68		1.001	4.193	498
1444	232.703	234.393		0.13	0.16	1.15	1.06	0.26	81	81	68	1.90	2.90	84	0.018	77	96	31.4	0.35	0.56		119.4	183.8	180.6	63.7	183.2	280	73	74	68		1.001	4.676	559
1445	232.857	234.556		0.15	0.16	1.20	1.09	0.26	81	81	68	1.78	2.80	80	0.019	91	95	31.3	0.08	0.52		120.0	184.3	181.1	63.8	183.7	264	74	74	68		1.001	4.356	523
1446	233.011	234.718		0.15	0.16	1.79	1.08	0.26	81	81	68	2.29	2.80	79	0.018	93	97	31.1	0.24	0.50		120.4	184.8	181.5	63.8	184.1	251	75	73	68		1.001	4.196	506
1447	233.178	234.880		0.17	0.16	1.32	1.09	0.26	81	81	68	1.88	2.60	77	0.018	101	97	31.0	0.12	0.50		120.7	185.1	181.8	63.8	184.5	244	74	73	68		1.001	4.191	507
1448	233.339	235.044		0.16	0.16	1.32	1.09	0.26	81	81	68	1.90	2.60	75	0.016	103	104	30.8	0.18	0.48		121.0	185.4	182.1	63.8	184.8	237	74	73	68		1.001	4.035	489
1449	233.499	235.207		0.16	0.16	1.32	1.08	0.26	81	81	67	1.89	2.60	74	0.016	102	103	30.8	0.02	0.52		121.2	185.6	182.3	63.8	185.0	230	74	73	67		1.001	4.357	529
1450	233.659	235.369		0.16	0.16	1.32	1.07	0.26	81	81	68	1.89	2.60	74	0.016	102	103	30.6	0.12	0.52		121.4	185.7	182.4	63.8	185.2	225	74	73	68		1.001	4.357	530
1451	233.819	235.531		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.60	74	0.016	102	103	30.6	0.02	0.50		121.5	185.8	182.5	63.8	185.3	220	73	73	68		1.001	4.194	510
1452	233.980	235.694		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.60	73	0.017	99	100	30.5	0.08	0.52		121.8	186.0	182.7	63.8	185.6	215	73	72	68		1.001	4.349	531
1453	234.140	235.857		0.16	0.16	1.32	1.09	0.26	81	81	68	1.90	2.60	73	0.018	96	97	30.5	0.06	0.50		121.7	186.0	182.7	63.7	185.5	211	73	72	68		1.001	4.193	511
1454	234.301	236.021		0.16	0.16	1.33	1.09	0.26	81	81	68	1.89	2.60	73	0.017	99	101	30.4	0.03	0.50		121.8	186.1	182.8	63.7	185.6	208	72	72	68		1.001	4.188	511
1455	234.461	236.184		0.16	0.16	1.33	1.09	0.26	81	81	68	1.88	2.60	73	0.016	102	103	30.4	0.03	0.54		121.9	186.1	182.8	63.7	185.7	204	72	72	68		1.001	4.513	551
1456	234.622	236.347		0.16	0.16	1.33	1.09	0.26	81	81	68	1.90	2.50	73	0.018	97	97	30.2	0.20	0.56		122.0	186.1	182.8	63.7	185.8	201	72	72	68		1.001	4.673	571
1457	234.783	236.512		0.16	0.16	1.33	1.13	0.26	81	81	68	1.90	2.40	72	0.017	99	101	30.4	-0.14	0.52		122.1	186.2	182.9	63.7	185.8	197	72	72	68		1.001	4.350	532
1458	234.944	236.678		0.16	0.17	1.32	1.14	0.26	81	81	68	1.89	2.40	71	0.015	106	109	30.4	0.00	0.54		122.0	186.1	182.8	63.7	185.7	194	72	72	68		1.001	4.509	551
1459	235.104	236.845		0.16	0.17	1.32	1.14	0.26	81	81	68	1.90	2.40	71	0.016	102	106	30.2	0.17	0.50		122.0	186.1	182.9	63.7	185.7	190	71	71	68		1.001	4.191	512
1460	235.265	237.012		0.16	0.17	1.32	1.14	0.26	81	81	68	1.88	2.40	71	0.018	96	100	30.4	-0.18	0.58		122.0	186.1	182.9	63.7	185.7	187	71	71	68		1.001	4.834	590
1461	235.425	237.180		0.16	0.17	1.33	1.14	0.26	81	81	68	1.90	2.40	71	0.019	93	98	30.3	0.11	0.50		121.9	186.0	182.8	63.7	185.6	184	71	71	68		1.001	4.191	511
1462	235.586	237.347		0.16	0.17	1.32	1.14	0.26	81	81	68	1.89	2.40	70	0.019	94	97	30.4	-0.10	0.54		121.8	186.0	182.8	63.7	185.5	181	71	71	68		1.001	4.505	550
1463	235.746	237.510		0.16	0.16	1.34	1.08	0.26	81	81	68	1.91	2.30	70	0.016	102	103	30.3	0.06	0.52		121.8	185.9	182.7	63.7	185.5	177	71	71	68		1.001	4.358	531
1464	235.904	237.673		0.16	0.16	1.27	1.08	0.26	81	81	68	1.86	2.30	70	0.015	104	106	30.3	0.00	0.54		121.7	185.8	182.6	63.7	185.4	175	70	71	68		1.001	4.508	549
1465	236.064	237.834		0.16	0.16	1.33	1.07	0.26	81	81	68	1.90	2.30	70	0.017	99	99	30.2	0.13	0.53		121.6	185.7	182.5	63.7	185.3	172	70	71	68		1.001	4.413	537
1466	236.225	237.996		0.16	0.16	1.33	1.08	0.26	81	81	68	1.89	2.30	70	0.018	96	97	30.4	-0.18	0.54		121.5	185.7	182.5	63.7	185.2	169	70	70	68		1.001	4.495	547
1467	236.386	238.159		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	70	0.018	96	97	30.3	0.03	0.52		121.5	185.7	182.5	63.7	185.2	167	70	70	68		1.001	4.352	529
1468	236.546	238.322		0.16	0.16	1.33	1.08	0.26	81	81	68	1.91	2.30	70	0.015	105	106	30.2	0.15	0.54		121.5	185.4	182.3	63.7	185.2	164	70	70	68		1.001	4.511	549
1469	236.707	238.484		0.16	0.16	1.33	1.07	0.26	81	81	68	1.89	2.30	70	0.017	99	99	30.2	-0.02	0.52		121.3	185.4	182.3	63.7	185.1	162	70	70	68		1.001	4.348	528
1470	236.867	238.646		0.16	0.16	1.33	1.08	0.26	81	81	68	1.89	2.30	70	0.017	99	99	30.4	-0.23	0.56		121.3	185.4	182.2	63.7	185.0	159	70	70	68		1.001	4.677	568
1471	237.028	238.808		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	70	0.016	102	102	30.3	0.12	0.54		121.1	185.2	182.1	63.7	184.9	158	70	70	68		1.001	4.510	547
1472	237.189	238.971		0.16	0.16	1.33	1.08	0.26	81	81	68	1.89	2.30	70	0.018	96	97	30.4	-0.05	0.46		121.0	185.1	182.1	63.7	184.7	155	70	70	68		1.001	3.867	468
1473	237.350	239.134		0.16	0.16	1.33	1.07	0.26	81	81	68	1.88	2.30	70	0.016	102	103	30.4	-0.04	0.52		120.9	185.1	182.0	63.7	184.6	153	70	70	68		1.001	4.350	527
1474	237.511	239.295		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	70	0.018	96	96	30.3	0.13	0.54		120.8	185.0	181.8	63.7	184.5	152	69	70	68		1.001	4.525	547
1475	237.671	239.458		0.16	0.16	1.33	1.07	0.26	81	81	68	1.89	2.30	70	0.017	99	100	30.3	-0.03	0.52		120.6	184.7	181.5	63.7	184.3	150	69	70	68		1.001	4.348	525
1476	237.832	239.621		0.16	0.16	1.33	1.08	0.26	81	81	68	1.89	2.30	70	0.016	102	103	30.3	0.02	0.51		120.5	184.8	181.5	63.7	184.3	147	69	69	68		1.001	4.252	513
1477	237.993	239.784		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	70	0.018	96	97	30.4	-0.08	0.54		120.4	184.6	181.4	63.7	184.2	145	69	69	68		1.001	4.513	544
1478	238.154	239.945		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	69	0.017	99	99	30.4	-0.06	0.50		120.3	184.5	181.4	63.7	184.0	144	69	69	68		1.001	4.189	504

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1479	238.315	240.107		0.16	0.16	1.33	1.08	0.26	81	81	68	1.89	2.30	69	0.017	99	99	30.5	-0.05	0.54		120.0	184.4	181.2	63.7	183.8	142	69	69	68		1.001	4.511	542
1480	238.476	240.270		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	69	0.017	99	100	30.4	0.09	0.50		120.0	184.1	181.0	63.7	183.7	140	69	69	68		1.001	4.188	503
1481	238.637	240.433		0.16	0.16	1.32	1.08	0.26	81	81	68	1.89	2.30	69	0.015	105	106	30.3	0.03	0.54		119.9	184.1	181.0	63.7	183.6	139	69	69	68		1.001	4.508	541
1482	238.798	240.595		0.16	0.16	1.32	1.08	0.26	81	81	68	1.90	2.30	69	0.016	102	102	30.3	0.08	0.54		119.9	184.0	180.9	63.7	183.7	138	69	69	68		1.001	4.510	542
1483	238.959	240.757		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	69	0.016	102	102	30.0	0.22	0.54		119.7	183.9	180.9	63.7	183.5	136	69	69	68		1.001	4.513	541
1484	239.119	240.920		0.16	0.16	1.32	1.08	0.26	81	81	68	1.88	2.30	69	0.015	105	106	30.2	-0.17	0.39		119.6	183.8	180.8	63.7	183.3	134	69	69	68		1.001	3.227	386
1485	239.280	241.083		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	69	0.017	99	100	30.3	-0.11	0.39		119.4	183.8	181.5	63.8	183.1	133	69	69	68		1.001	3.226	386
1486	239.441	241.245		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	69	0.017	99	99	30.3	0.06	0.37		119.4	183.8	181.6	63.8	183.2	132	69	69	68		1.001	3.062	366
1487	239.602	241.407		0.16	0.16	1.32	1.08	0.26	81	81	68	1.89	2.30	69	0.018	96	96	30.3	0.00	0.39		119.3	183.7	181.5	63.8	183.2	131	69	69	68		1.001	3.224	385
1488	239.763	241.569		0.16	0.16	1.32	1.08	0.26	81	81	68	1.91	2.30	69	0.019	94	94	30.3	0.01	0.38		119.2	183.6	181.4	63.9	183.1	130	69	69	68		1.001	3.162	377
1489	239.923	241.732		0.16	0.16	1.32	1.08	0.26	81	81	68	1.90	2.30	69	0.017	98	100	30.3	-0.04	0.37		119.1	183.5	181.4	63.9	183.0	129	69	69	68		1.001	3.114	371
1490	240.084	241.895		0.16	0.16	1.32	1.08	0.26	81	81	68	1.91	2.30	69	0.019	94	94	30.3	0.03	0.40		118.8	183.5	181.2	63.9	182.7	127	69	69	68		1.001	3.372	401
1491	240.245	242.057		0.16	0.16	1.32	1.07	0.26	81	81	68	1.90	2.30	69	0.017	99	99	30.3	-0.06	0.39		118.9	183.4	181.2	64.0	182.8	126	69	69	68		1.001	3.227	384
1492	240.405	242.219		0.16	0.16	1.32	1.08	0.26	81	81	68	1.89	2.30	69	0.018	96	96	30.5	-0.13	0.39		118.7	183.3	181.2	64.0	182.6	126	69	69	68		1.001	3.225	383
1493	240.566	242.381		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	69	0.018	96	96	30.5	-0.01	0.41		118.7	183.2	181.1	64.0	182.7	124	68	69	68		1.001	3.383	402
1494	240.726	242.545		0.16	0.16	1.33	1.07	0.26	81	81	68	1.88	2.30	69	0.016	101	104	30.3	0.14	0.39		118.5	183.1	181.0	64.0	182.6	124	68	69	68		1.001	3.226	383
1495	240.887	242.707		0.16	0.16	1.33	1.07	0.26	81	81	68	1.88	2.30	69	0.015	105	106	30.3	0.05	0.37		118.5	183.1	181.0	64.0	182.5	124	68	69	68		1.001	3.064	364
1496	241.048	242.869		0.16	0.16	1.33	1.08	0.26	81	81	68	1.89	2.30	69	0.016	102	102	30.4	-0.16	0.41		118.5	183.0	180.9	64.0	182.5	121	68	69	68		1.001	3.388	402
1497	241.209	243.029		0.16	0.16	1.32	0.93	0.26	81	81	68	1.91	2.80	79	0.017	100	99	30.1	0.30	0.41		118.4	182.8	180.7	64.0	182.4	148	69	69	68		1.001	3.386	401
1498	241.369	243.176		0.16	0.15	1.32	0.88	0.26	81	81	68	1.91	3.00	72	0.018	96	88	30.3	-0.17	0.41		118.1	182.7	180.5	64.0	182.1	144	69	69	68		1.001	3.384	400
1499	241.530	243.328		0.16	0.15	1.33	0.98	0.26	81	81	68	1.89	2.60	69	0.017	99	93	30.2	0.15	0.37		118.1	182.8	180.6	64.1	182.1	137	68	68	68		1.001	3.061	362
1500	241.691	243.486		0.16	0.16	1.33	1.05	0.26	81	81	68	1.88	2.40	69	0.018	96	94	30.3	-0.11	0.39		118.1	182.7	180.5	64.1	182.2	133	68	68	68		1.001	3.223	381
1501	241.851	243.648		0.16	0.16	1.33	1.06	0.26	81	81	68	1.88	2.30	69	0.015	105	106	30.2	0.11	0.43		117.9	182.5	180.3	64.1	182.0	130	68	69	68		1.001	3.543	418
1502	242.012	243.809		0.16	0.16	1.33	1.06	0.26	81	81	68	1.89	2.30	69	0.017	99	99	30.3	-0.11	0.37		117.9	182.4	180.3	64.1	182.0	128	68	69	68		1.001	3.063	361
1503	242.173	243.970		0.16	0.16	1.33	1.07	0.26	81	81	68	1.89	2.30	69	0.016	102	102	30.1	0.20	0.37		117.7	182.4	180.1	64.1	181.8	126	68	68	68		1.001	3.105	366
1504	242.333	244.132		0.16	0.16	1.33	1.07	0.26	81	81	68	1.89	2.30	69	0.017	98	99	30.1	-0.05	0.38		117.6	182.2	179.9	64.1	181.8	125	68	68	68		1.001	3.164	373
1505	242.494	244.294		0.16	0.16	1.33	1.07	0.26	81	81	68	1.88	2.30	69	0.017	99	99	30.4	-0.29	0.39		117.4	182.1	179.7	64.1	181.6	123	68	68	68		1.001	3.224	379
1506	242.655	244.456		0.16	0.16	1.33	1.07	0.26	81	81	68	1.90	2.30	69	0.016	102	102	30.3	0.15	0.39		117.4	182.0	179.7	64.1	181.5	121	68	68	68		1.001	3.225	379
1507	242.816	244.617		0.16	0.16	1.33	1.07	0.26	81	81	68	1.90	2.30	68	0.018	96	96	30.2	0.05	0.41		117.5	182.0	179.7	64.1	181.7	120	68	68	68		1.001	3.383	398
1508	242.977	244.779		0.16	0.16	1.34	1.07	0.26	81	81	68	1.90	2.30	68	0.018	96	96	30.3	-0.13	0.39		117.3	181.9	179.5	64.1	181.4	119	68	68	68		1.001	3.224	379
1509	243.138	244.942		0.16	0.16	1.33	1.07	0.26	81	81	68	1.90	2.30	68	0.017	99	100	30.2	0.10	0.46		117.1	181.8	179.3	64.1	181.3	119	68	68	68		1.001	3.872	454
1510	243.299	245.104		0.16	0.16	1.33	1.07	0.26	81	81	68	1.89	2.30	68	0.017	99	99	30.3	-0.08	0.45		117.1	181.5	179.2	64.1	181.2	117	68	68	68		1.001	3.712	435
1511	243.460	245.265		0.16	0.16	1.33	1.07	0.26	81	81	68	1.90	2.30	68	0.017	99	99	30.2	0.09	0.43		117.0	181.5	179.3	64.1	181.1	118	68	68	68		1.001	3.551	416
1512	243.621	245.428		0.16	0.16	1.33	1.08	0.26	81	81	68	1.90	2.30	68	0.014	109	110	30.4	-0.16	0.41		116.7	181.4	179.0	64.1	180.8	115	68	68	68		1.001	3.390	396
1513	243.781	245.590		0.16	0.16	1.33	1.07	0.26	81	81	67	1.89	2.30	68	0.017	98	99	30.2	0.14	0.41		116.7	181.3	178.9	64.1	180.8	113	68	68	67		1.001	3.392	396
1514	243.942	245.752		0.16	0.16	1.33	1.07	0.26	81	81	67	1.89	2.30	68	0.019	94	94	30.3	-0.08	0.41		116.7	181.2	178.8	64.1	180.8	114	68	68	67		1.001	3.388	396
1515	244.102	245.914		0.16	0.16	1.33	1.07	0.26	81	81	68	1.88	2.30	68	0.016	101	102	30.2	0.15	0.39		116.5	181.0	178.5	64.1	180.5	113	68	68	68		1.001	3.227	376
1516	244.263	246.076		0.16	0.16	1.33	1.08	0.26	81	81	68	1.89	2.30	68	0.019	94	94	30.3	-0.11	0.45		116.4	181.0	178.5	64.1	180.5	111	68	68	68		1.001	3.717	433
1517	244.424	246.238		0.16	0.16	1.33	1.08	0.26	81	81	68	1.88	2.30	68	0.016	102	102	30.3	-0.05	0.44		116.3	180.7	178.3	64.1	180.3	111	68	68	68		1.001	3.667	427
1518	244.585	246.400		0.16	0.16	1.32	1.07	0.26	81	80	68	1.90	2.30	68	0.015	105	106	30.3	0.05	0.42		116.1	180.6	178.2	64.1	180.1	110	68	68	68		1.001	3.490	406
1519	244.746	246.562		0.16	0.16	1.32	1.07	0.26	81	80	68	1.90	2.30	68	0.017	99	99	30.4	-0.15	0.39		115.9	180.4	178.0	64.0	180.0	110	68	68	68		1.001	3.272	380
1520	244.906	246.724		0.16	0.16	1.32	1.07	0.26	81	80	68	1.89	2.30	68	0.017	98	99	30.2	0.27	0.41		115.8	180.4	178.0	64.0	179.9	108	68	68	68		1.001	3.384	392
1521	245.067	246.886		0.16	0.16	1.32	1.07	0.26	81	80	68	1.90	2.30	68	0.017	99	99	30.3	-0.12	0.41		115.7	180.3	177.9	64.0	179.7	110	68	68	68		1.001	3.374	391
1522	245.227	247.049		0.16	0.16	1.32	1.07	0.26	81	81	68	1.88	2.30	68	0.015	105	106	30.4	-0.08	0.48		115.5	180.1	177.7	64.0	179.5	109	68	68	68		1.001	4.032	466
1523	245.388	247.210		0.16	0.16	1.33	1.07	0.26	81	80	68	1.90	2.30	68	0.016	102	102	30.4	-0.03	0.43		115.4	180.0	177.6	64.0	179.5	106	68	68	68		1.001	3.550	410
1524	245.548	247.372		0.16	0.16	1.33	1.08	0.26	81	80	68	1.88	2.30	68	0.018	96	97	30.2	0.19	0.46		115.5	179.9	177.5	64.0	179.5	106	68	68	68		1.001	3.872	448
1525	245.709	247.535		0.16	0.16	1.33	1.07	0.26	81	80	68	1.88	2.30	68	0.017	99	100	30.2	-0.03	0.43		115.3	179.7	177.4	64.0	179.3	106	68	68	68		1.001	3.545	409
1526	245.870	247.697		0.16	0.16	1.32	1.07	0.26	81	80	68	1.88	2.30	68	0.018	96	97	30.4	-0.17	0.41		115.1	179.6	177.2	64.0	179.1	108	68	68	68		1.001	3.384	390
1527	246.030	247.859		0.16	0.16	1.33	1.08	0.26	81	80	68	1.89	2.30	68	0.015	105	106	30.4	0.00	0.37		115.0	179.5	177.1	64.0	179.0	106	68	68	68		1.001	3.065	353
1528	246.190	248.019		0.16	0.16	1.33	0.95	0.26	81	80	68	1.90	2.80	75	0.017	99	99	30.2	0.20	0.45		114.9	179.4	177.1	64.0	178.9	131	68	68	68		1.001	3.708	427
1529	246.351	248.170		0.16	0.15	1.33	0.95	0.26	81	80	68	1.90	2.70	70	0.016	102	96	30.2	0.04	0.41		114.7	179.2	176.8	64.0	178.7	126	68	68	68		1.001	3.384	389
1530	246.512	248.326		0.16	0.16	1.33	1.04	0.26	81	80	68	1.90	2.40	68	0.018	96	93	30.3	-0.15	0.45		114.8	179.2	176.9	64.0	178.8	122	68	68	68		1.001	3.708	426
1531	246.672	248.487		0.16	0.16	1.33	1.05	0.26	81	80	68	1.89	2.40	68	0.017	98	99	30.4	-0.03	0.45		114.4	179.0	176.6	64.0	178.5	120	68	68	68		1.001	3.709	425
1532	246.833	248.647		0.16	0.16	1.33	1.05	0.26	81	80	68	1.90	2.30	68	0.017	99	98	30.3	0.06	0.48		114.3	178.8	176.5	64.0	178.3	117	68	68	68		1.001	4.031	461
1533	246.993	248.808		0.16	0.16	1.33	1.05	0.26	81	80	68	1.89	2.30	68	0.018	96	96	30.3	-0.02	0.39		114.2	178.7	176.4	64.0	178.2	116	68	68	68		1.001	3.226	369
1534	247.154	248.970		0.16	0.16	1.33	1.05	0.26	81	80	68	1.89	2.30	68	0.015	105	106	30.3	0.02	0.44		114.2	178.6	176.3	64.0	178.1	114	68	68	68		1.001	3.692	422
1535	247.315	249.130		0.16	0.16	1.33	1.05	0.26	81	80	68	1.90	2.30	68	0.018	96	95	30.2	0.08	0.43		114.0	178.4	176.1	64.0	177.9	113	68	68	68		1.001	3.548	405
1536	247.476	249.291		0.16	0.16	1.33	1.06	0.26	81	80	68	1.89	2.30	68	0.017	99	99	30.3	-0.11	0.45		113.8	178.3	175.9	64.0	177.8	113	68	68	68		1.001	3.712	423
1537	247.637	249.453		0.16	0.16	1.33	1.06	0.26	81	80	68	1.88	2.30	68	0.018	96	97	30.4	-0.06	0.45		113.8	178.2	175.8	64.0	177.8	111	68	68	68		1.001	3.710	423
1538	247.798	249.614		0.16	0.16	1.33	1.06	0.26	81	80	68	1.88	2.30	68	0.016	102	102	30.3	0.11	0.46		113.8	178.1	175.7	63.9	177.7	109	68	68	68		1.001	3.869	441
1539	247.959	249.775		0.16	0.16	1.33	1.06	0.26	81	80	68	1.90	2.30	68	0.016	102	102	30.3	-0.09	0.45		113.4	177.9	175.5	63.9	177.3	109	68	68	68		1.001	3.706	421
1540	248.119	249.936		0.16	0.16	1.33	1.06	0.26	81	80	68	1.89	2.30	68	0.017	98	99	30.5	-0.17	0.45		113.4	177.8	175.4	63.9	177.3	108	68	68	68		1.001	3.710	421

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1541	248.280	250.098		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	68	0.017	99	99	30.4	0.12	0.48		113.2	177.6	175.2	63.9	177.1	107	68	68	67		1.001	4.031	457
1542	248.440	250.260		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	68	0.017	99	99	30.3	0.14	0.46		113.2	177.5	175.1	63.9	177.1	107	68	68	67		1.001	3.871	439
1543	248.601	250.420		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	68	0.016	102	101	30.4	-0.17	0.43		113.0	177.4	175.1	63.9	176.9	105	68	68	67		1.001	3.549	401
1544	248.762	250.582		0.16	0.16	1.32	1.06	0.26	80	80	67	1.89	2.30	68	0.016	102	102	30.3	0.09	0.41		112.8	177.1	174.7	63.9	176.7	106	68	68	67		1.001	3.386	382
1545	248.922	250.744		0.16	0.16	1.32	1.06	0.26	81	80	68	1.88	2.30	68	0.016	101	102	30.3	0.03	0.37		112.7	177.0	174.6	63.9	176.6	104	68	68	68		1.001	3.082	348
1546	249.083	250.905		0.16	0.16	1.32	1.07	0.26	80	80	68	1.88	2.30	68	0.015	106	105	30.4	-0.07	0.39		112.6	176.9	174.5	63.9	176.5	104	68	68	68		1.001	3.228	364
1547	249.243	251.066		0.16	0.16	1.33	1.07	0.26	80	80	68	1.90	2.30	68	0.018	96	96	30.4	-0.07	0.41		112.4	176.7	174.4	63.9	176.3	102	68	68	68		1.001	3.386	381
1548	249.404	251.228		0.16	0.16	1.33	1.07	0.26	80	80	67	1.88	2.30	68	0.015	106	106	30.5	-0.06	0.41		112.3	176.6	174.3	63.9	176.2	102	68	68	67		1.001	3.444	387
1549	249.565	251.390		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	68	0.016	102	102	30.5	0.00	0.38		112.2	176.5	174.1	63.9	176.1	103	68	68	67		1.001	3.151	354
1550	249.725	251.551		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	68	0.018	96	96	30.4	0.07	0.41		112.0	176.3	174.0	63.9	175.9	103	68	68	67		1.001	3.384	380
1551	249.885	251.712		0.16	0.16	1.33	1.07	0.26	80	80	67	1.89	2.30	68	0.017	99	99	30.5	-0.02	0.37		112.0	176.2	173.8	63.9	175.9	102	68	68	67		1.001	3.065	344
1552	250.046	251.874		0.16	0.16	1.33	1.07	0.26	80	80	67	1.89	2.30	68	0.018	96	97	30.4	0.02	0.45		111.7	176.0	173.7	63.9	175.6	102	68	68	67		1.001	3.708	415
1553	250.206	252.036		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	68	0.016	102	102	30.5	-0.03	0.43		111.5	175.9	173.6	63.9	175.4	102	68	68	67		1.001	3.551	397
1554	250.367	252.197		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	68	0.018	96	96	30.4	0.02	0.43		111.5	175.8	173.6	63.9	175.4	100	68	68	67		1.001	3.550	396
1555	250.528	252.358		0.16	0.16	1.33	1.07	0.26	80	80	67	1.88	2.30	68	0.017	99	99	30.4	0.09	0.43		111.4	175.6	173.3	63.9	175.2	100	67	68	67		1.001	3.549	396
1556	250.688	252.520		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	68	0.019	93	94	30.4	-0.03	0.43		111.3	175.6	173.2	63.9	175.2	100	67	68	67		1.001	3.551	396
1557	250.849	252.682		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	68	0.016	102	102	30.4	-0.06	0.43		111.1	175.3	173.1	63.9	174.9	100	67	68	67		1.001	3.550	395
1558	251.009	252.843		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.3	0.12	0.41		111.0	175.2	172.9	63.9	174.9	99	67	68	67		1.001	3.391	377
1559	251.170	253.002		0.16	0.16	1.33	0.97	0.26	80	80	67	1.88	2.70	73	0.018	97	95	30.5	-0.16	0.43		110.8	175.0	172.7	63.9	174.7	121	68	68	67		1.001	3.550	394
1560	251.331	253.156		0.16	0.15	1.33	1.01	0.26	80	80	67	1.88	2.50	69	0.017	99	95	30.3	0.23	0.39		110.6	174.9	172.6	63.9	174.5	116	68	68	67		1.001	3.230	358
1561	251.492	253.315		0.16	0.16	1.33	1.05	0.26	80	80	67	1.89	2.40	67	0.018	96	95	30.4	-0.19	0.39		110.5	174.7	172.5	63.9	174.3	113	68	68	67		1.001	3.238	358
1562	251.652	253.477		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.40	67	0.017	98	99	30.5	-0.03	0.41		110.4	174.6	172.4	63.9	174.3	112	67	68	67		1.001	3.393	375
1563	251.813	253.637		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.017	99	98	30.2	0.25	0.39		110.2	174.5	172.3	63.9	174.0	109	67	68	67		1.001	3.233	357
1564	251.974	253.798		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.016	102	102	30.3	-0.09	0.42		110.0	174.3	172.1	63.9	173.8	108	67	68	67		1.001	3.492	385
1565	252.134	253.959		0.16	0.16	1.33	1.05	0.26	80	80	67	1.89	2.30	67	0.017	98	99	30.5	-0.15	0.47		109.9	174.2	172.0	63.9	173.7	107	67	67	67		1.001	3.872	426
1566	252.295	254.120		0.16	0.16	1.33	1.05	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.4	0.08	0.45		109.8	174.1	171.9	63.8	173.7	105	67	67	67		1.001	3.708	408
1567	252.455	254.281		0.16	0.16	1.32	1.06	0.26	80	80	67	1.88	2.30	67	0.016	101	102	30.3	0.10	0.45		109.6	173.9	171.7	63.8	173.5	104	67	67	67		1.001	3.711	407
1568	252.616	254.442		0.16	0.16	1.32	1.06	0.26	80	80	67	1.88	2.30	67	0.017	99	99	30.5	-0.27	0.37		109.5	173.7	171.5	63.8	173.3	104	67	67	67		1.001	3.069	336
1569	252.777	254.603		0.16	0.16	1.32	1.06	0.26	80	80	67	1.89	2.30	68	0.015	106	105	30.4	0.11	0.41		109.3	173.6	171.4	63.8	173.1	102	67	67	67		1.001	3.388	371
1570	252.937	254.764		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	68	0.016	102	102	30.3	0.11	0.37		109.2	173.5	171.3	63.8	173.0	101	67	67	67		1.001	3.067	335
1571	253.097	254.925		0.16	0.16	1.32	1.06	0.26	80	80	67	1.88	2.30	68	0.015	105	105	30.4	-0.08	0.43		109.2	173.3	171.1	63.8	173.0	100	67	67	67		1.001	3.551	388
1572	253.258	255.087		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.017	99	99	30.3	0.07	0.41		109.0	173.3	171.0	63.8	172.7	99	67	67	67		1.001	3.388	370
1573	253.419	255.248		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.016	102	102	30.4	-0.05	0.45		108.8	173.0	170.8	63.8	172.6	100	67	67	67		1.001	3.711	404
1574	253.579	255.409		0.16	0.16	1.32	1.06	0.26	80	80	67	1.90	2.30	67	0.018	96	96	30.4	-0.03	0.45		108.8	172.9	170.7	63.8	172.5	98	67	67	67		1.001	3.712	404
1575	253.740	255.570		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.5	-0.08	0.41		108.5	172.8	170.6	63.8	172.3	99	67	67	67		1.001	3.396	369
1576	253.900	255.732		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.017	98	99	30.3	0.20	0.43		108.5	172.7	170.4	63.8	172.3	98	67	67	67		1.001	3.558	387
1577	254.061	255.893		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.016	102	102	30.7	-0.43	0.43		108.2	172.4	170.2	63.8	172.0	97	67	67	67		1.001	3.575	387
1578	254.221	256.053		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.018	96	95	30.3	0.39	0.45		108.2	172.3	170.1	63.8	172.0	96	67	67	67		1.001	3.735	405
1579	254.382	256.215		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.015	105	106	30.4	-0.09	0.42		108.1	172.2	170.0	63.8	171.8	97	67	67	67		1.001	3.474	376
1580	254.543	256.377		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.5	-0.11	0.41		107.8	172.1	169.8	63.8	171.5	95	67	67	67		1.001	3.386	365
1581	254.703	256.537		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	98	98	30.5	0.02	0.39		107.8	172.0	169.7	63.7	171.5	95	67	67	67		1.001	3.230	349
1582	254.864	256.699		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.016	102	102	30.4	0.07	0.43		107.6	171.7	169.5	63.7	171.3	95	67	67	67		1.001	3.546	382
1583	255.025	256.861		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.017	99	99	30.4	0.09	0.41		107.5	171.6	169.3	63.7	171.2	94	67	67	67		1.001	3.388	365
1584	255.186	257.022		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.017	99	99	30.5	-0.10	0.43		107.4	171.5	169.3	63.7	171.1	95	67	67	67		1.001	3.547	381
1585	255.346	257.182		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.017	98	98	30.5	-0.04	0.41		107.2	171.3	169.1	63.7	170.9	94	67	67	67		1.001	3.387	364
1586	255.507	257.344		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.016	102	102	30.4	0.05	0.43		107.0	171.1	168.9	63.7	170.7	94	67	67	67		1.001	3.550	380
1587	255.668	257.506		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.6	-0.15	0.39		107.0	171.0	168.8	63.7	170.7	93	67	67	67		1.001	3.228	346
1588	255.829	257.666		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.015	105	104	30.4	0.18	0.43		106.7	170.8	168.6	63.7	170.4	92	67	67	67		1.001	3.545	378
1589	255.989	257.828		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	98	99	30.5	-0.05	0.41		106.6	170.7	168.6	63.7	170.3	93	67	67	67		1.001	3.391	362
1590	256.149	257.988		0.16	0.16	1.33	0.98	0.26	80	80	67	1.90	2.60	72	0.016	102	102	30.3	0.16	0.46		106.6	170.5	168.4	63.7	170.3	113	67	67	67		1.001	3.869	413
1591	256.310	258.144		0.16	0.16	1.32	1.03	0.26	80	80	67	1.89	2.40	68	0.016	102	99	30.4	-0.13	0.40		106.3	170.4	168.3	63.7	170.0	109	67	67	67		1.001	3.363	358
1592	256.471	258.304		0.16	0.16	1.32	1.06	0.26	80	80	67	1.88	2.40	67	0.014	109	108	30.5	-0.04	0.39		106.2	170.2	168.0	63.7	169.9	106	67	67	67		1.001	3.261	347
1593	256.631	258.465		0.16	0.16	1.32	1.06	0.26	80	80	67	1.88	2.30	67	0.017	98	99	30.4	0.10	0.44		105.9	170.1	167.9	63.7	169.6	104	67	67	67		1.001	3.674	390
1594	256.792	258.626		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.015	105	105	30.7	-0.29	0.43		106.0	169.9	167.8	63.7	169.7	102	67	67	67		1.001	3.570	379
1595	256.952	258.786		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.017	98	98	30.4	0.31	0.43		105.6	169.8	167.6	63.7	169.3	101	67	67	67		1.001	3.548	375
1596	257.112	258.948		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	98	99	30.4	-0.06	0.47		105.6	169.8	167.5	63.7	169.3	101	67	67	67		1.001	3.873	410
1597	257.273	259.109		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.018	96	96	30.3	0.10	0.43		105.4	169.5	167.3	63.7	169.1	99	67	67	67		1.001	3.547	374
1598	257.434	259.270		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.016	102	102	30.5	-0.20	0.45		105.4	169.4	167.2	63.7	169.1	99	67	67	67		1.001	3.710	391
1599	257.594	259.431		0.16	0.16	1.32	1.06	0.26	80	80	67	1.88	2.30	67	0.018	96	96	30.4	0.11	0.45		105.3	169.3	167.1	63.7	169.0	98	67	67	67		1.001	3.712	391
1600	257.755	259.593		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.016	102	102	30.4	0.05	0.45		105.1	169.1	166.9	63.7	168.8	97	67	67	67		1.001	3.708	390
1601	257.915	259.754		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	98	99	30.5	-0.10	0.37		105.0	168.9	166.7	63.7	168.6	96	67	67	67		1.001	3.070	323
1602	258.076	259.914		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	99	98	30.4	0.06	0.47		104.8	168.8	166.6	63.7	168.4	95	67	67	67		1.001	3.874	406

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1603	258.237	260.076		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.5	-0.12	0.37		104.6	168.6	166.5	63.7	168.3	95	67	67	67		1.001	3.069	321
1604	258.398	260.237		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.018	96	96	30.5	0.06	0.43		104.6	168.5	166.3	63.7	168.2	95	67	67	67		1.001	3.548	371
1605	258.558	260.398		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.017	98	99	30.5	-0.03	0.46		104.4	168.4	166.3	63.7	168.0	94	67	67	67		1.001	3.871	404
1606	258.719	260.560		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.015	105	106	30.5	-0.01	0.41		104.2	168.3	166.2	63.7	167.9	93	67	67	67		1.001	3.380	353
1607	258.879	260.722		0.16	0.16	1.34	1.06	0.26	80	80	67	1.90	2.30	67	0.015	105	106	30.5	-0.01	0.45		104.0	168.1	165.9	63.6	167.7	92	67	67	67		1.001	3.710	386
1608	259.040	260.883		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	99	99	30.5	0.03	0.44		104.0	167.9	165.8	63.6	167.7	92	67	67	67		1.001	3.644	380
1609	259.201	261.043		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	99	98	30.6	-0.08	0.44		103.8	167.8	165.6	63.6	167.4	91	67	67	67		1.001	3.676	382
1610	259.362	261.205		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.016	102	102	30.7	-0.09	0.39		103.6	167.7	165.5	63.7	167.2	91	67	67	67		1.001	3.232	335
1611	259.523	261.367		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.30	67	0.015	105	106	30.5	0.20	0.45		103.6	167.5	165.3	63.6	167.2	90	67	67	67		1.001	3.712	385
1612	259.684	261.527		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.016	102	101	30.5	-0.05	0.48		103.2	167.3	165.1	63.6	166.8	89	67	67	67		1.001	4.034	417
1613	259.845	261.689		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.016	102	102	30.5	-0.02	0.41		103.2	167.2	165.0	63.6	166.8	89	67	67	67		1.001	3.389	350
1614	260.006	261.850		0.16	0.16	1.33	1.07	0.26	80	80	67	1.88	2.30	67	0.016	102	102	30.4	0.09	0.39		103.0	167.0	164.9	63.6	166.6	89	67	67	67		1.001	3.236	334
1615	260.166	262.012		0.16	0.16	1.33	1.06	0.26	80	80	67	1.90	2.30	67	0.016	101	102	30.5	-0.06	0.41		102.8	166.9	164.9	63.6	166.4	89	67	67	67		1.001	3.392	349
1616	260.327	262.173		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.6	-0.08	0.45		102.9	166.8	164.6	63.6	166.5	88	67	67	67		1.001	3.715	383
1617	260.488	262.334		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.018	96	96	30.6	0.01	0.41		102.6	166.6	164.4	63.6	166.3	88	67	67	67		1.001	3.393	349
1618	260.648	262.496		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	98	99	30.6	-0.06	0.45		102.5	166.5	164.4	63.6	166.2	88	67	67	67		1.001	3.711	381
1619	260.809	262.657		0.16	0.16	1.32	1.05	0.26	80	80	67	1.88	2.30	67	0.017	99	99	30.6	0.05	0.45		102.4	166.4	164.2	63.6	166.0	87	67	67	67		1.001	3.710	380
1620	260.969	262.818		0.16	0.16	1.33	1.06	0.26	80	80	67	1.89	2.30	67	0.017	98	99	30.6	0.00	0.41		102.3	166.3	164.1	63.6	166.0	91	67	67	67		1.001	3.400	348
1621	261.130	262.977		0.16	0.16	1.33	1.00	0.26	80	80	67	1.88	2.60	72	0.016	103	101	30.5	0.08	0.39		102.2	166.1	164.0	63.6	165.8	107	67	67	67		1.001	3.235	331
1622	261.290	263.136		0.16	0.16	1.33	1.04	0.26	80	80	67	1.88	2.40	68	0.016	102	101	30.5	0.00	0.40		101.7	165.9	163.9	63.6	165.4	102	67	67	67		1.001	3.307	337
1623	261.451	263.296		0.16	0.16	1.33	1.05	0.26	80	80	67	1.89	2.40	67	0.016	102	101	30.4	0.07	0.39		101.7	165.8	163.7	63.6	165.3	100	67	67	67		1.001	3.275	333
1624	261.612	263.457		0.16	0.16	1.32	1.05	0.26	80	80	67	1.89	2.40	67	0.017	99	99	30.5	-0.08	0.43		101.7	165.6	163.5	63.6	165.3	98	67	67	67		1.001	3.562	363
1625	261.773	263.617		0.16	0.16	1.33	1.05	0.26	80	80	67	1.88	2.40	67	0.015	105	104	30.6	-0.06	0.39		101.6	165.5	163.4	63.6	165.2	96	67	67	67		1.001	3.233	329
1626	261.933	263.778		0.16	0.16	1.33	1.05	0.26	80	80	67	1.88	2.40	67	0.014	108	109	30.6	0.00	0.43		101.3	165.4	163.3	63.6	165.0	96	67	67	67		1.001	3.550	360
1627	262.093	263.938		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.40	67	0.018	96	95	30.5	0.07	0.45		101.2	165.2	163.1	63.6	164.8	95	67	67	67		1.001	3.715	376
1628	262.254	264.100		0.16	0.16	1.33	1.06	0.26	80	80	67	1.88	2.40	67	0.014	109	109	30.5	0.01	0.43		101.1	165.0	162.9	63.6	164.7	94	67	67	67		1.001	3.556	360
1629	262.415	264.260		0.16	0.16	1.33	1.05	0.26	80	80	67	1.88	2.40	67	0.016	102	101	30.5	0.02	0.37		100.9	164.9	162.8	63.6	164.5	93	67	67	67		1.001	3.074	310
1630	262.575	264.421		0.16	0.16	1.33	1.05	0.26	80	79	67	1.88	2.40	67	0.013	113	113	30.6	-0.13	0.43		100.9	164.7	162.7	63.6	164.5	92	67	67	67		1.001	3.553	359
1631	262.736	264.582		0.16	0.16	1.33	1.06	0.26	80	79	67	1.88	2.40	67	0.016	102	102	30.6	-0.01	0.39		100.6	164.6	162.6	63.6	164.2	91	67	67	67		1.001	3.234	326
1632	262.896	264.743		0.16	0.16	1.33	1.05	0.26	80	79	67	1.88	2.40	67	0.016	101	102	30.6	-0.01	0.41		100.4	164.4	162.4	63.6	164.0	91	67	67	67		1.001	3.390	341
1633	263.057	264.903		0.16	0.16	1.34	1.06	0.26	80	79	67	1.88	2.40	67	0.015	105	105	30.5	0.10	0.41		100.4	164.3	162.2	63.6	164.0	91	67	67	67		1.001	3.393	341
1634	263.218	265.064		0.16	0.16	1.33	1.06	0.26	80	79	67	1.89	2.40	67	0.016	102	102	30.5	0.02	0.43		100.4	164.2	162.2	63.6	164.0	90	67	67	67		1.001	3.550	357
1635	263.378	265.225		0.16	0.16	1.33	1.05	0.26	80	79	67	1.90	2.40	67	0.014	108	109	30.4	0.08	0.43		100.3	164.0	162.0	63.6	163.8	90	67	67	67		1.001	3.553	357
1636	263.539	265.385		0.16	0.16	1.32	1.05	0.26	80	79	67	1.89	2.40	67	0.017	99	98	30.6	-0.14	0.44		100.1	164.0	161.9	63.6	163.7	89	67	67	67		1.001	3.651	366
1637	263.700	265.546		0.16	0.16	1.33	1.06	0.26	80	79	67	1.89	2.40	67	0.015	105	105	30.5	0.03	0.41		99.9	163.8	161.8	63.6	163.5	88	67	67	67		1.001	3.429	343
1638	263.861	265.708		0.16	0.16	1.33	1.06	0.26	80	79	67	1.89	2.40	67	0.016	102	103	30.5	0.00	0.42		99.7	163.6	161.6	63.6	163.3	88	67	67	67		1.001	3.498	349
1639	264.021	265.868		0.16	0.16	1.33	1.05	0.26	80	79	66	1.90	2.40	67	0.018	96	95	30.5	-0.01	0.41		99.4	163.4	161.4	63.6	163.0	87	67	67	66		1.001	3.392	338
1640	264.182	266.028		0.16	0.16	1.33	1.06	0.26	80	79	67	1.89	2.40	67	0.017	99	98	30.5	0.06	0.45		99.4	163.3	161.3	63.6	162.9	87	67	67	67		1.001	3.716	370
1641	264.342	266.190		0.16	0.16	1.33	1.06	0.26	80	79	67	1.88	2.40	67	0.017	98	99	30.6	-0.10	0.45		99.2	163.1	161.1	63.6	162.8	86	67	67	67		1.001	3.713	369
1642	264.503	266.351		0.16	0.16	1.33	1.05	0.26	80	79	67	1.89	2.40	67	0.019	94	94	30.5	0.05	0.37		99.1	163.0	161.0	63.6	162.7	86	67	67	67		1.001	3.072	305
1643	264.664	266.511		0.16	0.16	1.32	1.06	0.26	80	79	66	1.89	2.40	67	0.019	94	93	30.5	0.06	0.39		98.9	162.9	160.9	63.5	162.5	85	67	67	66		1.001	3.234	320
1644	264.824	266.672		0.16	0.16	1.33	1.06	0.26	80	79	67	1.88	2.40	67	0.014	108	109	30.6	-0.10	0.43		98.8	162.7	160.7	63.5	162.4	86	67	67	67		1.001	3.554	352
1645	264.984	266.833		0.16	0.16	1.33	1.06	0.26	80	79	66	1.89	2.40	67	0.017	98	99	30.5	0.03	0.39		98.8	162.6	160.6	63.5	162.3	85	67	67	66		1.001	3.233	320
1646	265.145	266.994		0.16	0.16	1.33	1.06	0.26	80	79	66	1.88	2.40	67	0.018	96	96	30.6	-0.02	0.45		98.6	162.5	160.4	63.5	162.1	85	67	67	66		1.001	3.713	367
1647	265.305	267.155		0.16	0.16	1.33	1.06	0.26	80	79	66	1.89	2.40	67	0.017	98	99	30.6	0.01	0.41		98.5	162.3	160.3	63.5	162.0	85	67	67	66		1.001	3.392	334
1648	265.466	267.316		0.16	0.16	1.33	1.06	0.26	80	79	66	1.88	2.30	67	0.016	102	102	30.6	-0.04	0.41		98.3	162.2	160.1	63.5	161.8	85	67	67	66		1.001	3.398	335
1649	265.627	267.477		0.16	0.16	1.33	1.05	0.26	80	79	66	1.89	2.40	67	0.017	99	99	30.5	0.10	0.45		98.2	162.1	160.0	63.5	161.7	84	67	67	66		1.001	3.717	366
1650	265.787	267.637		0.16	0.16	1.33	1.06	0.26	80	79	66	1.88	2.40	67	0.017	98	98	30.6	-0.13	0.41		98.1	161.9	159.9	63.5	161.6	84	66	67	66		1.001	3.402	334
1651	265.948	267.798		0.16	0.16	1.33	1.06	0.26	80	79	66	1.88	2.40	67	0.017	99	99	30.5	0.10	0.44		98.0	161.8	159.7	63.5	161.5	96	66	67	66		1.001	3.699	363
1652	266.108	267.958		0.16	0.16	1.33	1.01	0.26	80	79	66	1.88	2.50	71	0.016	102	102	30.6	-0.08	0.40		97.8	161.6	159.5	63.5	161.3	102	67	67	66		1.001	3.363	329
1653	266.269	268.116		0.16	0.16	1.33	1.05	0.26	80	79	66	1.88	2.40	67	0.018	96	94	30.6	0.04	0.43		97.6	161.5	159.4	63.5	161.1	98	67	67	66		1.001	3.554	347
1654	266.429	268.277		0.16	0.16	1.33	1.05	0.26	80	79	66	1.89	2.40	67	0.017	98	99	30.4	0.12	0.43		97.5	161.4	159.3	63.5	161.0	95	67	67	66		1.001	3.554	347
1655	266.590	268.437		0.16	0.16	1.33	1.05	0.26	80	79	66	1.89	2.40	67	0.017	99	98	30.6	-0.11	0.45		97.4	161.2	159.2	63.5	160.9	94	67	67	66		1.001	3.715	362
1656	266.751	268.597		0.16	0.16	1.33	1.05	0.26	80	79	66	1.89	2.40	67	0.016	102	101	30.5	0.08	0.39		97.3	161.0	159.0	63.5	160.7	93	67	67	66		1.001	3.232	315
1657	266.911	268.757		0.16	0.16	1.33	1.01	0.26	80	79	66	1.88	2.50	71	0.016	102	102	30.4	0.10	0.43		97.0	160.9	158.9	63.5	160.5	114	67	67	66		1.001	3.556	345
1658	267.072	268.914		0.16	0.16	1.33	1.00	0.26	80	79	66	1.90	2.50	74	0.018	97	94	30.3	0.11	0.48		97.0	160.7	158.7	63.5	160.5	143	67	67	66		1.001	4.038	392
1659	267.233	269.071		0.16	0.16	1.33	1.00	0.26	80	79	66	1.89	2.60	76	0.017	100	97	30.1	0.21	0.50		97.0	160.7	158.7	63.5	160.4	164	67	67	66		1.001	4.197	407
1660	267.394	269.226		0.16	0.15	1.33	0.97	0.26	80	79	66	1.89	2.70	78	0.018	97	93	29.9	0.20	0.48		96.9	160.7	158.7	63.5	160.3	186	67	67	66		1.001	4.038	392
1661	267.554	269.380		0.16	0.15	1.33	0.95	0.26	79	79	66	1.90	2.80	81	0.017	100	96	29.5	0.36	0.39		96.9	160.9	158.8	63.5	160.3	206	67	67	66		1.001	3.235	314
1662	267.715	269.531		0.16	0.15	1.33	0.92	0.26	79	79	66	1.89	2.90	83	0.018	98	91	28.9	0.55	0.37		97.2	161.1	159.0	63.5	160.6	222	68	67	66		1.001	3.075	299
1663	267.875	269.678		0.16	0.15	1.33	0.86	0.26	79	79	66	1.90	3.20	85	0.017	100	92	28.7	0.24	0.39		97.5	161.5	159.4	63.5	160.9	234	68	68	66		1.001	3.235	316
1664	268.035	269.821		0.16	0.14	1.33	0.80	0.26	80	79	66	1.91	3.40	88	0.017	100	90	28.3	0.39	0.45		98.1	162.1	160.0	63.5	161.5	244	68	68	66		1.001	3.720	365

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1665	268.195	269.959		0.16	0.14	1.33	0.74	0.26	79	79	66	1.89	3.60	90	0.017	101	87	27.9	0.45	0.41		98.5	162.7	160.6	63.5	162.0	253	68	68	66		1.001	3.394	335
1666	268.355	270.091		0.16	0.13	1.33	0.67	0.26	79	79	66	1.90	4.00	92	0.017	101	83	27.5	0.41	0.41		99.2	163.4	161.3	63.5	162.6	261	69	68	66		1.001	3.394	337
1667	268.515	270.215		0.16	0.12	1.33	0.58	0.26	79	79	66	1.91	4.40	94	0.018	98	76	26.8	0.64	0.41		100.0	164.3	162.1	63.5	163.5	271	69	68	66		1.001	3.419	342
1668	268.675	270.331		0.16	0.12	1.33	0.52	0.26	79	79	66	1.90	4.80	96	0.017	101	73	26.3	0.56	0.41		101.0	165.3	163.1	63.5	164.4	282	69	68	66		1.001	3.397	343
1669	268.835	270.441		0.16	0.11	1.33	0.48	0.26	79	79	66	1.92	5.00	98	0.017	101	70	25.7	0.60	0.39		102.0	166.3	164.1	63.5	165.5	290	70	68	66		1.001	3.236	330
1670	268.995	270.549		0.16	0.11	1.33	0.46	0.26	79	79	66	1.92	5.20	100	0.017	102	68	25.1	0.51	0.39		103.1	167.5	165.3	63.5	166.6	296	70	69	66		1.001	3.235	334
1671	269.155	270.653		0.16	0.10	1.33	0.44	0.26	79	79	66	1.91	5.40	102	0.018	99	64	24.5	0.62	0.39		104.1	168.8	166.5	63.5	167.7	302	71	69	66		1.001	3.234	337
1672	269.315	270.756		0.16	0.10	1.33	0.42	0.26	79	79	66	1.92	5.60	104	0.017	102	65	23.8	0.69	0.39		105.5	170.0	167.7	63.5	169.0	309	71	69	66		1.001	3.235	342
1673	269.474	270.857		0.16	0.10	1.33	0.40	0.26	79	79	66	1.91	5.70	105	0.017	101	64	23.4	0.46	0.45		106.8	171.4	169.0	63.5	170.3	314	72	69	66		1.001	3.714	397
1674	269.634	270.956		0.16	0.10	1.33	0.40	0.26	79	79	66	1.92	5.70	107	0.016	105	65	22.6	0.76	0.45		108.0	172.8	170.4	63.5	171.6	318	72	69	66		1.001	3.714	402
1675	269.794	271.055		0.16	0.10	1.33	0.39	0.26	79	79	66	1.93	5.80	108	0.017	102	63	21.9	0.67	0.39		109.6	174.2	171.8	63.5	173.1	324	73	69	66		1.001	3.235	355
1676	269.954	271.151		0.16	0.10	1.33	0.38	0.26	79	79	66	1.92	5.90	109	0.018	100	60	21.2	0.77	0.39		110.8	175.6	173.2	63.5	174.4	329	73	70	66		1.001	3.233	359
1677	270.113	271.246		0.16	0.09	1.32	0.37	0.26	79	79	68	1.93	6.00	110	0.016	105	63	20.7	0.50	0.45		112.4	177.1	174.7	63.5	175.9	333	74	70	68		1.001	3.716	418
1678	270.273	271.340		0.16	0.09	1.31	0.36	0.26	79	79	66	1.94	6.00	111	0.018	100	58	19.9	0.79	0.44		113.8	178.7	176.2	63.6	177.4	334	74	70	66		1.001	3.701	422
1679	270.432	271.434		0.16	0.09	1.31	0.35	0.26	79	79	66	1.94	6.10	112	0.017	102	60	19.4	0.54	0.45		115.2	180.1	177.6	63.6	178.8	337	74	70	66		1.001	3.719	429
1680	270.591	271.525		0.16	0.09	1.32	0.35	0.26	79	79	66	1.93	6.20	111	0.016	105	60	18.7	0.67	0.48		116.6	181.6	179.1	63.6	180.2	340	74	70	66		1.001	3.973	464
1681	270.750	271.617		0.16	0.09	1.32	0.34	0.26	79	79	67	1.92	6.20	96	0.017	101	58	18.2	0.51	0.46		118.2	183.1	180.6	63.7	181.9	311	74	70	67		1.001	3.814	451
1682	270.909	271.708		0.16	0.09	1.32	0.35	0.26	79	79	67	1.93	6.10	83	0.018	97	55	17.9	0.26	0.41		119.2	183.9	181.3	63.8	183.0	283	72	70	67		1.001	3.393	405
1683	271.069	271.801		0.16	0.09	1.32	0.36	0.26	79	79	67	1.92	6.10	80	0.017	100	58	17.6	0.35	0.46		119.8	184.5	182.0	63.9	183.7	265	72	70	67		1.001	3.867	464
1684	271.228	271.895		0.16	0.09	1.32	0.36	0.26	79	79	68	1.93	6.00	78	0.017	99	58	17.6	-0.06	0.41		120.0	184.9	182.4	64.0	184.1	253	71	70	68		1.001	3.386	407
1685	271.388	271.989		0.16	0.09	1.32	0.37	0.26	79	79	67	1.91	5.90	77	0.016	103	60	17.3	0.33	0.39		120.3	185.3	182.7	64.2	184.5	245	71	70	67		1.001	3.225	389
1686	271.548	272.086		0.16	0.10	1.32	0.38	0.26	79	79	67	1.91	5.80	75	0.017	99	60	17.1	0.17	0.43		120.6	185.5	183.1	64.3	184.9	238	71	70	67		1.001	3.542	427
1687	271.708	272.184		0.16	0.10	1.31	0.40	0.26	79	79	67	1.91	5.70	75	0.016	102	62	17.1	-0.02	0.39		120.7	185.7	183.3	64.4	185.2	231	71	70	67		1.001	3.223	390
1688	271.868	272.283		0.16	0.10	1.32	0.42	0.26	79	79	67	1.91	5.50	74	0.017	99	61	17.2	0.00	0.43		120.7	186.0	183.6	64.6	185.3	225	70	69	67		1.001	3.542	428
1689	272.028	272.388		0.16	0.10	1.31	0.47	0.26	79	79	67	1.90	5.10	74	0.018	96	63	17.1	0.08	0.37		120.9	186.2	183.7	64.7	185.5	220	70	69	67		1.001	3.066	371
1690	272.188	272.506		0.16	0.12	1.31	0.69	0.26	79	79	67	1.91	3.80	74	0.016	102	75	17.0	0.08	0.39		120.9	186.3	183.8	64.8	185.7	216	69	69	67		1.001	3.221	390
1691	272.348	272.646		0.16	0.14	1.31	0.85	0.26	79	79	67	1.91	3.10	73	0.018	96	84	17.0	-0.02	0.43		120.9	186.4	183.9	64.9	185.8	212	69	69	67		1.001	3.544	429
1692	272.507	272.792		0.16	0.15	1.31	0.87	0.26	79	79	67	1.89	3.00	73	0.016	102	93	16.9	0.07	0.43		120.9	186.5	184.0	65.0	185.9	208	68	69	67		1.001	3.541	429
1693	272.667	272.939		0.16	0.15	1.32	0.88	0.26	80	79	68	1.90	3.00	73	0.018	96	88	17.0	-0.01	0.44		121.0	186.6	184.2	65.1	186.1	204	68	69	68		1.001	3.697	448
1694	272.827	273.085		0.16	0.15	1.32	0.87	0.26	79	79	68	1.89	3.00	73	0.017	99	90	16.7	0.26	0.41		120.9	186.6	184.2	65.1	186.1	201	68	69	68		1.001	3.383	410
1695	272.987	273.234		0.16	0.15	1.32	0.90	0.26	80	79	68	1.91	2.90	73	0.016	102	95	16.8	-0.13	0.41		120.9	186.7	184.3	65.2	186.1	198	68	69	68		1.001	3.381	409
1696	273.147	273.384		0.16	0.15	1.32	0.93	0.26	80	79	68	1.89	2.80	72	0.015	105	99	16.8	0.06	0.44		120.9	186.8	184.3	65.3	186.2	194	68	69	68		1.001	3.704	448
1697	273.308	273.535		0.16	0.15	1.32	0.94	0.26	80	79	68	1.89	2.80	72	0.017	100	93	16.8	-0.07	0.39		121.0	186.8	184.3	65.4	186.4	191	68	69	68		1.001	3.270	396
1698	273.468	273.688		0.16	0.15	1.32	0.93	0.26	80	79	68	1.90	2.80	72	0.016	102	97	16.7	0.11	0.43		120.6	186.8	184.4	65.5	186.1	187	68	69	68		1.001	3.543	428
1699	273.628	273.840		0.16	0.15	1.32	0.94	0.26	80	80	68	1.88	2.80	72	0.017	99	94	16.6	0.09	0.43		120.7	186.8	184.5	65.6	186.3	184	68	69	68		1.001	3.543	428
1700	273.788	273.991		0.16	0.15	1.32	0.94	0.26	80	80	68	1.89	2.80	72	0.019	94	88	16.8	-0.14	0.41		120.7	186.9	184.4	65.6	186.4	181	68	69	68		1.001	3.379	408
1701	273.949	274.145		0.16	0.15	1.32	0.95	0.26	80	80	68	1.90	2.80	72	0.017	100	95	16.7	0.04	0.46		120.5	186.8	184.3	65.7	186.2	178	69	69	68		1.001	3.862	466
1702	274.109	274.297		0.16	0.15	1.32	0.95	0.26	80	80	68	1.90	2.70	72	0.017	99	94	16.7	0.02	0.43		120.5	186.8	184.3	65.8	186.3	175	69	69	68		1.001	3.543	428
1703	274.269	274.450		0.16	0.15	1.32	0.95	0.26	80	80	68	1.91	2.70	72	0.017	99	94	16.7	0.04	0.45		120.4	186.8	184.3	65.8	186.3	172	69	69	68		1.001	3.707	447
1704	274.429	274.603		0.16	0.15	1.32	0.95	0.26	80	80	68	1.91	2.70	72	0.015	105	100	16.7	0.01	0.39		120.2	186.6	184.1	65.9	186.1	169	69	69	68		1.001	3.224	388
1705	274.590	274.756		0.16	0.15	1.31	0.96	0.26	80	80	68	1.90	2.70	72	0.015	106	100	16.7	-0.07	0.41		120.3	186.7	184.3	65.9	186.2	167	69	69	68		1.001	3.387	408
1706	274.750	274.915		0.16	0.16	1.32	1.11	0.26	80	80	68	1.89	3.00	72	0.016	102	101	16.5	0.25	0.39		120.2	186.6	184.2	66.0	186.1	164	69	69	68		1.001	3.225	388
1707	274.910	275.079		0.16	0.16	1.31	1.10	0.26	80	80	68	1.88	3.00	73	0.014	109	111	16.7	-0.22	0.41		120.1	186.7	184.2	66.0	186.2	162	69	69	68		1.001	3.385	407
1708	275.070	275.244		0.16	0.17	1.32	1.11	0.26	80	80	68	1.89	3.00	73	0.017	99	102	16.5	0.17	0.41		120.0	186.6	184.1	66.1	186.1	160	69	69	68		1.001	3.376	406
1709	275.230	275.409		0.16	0.16	1.32	1.11	0.26	80	80	68	1.90	3.00	73	0.016	102	105	16.7	-0.21	0.43		119.9	186.5	184.1	66.1	186.0	158	69	69	68		1.001	3.543	425
1710	275.390	275.573		0.16	0.16	1.32	1.11	0.26	80	80	68	1.88	3.00	73	0.016	102	104	16.7	0.04	0.42		119.9	186.6	184.1	66.2	186.1	155	69	69	68		1.001	3.503	420
1711	275.550	275.738		0.16	0.17	1.32	1.11	0.26	80	80	68	1.90	3.00	73	0.017	99	102	16.7	-0.03	0.42		119.7	186.5	183.9	66.2	185.9	153	69	69	68		1.001	3.463	415
1712	275.710	275.903		0.16	0.17	1.32	1.11	0.26	80	80	69	1.89	3.00	73	0.018	96	99	16.6	0.14	0.44		119.6	186.4	183.9	66.3	185.9	151	69	69	69		1.001	3.657	438
1713	275.870	276.069		0.16	0.17	1.32	1.11	0.26	80	80	69	1.90	3.00	73	0.016	102	105	16.8	-0.18	0.45		119.5	186.3	183.8	66.3	185.9	149	69	69	69		1.001	3.705	443
1714	276.031	276.234		0.16	0.16	1.32	1.11	0.26	80	80	69	1.88	3.00	73	0.017	100	102	16.7	0.07	0.43		119.4	186.3	183.8	66.3	185.8	147	69	69	69		1.001	3.543	424
1715	276.191	276.399		0.16	0.17	1.32	1.11	0.26	80	80	69	1.90	3.00	73	0.017	99	102	16.6	0.08	0.41		119.3	186.2	183.8	66.4	185.6	145	69	69	69		1.001	3.382	404
1716	276.351	276.563		0.16	0.16	1.32	1.11	0.26	80	80	69	1.90	3.00	73	0.016	102	104	16.7	-0.02	0.43		119.2	186.2	183.7	66.4	185.6	144	69	69	69		1.001	3.546	423
1717	276.511	276.728		0.16	0.17	1.32	1.12	0.26	80	80	69	1.89	3.00	73	0.016	102	105	16.6	0.00	0.39		119.1	186.1	183.6	66.4	185.5	142	69	69	69		1.001	3.223	384
1718	276.672	276.893		0.16	0.16	1.32	1.11	0.26	80	80	69	1.91	3.00	73	0.016	103	105	16.6	0.01	0.37		118.9	185.9	183.5	66.4	185.3	141	69	69	69		1.001	3.062	364
1719	276.832	277.059		0.16	0.17	1.32	1.12	0.26	80	81	69	1.90	3.00	73	0.016	102	105	16.7	-0.04	0.37		118.9	185.8	183.4	66.4	185.3	139	69	69	69		1.001	3.061	364
1720	276.993	277.224		0.16	0.16	1.31	1.11	0.26	80	81	69	1.90	2.90	73	0.016	103	105	16.7	-0.05	0.39		118.8	185.8	183.3	66.4	185.2	138	69	70	69		1.001	3.221	383
1721	277.153	277.390		0.16	0.17	1.32	1.12	0.26	80	81	69	1.90	2.90	73	0.018	96	99	16.9	-0.17	0.41		118.8	185.6	183.2	66.4	185.2	136	69	70	69		1.001	3.380	402
1722	277.313	277.556		0.16	0.17	1.31	1.12	0.26	81	81	70	1.91	2.90	73	0.017	99	102	16.6	0.25	0.41		118.7	185.6	183.1	66.5	185.1	135	70	70	70		1.001	3.381	402
1723	277.473	277.721		0.16	0.17	1.31	1.12	0.26	81	81	69	1.91	2.90	73	0.018	96	99	16.6	0.07	0.39		118.5	185.5	183.0	66.5	184.9	133	70	70	69		1.001	3.217	382
1724	277.633	277.886		0.16	0.17	1.31	1.12	0.26	81	81	69	1.89	2.90	73	0.019	93	96	16.8	-0.19	0.44		118.3	185.4	182.8	66.5	184.8	131	70	70	69		1.001	3.696	438
1725	277.793	278.052		0.16	0.17	1.31	1.11	0.26	81	81	69	1.89	2.90	73	0.017	99	102	16.8	-0.03	0.41		118.3	185.3	182.8	66.5	184.9	131	70	70	69		1.001	3.379	400
1726	277.953	278.217		0.16	0.16	1.31	1.12	0.26	81	81	69	1.91	2.90	73	0.018	96	99	16.8	-0.04	0.44		118.3	185.2	182.7	66.5	184.8	129	70	70	69		1.001	3.697	438

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1727	278.113	278.383		0.16	0.17	1.32	1.12	0.26	81	81	70	1.90	2.90	73	0.018	96	99	16.7	0.13	0.41		118.1	185.2	182.7	66.6	184.7	128	70	70	70		1.001	3.377	399
1728	278.273	278.549		0.16	0.17	1.32	1.12	0.26	81	81	69	1.88	2.90	73	0.018	96	99	16.6	0.09	0.42		118.0	185.0	182.6	66.6	184.6	127	70	70	69		1.001	3.537	418
1729	278.433	278.715		0.16	0.17	1.32	1.12	0.26	81	81	70	1.89	2.90	73	0.017	99	102	16.8	-0.22	0.41		117.9	185.0	182.5	66.6	184.5	126	70	70	70		1.001	3.380	399
1730	278.594	278.880		0.16	0.17	1.32	1.12	0.26	81	81	69	1.89	2.90	73	0.016	102	105	16.6	0.26	0.42		117.7	184.9	182.5	66.6	184.3	124	70	70	69		1.001	3.538	417
1731	278.754	279.046		0.16	0.17	1.32	1.12	0.26	81	81	69	1.89	2.90	73	0.015	105	109	16.8	-0.23	0.43		117.7	184.8	182.4	66.6	184.4	123	70	70	69		1.001	3.539	417
1732	278.914	279.212		0.16	0.17	1.32	1.12	0.26	81	81	70	1.91	2.90	73	0.017	99	102	16.8	0.03	0.39		117.5	184.7	182.3	66.6	184.2	122	70	70	70		1.001	3.215	378
1733	279.074	279.378		0.16	0.17	1.32	1.12	0.26	81	81	70	1.89	2.90	73	0.016	102	105	16.8	0.02	0.41		117.5	184.6	182.1	66.7	184.2	121	70	70	70		1.001	3.376	397
1734	279.235	279.544		0.16	0.17	1.32	1.12	0.26	81	81	70	1.90	2.90	73	0.016	102	105	16.9	-0.10	0.43		117.3	184.3	181.9	66.7	184.0	120	70	70	70		1.001	3.539	415
1735	279.395	279.709		0.16	0.17	1.32	1.04	0.26	81	81	70	1.90	3.30	77	0.017	99	102	16.7	0.19	0.41		117.2	184.3	181.9	66.7	183.9	147	70	70	70		1.001	3.380	397
1736	279.556	279.845		0.16	0.14	1.31	0.69	0.26	81	81	70	1.91	5.00	77	0.015	106	89	16.6	0.02	0.43		117.1	184.3	181.9	66.7	183.8	146	71	71	70		1.001	3.542	415
1737	279.716	279.991		0.16	0.15	1.32	1.02	0.26	81	81	70	1.89	3.30	74	0.016	102	93	16.7	-0.01	0.41		116.9	184.2	181.7	66.8	183.7	138	70	70	70		1.001	3.375	395
1738	279.876	280.153		0.16	0.16	1.32	1.09	0.26	81	81	70	1.91	3.00	73	0.016	102	103	16.7	0.01	0.41		116.8	184.1	181.6	66.8	183.6	133	70	70	70		1.001	3.377	395
1739	280.036	280.317		0.16	0.16	1.31	1.10	0.26	81	81	70	1.90	3.00	73	0.018	96	98	16.6	0.03	0.37		116.7	184.0	181.6	66.8	183.5	130	70	70	70		1.001	3.055	357
1740	280.197	280.483		0.16	0.17	1.31	1.11	0.26	81	82	70	1.89	3.00	73	0.017	99	102	16.5	0.12	0.41		116.6	183.8	181.3	66.8	183.4	127	70	70	70		1.001	3.378	394
1741	280.357	280.648		0.16	0.17	1.31	1.11	0.26	81	82	70	1.90	3.00	73	0.015	105	108	16.5	-0.04	0.39		116.5	183.7	181.2	66.8	183.3	125	70	70	70		1.001	3.216	375
1742	280.517	280.813		0.16	0.16	1.31	1.11	0.26	81	82	70	1.89	3.00	73	0.018	96	98	16.6	-0.04	0.38		116.2	183.6	181.2	66.8	183.0	124	70	71	70		1.001	3.196	372
1743	280.677	280.978		0.16	0.17	1.32	1.11	0.26	81	82	70	1.89	2.90	73	0.016	102	104	16.6	-0.05	0.43		116.3	183.6	181.2	66.8	183.1	122	71	71	70		1.001	3.545	413
1744	280.837	281.144		0.16	0.17	1.32	1.11	0.26	81	82	70	1.89	2.90	73	0.015	105	109	16.5	0.10	0.39		116.0	183.3	181.0	66.8	182.9	121	71	71	70		1.001	3.269	380
1745	280.997	281.309		0.16	0.17	1.32	1.12	0.26	81	82	70	1.90	2.90	73	0.016	102	104	16.7	-0.16	0.46		115.9	183.2	180.8	66.8	182.7	120	71	71	70		1.001	3.839	445
1746	281.157	281.475		0.16	0.17	1.32	1.12	0.26	81	82	70	1.89	2.90	74	0.017	99	102	16.6	0.14	0.42		115.8	183.1	180.8	66.9	182.7	119	71	71	70		1.001	3.536	410
1747	281.318	281.641		0.16	0.17	1.32	1.13	0.26	82	82	70	1.89	2.90	74	0.017	99	102	16.6	-0.02	0.39		115.6	183.0	180.7	66.9	182.5	117	71	71	70		1.001	3.235	374
1748	281.478	281.807		0.16	0.17	1.32	1.12	0.26	82	82	70	1.90	2.90	74	0.017	99	102	16.5	0.08	0.39		115.6	183.0	180.7	66.9	182.5	116	71	71	70		1.001	3.214	372
1749	281.638	281.973		0.16	0.17	1.32	1.13	0.26	82	82	70	1.89	2.90	74	0.016	102	105	16.6	-0.12	0.35		115.5	182.8	180.4	66.9	182.4	116	71	71	70		1.001	2.897	335
1750	281.799	282.139		0.16	0.17	1.32	1.13	0.26	82	82	70	1.90	2.90	74	0.018	97	99	16.6	-0.01	0.41		115.3	182.7	180.4	66.9	182.2	114	71	71	70		1.001	3.378	390
1751	281.959	282.306		0.16	0.17	1.32	1.13	0.26	82	82	70	1.89	2.90	74	0.016	102	106	16.7	-0.10	0.37		115.3	182.6	180.3	66.9	182.2	114	71	71	70		1.001	3.057	353
1752	282.120	282.472		0.16	0.17	1.32	1.13	0.26	82	82	70	1.90	2.90	74	0.018	97	99	16.7	0.03	0.42		115.0	182.4	180.1	66.9	181.9	112	71	71	70		1.001	3.532	407
1753	282.280	282.639		0.16	0.17	1.32	1.13	0.26	82	82	70	1.91	2.90	74	0.018	96	100	16.6	0.07	0.42		114.9	182.3	180.0	66.9	181.9	111	71	71	70		1.001	3.533	407
1754	282.441	282.806		0.16	0.17	1.31	1.13	0.26	82	82	70	1.89	2.90	74	0.016	102	106	16.6	0.02	0.44		114.9	182.2	179.9	67.0	181.8	111	71	71	70		1.001	3.700	426
1755	282.602	282.972		0.16	0.17	1.32	1.13	0.26	82	82	70	1.90	2.90	74	0.017	99	102	16.6	-0.03	0.41		114.6	182.0	179.8	67.0	181.6	110	71	71	70		1.001	3.374	387
1756	282.762	283.138		0.16	0.17	1.31	1.12	0.26	82	82	70	1.91	2.90	74	0.018	96	99	16.7	-0.02	0.43		114.5	182.1	179.8	67.0	181.5	110	71	71	70		1.001	3.538	406
1757	282.922	283.305		0.16	0.17	1.32	1.13	0.26	82	82	70	1.89	2.90	74	0.017	99	103	16.7	-0.03	0.41		114.5	181.8	179.5	67.0	181.4	108	71	71	70		1.001	3.375	387
1758	283.082	283.471		0.16	0.17	1.32	1.12	0.26	82	82	70	1.90	2.90	74	0.019	93	97	16.7	0.03	0.44		114.4	181.7	179.4	67.0	181.4	108	71	71	70		1.001	3.695	423
1759	283.243	283.638		0.16	0.17	1.31	1.13	0.26	82	82	71	1.89	2.90	74	0.017	99	103	16.5	0.10	0.39		114.1	181.5	179.3	67.0	181.2	106	71	71	71		1.001	3.220	368
1760	283.403	283.804		0.16	0.17	1.31	1.13	0.26	82	82	70	1.89	2.90	74	0.015	105	109	16.8	-0.26	0.34		114.0	181.4	179.2	67.0	181.0	104	71	71	70		1.001	2.806	320
1761	283.563	283.971		0.16	0.17	1.31	1.13	0.26	82	82	71	1.89	2.90	76	0.018	96	100	16.6	0.20	0.37		113.8	181.3	179.1	67.0	180.9	105	71	71	71		1.001	3.055	348
1762	283.723	284.138		0.16	0.17	1.32	1.14	0.26	82	82	71	1.90	2.90	74	0.019	93	97	16.7	-0.12	0.41		113.7	181.2	178.9	67.1	180.8	106	71	71	71		1.001	3.403	387
1763	283.884	284.305		0.16	0.17	1.32	1.13	0.26	82	82	71	1.91	2.90	73	0.018	96	100	16.7	0.05	0.39		113.6	181.1	178.8	67.0	180.7	107	71	71	71		1.001	3.222	367
1764	284.044	284.472		0.16	0.17	1.32	1.13	0.26	82	82	71	1.90	2.90	73	0.016	102	106	16.7	-0.03	0.48		113.6	180.9	178.6	66.9	180.5	104	71	71	71		1.001	4.021	457
1765	284.205	284.639		0.16	0.17	1.32	1.14	0.26	82	82	71	1.90	2.90	72	0.016	102	106	16.8	-0.05	0.42		113.5	180.7	178.5	66.7	180.3	104	71	71	71		1.001	3.537	402
1766	284.365	284.805		0.16	0.17	1.32	1.05	0.26	82	82	71	1.91	3.30	76	0.018	96	99	16.7	0.01	0.39		113.7	180.7	178.4	66.5	180.3	133	71	71	71		1.001	3.220	367
1767	284.526	284.956		0.16	0.15	1.32	0.99	0.26	82	83	71	1.89	3.50	74	0.014	109	102	16.6	0.17	0.44		113.7	180.5	178.2	66.3	180.0	127	71	71	71		1.001	3.701	421
1768	284.686	285.118		0.16	0.16	1.32	1.10	0.26	82	83	71	1.90	3.00	72	0.015	105	106	16.6	0.01	0.43		113.9	180.4	178.2	66.2	180.1	123	71	71	71		1.001	3.539	404
1769	284.846	285.283		0.16	0.17	1.32	1.11	0.26	82	83	71	1.89	3.00	72	0.017	99	101	16.7	-0.08	0.41		113.9	180.2	178.0	66.0	179.9	120	71	71	71		1.001	3.380	385
1770	285.007	285.448		0.16	0.16	1.32	1.11	0.26	82	83	71	1.89	3.00	71	0.016	102	104	16.6	0.08	0.37		113.9	180.1	177.8	65.8	179.7	118	71	71	71		1.001	3.065	349
1771	285.167	285.614		0.16	0.17	1.32	1.12	0.26	82	83	71	1.90	3.00	71	0.015	105	108	16.7	-0.09	0.41		113.9	180.0	177.7	65.7	179.6	115	71	71	71		1.001	3.381	385
1772	285.328	285.780		0.16	0.17	1.32	1.11	0.26	82	83	70	1.89	3.00	71	0.017	99	102	16.6	0.04	0.41		113.8	179.8	177.5	65.6	179.4	114	71	71	70		1.001	3.376	385
1773	285.489	285.945		0.16	0.17	1.32	1.11	0.26	82	83	71	1.91	3.00	71	0.016	102	104	16.6	0.05	0.44		113.8	179.7	177.3	65.5	179.3	112	71	71	71		1.001	3.695	421
1774	285.650	286.110		0.16	0.17	1.32	1.11	0.26	83	83	71	1.90	3.00	71	0.017	99	101	16.6	0.02	0.39		113.7	179.5	177.2	65.4	179.1	111	71	71	71		1.001	3.215	366
1775	285.811	286.275		0.16	0.16	1.32	1.12	0.26	83	83	70	1.89	3.00	71	0.019	94	95	16.7	-0.16	0.42		113.7	179.4	177.1	65.3	179.0	111	71	71	70		1.001	3.524	401
1776	285.971	286.441		0.16	0.17	1.31	1.12	0.26	83	83	70	1.91	3.00	71	0.016	101	105	16.6	0.14	0.46		113.6	179.4	177.0	65.2	178.8	109	71	71	70		1.001	3.842	437
1777	286.132	286.606		0.16	0.17	1.32	1.11	0.26	83	83	70	1.89	3.00	71	0.016	102	104	16.6	-0.03	0.41		113.5	179.2	176.8	65.1	178.7	109	71	71	70		1.001	3.418	389
1778	286.292	286.772		0.16	0.17	1.31	1.12	0.26	83	83	70	1.91	3.00	70	0.016	101	105	16.7	-0.09	0.46		113.5	179.1	176.7	65.1	178.5	107	71	71	70		1.001	3.858	438
1779	286.453	286.938		0.16	0.17	1.31	1.11	0.26	83	83	70	1.90	3.00	70	0.018	96	99	16.5	0.22	0.42		113.4	179.0	176.6	65.0	178.4	106	70	71	70		1.001	3.489	396
1780	286.613	287.103		0.16	0.17	1.31	1.12	0.26	83	83	70	1.91	3.00	70	0.018	95	98	16.7	-0.18	0.39		113.4	178.8	176.4	64.9	178.4	106	70	71	70		1.001	3.214	365
1781	286.774	287.269		0.16	0.17	1.31	1.12	0.26	83	83	70	1.89	3.00	70	0.015	105	108	16.8	-0.14	0.44		113.1	178.5	176.2	64.9	178.0	106	70	71	70		1.001	3.697	419
1782	286.935	287.435		0.16	0.17	1.31	1.11	0.26	83	83	70	1.90	3.00	70	0.015	105	108	16.7	0.14	0.39		113.2	178.4	176.0	64.8	178.0	104	70	71	70		1.001	3.215	364
1783	287.095	287.600		0.16	0.17	1.32	1.11	0.26	83	83	69	1.90	2.90	70	0.017	98	101	16.5	0.14	0.42		113.2	178.3	175.9	64.7	177.9	104	70	70	69		1.001	3.538	401
1784	287.255	287.766		0.16	0.17	1.32	1.11	0.26	83	83	69	1.89	3.00	70	0.017	98	101	16.6	-0.05	0.46		113.0	178.2	175.8	64.7	177.7	103	70	70	69		1.001	3.858	437
1785	287.416	287.931		0.16	0.16	1.32	1.11	0.26	83	83	69	1.90	3.00	70	0.018	96	98	16.5	0.08	0.41		112.9	177.9	175.7	64.6	177.5	103	70	70	69		1.001	3.379	382
1786	287.576	288.097		0.16	0.17	1.31	1.12	0.26	83	83	69	1.90	2.90	70	0.018	95	99	16.6	-0.13	0.39		112.7	177.8	175.5	64.6	177.2	101	70	70	69		1.001	3.218	363
1787	287.737	288.262		0.16	0.17	1.31	1.11	0.26	83	83	69	1.90	3.00	70	0.018	96	98	16.7	-0.03	0.42		112.7	177.6	175.3	64.5	177.2	101	70	70	69		1.001	3.538	399
1788	287.898	288.428		0.16	0.17	1.31	1.12	0.26	83	83	69	1.89	3.00	70	0.018	96	99	16.7	0.00	0.41		112.6	177.5	175.3	64.4	177.0	102	70	70	69		1.001	3.381	381

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1789	288.058	288.594		0.16	0.17	1.31	1.12	0.26	83	83	69	1.90	3.00	70	0.019	93	96	16.7	-0.03	0.41		112.5	177.4	175.1	64.4	176.9	101	70	70	69		1.001	3.377	380
1790	288.219	288.759		0.16	0.17	1.32	1.11	0.26	83	83	69	1.89	3.00	69	0.016	102	104	16.6	0.07	0.44		112.5	177.2	175.0	64.4	176.8	100	70	70	69		1.001	3.701	417
1791	288.379	288.925		0.16	0.17	1.32	1.12	0.26	83	83	69	1.90	3.00	69	0.015	104	108	16.8	-0.14	0.43		112.4	177.1	174.9	64.3	176.7	100	70	70	69		1.001	3.541	398
1792	288.540	289.091		0.16	0.17	1.32	1.11	0.26	83	83	69	1.89	3.00	69	0.017	99	101	16.6	0.18	0.42		112.2	177.0	174.7	64.3	176.5	98	70	70	69		1.001	3.530	396
1793	288.700	289.257		0.16	0.17	1.32	1.11	0.26	83	83	69	1.89	3.00	69	0.018	95	99	16.7	-0.11	0.42		112.3	176.8	174.6	64.3	176.6	97	69	70	69		1.001	3.529	397
1794	288.861	289.422		0.16	0.17	1.32	1.11	0.26	83	83	69	1.90	3.00	69	0.016	102	104	16.5	0.16	0.42		112.1	176.8	174.6	64.3	176.3	98	69	70	69		1.001	3.528	396
1795	289.022	289.588		0.16	0.17	1.32	1.11	0.26	83	83	69	1.88	3.00	69	0.016	102	104	16.7	-0.13	0.42		111.8	176.5	174.3	64.2	176.1	98	69	70	69		1.001	3.478	389
1796	289.182	289.753		0.16	0.16	1.32	1.11	0.26	83	83	69	1.90	3.00	69	0.015	104	107	16.6	0.06	0.43		111.8	176.3	174.0	64.2	176.0	98	69	70	69		1.001	3.539	396
1797	289.343	289.917		0.16	0.16	1.32	1.00	0.26	83	83	69	1.89	3.40	73	0.017	99	101	16.7	-0.06	0.46		111.7	176.3	173.9	64.2	175.9	122	69	70	69		1.001	3.865	432
1798	289.504	290.072		0.16	0.16	1.32	1.02	0.26	83	83	69	1.90	3.30	71	0.018	96	92	16.8	-0.16	0.39		111.4	176.1	173.8	64.1	175.5	116	69	70	69		1.001	3.221	359
1799	289.665	290.232		0.16	0.16	1.31	1.06	0.26	83	83	68	1.89	3.10	69	0.018	96	95	16.6	0.21	0.39		111.5	176.0	173.7	64.1	175.6	113	69	69	68		1.001	3.223	360
1800	289.825	290.395		0.16	0.16	1.32	1.08	0.26	83	83	69	1.89	3.10	69	0.018	95	97	16.6	-0.05	0.41		111.5	175.8	173.6	64.1	175.5	110	69	69	69		1.001	3.382	377
1801	289.986	290.558		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	69	0.016	102	103	16.6	0.02	0.41		111.2	175.6	173.4	64.1	175.2	108	69	69	68		1.001	3.381	376
1802	290.146	290.721		0.16	0.16	1.32	1.07	0.26	82	82	68	1.90	3.10	69	0.017	98	100	16.7	-0.10	0.43		111.1	175.5	173.2	64.0	175.2	107	69	69	68		1.001	3.542	394
1803	290.307	290.884		0.16	0.16	1.31	1.08	0.26	82	83	68	1.90	3.10	69	0.015	105	106	16.6	0.16	0.48		110.9	175.4	173.1	64.0	174.9	106	69	69	68		1.001	4.025	447
1804	290.468	291.046		0.16	0.16	1.31	1.08	0.26	82	82	68	1.89	3.10	69	0.017	99	99	16.7	-0.15	0.41		110.7	175.2	172.9	64.0	174.7	105	69	69	68		1.001	3.382	375
1805	290.628	291.209		0.16	0.16	1.31	1.08	0.26	82	82	68	1.89	3.10	69	0.015	105	106	16.5	0.17	0.41		110.5	175.0	172.7	64.0	174.6	103	69	69	68		1.001	3.384	375
1806	290.789	291.372		0.16	0.16	1.31	1.08	0.26	82	82	68	1.91	3.10	69	0.018	96	97	16.7	-0.19	0.41		110.5	174.9	172.6	64.0	174.4	102	69	69	68		1.001	3.381	374
1807	290.949	291.536		0.16	0.16	1.31	1.08	0.26	82	82	68	1.89	3.10	69	0.018	95	98	16.7	0.06	0.39		110.4	174.7	172.5	64.0	174.4	102	69	69	68		1.001	3.225	357
1808	291.109	291.699		0.16	0.16	1.31	1.07	0.26	82	82	68	1.88	3.10	69	0.017	98	100	16.7	0.00	0.45		110.2	174.5	172.3	64.0	174.2	101	69	69	68		1.001	3.706	409
1809	291.270	291.861		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	69	0.016	102	102	16.5	0.13	0.43		110.0	174.4	172.1	64.0	174.0	100	69	69	68		1.001	3.544	390
1810	291.431	292.024		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	69	0.017	99	100	16.7	-0.18	0.39		109.9	174.2	172.0	64.0	173.9	98	69	69	68		1.001	3.228	355
1811	291.591	292.187		0.16	0.16	1.31	1.08	0.26	82	82	68	1.88	3.10	69	0.017	98	100	16.7	0.04	0.46		109.7	174.2	171.9	64.0	173.7	98	69	69	68		1.001	3.837	422
1812	291.752	292.351		0.16	0.16	1.31	1.08	0.26	82	82	68	1.90	3.10	69	0.014	109	111	16.7	0.01	0.40		109.6	174.0	171.7	64.0	173.5	98	69	69	68		1.001	3.337	366
1813	291.912	292.514		0.16	0.16	1.32	1.08	0.26	82	82	68	1.89	3.10	69	0.014	108	110	16.7	-0.01	0.46		109.5	173.8	171.5	64.0	173.5	98	69	69	68		1.001	3.868	424
1814	292.073	292.677		0.16	0.16	1.32	1.08	0.26	82	82	68	1.89	3.10	68	0.017	99	100	16.7	0.00	0.46		109.4	173.6	171.3	64.0	173.3	97	68	69	68		1.001	3.868	424
1815	292.234	292.840		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	68	0.016	102	103	16.7	-0.08	0.43		109.1	173.5	171.2	63.9	173.0	96	68	69	68		1.001	3.546	387
1816	292.394	293.003		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	69	0.017	98	100	16.8	-0.04	0.39		109.1	173.4	171.1	63.9	173.0	96	68	69	68		1.001	3.227	352
1817	292.555	293.167		0.16	0.16	1.32	1.08	0.26	82	82	68	1.88	3.10	68	0.016	102	103	16.7	0.05	0.39		109.0	173.2	170.9	63.9	172.9	96	68	69	68		1.001	3.225	352
1818	292.716	293.330		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	68	0.016	102	103	16.7	0.03	0.43		108.7	173.1	170.7	63.9	172.7	94	68	69	68		1.001	3.548	386
1819	292.876	293.492		0.16	0.16	1.32	1.08	0.26	82	82	68	1.91	3.10	68	0.016	101	102	16.8	-0.12	0.45		108.6	172.9	170.6	63.9	172.5	94	68	69	68		1.001	3.710	403
1820	293.037	293.655		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	68	0.016	102	103	16.8	0.02	0.41		108.4	172.7	170.5	63.9	172.3	94	68	69	68		1.001	3.386	368
1821	293.198	293.818		0.16	0.16	1.32	1.08	0.26	82	82	68	1.89	3.10	68	0.018	96	97	16.7	0.13	0.39		108.3	172.6	170.3	63.9	172.2	94	68	69	68		1.001	3.225	350
1822	293.359	293.982		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	68	0.017	99	100	16.7	-0.06	0.44		108.3	172.5	170.2	63.9	172.1	93	68	68	68		1.001	3.705	402
1823	293.520	294.145		0.16	0.16	1.31	1.08	0.26	82	82	68	1.90	3.10	68	0.017	99	100	16.8	-0.02	0.43		108.1	172.3	170.0	63.9	172.0	92	68	68	68		1.001	3.549	384
1824	293.681	294.308		0.16	0.16	1.31	1.08	0.26	82	82	68	1.88	3.10	68	0.018	96	97	16.7	0.03	0.43		107.9	172.2	169.9	63.9	171.7	92	68	68	68		1.001	3.549	383
1825	293.841	294.471		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	68	0.018	95	97	16.6	0.12	0.42		107.8	172.0	169.7	63.8	171.6	92	68	68	68		1.001	3.523	380
1826	294.002	294.634		0.16	0.16	1.32	1.08	0.26	82	82	68	1.90	3.10	68	0.018	96	97	16.8	-0.20	0.43		107.6	172.0	169.7	63.8	171.4	91	68	68	68		1.001	3.594	387
1827	294.162	294.798		0.16	0.16	1.32	1.08	0.26	82	82	68	1.89	3.10	68	0.018	95	97	16.7	0.08	0.40		107.5	171.7	169.5	63.8	171.3	91	68	68	68		1.001	3.297	355
1828	294.323	294.959		0.16	0.16	1.31	0.99	0.26	82	82	68	1.89	3.50	72	0.017	99	99	16.7	0.03	0.43		107.3	171.5	169.3	63.8	171.1	114	68	68	68		1.001	3.548	381
1829	294.483	295.115		0.16	0.16	1.31	1.03	0.26	82	82	68	1.89	3.30	69	0.016	101	98	16.9	-0.15	0.41		107.1	171.3	169.1	63.8	170.9	109	68	68	68		1.001	3.388	363
1830	294.644	295.277		0.16	0.16	1.31	1.05	0.26	82	82	68	1.90	3.20	68	0.017	99	99	16.8	0.03	0.45		107.2	171.3	169.1	63.8	171.0	105	68	68	68		1.001	3.708	398
1831	294.805	295.438		0.16	0.16	1.31	1.06	0.26	82	82	68	1.88	3.20	68	0.018	96	96	16.7	0.16	0.43		107.0	171.1	168.9	63.8	170.8	103	68	68	68		1.001	3.551	380
1832	294.965	295.599		0.16	0.16	1.31	1.06	0.26	82	82	68	1.90	3.20	68	0.015	104	105	16.7	-0.03	0.37		106.7	171.0	168.8	63.8	170.5	101	68	68	68		1.001	3.067	328
1833	295.125	295.760		0.16	0.16	1.31	1.06	0.26	82	81	68	1.88	3.20	68	0.016	101	102	16.8	-0.15	0.39		106.5	170.8	168.7	63.8	170.3	100	68	68	68		1.001	3.226	344
1834	295.286	295.923		0.16	0.16	1.32	1.06	0.26	82	81	68	1.90	3.20	68	0.018	96	97	16.9	-0.08	0.43		106.4	170.6	168.4	63.8	170.2	99	68	68	68		1.001	3.548	378
1835	295.447	296.084		0.16	0.16	1.32	1.06	0.26	82	81	68	1.90	3.20	68	0.018	96	96	16.7	0.18	0.41		106.4	170.5	168.3	63.8	170.2	98	68	68	68		1.001	3.384	360
1836	295.607	296.245		0.16	0.16	1.32	1.06	0.26	81	81	68	1.89	3.20	68	0.017	98	99	16.8	-0.06	0.45		106.3	170.4	168.3	63.8	170.1	97	68	68	68		1.001	3.711	395
1837	295.767	296.407		0.16	0.16	1.32	1.07	0.26	82	81	68	1.89	3.20	68	0.018	95	96	16.8	0.01	0.45		106.0	170.2	168.0	63.8	169.7	96	68	68	68		1.001	3.707	393
1838	295.928	296.569		0.16	0.16	1.32	1.06	0.26	81	81	68	1.90	3.20	68	0.017	99	99	16.8	-0.01	0.46		105.9	170.0	167.8	63.8	169.7	95	68	68	68		1.001	3.869	410
1839	296.088	296.730		0.16	0.16	1.32	1.06	0.26	81	81	68	1.88	3.20	68	0.018	96	96	16.8	-0.02	0.43		105.7	169.9	167.8	63.7	169.5	95	68	68	68		1.001	3.547	376
1840	296.249	296.892		0.16	0.16	1.32	1.06	0.26	81	81	68	1.90	3.20	68	0.017	99	99	16.8	-0.02	0.39		105.7	169.7	167.6	63.7	169.4	94	68	68	68		1.001	3.223	341
1841	296.410	297.054		0.16	0.16	1.32	1.06	0.26	81	81	68	1.88	3.20	68	0.018	96	96	16.8	0.01	0.44		105.5	169.5	167.4	63.7	169.2	93	68	68	68		1.001	3.697	390
1842	296.570	297.216		0.16	0.16	1.32	1.06	0.26	81	81	68	1.89	3.20	68	0.017	98	99	16.9	-0.05	0.41		105.3	169.5	167.3	63.7	169.1	93	68	68	68		1.001	3.382	357
1843	296.730	297.377		0.16	0.16	1.32	1.06	0.26	81	81	68	1.90	3.20	68	0.017	98	99	16.8	0.03	0.47		105.2	169.3	167.1	63.7	168.9	92	68	68	68		1.001	3.907	411
1844	296.891	297.539		0.16	0.16	1.32	1.06	0.26	81	81	67	1.89	3.20	68	0.018	96	96	16.8	0.05	0.41		105.1	169.1	166.9	63.7	168.8	92	68	68	67		1.001	3.387	356
1845	297.052	297.701		0.16	0.16	1.32	1.06	0.26	81	81	67	1.88	3.20	68	0.016	102	102	16.8	0.04	0.45		104.9	168.9	166.8	63.7	168.6	91	68	68	67		1.001	3.710	390
1846	297.213	297.862		0.16	0.16	1.32	1.06	0.26	81	81	67	1.88	3.20	68	0.016	102	102	16.9	-0.14	0.41		104.6	168.8	166.6	63.7	168.3	91	68	68	67		1.001	3.392	355
1847	297.374	298.023		0.16	0.16	1.31	1.06	0.26	81	81	67	1.89	3.20	68	0.018	96	96	16.8	0.05	0.41		104.6	168.7	166.6	63.7	168.3	90	68	68	67		1.001	3.390	355
1848	297.534	298.185		0.16	0.16	1.32	1.06	0.26	81	81	67	1.90	3.20	68	0.018	96	96	16.8	0.07	0.45		104.4	168.5	166.4	63.7	168.1	90	68	68	67		1.001	3.708	388
1849	297.695	298.347		0.16	0.16	1.32	1.06	0.26	81	81	67	1.89	3.20	68	0.016	102	102	16.8	-0.01	0.37		104.3	168.3	166.2	63.7	168.0	90	68	68	67		1.001	3.071	321
1850	297.855	298.509		0.16	0.16	1.32	1.06	0.26	81	81	67	1.88	3.20	68	0.016	101	102	16.9	-0.12	0.45		104.2	168.3	166.1	63.7	167.9	89	68	68	67		1.001	3.708	387

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1851	298.016	298.670		0.16	0.16	1.32	1.06	0.26	81	81	67	1.88	3.20	68	0.017	99	99	17.0	-0.12	0.43		104.1	168.0	165.9	63.7	167.7	89	68	68	67		1.001	3.553	370
1852	298.176	298.832		0.16	0.16	1.32	1.06	0.26	81	81	67	1.90	3.20	68	0.016	101	102	16.8	0.20	0.41		103.9	167.9	165.8	63.7	167.6	88	67	68	67		1.001	3.388	352
1853	298.337	298.994		0.16	0.16	1.31	1.06	0.26	81	81	67	1.88	3.20	67	0.017	99	99	16.9	-0.08	0.47		103.8	167.8	165.7	63.6	167.4	88	67	68	67		1.001	3.873	403
1854	298.497	299.155		0.16	0.16	1.31	1.06	0.26	81	81	67	1.89	3.20	68	0.017	98	99	16.9	0.04	0.48		103.6	167.6	165.5	63.6	167.3	88	67	68	67		1.001	4.035	419
1855	298.658	299.316		0.16	0.16	1.31	1.06	0.26	81	81	67	1.90	3.20	68	0.017	99	99	16.8	0.05	0.43		103.5	167.5	165.3	63.6	167.1	88	67	68	67		1.001	3.548	368
1856	298.818	299.478		0.16	0.16	1.32	1.06	0.26	81	81	67	1.89	3.20	67	0.015	105	106	16.8	-0.04	0.42		103.3	167.3	165.2	63.6	166.9	87	67	68	67		1.001	3.537	366
1857	298.979	299.640		0.16	0.16	1.32	1.06	0.26	81	81	67	1.88	3.20	68	0.016	102	102	16.9	-0.07	0.43		103.2	167.1	165.0	63.6	166.8	87	67	68	67		1.001	3.568	369
1858	299.139	299.801		0.16	0.16	1.32	1.06	0.26	81	81	67	1.90	3.20	68	0.018	96	96	16.9	0.03	0.42		103.1	167.0	164.8	63.6	166.7	86	67	67	67		1.001	3.474	358
1859	299.299	299.961		0.16	0.16	1.32	0.99	0.26	81	81	67	1.90	3.50	71	0.017	99	98	16.9	-0.06	0.42		103.0	166.9	164.7	63.6	166.6	109	68	68	67		1.001	3.510	362
1860	299.460	300.119		0.16	0.16	1.32	1.03	0.26	81	81	67	1.89	3.30	68	0.017	99	97	16.9	0.03	0.48		102.8	166.7	164.6	63.6	166.4	103	67	68	67		1.001	4.032	415
1861	299.620	300.278		0.16	0.16	1.33	1.04	0.26	81	81	67	1.89	3.20	68	0.015	105	104	16.9	-0.01	0.39		102.6	166.5	164.4	63.6	166.2	99	67	67	67		1.001	3.229	332
1862	299.781	300.439		0.16	0.16	1.33	1.04	0.26	81	81	67	1.90	3.20	67	0.017	99	98	17.0	-0.04	0.45		102.4	166.3	164.2	63.6	166.0	97	67	67	67		1.001	3.711	381
1863	299.942	300.600		0.16	0.16	1.32	1.04	0.26	81	81	67	1.90	3.20	67	0.017	99	98	16.8	0.12	0.39		102.3	166.2	164.1	63.6	165.8	96	67	67	67		1.001	3.231	331
1864	300.102	300.759		0.16	0.16	1.32	1.04	0.26	81	81	67	1.89	3.20	67	0.015	105	104	16.8	0.05	0.43		102.3	166.1	164.0	63.6	165.8	95	67	67	67		1.001	3.553	364
1865	300.263	300.920		0.16	0.16	1.32	1.05	0.26	81	80	67	1.90	3.20	67	0.017	99	99	16.8	-0.06	0.46		101.9	165.9	163.8	63.6	165.5	94	67	67	67		1.001	3.872	395
1866	300.423	301.081		0.16	0.16	1.32	1.04	0.26	81	80	67	1.90	3.20	67	0.014	108	109	16.9	-0.08	0.43		101.8	165.8	163.7	63.6	165.4	93	67	67	67		1.001	3.550	362
1867	300.584	301.241		0.16	0.16	1.33	1.04	0.26	81	80	67	1.88	3.20	67	0.017	99	98	17.1	-0.15	0.43		101.8	165.6	163.5	63.6	165.3	92	67	67	67		1.001	3.552	362
1868	300.745	301.401		0.16	0.16	1.32	1.04	0.26	81	80	67	1.89	3.20	67	0.016	102	101	16.9	0.22	0.35		101.5	165.5	163.4	63.6	165.0	92	67	67	67		1.001	2.912	296
1869	300.906	301.562		0.16	0.16	1.32	1.05	0.26	81	80	67	1.90	3.20	67	0.018	96	96	17.0	-0.12	0.43		101.3	165.4	163.2	63.6	164.9	91	67	67	67		1.001	3.550	360
1870	301.067	301.722		0.16	0.16	1.32	1.04	0.26	81	80	67	1.89	3.20	67	0.016	102	101	16.9	0.13	0.43		101.4	165.2	163.1	63.5	164.9	90	67	67	67		1.001	3.551	360
1871	301.227	301.882		0.16	0.16	1.32	1.05	0.26	80	80	67	1.89	3.20	67	0.017	98	98	17.0	-0.11	0.41		101.2	165.1	163.0	63.5	164.7	90	67	67	67		1.001	3.398	344
1872	301.388	302.042		0.16	0.16	1.32	1.05	0.26	80	80	67	1.89	3.20	67	0.016	102	101	16.8	0.18	0.43		101.1	164.9	162.8	63.5	164.7	89	67	67	67		1.001	3.569	361
1873	301.549	302.203		0.16	0.16	1.32	1.04	0.26	80	80	67	1.88	3.20	67	0.017	99	99	16.9	-0.08	0.37		100.9	164.8	162.7	63.5	164.4	89	67	67	67		1.001	3.074	311
1874	301.709	302.363		0.16	0.16	1.32	1.04	0.26	80	80	67	1.90	3.20	67	0.017	98	98	17.0	-0.12	0.44		100.8	164.6	162.5	63.5	164.3	88	67	67	67		1.001	3.636	367
1875	301.870	302.523		0.16	0.16	1.32	1.05	0.26	80	80	67	1.88	3.20	67	0.018	96	95	16.9	0.08	0.40		100.6	164.5	162.4	63.5	164.1	88	67	67	67		1.001	3.306	333
1876	302.030	302.684		0.16	0.16	1.32	1.04	0.26	80	80	67	1.90	3.20	67	0.016	101	102	16.9	0.01	0.47		100.5	164.3	162.2	63.5	164.0	87	67	67	67		1.001	3.873	390
1877	302.191	302.844		0.16	0.16	1.32	1.04	0.26	80	80	67	1.88	3.20	67	0.017	99	98	17.0	-0.11	0.41		100.4	164.1	162.1	63.5	163.9	87	67	67	67		1.001	3.391	341
1878	302.352	303.004		0.16	0.16	1.31	1.05	0.26	80	80	67	1.90	3.20	67	0.019	94	93	16.9	0.15	0.41		100.2	164.0	161.9	63.5	163.7	87	67	67	67		1.001	3.392	340
1879	302.512	303.165		0.16	0.16	1.32	1.04	0.26	80	80	67	1.89	3.20	67	0.015	105	105	17.0	-0.08	0.41		100.1	163.9	161.8	63.5	163.6	86	67	67	67		1.001	3.390	340
1880	302.672	303.325		0.16	0.16	1.32	1.04	0.26	80	80	67	1.90	3.20	67	0.014	108	108	16.9	0.06	0.39		100.0	163.7	161.7	63.5	163.5	86	67	67	67		1.001	3.230	323
1881	302.833	303.485		0.16	0.16	1.32	1.04	0.26	80	80	67	1.89	3.20	67	0.018	96	95	16.9	0.01	0.47		99.7	163.6	161.5	63.5	163.2	86	67	67	67		1.001	3.875	387
1882	302.993	303.646		0.16	0.16	1.31	1.04	0.26	80	80	67	1.88	3.20	67	0.016	101	102	17.0	-0.06	0.41		99.7	163.5	161.3	63.5	163.2	86	67	67	67		1.001	3.393	339
1883	303.154	303.806		0.16	0.16	1.32	1.04	0.26	80	80	67	1.89	3.20	67	0.018	96	95	17.0	-0.05	0.45		99.5	163.3	161.2	63.4	163.0	85	67	67	67		1.001	3.713	370
1884	303.315	303.966		0.16	0.16	1.32	1.05	0.26	80	80	67	1.90	3.20	67	0.017	99	98	17.0	-0.02	0.39		99.4	163.2	161.1	63.4	162.8	85	67	67	67		1.001	3.231	321
1885	303.475	304.126		0.16	0.16	1.32	1.05	0.26	80	80	67	1.88	3.20	67	0.016	101	101	17.1	-0.04	0.39		99.3	163.0	160.9	63.4	162.8	84	67	67	67		1.001	3.231	321
1886	303.635	304.286		0.16	0.16	1.32	1.04	0.26	80	80	67	1.89	3.20	67	0.017	98	98	17.0	0.06	0.39		99.1	162.9	160.8	63.4	162.6	84	67	67	67		1.001	3.235	321
1887	303.796	304.446		0.16	0.16	1.33	1.04	0.26	80	80	67	1.90	3.20	67	0.018	96	95	17.0	0.03	0.40		98.9	162.7	160.6	63.4	162.3	83	67	67	67		1.001	3.325	329
1888	303.957	304.607		0.16	0.16	1.32	1.04	0.26	80	80	67	1.90	3.20	67	0.017	99	99	17.0	-0.03	0.40		98.9	162.6	160.5	63.4	162.3	83	67	67	67		1.001	3.357	332
1889	304.117	304.767		0.16	0.16	1.32	1.04	0.26	80	80	67	1.88	3.20	67	0.017	98	98	17.1	-0.07	0.43		98.8	162.4	160.4	63.4	162.2	83	67	67	67		1.001	3.554	351
1890	304.278	304.925		0.16	0.16	1.32	0.99	0.26	80	80	67	1.88	3.40	71	0.016	102	100	17.0	0.12	0.47		98.6	162.3	160.3	63.4	162.0	106	67	67	67		1.001	3.878	383
1891	304.438	305.084		0.16	0.16	1.32	1.03	0.26	80	80	67	1.88	3.30	68	0.017	99	98	16.9	0.05	0.43		98.4	162.1	160.1	63.4	161.8	99	67	67	67		1.001	3.553	350
1892	304.599	305.242		0.16	0.16	1.32	1.03	0.26	80	80	67	1.88	3.30	67	0.018	96	94	16.9	0.01	0.47		98.2	162.0	159.9	63.4	161.6	95	67	67	67		1.001	3.877	381
1893	304.760	305.402		0.16	0.16	1.32	1.03	0.26	80	80	67	1.89	3.30	67	0.016	102	101	16.8	0.11	0.37		98.1	161.8	159.7	63.4	161.6	93	67	67	67		1.001	3.073	302
1894	304.920	305.562		0.16	0.16	1.32	1.03	0.26	80	80	67	1.89	3.30	67	0.016	101	101	16.9	-0.08	0.39		98.0	161.7	159.7	63.4	161.4	92	67	67	67		1.001	3.235	317
1895	305.081	305.721		0.16	0.16	1.32	1.03	0.26	80	80	67	1.88	3.30	67	0.014	109	107	16.9	-0.02	0.47		97.7	161.5	159.5	63.4	161.2	91	67	67	67		1.001	3.880	380
1896	305.241	305.880		0.16	0.16	1.32	1.04	0.26	80	80	67	1.90	3.30	67	0.016	101	100	16.9	0.03	0.39		97.6	161.4	159.3	63.4	161.0	90	67	67	67		1.001	3.238	316
1897	305.401	306.041		0.16	0.16	1.31	1.03	0.26	80	80	67	1.88	3.30	67	0.017	98	99	17.1	-0.24	0.41		97.6	161.2	159.2	63.4	161.0	89	67	67	67		1.001	3.397	332
1898	305.562	306.200		0.16	0.16	1.31	1.03	0.26	80	80	67	1.90	3.30	67	0.014	109	107	17.0	0.14	0.47		97.4	161.1	159.1	63.4	160.8	89	67	67	67		1.001	3.875	378
1899	305.722	306.359		0.16	0.16	1.31	1.02	0.26	80	80	67	1.88	3.30	69	0.015	105	104	16.9	0.05	0.39		97.2	160.9	158.9	63.4	160.6	108.11235	67	67	67		1.001	3.241	316
1900	305.882	306.515		0.16	0.16	1.31	0.98	0.26	80	80	67	1.88	3.50	73	0.017	99	96	16.9	0.02	0.45		97.1	160.8	158.8	63.4	160.5	132.5704	67	67	67		1.001	3.713	361
1901	306.042	306.671		0.16	0.16	1.31	0.99	0.26	80	80	67	1.90	3.50	74	0.014	109	106	16.7	0.21	0.41		96.9	160.6	158.6	63.4	160.3	146.35495	67	67	67		1.001	3.431	333
1902	306.203	306.827		0.16	0.16	1.32	0.97	0.26	80	80	67	1.89	3.50	75	0.017	100	96	16.8	-0.11	0.42		96.8	160.4	158.5	63.4	160.2	154.81784	67	67	67		1.001	3.465	336
1903	306.363	306.982		0.16	0.16	1.32	0.96	0.26	80	80	67	1.89	3.60	76	0.016	102	99	16.7	0.10	0.46		96.7	160.4	158.4	63.4	160.0	161.73076	67	67	67		1.001	3.847	372
1904	306.523	307.133		0.16	0.15	1.32	0.91	0.26	80	80	67	1.90	3.80	77	0.017	99	93	16.6	0.06	0.49		96.5	160.2	158.2	63.4	159.9	167.77727	68	67	67		1.001	4.041	390
1905	306.683	307.282		0.16	0.15	1.33	0.89	0.26	80	80	67	1.88	3.90	78	0.018	97	90	16.5	0.18	0.43		96.4	160.2	158.2	63.4	159.8	174.20139	68	67	67		1.001	3.553	343
1906	306.844	307.445		0.16	0.16	1.32	1.52	0.26	80	80	67	1.91	1.50	79	0.017	100	101	16.2	0.22	0.41		96.4	160.2	158.2	63.4	159.7	181.98187	69	68	67		1.001	3.392	327
1907	307.005	307.635		0.16	0.19	1.32	1.46	0.26	80	80	67	1.89	1.70	81	0.018	98	115	14.7	1.55	0.37		96.6	160.2	158.3	63.4	159.9	195.55023	69	69	67		1.001	3.072	297
1908	307.165	307.824		0.16	0.19	1.32	1.47	0.26	80	80	66	1.91	1.70	79	0.015	106	125	15.6	-0.90	0.43		96.5	160.4	158.4	63.4	159.8	198.20383	70	71	66		1.001	3.556	343
1909	307.325	308.008		0.16	0.18	1.32	1.07	0.26	80	80	66	1.90	1.40	81	0.018	97	111	15.4	0.25	0.41		96.8	160.6	158.6	63.4	160.1	210.49413	70	71	66		1.001	3.397	329
1910	307.485	308.170		0.16	0.16	1.33	1.07	0.26	80	80	66	1.90	1.40	84	0.017	100	101	14.8	0.51	0.43		97.1	161.0	159.0	63.4	160.5	224.48688	70	71	66		1.001	3.555	346
1911	307.645	308.332		0.16	0.16	1.32	1.08	0.26	80	80	67	1.90	1.40	87	0.017	100	101	14.3	0.52	0.41		97.8	161.8	159.8	63.4	161.1	243.52084	70	71	67		1.001	3.396	332
1912	307.805	308.494		0.16	0.16	1.32	1.08	0.26	80	80	67	1.92	1.40	92	0.017	101	102	13.9	0.44	0.45		98.5	162.7	160.6	63.4	161.9	266.57898	70	72	67		1.001	3.716	366

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1913	307.965	308.657		0.16	0.16	1.32	1.08	0.26	80	80	66	1.92	1.40	96	0.017	101	103	13.2	0.66	0.45		99.4	163.7	161.6	63.4	162.8	283.05869	71	72	66		1.001	3.717	370
1914	308.124	308.818		0.16	0.16	1.32	1.08	0.26	80	80	67	1.92	1.40	99	0.017	101	102	12.6	0.58	0.41		100.5	164.9	162.7	63.4	163.9	294.46265	71	72	67		1.001	3.399	342
1915	308.284	308.979		0.16	0.16	1.32	1.08	0.26	80	80	67	1.92	1.40	101	0.017	102	102	12.1	0.49	0.41		101.7	166.0	163.8	63.4	165.1	302.35645	71	73	67		1.001	3.399	346
1916	308.443	309.141		0.16	0.16	1.32	1.08	0.26	80	80	66	1.92	1.40	102	0.015	108	109	11.6	0.58	0.43		103.0	167.2	165.0	63.4	166.3	308.47629	72	73	66		1.001	3.554	366
1917	308.603	309.304		0.16	0.16	1.32	1.07	0.26	80	80	66	1.91	1.40	104	0.017	102	103	11.0	0.61	0.46		104.1	168.5	166.2	63.4	167.4	313.33173	72	73	66		1.001	3.854	402
1918	308.762	309.465		0.16	0.16	1.32	1.07	0.26	80	80	66	1.93	1.40	105	0.017	101	102	10.3	0.61	0.45		105.3	169.8	167.5	63.4	168.7	317.69275	72	73	66		1.001	3.715	392
1919	308.921	309.626		0.16	0.16	1.32	1.08	0.26	80	80	66	1.91	1.40	106	0.016	104	105	9.7	0.66	0.45		106.7	171.2	168.9	63.4	170.1	321.41464	72	73	66		1.001	3.714	397
1920	309.081	309.787		0.16	0.16	1.32	1.07	0.26	80	80	66	1.93	1.40	107	0.016	105	105	9.2	0.48	0.43		108.1	172.5	170.2	63.4	171.5	325.65796	73	74	66		1.001	3.554	384
1921	309.240	309.949		0.16	0.16	1.32	1.07	0.26	80	79	66	1.93	1.40	108	0.016	105	106	8.6	0.62	0.39		109.5	174.1	171.8	63.4	172.9	330.05853	73	74	66		1.001	3.231	354
1922	309.399	310.110		0.16	0.16	1.31	1.07	0.26	80	80	66	1.92	1.40	108	0.016	105	106	8.0	0.55	0.43		110.9	175.5	173.1	63.4	174.4	330.47348	73	74	66		1.001	3.555	395
1923	309.559	310.271		0.16	0.16	1.31	1.07	0.26	80	79	67	1.93	1.40	109	0.017	102	103	7.4	0.66	0.39		112.4	176.9	174.5	63.5	175.9	334.17044	73	74	67		1.001	3.232	364
1924	309.718	310.433		0.16	0.16	1.31	1.06	0.26	80	80	66	1.93	1.40	110	0.015	108	110	7.0	0.33	0.41		113.8	178.4	175.9	63.5	177.3	336.50629	74	74	66		1.001	3.392	386
1925	309.877	310.594		0.16	0.16	1.30	1.06	0.26	80	79	66	1.93	1.40	110	0.016	105	106	6.2	0.79	0.45		115.2	179.9	177.4	63.5	178.7	339.15653	74	75	66		1.001	3.716	428
1926	310.036	310.754		0.16	0.16	1.30	1.07	0.26	80	79	66	1.94	1.40	111	0.017	102	102	5.8	0.50	0.37		116.8	181.6	179.0	63.5	180.3	341.52869	74	75	66		1.001	3.074	359
1927	310.195	310.915		0.16	0.16	1.31	1.07	0.26	80	79	66	1.93	1.40	112	0.017	102	103	4.9	0.87	0.45		118.2	183.0	180.5	63.6	181.8	343.96545	74	75	66		1.001	3.718	440
1928	310.354	311.076		0.16	0.16	1.31	1.06	0.26	80	79	66	1.92	1.40	91	0.016	103	104	4.8	0.08	0.43		119.7	184.5	181.9	63.6	183.3	308.81876	73	74	66		1.001	3.558	426
1929	310.513	311.237		0.16	0.16	1.30	1.06	0.26	80	79	66	1.92	1.40	81	0.016	102	103	4.5	0.34	0.47		120.6	185.1	182.6	63.6	184.3	283.09088	73	73	66		1.001	3.878	468
1930	310.672	311.398		0.16	0.16	1.31	1.06	0.26	80	79	66	1.93	1.40	79	0.017	99	100	4.4	0.10	0.41		121.2	185.6	183.1	63.7	184.9	266.11453	72	73	66		1.001	3.413	414
1931	310.832	311.560		0.16	0.16	1.31	1.06	0.26	80	79	66	1.91	1.40	77	0.017	99	100	4.3	0.08	0.41		121.6	186.1	183.5	63.7	185.3	253.88353	71	72	66		1.001	3.393	413
1932	310.992	311.721		0.16	0.16	1.31	1.06	0.26	80	79	66	1.92	1.40	75	0.017	99	100	4.0	0.23	0.43		122.0	186.3	183.8	63.7	185.7	246.4169	71	71	66		1.001	3.555	434
1933	311.152	311.882		0.16	0.16	1.31	1.06	0.26	80	79	66	1.91	1.40	74	0.019	94	94	3.9	0.13	0.43		122.1	186.6	184.1	63.7	185.9	239.59833	70	71	66		1.001	3.554	435
1934	311.312	312.043		0.16	0.16	1.30	1.07	0.26	80	79	66	1.91	1.40	74	0.016	102	103	3.9	-0.01	0.39		122.5	186.9	184.3	63.7	186.3	233.07091	70	70	66		1.001	3.232	396
1935	311.471	312.206		0.16	0.16	1.31	1.07	0.26	80	79	66	1.91	1.40	73	0.017	98	101	4.0	-0.05	0.39		122.7	187.0	184.4	63.7	186.5	227.1843	69	70	66		1.001	3.233	397
1936	311.631	312.367		0.16	0.16	1.30	1.06	0.26	80	79	66	1.92	1.40	73	0.016	102	102	3.7	0.23	0.41		122.7	187.1	184.5	63.7	186.5	222.44621	69	70	66		1.001	3.392	417
1937	311.791	312.529		0.16	0.16	1.31	1.07	0.26	80	79	66	1.90	1.40	72	0.015	105	106	3.6	0.11	0.43		123.1	187.4	184.7	63.7	186.9	217.86736	69	70	66		1.001	3.556	438
1938	311.950	312.691		0.16	0.16	1.31	1.07	0.26	80	79	66	1.90	1.40	72	0.016	101	103	3.7	-0.06	0.43		123.2	187.5	184.9	63.7	186.9	213.61366	69	70	66		1.001	3.555	438
1939	312.110	312.854		0.16	0.16	1.31	1.07	0.26	80	79	66	1.90	1.40	72	0.018	96	98	3.5	0.14	0.39		123.2	187.6	185.0	63.7	186.9	209.6935	69	70	66		1.001	3.230	399
1940	312.270	313.016		0.16	0.16	1.31	1.07	0.26	80	79	66	1.90	1.40	71	0.017	99	100	3.5	0.08	0.45		123.4	187.7	185.1	63.7	187.1	206.17543	69	69	66		1.001	3.717	459
1941	312.429	313.178		0.16	0.16	1.32	1.07	0.26	80	79	66	1.91	1.40	71	0.017	98	100	3.5	0.01	0.47		123.3	187.7	185.1	63.7	187.0	202.90945	68	69	66		1.001	3.877	479
1942	312.589	313.341		0.16	0.16	1.31	1.07	0.26	79	79	66	1.90	1.40	70	0.016	102	103	3.5	0.01	0.41		123.7	187.8	185.2	63.7	187.3	199.44544	68	69	66		1.001	3.393	420
1943	312.749	313.503		0.16	0.16	1.31	1.07	0.26	79	79	66	1.91	1.40	69	0.015	105	106	3.3	0.14	0.43		123.5	187.8	185.2	63.7	187.1	195.88124	68	69	66		1.001	3.545	438
1944	312.909	313.666		0.16	0.16	1.31	1.07	0.26	79	79	66	1.91	1.40	69	0.015	105	107	3.6	-0.24	0.43		123.7	187.9	185.3	63.7	187.3	192.27112	68	69	66		1.001	3.545	439
1945	313.069	313.828		0.16	0.16	1.32	1.07	0.26	79	79	66	1.91	1.40	69	0.018	96	97	3.5	0.04	0.44		123.5	187.8	185.2	63.6	187.2	188.79814	68	69	66		1.001	3.645	451
1946	313.229	313.990		0.16	0.16	1.31	1.08	0.26	79	79	66	1.90	1.40	69	0.017	99	100	3.4	0.11	0.43		123.6	187.9	185.3	63.6	187.3	185.42642	68	69	66		1.001	3.554	440
1947	313.390	314.153		0.16	0.16	1.31	1.07	0.26	79	79	66	1.91	1.40	69	0.016	102	103	3.4	-0.03	0.45		123.7	187.9	185.3	63.6	187.3	182.17477	68	69	66		1.001	3.714	460
1948	313.549	314.316		0.16	0.16	1.31	1.07	0.26	79	79	66	1.91	1.40	69	0.018	95	97	3.5	-0.03	0.42		123.7	187.8	185.2	63.6	187.3	178.9445	68	68	66		1.001	3.522	436
1949	313.709	314.478		0.16	0.16	1.30	1.07	0.26	79	79	66	1.89	1.40	69	0.016	102	103	3.5	-0.06	0.41		123.6	187.9	185.3	63.6	187.2	175.7952	68	68	66		1.001	3.393	420
1950	313.869	314.640		0.16	0.16	1.30	1.07	0.26	79	79	66	1.90	1.40	68	0.016	102	103	3.4	0.15	0.37		123.6	187.8	185.2	63.6	187.2	172.81062	68	68	66		1.001	3.074	380
1951	314.028	314.803		0.16	0.16	1.30	1.07	0.26	79	79	66	1.91	1.40	68	0.016	101	103	3.5	-0.14	0.41		123.6	187.8	185.3	63.6	187.2	170.23218	68	68	66		1.001	3.395	420
1952	314.188	314.966		0.16	0.16	1.31	1.07	0.26	79	79	66	1.92	1.40	68	0.015	105	107	3.4	0.14	0.43		123.6	187.9	185.2	63.6	187.2	167.30971	67	68	66		1.001	3.556	440
1953	314.348	315.128		0.16	0.16	1.31	1.07	0.26	79	79	66	1.91	1.40	68	0.015	105	106	3.5	-0.14	0.41		123.5	187.7	185.2	63.6	187.1	164.77406	67	68	66		1.001	3.398	420
1954	314.508	315.290		0.16	0.16	1.31	1.07	0.26	79	79	67	1.91	1.40	69	0.016	102	103	3.5	0.02	0.47		123.5	187.7	185.2	63.6	187.1	162.15064	67	68	67		1.001	3.879	480
1955	314.668	315.453		0.16	0.16	1.31	1.08	0.26	79	79	66	1.89	1.40	70	0.016	102	103	3.4	0.09	0.39		123.6	187.6	185.0	63.6	187.1	159.77376	67	68	66		1.001	3.239	401
1956	314.828	315.615		0.16	0.16	1.31	1.07	0.26	79	79	66	1.89	1.40	69	0.017	99	100	3.4	0.04	0.45		123.4	187.6	185.0	63.6	186.9	157.07825	67	68	66		1.001	3.722	460
1957	314.987	315.778		0.16	0.16	1.31	1.07	0.26	79	79	66	1.91	1.40	69	0.016	101	103	3.5	-0.12	0.45		123.4	187.6	185.0	63.6	186.9	155.29752	67	68	66		1.001	3.717	459
1958	315.147	315.940		0.16	0.16	1.31	1.07	0.26	79	79	66	1.89	1.40	69	0.015	105	106	3.5	0.01	0.45		123.2	187.5	184.9	63.6	186.9	153.08356	67	68	66		1.001	3.724	459
1959	315.308	316.102		0.16	0.16	1.31	1.07	0.26	79	79	67	1.91	1.40	69	0.016	102	103	3.5	0.00	0.41		123.1	187.4	184.8	63.7	186.8	151.2719	67	68	67		1.001	3.396	419
1960	315.468	316.265		0.16	0.16	1.31	1.07	0.26	79	79	67	1.90	1.40	69	0.016	102	103	3.5	-0.03	0.45		122.9	187.4	184.8	63.9	186.7	148.88153	67	68	67		1.001	3.713	457
1961	315.628	316.428		0.16	0.16	1.31	1.07	0.26	79	79	67	1.91	1.40	69	0.017	99	100	3.4	0.14	0.43		122.8	187.2	184.7	64.0	186.8	146.9988	67	68	67		1.001	3.552	437
1962	315.788	316.590		0.16	0.16	1.31	1.07	0.26	79	79	67	1.89	1.40	69	0.015	105	106	3.5	-0.18	0.42		122.6	187.3	184.7	64.1	186.7	144.85162	67	68	67		1.001	3.515	431
1963	315.947	316.752		0.16	0.16	1.30	1.07	0.26	79	79	67	1.91	1.40	69	0.014	108	110	3.5	0.04	0.43		122.4	187.2	184.5	64.2	186.6	142.94162	67	68	67		1.001	3.549	435
1964	316.107	316.914		0.16	0.16	1.30	1.07	0.26	79	79	67	1.90	1.40	69	0.016	102	103	3.5	0.05	0.41		122.1	187.0	184.4	64.3	186.4	141.10428	67	68	67		1.001	3.390	414
1965	316.266	317.077		0.16	0.16	1.30	1.07	0.26	79	79	67	1.89	1.40	69	0.017	98	100	3.5	-0.01	0.39		122.0	186.9	184.4	64.5	186.5	139.03178	67	68	67		1.001	3.225	394
1966	316.426	317.239		0.16	0.16	1.31	1.07	0.26	79	79	67	1.90	1.40	69	0.017	99	100	3.4	0.02	0.41		121.7	186.8	184.3	64.6	186.3	137.31628	67	68	67		1.001	3.385	412
1967	316.586	317.401		0.16	0.16	1.31	1.07	0.26	79	79	67	1.91	1.40	70	0.017	99	100	3.5	-0.11	0.43		121.5	186.8	184.3	64.7	186.2	135.85832	67	68	67		1.001	3.547	431
1968	316.745	317.563		0.16	0.16	1.31	1.07	0.26	79	79	67	1.90	1.40	70	0.018	95	97	3.5	0.06	0.39		121.4	186.7	184.1	64.8	186.2	134.12151	67	68	67		1.001	3.224	392
1969	316.905	317.725		0.16	0.16	1.31	1.07	0.26	79	79	67	1.89	1.40	70	0.015	105	106	3.6	-0.13	0.45		121.3	186.7	184.1	64.9	186.2	132.61705	67	68	67		1.001	3.708	450
1970	317.065	317.889		0.16	0.16	1.31	1.07	0.26	79	79	67	1.91	1.40	70	0.016	102	104	3.6	0.04	0.41		121.1	186.6	184.1	65.0	186.1	130.85889	68	68	67		1.001	3.382	410
1971	317.225	318.050		0.16	0.16	1.31	1.07	0.26	79	79	67	1.89	1.40	70	0.015	105	106	3.5	0.10	0.39		120.9	186.6	184.1	65.0	185.9	129.52766	68	68	67		1.001	3.226	391
1972	317.385	318.212		0.16	0.16	1.31	1.07	0.26	79	79	67	1.90	1.40	70	0.016	102	103	3.5	-0.06	0.43		120.9	186.4	183.9	65.1	186.0	128.1454	68	68	67		1.001	3.548	429
1973	317.545	318.374		0.16	0.16	1.31	1.07	0.26	79	79	68	1.90	1.40	70	0.017	99	100	3.6	-0.09	0.39		120.7	186.3	183.8	65.2	185.9	127.19601	68	68	68		1.001	3.225	390
1974	317.704	318.537		0.16	0.16	1.31	1.07	0.26	79	79	68	1.90	1.40	70	0.017	98	100	3.7	-0.06	0.46		120.5	186.2	183.7	65.3	185.7	125.77494	68	68	68		1.001	3.855	465

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-°F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
1975	317.864	318.699		0.16	0.16	1.31	1.06	0.26	79	79	68	1.91	1.40	70	0.013	113	114	3.6	0.13	0.37		120.3	186.1	183.6	65.3	185.6	124.70041	68	68	68		1.001	3.080	371
1976	318.024	318.861		0.16	0.16	1.30	1.07	0.26	79	79	68	1.90	1.40	71	0.017	99	100	3.6	-0.03	0.42		120.1	186.0	183.4	65.4	185.5	123.15036	68	68	68		1.001	3.464	416
1977	318.183	319.023		0.16	0.16	1.30	1.07	0.26	80	79	68	1.90	1.40	71	0.014	108	110	3.5	0.05	0.41		120.0	186.0	183.4	65.5	185.5	121.5702	68	68	68		1.001	3.384	407
1978	318.343	319.186		0.16	0.16	1.30	1.06	0.26	80	79	68	1.91	1.40	71	0.016	102	104	3.7	-0.19	0.43		119.8	185.8	183.3	65.5	185.4	120.2831	68	68	68		1.001	3.543	425
1979	318.502	319.347		0.16	0.16	1.31	1.06	0.26	80	79	68	1.90	1.40	71	0.017	98	99	3.6	0.14	0.43		119.7	185.7	183.2	65.6	185.3	119.48932	68	68	68		1.001	3.570	428
1980	318.661	319.509		0.16	0.16	1.31	1.07	0.26	80	79	68	1.91	1.40	71	0.015	105	106	3.6	-0.01	0.41		119.5	185.6	183.1	65.6	185.1	118.41912	68	68	68		1.001	3.385	405
1981	318.821	319.671		0.16	0.16	1.31	1.07	0.26	80	79	68	1.91	1.40	71	0.016	102	103	3.7	-0.07	0.39		119.4	185.5	183.1	65.7	185.0	117.53439	68	68	68		1.001	3.225	385
1982	318.981	319.834		0.16	0.16	1.31	1.07	0.26	80	80	68	1.91	1.40	79	0.018	97	98	3.6	0.10	0.41		119.2	185.4	182.9	65.7	184.9	152.40286	69	69	68		1.001	3.382	403
1983	319.140	319.996		0.16	0.16	1.31	1.07	0.26	80	80	68	1.89	1.40	74	0.017	98	100	3.5	0.06	0.44		119.0	185.4	182.9	65.8	184.8	148.13161	68	69	68		1.001	3.697	441
1984	319.300	320.157		0.16	0.16	1.31	1.07	0.26	80	80	68	1.91	1.40	72	0.017	99	99	3.6	-0.07	0.41		118.9	185.3	182.8	65.8	184.8	138.31427	68	69	68		1.001	3.380	402
1985	319.461	320.320		0.16	0.16	1.31	1.07	0.26	80	80	68	1.91	1.40	71	0.016	102	103	3.5	0.09	0.43		118.8	185.1	182.7	65.8	184.6	131.9885	69	69	68		1.001	3.546	422
1986	319.620	320.482		0.16	0.16	1.31	1.07	0.26	80	80	68	1.89	1.40	72	0.017	98	100	3.5	0.02	0.46		118.6	185.0	182.6	65.9	184.5	127.96606	69	69	68		1.001	3.861	459
1987	319.780	320.645		0.16	0.16	1.30	1.07	0.26	80	80	68	1.91	1.40	72	0.016	102	103	3.4	0.01	0.41		118.6	185.0	182.6	65.9	184.6	125.78462	69	69	68		1.001	3.384	402
1988	319.940	320.806		0.16	0.16	1.30	1.07	0.26	80	80	68	1.91	1.40	71	0.015	105	105	3.5	-0.06	0.44		118.3	184.9	182.4	66.0	184.3	123.10365	69	69	68		1.001	3.700	438
1989	320.100	320.968		0.16	0.16	1.30	1.07	0.26	80	80	69	1.89	1.40	71	0.017	99	100	3.5	-0.02	0.41		118.2	184.7	182.3	66.0	184.2	121.80441	69	69	69		1.001	3.384	400
1990	320.259	321.130		0.16	0.16	1.30	1.07	0.26	80	80	69	1.89	1.40	72	0.016	101	103	3.6	-0.06	0.41		118.2	184.6	182.2	66.0	184.2	119.48061	69	69	69		1.001	3.382	400
1991	320.419	321.293		0.16	0.16	1.31	1.07	0.26	80	80	69	1.90	1.40	72	0.017	99	100	3.4	0.18	0.43		117.9	184.5	182.1	66.0	184.0	117.90179	69	69	69		1.001	3.546	419
1992	320.579	321.455		0.16	0.16	1.31	1.07	0.26	80	80	69	1.91	1.40	72	0.016	102	103	3.5	-0.10	0.44		118.0	184.4	182.0	66.1	184.0	116.06043	69	69	69		1.001	3.691	436
1993	320.738	321.617		0.16	0.16	1.31	1.07	0.26	80	80	69	1.89	1.40	72	0.017	98	100	3.5	0.01	0.43		117.7	184.4	182.0	66.1	183.8	114.71658	69	69	69		1.001	3.615	426
1994	320.898	321.779		0.16	0.16	1.31	1.07	0.26	80	80	69	1.91	1.40	72	0.015	105	106	3.6	-0.08	0.41		117.6	184.2	181.7	66.1	183.7	113.9917	69	69	69		1.001	3.383	398
1995	321.058	321.942		0.16	0.16	1.31	1.07	0.26	80	80	69	1.90	1.40	72	0.016	102	103	3.5	0.11	0.42		117.4	184.0	181.6	66.1	183.5	111.92378	69	69	69		1.001	3.537	416
1996	321.218	322.104		0.16	0.16	1.31	1.06	0.26	80	80	69	1.89	1.40	72	0.018	96	97	3.6	-0.13	0.44		117.4	184.0	181.5	66.1	183.5	111.86139	69	69	69		1.001	3.701	435
1997	321.378	322.266		0.16	0.16	1.31	1.07	0.26	80	80	69	1.91	1.40	72	0.016	102	103	3.5	0.05	0.43		117.1	183.8	181.4	66.2	183.3	110.36177	69	69	69		1.001	3.541	415
1998	321.538	322.428		0.16	0.16	1.30	1.07	0.26	80	80	69	1.90	1.40	72	0.015	105	106	3.4	0.13	0.39		117.1	183.7	181.3	66.2	183.3	109.0684	69	69	69		1.001	3.222	378
1999	321.699	322.591		0.16	0.16	1.31	1.07	0.26	80	80	69	1.89	1.40	72	0.017	100	100	3.5	-0.14	0.37		116.9	183.6	181.2	66.2	183.1	108.57059	69	69	69		1.001	3.062	358
2000	321.858	322.753		0.16	0.16	1.31	1.06	0.26	80	80	69	1.90	1.40	72	0.016	101	103	3.6	-0.02	0.50		116.8	183.5	181.1	66.2	183.0	107.30711	69	69	69		1.001	4.186	490
2001	322.018	322.915		0.16	0.16	1.30	1.06	0.26	81	80	69	1.91	1.40	72	0.018	96	97	3.5	0.03	0.42		116.6	183.3	180.9	66.2	182.8	106.48072	69	69	69		1.001	3.536	413
2002	322.178	323.077		0.16	0.16	1.30	1.07	0.26	81	80	69	1.89	1.40	72	0.016	102	103	3.5	0.02	0.44		116.4	183.2	180.8	66.3	182.6	105.51907	69	69	69		1.001	3.702	431
2003	322.338	323.239		0.16	0.16	1.30	1.07	0.26	81	80	69	1.89	1.40	72	0.017	99	100	3.5	0.04	0.46		116.4	183.0	180.7	66.3	182.7	105.08504	69	69	69		1.001	3.866	450
2004	322.498	323.401		0.16	0.16	1.30	1.06	0.26	81	80	69	1.91	1.40	72	0.017	99	100	3.6	-0.09	0.39		116.1	183.0	180.5	66.3	182.4	103.88892	69	69	69		1.001	3.220	374
2005	322.658	323.563		0.16	0.16	1.30	1.07	0.26	81	80	69	1.89	1.40	73	0.017	99	100	3.6	-0.08	0.99		116.2	182.5	176.7	66.2	182.4	104.35682	69	69	69		1.001	8.230	957
2006	322.818	323.725		0.16	0.16	1.31	1.07	0.26	81	81	69	1.90	1.40	72	0.016	102	103	3.6	0.08	1.01		115.3	181.8	175.4	66.2	181.5	103.01944	70	70	69		1.001	8.388	968
2007	322.977	323.888		0.16	0.16	1.31	1.07	0.26	81	81	69	1.89	1.40	73	0.016	101	103	3.5	0.03	0.98		115.4	181.3	175.0	65.7	181.1	103.22862	70	70	69		1.001	8.168	943
2008	323.137	324.050		0.16	0.16	1.31	1.07	0.26	81	81	69	1.91	1.40	72	0.018	96	97	3.7	-0.13	0.99		115.2	180.7	174.4	65.3	180.6	103.03301	70	70	69		1.001	8.207	947
2009	323.297	324.212		0.16	0.16	1.31	1.06	0.26	81	81	69	1.91	1.40	72	0.016	102	103	3.7	-0.04	0.97		115.1	180.5	174.1	65.1	180.2	101.88651	70	70	69		1.001	8.070	930
2010	323.457	324.374		0.16	0.16	1.31	1.07	0.26	81	81	69	1.90	1.40	73	0.017	99	100	3.7	0.00	1.01		114.7	179.9	173.5	64.9	179.6	101.68005	70	70	69		1.001	8.393	964
2011	323.617	324.536		0.16	0.16	1.31	1.07	0.26	81	81	69	1.89	1.40	73	0.016	102	103	3.6	0.08	1.01		114.6	179.6	173.2	64.7	179.3	100.60626	70	70	69		1.001	8.390	962
2012	323.778	324.699		0.16	0.16	1.31	1.07	0.26	81	81	69	1.91	1.40	73	0.014	110	111	3.7	-0.14	0.99		114.2	179.0	172.6	64.5	178.7	99.856247	70	70	69		1.001	8.230	941
2013	323.938	324.861		0.16	0.16	1.30	1.06	0.26	81	81	69	1.89	1.40	77	0.018	96	97	3.7	0.06	1.03		114.0	178.7	172.5	64.4	178.4	133.91583	70	70	69		1.001	8.554	977
2014	324.098	325.023		0.16	0.16	1.31	1.07	0.26	81	81	69	1.91	1.40	74	0.016	102	103	3.8	-0.12	1.07		113.7	178.2	172.1	64.3	178.0	128.85962	70	70	69		1.001	8.874	1010
2015	324.257	325.185		0.16	0.16	1.31	1.07	0.26	81	81	70	1.91	1.40	73	0.016	101	103	3.8	-0.02	1.03		113.3	177.8	171.7	64.3	177.6	123.31298	70	70	70		1.001	8.547	969
2016	324.417	325.348		0.16	0.16	1.31	1.06	0.26	81	81	69	1.91	1.40	73	0.016	102	103	3.6	0.22	0.99		112.9	177.3	171.3	64.3	177.1	118.62534	70	70	69		1.001	8.230	930
2017	324.577	325.510		0.16	0.16	1.30	1.06	0.26	81	81	69	1.89	1.40	73	0.017	99	100	3.6	-0.03	1.01		112.3	176.8	170.6	64.3	176.5	115.63977	70	70	69		1.001	8.389	943
2018	324.737	325.672		0.16	0.16	1.31	1.07	0.26	81	81	69	1.90	1.40	73	0.016	102	103	3.8	-0.18	1.07		112.1	176.5	170.5	64.2	176.4	113.22274	70	70	69		1.001	8.878	997
2019	324.897	325.834		0.16	0.16	1.30	1.07	0.26	81	81	69	1.91	1.40	73	0.015	105	106	3.7	0.10	1.01		111.8	176.4	170.2	64.2	176.1	110.3615	70	70	69		1.001	8.389	939
2020	325.056	325.997		0.16	0.16	1.30	1.06	0.26	81	81	70	1.90	1.40	73	0.018	95	97	3.8	-0.10	1.03		111.3	175.7	169.6	64.2	175.5	108.78973	70	70	70		1.001	8.549	952
2021	325.216	326.159		0.16	0.16	1.31	1.06	0.26	81	81	70	1.90	1.40	73	0.017	99	100	3.9	-0.08	1.01		111.0	175.4	169.4	64.2	175.2	107.77618	70	70	70		1.001	8.388	932
2022	325.376	326.320		0.16	0.16	1.30	1.06	0.26	81	81	70	1.91	1.40	73	0.017	99	99	3.8	0.11	0.97		110.7	175.1	169.3	64.2	174.9	106.48467	70	70	70		1.001	8.053	892
2023	325.536	326.483		0.16	0.16	1.30	1.07	0.26	81	81	70	1.90	1.40	73	0.014	109	111	3.9	-0.11	1.03		110.2	174.5	168.5	64.2	174.3	104.84719	70	70	70		1.001	8.549	943
2024	325.695	326.645		0.16	0.16	1.31	1.07	0.26	81	81	70	1.90	1.40	73	0.016	101	103	4.0	-0.05	1.05		109.6	174.0	168.0	64.2	173.8	104.31884	70	70	70		1.001	8.706	955
2025	325.856	326.808		0.16	0.16	1.31	1.06	0.26	81	81	70	1.89	1.40	73	0.017	99	100	3.6	0.31	0.97		109.2	173.8	167.7	64.2	173.4	102.9845	70	70	70		1.001	8.062	882
2026	326.016	326.969		0.16	0.16	1.30	1.06	0.26	81	81	70	1.90	1.40	73	0.017	99	99	3.7	-0.06	0.70		108.9	173.3	168.7	64.2	173.1	102.67646	70	70	70		1.001	5.801	632
2027	326.177	327.131		0.16	0.16	1.30	1.07	0.26	81	81	70	1.91	1.40	73	0.016	102	103	3.9	-0.24	0.68		108.8	173.2	169.2	64.2	173.0	101.66041	70	70	70		1.001	5.639	614
2028	326.337	327.294		0.16	0.16	1.30	1.07	0.26	81	81	70	1.89	1.40	73	0.017	99	100	3.7	0.19	0.52		108.6	173.1	170.2	64.2	172.8	100.71594	70	70	70		1.001	4.346	473
2029	326.496	327.456		0.16	0.16	1.31	1.06	0.26	82	81	70	1.91	1.40	73	0.015	104	106	3.8	-0.02	0.48		108.4	173.0	170.2	64.3	172.7	99.641708	71	70	70		1.001	4.018	436
2030	326.656	327.618		0.16	0.16	1.30	1.06	0.26	82	81	70	1.91	1.40	73	0.017	99	100	3.9	-0.10	0.48		108.1	172.8	170.0	64.5	172.5	99.149941	70	71	70		1.001	4.024	435
2031	326.816	327.780		0.16	0.16	1.30	1.07	0.26	82	81	70	1.91	1.40	73	0.017	99	100	3.9	0.02	0.49		107.8	172.7	169.9	64.7	172.5	98.679466	70	71	70		1.001	4.119	445
2032	326.975	327.942		0.16	0.16	1.30	1.07	0.26	82	81	70	1.89	1.40	73	0.018	95	97	3.8	0.08	0.48		107.6	172.7	170.0	64.9	172.5	98.519058	71	71	70		1.001	3.995	430
2033	327.135	328.105		0.16	0.16	1.30	1.06	0.26	82	81	70	1.90	1.40	73	0.017	99	100	3.9	-0.10	0.46		107.0	172.4	169.6	65.1	172.1	97.410477	71	71	70		1.001	3.862	414
2034	327.295	328.267		0.16	0.16	1.30	1.06	0.26	82	81	70	1.91	1.40	73	0.016	102	103	3.8	0.10	0.51		106.7	172.3	169.5	65.2	171.9	96.687607	71	71	70		1.001	4.212	450
2035	327.455	328.429		0.16	0.16	1.30	1.07	0.26	82	82	70	1.91	1.40	73	0.016	102	103	3.8	-0.01	0.48		106.3	172.1	169.3	65.4	171.7	96.135658	71	71	70		1.001	4.023	428
2036	327.615	328.591		0.16	0.16	1.30	1.07	0.26	82	82	70	1.91	1.40	74	0.015	105	106	3.8	-0.01	0.50		106.2	172.0	169.2	65.4	171.6	94.727219	71	71	70		1.001	4.182	445

Elapsed Time	Particulate Sampling Data																	Fuel Weight, lb		Flow, gpm		Temperature Data, oF									Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-*F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
2037	327.775	328.754		0.16	0.16	1.30	1.06	0.26	82	82	70	1.91	1.40	74	0.016	102	103	3.8	0.04	0.50		105.9	171.7	169.0	65.5	171.4	94.701508	71	71	70		1.001	4.186	444
2038	327.935	328.916		0.16	0.16	1.30	1.06	0.26	82	82	70	1.90	1.40	74	0.015	105	106	3.9	-0.12	0.52		105.6	171.5	168.8	65.6	171.2	94.210609	71	71	70		1.001	4.344	459
2039	328.095	329.078		0.16	0.16	1.31	1.06	0.26	82	82	70	1.90	1.40	73	0.015	105	106	3.9	-0.07	0.50		105.3	171.3	168.5	65.7	171.0	93.375015	71	71	70		1.001	4.181	441
2040	328.255	329.240		0.16	0.16	1.31	1.07	0.26	82	82	70	1.90	1.40	74	0.018	96	97	4.0	-0.10	0.48		105.1	171.1	168.4	65.8	170.9	92.999893	71	71	70		1.001	4.021	423
2041	328.415	329.402		0.16	0.16	1.31	1.07	0.26	82	82	70	1.90	1.40	73	0.017	99	99	3.8	0.22	0.50		104.9	171.1	168.4	65.8	170.7	92.252853	71	71	70		1.001	4.182	439
2042	328.575	329.565		0.16	0.16	1.30	1.06	0.26	82	82	70	1.90	1.40	73	0.016	102	103	3.9	-0.08	0.48		104.7	170.8	168.1	65.9	170.5	90.891151	71	71	70		1.001	4.024	422
2043	328.735	329.727		0.16	0.16	1.30	1.06	0.26	82	82	70	1.89	1.40	73	0.016	102	103	3.9	-0.05	0.52		104.4	170.6	168.0	65.9	170.4	91.076988	71	71	70		1.001	4.346	454
2044	328.895	329.888		0.16	0.16	1.29	1.07	0.26	82	82	70	1.90	1.40	77	0.018	96	96	3.8	0.19	0.54		104.2	170.5	167.9	66.0	170.2	119.78381	71	71	70		1.001	4.507	470
2045	329.055	330.051		0.16	0.16	1.30	1.06	0.26	82	82	70	1.90	1.40	74	0.017	99	100	3.9	-0.12	0.54		104.0	170.3	167.7	66.0	170.0	113.03049	71	71	70		1.001	4.508	469
2046	329.214	330.214		0.16	0.16	1.30	1.06	0.26	82	82	69	1.91	1.40	74	0.016	101	103	3.9	0.01	0.54		103.7	170.2	167.5	66.0	169.7	109.34738	71	71	69		1.001	4.513	469
2047	329.374	330.375		0.16	0.16	1.30	1.06	0.26	82	82	69	1.89	1.40	75	0.017	99	99	3.8	0.04	0.50		103.7	170.0	167.3	66.0	169.7	106.50829	71	71	69		1.001	4.190	435
2048	329.534	330.537		0.16	0.16	1.30	1.07	0.26	82	82	69	1.90	1.40	74	0.015	105	106	3.7	0.13	0.50		103.5	169.7	167.1	66.0	169.5	104.29018	71	71	69		1.001	4.188	434
2049	329.694	330.699		0.16	0.16	1.30	1.07	0.26	82	82	69	1.89	1.40	74	0.017	99	100	3.9	-0.23	0.48		103.3	169.6	166.9	65.9	169.3	102.51838	71	71	69		1.001	4.027	417
2050	329.854	330.863		0.16	0.16	1.30	1.07	0.26	82	82	69	1.90	1.40	73	0.016	102	104	3.8	0.15	0.54		103.4	169.4	166.7	65.8	169.2	101.30311	71	71	69		1.001	4.512	467
2051	330.014	331.025		0.16	0.16	1.31	1.06	0.26	82	82	69	1.89	1.40	73	0.018	96	97	3.8	-0.06	0.46		103.4	169.3	166.6	65.6	169.0	99.72097	71	71	69		1.001	3.862	400
2052	330.174	331.186		0.16	0.16	1.30	1.06	0.26	82	82	70	1.91	1.40	72	0.016	102	102	3.7	0.13	0.46		103.5	169.1	166.3	65.3	168.8	98.993706	71	71	70		1.001	3.866	401
2053	330.334	331.349		0.16	0.16	1.31	1.07	0.26	82	82	70	1.89	1.40	72	0.017	99	100	3.8	-0.12	0.48		103.4	169.0	166.2	65.2	168.6	97.53019	71	71	70		1.001	4.027	417
2054	330.495	331.512		0.16	0.16	1.30	1.07	0.26	82	82	70	1.91	1.40	71	0.015	105	106	3.8	0.04	0.50		103.3	168.8	166.1	65.1	168.4	96.933151	71	71	70		1.001	4.191	434
2055	330.655	331.674		0.16	0.16	1.30	1.06	0.26	82	82	70	1.90	1.40	71	0.016	101	102	3.8	-0.03	0.52		103.2	168.5	165.8	65.0	168.2	96.157333	70	71	70		1.001	4.351	450
2056	330.816	331.836		0.16	0.16	1.31	1.07	0.26	82	82	70	1.90	1.40	71	0.016	102	102	3.9	-0.09	0.49		103.2	168.3	165.6	64.8	168.0	95.40358	70	71	70		1.001	4.049	418
2057	330.975	331.998		0.16	0.16	1.31	1.07	0.26	82	82	70	1.91	1.40	71	0.016	101	102	3.7	0.21	0.54		103.2	168.3	165.6	64.7	167.9	94.640587	70	70	70		1.001	4.516	466
2058	331.135	332.161		0.16	0.16	1.31	1.07	0.26	82	82	70	1.89	1.40	70	0.017	98	100	4.0	-0.29	0.50		103.0	168.0	165.3	64.7	167.7	93.830223	70	70	70		1.001	4.190	432
2059	331.295	332.323		0.16	0.16	1.30	1.07	0.26	82	82	70	1.91	1.40	70	0.016	101	102	3.8	0.17	0.54		103.0	167.8	165.1	64.6	167.6	93.316444	70	70	70		1.001	4.508	465
2060	331.456	332.485		0.16	0.16	1.30	1.06	0.26	82	82	69	1.89	1.40	70	0.017	99	99	3.9	-0.06	0.50		102.8	167.7	165.0	64.5	167.3	92.9571	70	70	69		1.001	4.190	431
2061	331.616	332.647		0.16	0.16	1.30	1.07	0.26	82	82	69	1.91	1.40	70	0.017	98	99	3.8	0.04	0.50		102.9	167.6	164.8	64.4	167.2	92.269226	70	70	69		1.001	4.187	431
2062	331.775	332.810		0.16	0.16	1.30	1.07	0.26	82	82	70	1.90	1.40	70	0.018	95	97	3.8	0.01	0.50		102.8	167.5	164.8	64.3	167.1	91.616959	70	70	70		1.001	4.190	431
2063	331.936	332.973		0.16	0.16	1.30	1.07	0.26	82	82	69	1.89	1.40	70	0.016	102	103	3.9	-0.10	0.54		102.6	167.1	164.5	64.2	166.9	91.079086	70	70	69		1.001	4.511	463
2064	332.096	333.135		0.16	0.16	1.30	1.06	0.26	82	82	69	1.91	1.40	70	0.017	98	99	3.7	0.18	0.52		102.6	167.0	164.4	64.2	166.8	90.800774	70	70	69		1.001	4.348	447
2065	332.255	333.297		0.16	0.16	1.30	1.06	0.26	82	82	69	1.90	1.40	70	0.016	101	102	3.8	-0.09	0.48		102.4	166.8	164.2	64.1	166.5	90.638535	70	70	69		1.001	4.027	413
2066	332.416	333.459		0.16	0.16	1.31	1.07	0.26	82	82	69	1.89	1.40	69	0.018	96	96	3.8	0.01	0.50		102.2	166.6	164.0	64.1	166.3	89.746864	70	70	69		1.001	4.184	428
2067	332.576	333.622		0.16	0.16	1.31	1.07	0.26	82	82	69	1.90	1.40	69	0.017	98	100	3.8	0.02	0.52		102.1	166.4	163.8	64.1	166.1	89.309479	70	70	69		1.001	4.349	444
2068	332.736	333.784		0.16	0.16	1.31	1.07	0.26	82	82	69	1.90	1.40	69	0.017	98	99	3.8	-0.01	0.48		102.1	166.3	163.7	64.0	166.0	88.567268	70	70	69		1.001	4.026	411
2069	332.896	333.946		0.16	0.16	1.31	1.07	0.26	82	82	69	1.89	1.40	69	0.017	98	99	3.8	0.00	0.50		101.9	166.1	163.5	63.9	165.9	88.295654	70	70	69		1.001	4.179	426
2070	333.056	334.109		0.16	0.16	1.30	1.07	0.26	82	82	69	1.89	1.40	69	0.016	101	103	3.7	0.07	0.54		101.8	165.9	163.3	63.9	165.7	88.820999	70	70	69		1.001	4.509	459
2071	333.217	334.271		0.16	0.16	1.31	1.06	0.26	82	82	69	1.91	1.40	69	0.015	105	106	3.8	-0.08	0.54		101.7	165.7	163.1	63.9	165.5	88.099396	69	70	69		1.001	4.508	459
2072	333.378	334.434		0.16	0.16	1.30	1.07	0.26	82	82	69	1.89	1.40	69	0.017	99	100	3.8	-0.01	0.52		101.5	165.6	163.0	63.8	165.3	87.42376	69	70	69		1.001	4.346	442
2073	333.538	334.596		0.16	0.16	1.29	1.07	0.26	82	82	69	1.91	1.40	69	0.015	105	106	3.9	-0.04	0.54		101.3	165.4	162.8	63.8	165.1	86.948242	69	69	69		1.001	4.506	457
2074	333.698	334.758		0.16	0.16	1.30	1.07	0.26	82	82	68	1.91	1.40	69	0.018	95	96	3.9	-0.02	0.52		101.2	165.2	162.5	63.7	164.9	86.758736	69	69	68		1.001	4.351	441
2075	333.858	334.921		0.16	0.16	1.30	1.07	0.26	82	82	69	1.89	1.40	73	0.017	99	100	3.8	0.13	0.50		101.1	165.1	162.4	63.7	164.7	114.26479	69	70	69		1.001	4.190	424
2076	334.018	335.084		0.16	0.16	1.30	1.06	0.26	82	82	68	1.89	1.40	70	0.017	98	100	3.9	-0.10	0.52		100.9	164.9	162.2	63.6	164.6	106.72611	69	69	68		1.001	4.350	440
2077	334.178	335.246		0.16	0.16	1.30	1.07	0.26	82	82	68	1.89	1.40	69	0.017	98	99	3.9	-0.02	0.52		100.7	164.7	162.1	63.6	164.3	102.6823	69	69	68		1.001	4.350	439
2078	334.338	335.408		0.16	0.16	1.30	1.07	0.26	82	82	68	1.91	1.40	69	0.017	98	99	3.8	0.08	0.50		100.7	164.5	161.9	63.6	164.3	99.455177	69	69	68		1.001	4.186	422
2079	334.498	335.570		0.16	0.16	1.30	1.07	0.26	82	82	68	1.90	1.40	69	0.015	105	106	3.9	-0.09	0.48		100.3	164.3	161.6	63.6	164.0	97.571701	69	69	68		1.001	4.027	404
2080	334.658	335.733		0.16	0.16	1.30	1.07	0.26	82	82	68	1.90	1.40	69	0.018	95	97	4.0	-0.12	0.54		100.3	164.2	161.5	63.6	163.9	96.393906	69	69	68		1.001	4.511	453
2081	334.818	335.896		0.16	0.16	1.31	1.07	0.26	82	82	68	1.89	1.40	69	0.016	101	103	3.7	0.31	0.55		100.1	164.1	161.5	63.7	163.8	95.165527	69	69	68		1.001	4.570	458
2082	334.978	336.058		0.16	0.16	1.31	1.07	0.26	82	82	68	1.91	1.40	69	0.016	101	102	3.9	-0.17	0.55		99.9	163.8	161.2	63.7	163.5	93.811821	69	69	68		1.001	4.604	460
2083	335.138	336.220		0.16	0.16	1.31	1.07	0.26	82	82	68	1.91	1.40	68	0.017	98	99	3.9	-0.04	0.54		99.6	163.6	161.0	63.7	163.3	92.937943	69	69	68		1.001	4.513	450
2084	335.299	336.383		0.16	0.16	1.31	1.07	0.26	82	82	68	1.90	1.40	68	0.019	93	94	3.7	0.17	0.54		99.4	163.5	160.9	63.7	163.1	92.300575	69	69	68		1.001	4.514	449
2085	335.459	336.546		0.16	0.16	1.31	1.07	0.26	82	82	68	1.90	1.40	68	0.017	98	100	4.0	-0.28	0.54		99.4	163.3	160.7	63.7	163.1	91.243805	69	69	68		1.001	4.517	449
2086	335.619	336.708		0.16	0.16	1.31	1.06	0.26	82	82	68	1.90	1.40	68	0.017	98	99	3.8	0.23	0.52		99.1	163.1	160.6	63.7	162.8	90.924255	69	69	68		1.001	4.351	432
2087	335.779	336.870		0.16	0.16	1.30	1.07	0.26	82	82	68	1.90	1.40	68	0.016	101	102	4.0	-0.21	0.58		99.0	162.9	160.4	63.7	162.6	90.382385	68	69	68		1.001	4.837	479
2088	335.940	337.033		0.16	0.16	1.29	1.07	0.26	82	82	68	1.89	1.40	68	0.016	102	103	3.9	0.08	0.54		98.9	162.7	160.2	63.7	162.5	89.822037	68	69	68		1.001	4.519	447
2089	336.100	337.196		0.16	0.16	1.30	1.06	0.26	82	82	68	1.90	1.40	68	0.017	98	100	4.0	-0.04	0.52		98.7	162.6	160.1	63.6	162.3	89.034897	68	69	68		1.001	4.353	430
2090	336.260	337.358		0.16	0.16	1.31	1.06	0.26	82	82	68	1.90	1.40	68	0.017	98	99	3.8	0.17	0.52		98.6	162.5	159.9	63.6	162.2	88.847717	68	69	68		1.001	4.360	430
2091	336.420	337.520		0.16	0.16	1.30	1.06	0.26	82	82	68	1.90	1.40	68	0.017	98	99	3.9	-0.09	0.52		98.4	162.2	159.6	63.6	162.0	88.69957	68	69	68		1.001	4.355	429
2092	336.580	337.682		0.16	0.16	1.30	1.07	0.26	82	82	68	1.90	1.40	68	0.015	104	105	3.9	0.00	0.52		98.3	162.1	159.5	63.6	161.8	87.982658	68	69	68		1.001	4.356	429
2093	336.740	337.845		0.16	0.16	1.30	1.07	0.26	82	82	68	1.89	1.40	68	0.017	98	100	3.9	0.03	0.50		98.1	161.9	159.4	63.6	161.6	87.140442	68	68	68		1.001	4.194	412
2094	336.900	338.008		0.16	0.16	1.30	1.07	0.26	82	82	67	1.90	1.40	68	0.017	98	100	3.9	-0.01	0.57		97.9	161.7	159.2	63.5	161.5	86.667954	68	68	67		1.001	4.706	461
2095	337.060	338.170		0.16	0.16	1.30	1.06	0.26	82	82	68	1.90	1.40	68	0.017	98	99	3.9	-0.06	0.54		97.8	161.5	159.0	63.5	161.3	86.047051	68	68	68		1.001	4.499	440
2096	337.220	338.333		0.16	0.16	1.30	1.06	0.26	82	82	68	1.90	1.40	68	0.017	98	100	3.9	0.07	0.52		97.6	161.3	158.8	63.5	161.0	85.940102	68	68	68		1.001	4.352	425
2097	337.380	338.495		0.16	0.16	1.30	1.07	0.26	82	82	68	1.89	1.40	68	0.016	101	102	3.8	0.07	0.54		97.4	161.2	158.6	63.5	160.9	85.005081	68	68	68		1.001	4.517	440
2098	337.540	338.658		0.16	0.16	1.31	1.06	0.26	82	81	68	1.89	1.40	68	0.016	101	103	3.9	-0.08	0.50		97.2	161.0	158.5	63.5	160.7	84.568726	68	68	68		1.001	4.194	408

Elapsed Time	Particulate Sampling Data																Fuel Weight, lb		Flow, gpm		Temperature Data, oF								Stack			
	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Gas Meter Cubic Feet (amb)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Orifice dH (amb)	Meter oF (1)	Meter oF (2)	Meter oF (amb)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (%) (1)	Pro. Rate (%) (2)	Scale Reading	Weight Change	Load Side Liquid Flow Rate	Boiler Side Liquid Flow Rate (optional)	Thermopile ΔT	Boiler to Heat Exch. Temp.	Heat Exch to Boiler Temp.	Inlet Load Temp.	Outlet Load Temp.	Stack	Filter (1)	Filter (2)	Ambient		Specific Heat of Inlet Water (BTU/lb-*F)	Mass Flow Rate of Inlet Water (lb/min)	Heat Output, Btu
2099	337.700	338.820		0.16	0.16	1.31	1.06	0.26	82	81	68	1.90	1.40	68	0.017	98	99	3.8	0.10	0.56		97.2	160.9	158.4	63.4	160.7	94.748131	68	68	68		1.001	4.682	456
2100	337.860	338.982		0.16	0.16	1.31	1.06	0.26	82	81	67	1.91	1.40	73	0.016	102	103	3.8	-0.02	0.50		97.0	160.7	158.2	63.4	160.4	128.01852	68	68	67		1.001	4.195	407
2101	338.020	339.145		0.16	0.16	1.31	1.07	0.26	82	81	67	1.90	1.40	75	0.017	99	100	3.9	-0.09	0.52		96.8	160.4	157.9	63.4	160.2	148.01529	68	68	67		1.001	4.359	422
2102	338.180	339.307		0.16	0.16	1.31	1.07	0.26	81	81	67	1.89	1.40	76	0.016	102	103	3.6	0.24	0.48		96.7	160.3	157.8	63.4	160.1	161.42337	68	69	67		1.001	4.034	390
2103	338.341	339.470		0.16	0.16	1.31	1.07	0.26	81	81	67	1.89	1.40	78	0.019	94	95	3.5	0.14	0.48		96.6	160.3	157.8	63.4	160.0	172.81755	69	69	67		1.001	4.032	390
2104	338.501	339.632		0.16	0.16	1.31	1.06	0.26	81	81	67	1.89	1.40	80	0.017	99	100	3.3	0.19	0.52		96.6	160.2	157.8	63.4	160.0	185.53482	69	69	67		1.001	4.351	421
2105	338.661	339.794		0.16	0.16	1.30	1.07	0.26	81	81	67	1.91	1.40	82	0.016	103	104	3.1	0.23	0.52		96.5	160.2	157.8	63.4	159.9	197.43279	69	69	67		1.001	4.361	421
2106	338.821	339.957		0.16	0.16	1.30	1.07	0.26	81	81	67	1.91	1.40	84	0.013	114	116	2.8	0.28	0.59		96.5	160.2	157.8	63.4	159.9	209.17026	69	69	67		1.001	4.919	475
2107	338.981	340.120		0.16	0.16	1.30	1.07	0.26	81	81	67	1.91	1.40	86	0.016	103	105	2.4	0.43	0.54		96.8	160.6	158.1	63.4	160.2	220.86119	69	69	67		1.001	4.496	436
2108	339.140	340.282		0.16	0.16	1.30	1.07	0.26	81	81	67	1.91	1.40	87	0.017	99	101	1.9	0.44	0.48		97.0	160.9	158.3	63.4	160.4	231.21271	69	70	67		1.001	4.032	392
2109	339.300	340.444		0.16	0.16	1.30	1.07	0.26	81	81	67	1.90	1.40	89	0.016	103	104	1.6	0.34	0.50		97.6	161.4	158.8	63.4	160.9	242.26672	70	70	67		1.001	4.193	410
2110	339.460	340.606		0.16	0.16	1.31	1.07	0.26	81	81	67	1.91	1.40	92	0.015	107	108	1.2	0.44	0.48		98.0	162.0	159.4	63.4	161.4	253.29131	70	70	67		1.001	4.032	396
2111	339.619	340.768		0.16	0.16	1.31	1.07	0.26	81	81	67	1.92	1.40	93	0.016	103	105	0.7	0.44	0.48		98.9	162.9	160.2	63.3	162.2	263.69354	70	70	67		1.001	4.036	400
2112	339.778	340.930		0.16	0.16	1.31	1.07	0.26	81	81	67	1.91	1.40	96	0.015	107	108	0.2	0.47	0.50		99.9	163.9	161.2	63.3	163.2	273.16751	70	70	67		1.001	4.195	419
2113	339.938	341.092		0.16	0.16	1.31	1.07	0.26	81	81	67	1.91	1.40	98	0.016	104	105	0.0	0.22	0.54		100.9	164.9	162.1	63.3	164.2	281.23724	70	71	67		1.001	4.520	457
2114	340.098	341.254	446.157	0.16	0.16	1.31	1.07	0.26	81	81	67	1.91	1.40	99	0.017	101	102	0.0	-0.01	0.54		101.8	166.0	163.3	63.3	165.1	286.99912	71	71	67		1.001	4.521	461
	340.098	341.254	446.157			1.33	1.06	0.26	81	80	68			75	0.017					0.47	#DIV/0!	109.5	174.2	171.6	64.2	173.7		69.43	69.76		#DIV/0!			425
																																TOTAL:		899300

Manufacturer:	Central Boiler
Model:	Edge 560
Date:	10/17/19
Run:	5
Control #:	2374
Test Duration:	2114
Output Category:	I

Technicians: _____

_____

_____

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	78.7%	84.7%
Combustion Efficiency	95.8%	95.8%
Heat Transfer Efficiency	82%	88.4%

Output Rate (kJ/h)	25,305	24,004	**(Btu/h)**
Burn Rate (kg/h)	1.62	3.57	**(lb/h)**
Input (kJ/h)	32,169	30,516	**(Btu/h)**

Test Load Weight (dry kg)	56.99	125.61	**dry lb**
MC wet (%)	17.9		
MC dry (%)	21.80		
Particulate (g)	58.96		
CO (g)	4,359		
Test Duration (h)	35.23		

Emissions	**Particulate**	**CO**
g/MJ Output	0.07	4.89
g/kg Dry Fuel	1.03	76.49
g/h	1.67	123.73
lb/MM Btu Output	0.15	11.36

Air/Fuel Ratio (A/F)	25.75

VERSION: **2.2** **12/14/2009**

Manufacturer:	Central Boiler		**Appliance Type:**	Non-Cat	(Cat, Non-	
Model:	Edge 560					
Date:	10/17/2019		**Temp. Units**	F	(F or C)	
Run:	5		**Weight Units**	lb	(kg or lb)	
Control #:	2374					
Test Duration:	2114					
Output Category:	I		**Fuel Data**			
				D. Fir		
Wood Moisture (% wet):	17.90		**HHV**	19,887	kj/kg	
Load Weight (lb wet):	153.00		**%C**	50		
Burn Rate (dry kg/h):	1.62		**%H**	6.6		
Total Particulate Emissions:	58.6	g	**%O**	42.9		
			%ASH	0.5		

Averages	**0.50**	**3.79**	**#DIV/0!**	**143.08**	**67.88**	
				Temp. (ºF)		
Elapsed	**Fuel Weight Remaining**	**Flue Gas Composition (%)**			**Flue**	**Room**
Time (min)	**(lb)**	**CO**	**CO_2**	**O_2**	**Gas**	**Temp**
0	153.0	0.1	5.8		265	70
1	152.4	0.0	5.7		239	70
2	151.6	0.2	2.1		244	70
3	151.2	0.4	4.2		261	70
4	150.2	0.1	5.9		271	70
5	149.5	0.0	5.8		279	70
6	148.9	0.0	5.4		284	70
7	148.4	0.0	5.3		289	70
8	147.8	0.0	5.1		293	70
9	147.1	0.0	5.0		296	70
10	146.8	0.0	4.8		298	70
11	145.8	0.0	3.4		301	70
12	145.2	0.0	0.4		296	70
13	145.1	0.1	15.7		267	70
14	145.1	0.1	8.6		249	70
15	145.1	0.1	4.6		237	70
16	145.1	0.1	3.3		228	70
17	144.9	0.1	2.6		222	70
18	145.0	0.1	2.4		217	70
19	145.0	0.1	2.2		212	70
20	145.2	0.1	2.0		208	70
21	144.9	0.1	1.9		204	70
22	144.9	0.1	1.9		200	70
23	144.9	0.1	1.8		197	70

24	145.0	0.1	1.8		194	70
25	145.1	0.1	1.7		191	70
26	144.9	0.1	1.6		188	70
27	145.0	0.1	1.5		184	70
28	145.2	0.1	1.1		180	70
29	145.0	0.1	0.9		176	70
30	145.1	0.0	0.7		173	70
31	145.0	0.0	0.6		170	70
32	145.0	0.0	0.5		168	70
33	144.9	0.0	0.6		165	70
34	145.1	0.0	0.7		162	70
35	145.1	0.1	0.8		160	70
36	145.0	0.1	1.1		158	70
37	145.0	0.1	1.1		155	70
38	145.2	0.1	1.1		153	70
39	145.1	0.1	1.2		151	70
40	145.1	0.1	1.3		149	70
41	145.2	0.1	1.3		147	70
42	145.3	0.1	1.4		145	70
43	145.1	0.1	1.4		143	70
44	145.2	0.1	1.5		141	69
45	145.3	0.1	1.4		139	69
46	145.2	0.1	1.5		138	69
47	145.0	0.1	1.5		136	69
48	145.1	0.1	1.6		134	70
49	145.1	0.1	1.5		133	69
50	145.1	0.1	1.6		131	69
51	145.2	0.1	1.5		130	69
52	145.2	0.1	1.8		128	69
53	145.3	0.1	1.6		127	69
54	145.1	0.1	1.7		126	70
55	145.2	0.1	1.5		124	69
56	145.3	0.1	1.6		123	69
57	145.4	0.1	1.5		122	69
58	145.3	0.1	1.5		121	69
59	145.4	0.1	1.6		120	69
60	145.4	0.2	1.7		118	69
61	145.2	0.2	1.8		117	69
62	145.3	0.1	1.7		116	69
63	145.3	0.2	1.8		115	69
64	145.3	0.1	1.7		114	69
65	145.3	0.2	1.8		113	69
66	145.4	0.2	1.8		113	69

67	145.3	0.2	1.9		154	69
68	145.2	3.1	12.1		139	69
69	145.3	2.4	9.3		131	69
70	145.3	2.4	9.2		125	69
71	145.3	1.9	7.3		121	69
72	145.3	1.6	5.9		118	69
73	145.3	1.4	5.2		116	69
74	145.1	1.2	4.5		114	69
75	145.3	1.0	3.8		113	69
76	145.2	1.1	3.9		111	69
77	145.2	0.9	3.2		110	69
78	145.4	0.8	3.0		109	69
79	145.3	0.8	2.8		109	69
80	145.5	0.8	2.7		108	69
81	145.3	0.7	2.6		107	69
82	145.2	0.7	2.4		106	69
83	145.3	0.6	2.2		105	69
84	145.2	0.6	2.0		105	69
85	145.3	0.5	1.9		104	69
86	145.3	0.5	1.8		103	69
87	145.3	0.4	1.6		102	69
88	145.3	0.4	1.6		101	69
89	145.4	0.4	1.5		101	69
90	145.4	0.4	1.4		100	69
91	145.5	0.4	1.4		100	69
92	145.4	0.4	1.4		99	69
93	145.4	0.3	1.3		99	69
94	145.5	0.3	1.2		98	69
95	145.4	0.3	1.2		98	69
96	145.4	0.3	1.1		98	69
97	145.5	0.3	1.1		101	69
98	145.2	0.6	2.4		138	69
99	145.2	2.8	11.0		128	68
100	145.3	2.4	9.2		121	69
101	145.2	2.3	8.8		116	69
102	145.3	1.9	7.4		112	69
103	145.2	1.6	6.3		109	69
104	145.3	1.5	5.8		107	69
105	145.3	1.3	5.2		105	68
106	145.2	1.1	4.2		103	68
107	145.3	1.0	3.8		102	68
108	145.3	1.0	3.8		101	68
109	145.4	0.8	3.2		100	68

110	145.3	0.8	3.0		99	68
111	145.3	0.7	2.8		98	68
112	145.5	0.7	2.7		97	68
113	145.4	0.6	2.4		97	68
114	145.2	0.6	2.3		96	68
115	145.3	0.5	2.0		95	68
116	145.3	0.5	1.9		94	68
117	145.4	0.4	1.8		93	68
118	145.2	0.5	1.8		92	68
119	145.2	0.4	1.8		92	68
120	145.4	0.4	1.6		91	68
121	145.3	0.4	1.6		91	68
122	145.3	0.4	1.5		91	68
123	145.4	0.4	1.5		90	68
124	145.4	0.4	1.5		90	68
125	145.4	0.3	1.4		89	68
126	145.4	0.3	1.3		89	68
127	145.4	0.3	1.3		89	68
128	145.5	0.3	1.2		109	68
129	145.2	1.1	5.0		127	68
130	145.1	2.7	10.5		121	68
131	145.3	2.5	9.3		116	68
132	145.2	2.6	9.6		112	68
133	145.2	2.1	7.7		109	68
134	145.3	1.7	6.4		107	68
135	145.2	1.7	6.4		104	68
136	145.3	1.4	5.1		103	68
137	145.2	1.4	5.1		101	68
138	145.2	1.1	4.0		100	68
139	145.3	1.1	4.1		99	68
140	145.1	0.9	3.3		98	68
141	145.2	1.0	3.7		96	68
142	145.2	0.9	3.3		96	68
143	145.4	0.9	3.3		95	68
144	145.2	0.8	2.9		95	68
145	145.2	0.7	2.7		94	68
146	145.3	0.6	2.4		93	68
147	145.2	0.6	2.4		92	68
148	145.3	0.6	2.3		91	68
149	145.2	0.5	1.9		90	68
150	145.3	0.5	1.9		91	68
151	145.4	0.5	1.9		90	68
152	145.3	0.5	2.0		90	68

153	145.2	0.4	1.7		89	68
154	145.3	0.5	1.8		89	68
155	145.2	0.4	1.6		88	68
156	145.3	0.4	1.5		88	68
157	145.4	0.4	1.5		87	68
158	145.3	0.4	1.5		86	68
159	145.1	0.4	1.4		122	68
160	145.2	1.5	8.0		117	68
161	145.1	1.9	8.7		113	68
162	145.1	2.0	8.6		110	68
163	145.2	1.9	8.2		107	68
164	145.2	1.6	6.9		105	68
165	145.2	1.4	5.9		104	68
166	145.0	1.2	5.2		101	68
167	145.1	1.0	4.5		101	68
168	145.0	1.1	4.7		99	68
169	145.2	1.0	4.2		99	68
170	145.1	0.9	3.7		97	68
171	145.2	0.8	3.5		96	68
172	145.2	0.8	3.4		95	68
173	145.2	0.7	2.8		95	68
174	145.1	0.6	2.8		95	68
175	145.1	0.6	2.7		94	68
176	145.2	0.6	2.5		93	67
177	145.2	0.5	2.3		93	67
178	145.1	0.5	2.2		91	67
179	145.3	0.5	2.2		91	68
180	145.2	0.4	2.0		90	67
181	145.1	0.4	1.8		90	67
182	145.1	0.4	1.7		90	67
183	145.2	0.4	1.8		89	67
184	144.9	0.4	1.6		124	67
185	144.5	0.9	8.6		148	67
186	143.9	5.1	13.9		188	67
187	143.2	4.6	17.7		205	67
188	142.5	5.2	17.2		222	67
189	141.9	4.2	18.3		240	67
190	141.1	2.7	19.1		256	67
191	140.1	2.2	19.4		271	67
192	139.4	1.7	19.6		284	67
193	138.6	0.8	19.9		293	67
194	137.8	0.3	19.6		301	67
195	137.1	0.2	19.2		308	67

196	136.0	0.3	19.3		316	67
197	135.1	0.3	19.2		322	67
198	134.6	0.2	18.7		324	67
199	133.6	0.1	17.8		325	67
200	132.8	0.1	17.8		327	67
201	132.0	0.2	17.6		328	67
202	131.3	0.2	17.6		330	67
203	130.6	0.2	17.9		333	67
204	129.6	0.1	18.2		336	67
205	129.3	0.1	18.3		305	67
206	128.8	0.3	16.2		278	67
207	128.9	0.2	13.8		261	67
208	128.6	0.3	9.8		249	67
209	128.6	0.4	7.1		241	67
210	128.5	0.4	5.7		234	67
211	128.5	0.3	5.5		228	67
212	128.5	0.3	4.3		222	67
213	128.6	0.3	3.6		217	67
214	128.4	0.2	3.2		213	67
215	128.4	0.2	2.9		209	67
216	128.3	0.2	2.7		205	67
217	128.3	0.2	2.6		202	67
218	128.5	0.2	2.4		199	67
219	128.5	0.2	2.3		195	67
220	128.3	0.1	1.8		192	67
221	128.5	0.1	1.5		188	67
222	128.4	0.1	1.3		185	67
223	128.4	0.1	1.2		181	67
224	128.3	0.1	1.1		178	67
225	128.5	0.1	1.2		175	67
226	128.3	0.1	1.3		172	67
227	128.4	0.1	1.6		169	67
228	128.5	0.1	1.9		167	67
229	128.4	0.1	2.2		164	67
230	128.5	0.1	2.1		161	67
231	128.5	0.1	2.1		159	67
232	128.4	0.2	2.4		156	67
233	128.6	0.2	2.4		154	67
234	128.6	0.2	2.4		152	67
235	128.5	0.2	2.6		150	67
236	128.5	0.2	2.4		148	67
237	128.5	0.2	2.5		146	67
238	128.5	0.2	2.5		144	67

239	128.6	0.2	2.4		142	67
240	128.5	0.2	2.6		140	67
241	128.6	0.2	2.4		138	67
242	128.6	0.2	2.5		136	67
243	128.6	0.2	2.5		135	67
244	128.6	0.2	2.5		133	67
245	128.5	0.2	2.3		131	67
246	128.6	0.2	2.6		130	67
247	128.5	0.2	2.5		128	67
248	128.7	0.2	2.6		127	67
249	128.6	0.2	2.5		126	67
250	128.6	0.2	2.7		125	67
251	128.7	0.2	2.7		123	67
252	128.6	0.2	2.6		122	67
253	128.8	0.2	2.6		121	67
254	128.8	0.2	2.5		120	67
255	128.7	0.2	2.5		119	67
256	128.7	0.2	2.6		118	67
257	128.8	0.2	2.7		117	67
258	128.8	0.2	2.6		115	67
259	128.7	0.2	2.6		153	67
260	128.5	0.5	4.7		153	67
261	128.5	0.8	5.2		143	67
262	128.4	0.8	5.1		135	67
263	128.5	0.7	5.2		130	67
264	128.6	0.7	5.1		127	67
265	128.5	0.6	4.8		125	67
266	128.4	0.5	4.3		123	67
267	128.5	0.5	3.7		121	67
268	128.5	0.4	3.1		119	67
269	128.6	0.4	3.1		118	67
270	128.4	0.3	2.8		116	67
271	128.4	0.3	2.7		115	67
272	128.6	0.3	2.7		114	67
273	128.5	0.3	2.6		112	67
274	128.6	0.3	2.4		111	67
275	128.5	0.3	2.4		110	67
276	128.5	0.3	2.3		109	67
277	128.6	0.3	2.4		108	67
278	128.6	0.3	2.3		106	67
279	128.6	0.3	2.3		105	67
280	128.7	0.3	2.2		105	67
281	128.7	0.2	2.1		103	67

282	128.6	0.2	2.1		103	67
283	128.7	0.3	2.2		101	67
284	128.6	0.2	2.0		101	67
285	128.6	0.2	1.8		101	67
286	128.6	0.2	2.0		100	67
287	128.7	0.2	2.0		99	67
288	128.6	0.2	1.8		99	67
289	128.7	0.2	1.8		98	67
290	128.6	0.2	1.8		140	67
291	128.4	0.3	3.4		134	67
292	128.4	0.6	4.0		129	67
293	128.4	0.6	3.8		125	67
294	128.4	0.6	3.6		122	67
295	128.5	0.5	3.5		120	67
296	128.5	0.5	3.3		118	67
297	128.5	0.4	3.0		117	67
298	128.5	0.4	2.8		114	67
299	128.5	0.4	2.6		113	67
300	128.5	0.4	2.6		113	67
301	128.5	0.3	2.4		110	67
302	128.6	0.3	2.1		110	67
303	128.5	0.3	2.2		108	67
304	128.5	0.3	2.1		108	67
305	128.6	0.3	2.0		107	67
306	128.6	0.3	2.1		106	67
307	128.6	0.2	1.9		105	67
308	128.6	0.2	1.9		104	67
309	128.4	0.2	1.8		103	67
310	128.7	0.2	1.8		103	67
311	128.6	0.2	1.7		102	67
312	128.6	0.2	1.7		102	67
313	128.7	0.2	1.7		101	67
314	128.8	0.2	1.6		100	67
315	128.6	0.2	1.5		100	67
316	128.7	0.2	1.6		100	67
317	128.5	0.2	1.5		98	67
318	128.6	0.2	1.4		100	67
319	128.6	0.2	1.6		98	67
320	128.6	0.2	1.4		99	67
321	128.4	0.2	1.5		134	67
322	128.5	0.2	2.2		126	67
323	128.4	0.2	1.9		123	67
324	128.4	0.2	1.7		120	67

325	128.5	0.2	1.6		117	67
326	128.4	0.2	1.5		115	67
327	128.4	0.2	1.4		113	67
328	128.6	0.1	1.3		112	67
329	128.4	0.1	1.3		111	67
330	128.5	0.1	1.2		109	67
331	128.5	0.1	1.1		108	67
332	128.4	0.1	1.2		107	67
333	128.5	0.1	1.2		106	67
334	128.4	0.1	1.1		105	67
335	128.3	0.1	1.1		105	67
336	128.5	0.1	1.1		104	67
337	128.6	0.1	1.1		102	67
338	128.5	0.1	1.0		102	67
339	128.4	0.1	1.0		102	67
340	128.5	0.1	1.0		100	67
341	128.6	0.1	1.0		100	67
342	128.5	0.1	0.9		99	67
343	128.6	0.1	1.0		99	67
344	128.5	0.1	0.9		99	67
345	128.5	0.1	1.0		98	67
346	128.7	0.1	0.9		98	67
347	128.6	0.1	0.9		98	67
348	128.5	0.1	0.9		97	67
349	128.6	0.1	0.9		96	67
350	128.4	0.1	0.9		96	67
351	128.5	0.1	0.9		95	67
352	128.4	0.1	0.9		129	67
353	128.4	0.2	1.7		122	67
354	128.4	0.2	1.5		119	67
355	128.5	0.2	1.4		116	68
356	128.5	0.1	1.2		114	68
357	128.3	0.1	1.2		112	68
358	128.4	0.1	1.0		111	68
359	128.3	0.1	0.9		109	68
360	128.4	0.1	0.9		108	68
361	128.3	0.1	0.9		107	68
362	128.3	0.1	0.8		105	68
363	128.4	0.1	0.8		105	68
364	128.4	0.1	0.8		104	68
365	128.3	0.1	0.8		103	68
366	128.4	0.1	0.8		103	68
367	128.4	0.1	0.8		102	68

368	128.4	0.1	0.8		101	68
369	128.3	0.1	0.8		100	68
370	128.4	0.1	0.8		101	68
371	128.4	0.1	0.8		99	68
372	128.3	0.1	0.8		99	69
373	128.3	0.1	0.8		99	69
374	128.4	0.1	0.8		99	68
375	128.4	0.1	0.8		98	68
376	128.3	0.1	0.8		97	68
377	128.5	0.1	0.8		96	68
378	128.4	0.1	0.8		95	69
379	128.4	0.1	0.8		95	69
380	128.4	0.1	0.8		94	69
381	128.5	0.1	0.8		94	69
382	128.4	0.1	0.8		95	69
383	128.3	0.1	0.8		125	69
384	128.2	0.2	1.8		119	69
385	128.2	0.1	1.5		116	69
386	128.3	0.1	1.4		113	69
387	128.1	0.1	1.2		112	69
388	128.2	0.1	1.1		109	69
389	128.3	0.1	1.0		109	69
390	128.3	0.1	0.9		108	69
391	128.2	0.1	0.8		106	69
392	128.2	0.1	0.8		105	69
393	127.9	0.1	0.7		103	69
394	128.2	0.1	0.6		104	69
395	128.1	0.1	0.7		122	70
396	127.7	0.9	3.0		125	69
397	127.5	1.9	4.2		149	69
398	127.0	2.4	5.6		170	70
399	126.8	3.0	7.3		187	69
400	126.4	4.1	9.7		201	70
401	125.9	3.9	12.0		212	70
402	125.4	2.7	12.2		223	70
403	124.9	2.6	13.3		239	70
404	124.4	1.0	15.5		255	70
405	123.7	0.3	16.9		269	70
406	123.0	0.2	17.5		281	70
407	122.2	0.1	18.0		290	70
408	121.4	0.2	18.2		300	70
409	120.5	0.2	18.4		311	70
410	119.8	0.2	18.4		315	70

411	119.0	0.2	18.6		321	70
412	118.3	0.1	18.7		326	70
413	117.4	0.2	18.7		329	70
414	116.6	0.2	19.0		334	70
415	115.7	0.1	18.5		336	70
416	114.6	0.1	17.9		335	70
417	114.0	0.2	17.0		333	70
418	113.4	0.4	16.5		321	70
419	113.0	0.8	13.9		288	70
420	112.7	0.6	15.2		268	70
421	112.4	0.3	13.4		253	70
422	112.4	0.4	10.5		243	72
423	112.3	0.8	7.3		237	71
424	112.2	0.6	8.1		230	71
425	112.1	0.7	6.7		224	71
426	112.0	0.6	5.5		219	71
427	112.0	0.5	4.8		215	71
428	112.0	0.5	4.6		211	71
429	111.9	0.5	4.3		207	71
430	111.9	0.5	4.1		203	71
431	112.0	0.6	3.9		200	71
432	111.9	0.6	3.8		197	71
433	111.8	0.5	3.3		194	70
434	111.8	0.4	2.6		191	70
435	111.9	0.4	2.5		188	70
436	111.7	0.4	2.5		184	70
437	111.8	0.4	2.7		181	70
438	111.8	0.5	3.0		178	70
439	111.8	0.5	3.3		175	70
440	111.7	0.6	3.7		172	70
441	111.9	0.6	3.9		170	70
442	111.8	0.6	3.9		167	70
443	111.9	0.6	4.1		165	70
444	111.8	0.7	4.3		162	70
445	111.9	0.7	4.4		160	70
446	111.8	0.7	4.5		158	70
447	111.9	0.7	4.4		155	70
448	111.9	0.7	4.5		153	70
449	111.8	0.7	4.7		151	70
450	111.7	0.7	4.6		149	69
451	111.9	0.7	4.6		147	69
452	111.8	0.8	4.9		145	69
453	111.8	0.7	4.8		144	69

454	111.9	0.7	4.6		142	69
455	111.8	0.8	4.9		140	69
456	111.9	0.7	4.7		139	69
457	111.9	0.7	4.7		137	69
458	111.9	0.7	4.6		136	68
459	112.0	0.7	4.8		134	69
460	111.9	0.7	4.6		133	68
461	111.9	0.8	5.0		131	68
462	111.9	0.7	4.4		130	68
463	112.0	0.7	4.6		129	69
464	112.0	0.8	5.0		127	68
465	111.9	0.7	4.8		126	68
466	111.9	0.7	4.5		125	68
467	112.0	0.7	4.6		123	68
468	112.0	0.7	4.5		123	68
469	112.0	0.7	4.3		121	68
470	112.1	0.6	4.2		121	68
471	112.0	0.7	4.7		120	68
472	111.9	0.7	4.6		127	68
473	111.8	1.0	6.1		153	68
474	111.9	0.3	2.8		145	68
475	111.8	0.3	2.5		138	68
476	111.8	0.3	2.6		134	68
477	111.7	0.4	2.8		132	68
478	111.7	0.4	2.9		129	68
479	111.7	0.3	2.6		127	68
480	111.7	0.3	2.4		125	68
481	111.9	0.3	2.3		124	68
482	111.7	0.3	2.2		123	68
483	111.8	0.3	2.1		121	68
484	111.8	0.3	2.1		121	68
485	111.8	0.3	2.2		120	68
486	111.8	0.3	2.2		119	68
487	111.9	0.3	2.1		118	68
488	111.8	0.3	2.2		116	68
489	111.8	0.2	2.0		115	68
490	111.9	0.2	2.0		114	68
491	111.9	0.2	2.0		113	68
492	111.8	0.2	2.0		112	68
493	111.9	0.2	2.0		111	68
494	111.9	0.2	2.0		111	67
495	111.9	0.2	2.0		109	68
496	111.8	0.2	2.0		109	68

497	112.0	0.2	2.0		109	68
498	111.9	0.2	2.0		108	67
499	111.9	0.2	2.0		108	67
500	111.8	0.2	2.0		108	67
501	112.0	0.2	2.0		106	67
502	111.9	0.2	1.9		106	67
503	111.8	0.2	1.9		134	67
504	111.9	0.4	3.6		135	67
505	111.7	0.2	1.6		130	67
506	111.7	0.1	1.4		127	67
507	111.7	0.1	1.3		124	67
508	111.9	0.1	1.3		122	67
509	111.8	0.1	1.2		121	67
510	111.7	0.1	1.3		119	67
511	111.9	0.1	1.2		116	67
512	111.7	0.1	1.1		116	67
513	111.9	0.1	1.2		115	67
514	111.7	0.1	1.1		113	67
515	111.8	0.1	1.2		114	67
516	111.7	0.1	1.1		111	67
517	111.9	0.1	1.1		112	67
518	111.9	0.1	1.1		111	67
519	111.8	0.1	1.1		110	67
520	112.0	0.1	1.2		111	67
521	111.8	0.1	1.1		108	67
522	111.8	0.1	1.2		109	67
523	112.1	0.1	1.2		108	67
524	111.9	0.1	1.3		106	67
525	112.0	0.1	1.2		107	67
526	111.9	0.1	1.3		107	67
527	111.8	0.1	1.3		106	67
528	111.9	0.1	1.3		106	67
529	112.0	0.1	1.3		104	67
530	111.8	0.1	1.2		105	67
531	112.0	0.1	1.2		104	67
532	111.8	0.1	1.3		104	67
533	112.0	0.1	1.3		103	67
534	111.9	0.1	1.3		141	67
535	111.7	0.3	3.3		130	67
536	111.7	0.1	1.2		125	67
537	111.8	0.1	1.0		122	67
538	111.9	0.1	0.9		119	67
539	111.8	0.1	0.9		118	67

540	111.7	0.1	0.9		116	67
541	111.7	0.1	0.8		114	67
542	111.9	0.1	0.8		113	67
543	111.8	0.1	0.8		112	67
544	112.0	0.1	0.8		110	67
545	111.7	0.1	0.7		110	67
546	111.9	0.1	0.8		110	67
547	111.9	0.1	0.7		109	67
548	111.8	0.1	0.7		107	67
549	112.0	0.1	0.7		106	67
550	111.9	0.1	0.7		105	67
551	111.8	0.1	0.7		105	66
552	111.9	0.1	0.7		104	67
553	112.0	0.1	0.8		104	67
554	111.8	0.1	0.8		103	67
555	111.7	0.1	0.8		103	67
556	112.0	0.1	0.8		103	67
557	112.1	0.1	0.8		103	67
558	111.9	0.1	0.8		102	67
559	111.9	0.1	0.8		104	66
560	111.8	0.1	0.9		101	66
561	111.9	0.1	0.9		102	66
562	111.9	0.1	0.8		100	66
563	112.0	0.1	0.9		101	66
564	112.0	0.1	0.9		100	66
565	112.0	0.1	0.9		137	66
566	111.9	0.2	2.7		124	67
567	111.9	0.1	1.0		120	66
568	111.8	0.1	0.8		118	66
569	111.9	0.1	0.8		115	66
570	112.1	0.1	0.7		113	66
571	111.9	0.1	0.6		113	66
572	111.9	0.0	0.6		111	66
573	111.9	0.0	0.6		109	66
574	111.8	0.0	0.6		108	66
575	111.9	0.0	0.5		107	66
576	111.8	0.0	0.6		106	66
577	111.8	0.0	0.6		105	66
578	111.8	0.0	0.6		105	66
579	111.9	0.1	0.6		104	66
580	111.8	0.1	0.6		103	66
581	111.8	0.1	0.6		103	66
582	111.9	0.1	0.6		101	66

583	111.9	0.0	0.6		101	66
584	111.8	0.1	0.6		101	66
585	112.0	0.1	0.6		100	66
586	111.9	0.1	0.6		100	66
587	111.9	0.1	0.6		99	66
588	111.8	0.1	0.6		98	66
589	111.8	0.1	0.6		99	66
590	112.0	0.1	0.7		99	66
591	112.0	0.1	0.7		98	66
592	112.0	0.1	0.6		99	66
593	111.9	0.1	0.7		96	66
594	111.9	0.1	0.7		95	66
595	111.9	0.1	0.7		132	66
596	111.8	0.2	2.5		117	66
597	111.7	0.6	1.5		120	66
598	111.5	0.9	2.0		136	66
599	111.4	1.1	2.5		151	66
600	111.0	0.9	3.0		161	66
601	111.0	1.1	4.0		170	66
602	110.6	1.5	5.3		183	66
603	110.4	1.9	7.7		197	66
604	109.8	2.1	9.5		210	66
605	109.6	2.1	11.0		221	66
606	108.9	2.2	12.7		232	66
607	108.4	1.9	14.5		248	66
608	107.8	0.9	16.4		264	66
609	106.9	0.4	17.1		282	66
610	106.3	0.2	17.8		296	66
611	105.6	0.3	17.9		305	66
612	104.7	0.3	17.4		312	66
613	103.9	0.4	17.4		317	66
614	103.1	0.4	17.4		321	66
615	102.2	0.4	17.1		324	66
616	101.5	0.4	17.2		327	66
617	100.8	0.4	16.9		329	66
618	99.7	0.5	16.8		332	66
619	99.2	0.5	16.8		335	66
620	98.3	0.5	16.9		339	67
621	97.3	0.5	17.2		343	66
622	96.5	0.3	17.8		338	66
623	96.0	0.4	17.0		298	66
624	95.6	3.4	19.7		275	66
625	95.3	1.3	19.5		259	66

626	95.2	0.4	16.7		248	67
627	95.0	0.2	12.9		241	67
628	94.9	0.4	15.3		234	67
629	94.8	0.3	14.8		227	67
630	94.6	0.5	11.9		221	67
631	94.7	0.7	9.2		217	67
632	94.4	0.9	7.8		212	67
633	94.4	0.9	6.6		209	67
634	94.5	0.9	6.0		205	67
635	94.4	0.9	5.6		202	67
636	94.3	1.1	5.2		199	67
637	94.2	1.1	4.4		196	67
638	94.2	0.9	3.7		192	67
639	94.0	0.9	3.9		189	67
640	94.2	1.1	4.6		186	67
641	94.1	1.4	5.5		183	67
642	94.2	1.5	6.2		180	67
643	94.2	1.7	6.8		177	68
644	94.2	1.7	6.8		174	68
645	94.1	1.8	7.4		171	68
646	94.1	1.7	7.0		169	68
647	94.1	1.8	7.0		166	68
648	94.2	1.7	6.9		164	68
649	94.1	1.9	7.4		161	68
650	94.1	1.8	7.0		159	68
651	94.1	1.8	7.2		157	68
652	94.2	1.7	7.0		155	68
653	94.2	1.8	7.2		152	68
654	94.2	1.8	7.4		151	68
655	94.1	1.8	7.3		148	68
656	94.1	1.7	6.9		147	68
657	94.1	1.6	6.6		145	68
658	94.1	1.6	6.7		143	68
659	94.1	1.6	6.7		141	68
660	94.2	1.7	6.8		140	68
661	94.0	1.5	6.3		139	68
662	94.1	1.6	6.5		137	68
663	94.2	1.6	6.4		136	69
664	94.2	1.5	6.0		134	69
665	94.1	1.5	6.1		133	69
666	94.2	1.6	6.5		131	69
667	94.2	1.5	6.1		131	69
668	94.2	1.5	6.2		130	69

669	94.2	1.5	6.1		127	69
670	94.3	1.3	5.6		127	69
671	94.2	1.4	5.8		126	69
672	94.1	1.4	5.7		126	69
673	94.2	1.4	5.8		123	69
674	94.1	1.4	5.7		125	69
675	94.2	1.4	5.7		123	69
676	94.3	1.4	5.7		121	69
677	94.2	1.4	5.8		150	69
678	93.9	0.5	2.9		144	69
679	94.0	0.4	2.6		139	69
680	93.9	0.5	2.7		136	69
681	93.9	0.5	2.9		133	69
682	93.9	0.6	3.0		132	69
683	93.8	0.6	3.0		130	69
684	94.0	0.5	2.7		129	69
685	93.8	0.5	2.7		127	69
686	94.0	0.4	2.4		126	69
687	93.8	0.4	2.4		124	69
688	93.9	0.4	2.2		125	69
689	93.9	0.4	2.4		122	69
690	93.9	0.4	2.3		121	69
691	94.0	0.4	2.2		121	69
692	94.0	0.4	2.3		122	70
693	93.7	0.4	2.2		120	70
694	93.9	0.4	2.3		119	70
695	94.0	0.4	2.3		118	69
696	93.9	0.4	2.2		117	70
697	93.9	0.4	2.2		117	70
698	93.9	0.4	2.1		116	70
699	93.9	0.4	2.2		116	70
700	93.9	0.4	2.2		116	70
701	93.8	0.4	2.2		116	70
702	94.0	0.4	2.1		116	70
703	93.9	0.4	2.2		114	70
704	93.9	0.4	2.1		113	70
705	93.9	0.3	2.1		112	70
706	94.1	0.3	2.1		112	70
707	94.0	0.3	2.1		122	70
708	93.9	0.5	3.0		137	70
709	93.8	0.1	1.2		133	70
710	93.8	0.1	1.0		128	70
711	93.7	0.1	0.9		127	70

712	93.8	0.1	1.0		124	70
713	93.7	0.1	1.0		123	70
714	93.8	0.1	1.0		121	70
715	93.8	0.1	1.0		120	70
716	93.8	0.1	1.0		119	70
717	93.9	0.1	1.0		118	70
718	93.7	0.1	1.0		117	70
719	93.8	0.1	1.0		116	70
720	93.8	0.1	1.0		115	70
721	93.8	0.1	1.0		114	70
722	93.7	0.1	1.0		115	70
723	93.9	0.1	1.0		113	70
724	93.7	0.1	1.0		112	70
725	93.9	0.1	1.0		113	70
726	93.8	0.1	1.0		111	70
727	93.7	0.1	1.1		111	70
728	93.6	0.1	1.1		110	70
729	93.7	0.1	1.0		111	70
730	93.8	0.1	1.1		111	70
731	93.9	0.1	1.1		109	70
732	93.7	0.1	1.0		110	70
733	93.8	0.1	1.1		108	71
734	93.8	0.1	1.1		108	71
735	93.8	0.1	1.1		109	71
736	93.9	0.1	1.1		106	71
737	93.7	0.1	1.1		106	71
738	93.9	0.1	1.1		132	71
739	93.8	0.3	2.4		130	71
740	93.6	0.1	0.8		126	71
741	93.7	0.1	0.7		123	71
742	93.6	0.1	0.6		120	70
743	93.6	0.1	0.6		119	70
744	93.7	0.1	0.6		117	70
745	93.5	0.1	0.6		116	70
746	93.7	0.1	0.6		115	70
747	93.7	0.1	0.6		114	70
748	93.5	0.1	0.6		113	70
749	93.5	0.1	0.6		112	70
750	93.6	0.1	0.6		111	70
751	93.7	0.1	0.6		109	70
752	93.8	0.1	0.6		110	69
753	93.5	0.1	0.6		108	69
754	93.6	0.1	0.6		109	69

755	93.7	0.1	0.6		107	69
756	93.6	0.1	0.6		107	69
757	93.6	0.1	0.6		106	69
758	93.7	0.1	0.6		106	69
759	93.6	0.1	0.6		105	69
760	93.7	0.1	0.6		105	69
761	93.7	0.1	0.7		105	69
762	93.6	0.1	0.7		105	69
763	93.7	0.1	0.7		104	69
764	93.6	0.1	0.7		104	69
765	93.8	0.1	0.7		102	68
766	93.8	0.1	0.7		104	68
767	93.7	0.1	0.7		100	68
768	93.6	0.1	0.7		103	68
769	93.7	0.1	0.8		136	68
770	93.8	0.3	2.1		124	68
771	93.6	0.1	0.7		121	68
772	93.7	0.1	0.6		118	68
773	93.5	0.1	0.5		115	68
774	93.6	0.0	0.5		114	68
775	93.5	0.0	0.5		112	68
776	93.5	0.0	0.4		110	68
777	93.6	0.0	0.4		109	68
778	93.4	0.0	0.4		109	68
779	93.6	0.0	0.5		107	68
780	93.6	0.0	0.5		107	68
781	93.6	0.0	0.4		106	68
782	93.6	0.0	0.4		105	68
783	93.7	0.1	0.5		105	68
784	93.6	0.1	0.5		104	68
785	93.6	0.1	0.5		104	68
786	93.6	0.1	0.5		103	68
787	93.6	0.1	0.5		101	68
788	93.7	0.1	0.5		101	67
789	93.6	0.1	0.5		101	68
790	93.6	0.1	0.5		101	67
791	93.5	0.1	0.5		101	67
792	93.7	0.1	0.5		99	67
793	93.5	0.1	0.5		100	67
794	93.6	0.1	0.5		99	67
795	93.7	0.1	0.5		98	67
796	93.6	0.1	0.5		98	67
797	93.7	0.1	0.6		97	67

798	93.6	0.1	0.5		97	67
799	93.5	0.1	0.6		97	67
800	93.6	0.1	0.6		132	67
801	93.7	0.2	1.8		119	67
802	93.5	0.1	0.7		115	67
803	93.7	0.1	0.7		113	67
804	93.7	0.1	0.6		111	67
805	93.3	0.1	0.6		109	67
806	93.6	0.1	0.5		108	67
807	93.5	0.1	0.5		110	67
808	93.6	0.1	0.7		116	67
809	93.4	0.1	0.7		118	67
810	93.2	0.1	0.8		132	67
811	93.2	0.1	0.8		142	67
812	93.2	0.1	1.0		148	67
813	93.0	0.2	1.4		154	67
814	92.9	0.6	2.0		160	67
815	92.8	0.9	2.9		165	67
816	92.5	1.3	4.2		170	67
817	92.3	1.6	5.3		176	67
818	92.0	1.7	6.2		182	67
819	91.5	1.8	7.5		191	67
820	91.0	2.0	8.5		200	67
821	90.4	2.4	9.9		209	67
822	89.9	2.8	11.6		218	67
823	89.3	2.8	12.5		225	67
824	88.8	3.0	13.1		232	67
825	87.8	3.3	13.9		240	67
826	87.4	3.2	14.7		247	67
827	86.6	3.5	15.2		263	67
828	85.7	1.2	18.3		283	67
829	84.9	0.6	18.9		300	67
830	83.9	0.5	18.3		312	67
831	83.0	0.4	18.3		321	67
832	82.1	0.2	18.7		327	67
833	81.2	0.3	18.1		332	67
834	80.4	0.3	17.8		337	67
835	79.4	0.3	18.6		343	67
836	78.4	0.3	18.7		345	67
837	77.8	0.3	18.3		329	67
838	77.3	1.8	12.7		289	67
839	77.0	4.4	8.1		267	67
840	76.8	3.3	6.7		251	67

841	76.5	2.5	5.8		241	67
842	76.6	1.8	4.8		233	67
843	76.5	1.9	5.2		227	67
844	76.5	1.7	4.9		221	67
845	76.3	1.5	4.6		216	67
846	76.1	1.3	4.3		211	67
847	76.2	1.2	4.2		207	67
848	76.1	1.2	4.2		203	67
849	76.2	1.1	4.1		200	67
850	76.0	1.1	3.9		197	66
851	76.1	1.0	3.8		194	66
852	76.1	0.9	3.6		191	66
853	76.0	0.8	3.5		188	66
854	76.1	0.7	2.9		184	66
855	76.0	0.6	2.6		181	67
856	76.1	0.6	2.5		178	66
857	75.9	0.7	2.9		175	67
858	75.8	0.5	2.4		172	66
859	76.0	0.4	1.7		169	66
860	75.9	1.0	4.3		166	66
861	76.0	0.9	4.1		164	66
862	76.0	0.9	3.8		161	66
863	76.0	0.9	4.0		159	67
864	75.9	0.9	4.0		156	66
865	76.0	0.9	3.8		154	66
866	76.1	1.0	4.3		152	66
867	76.0	0.9	4.1		150	66
868	76.0	1.0	4.4		148	66
869	76.0	1.0	4.4		146	66
870	76.1	0.9	4.1		144	66
871	76.1	0.9	4.1		143	66
872	76.0	1.0	4.5		141	66
873	76.0	1.0	4.3		140	66
874	76.0	1.0	4.3		138	66
875	76.2	1.0	4.4		136	66
876	76.2	1.0	4.2		134	66
877	76.2	0.9	4.1		134	66
878	76.2	1.0	4.5		133	66
879	76.2	1.0	4.4		131	66
880	76.1	1.0	4.5		129	66
881	76.1	0.9	4.1		128	66
882	76.2	1.0	4.4		127	66
883	76.2	1.0	4.4		125	66

884	76.3	1.1	4.6		125	66
885	76.2	1.0	4.5		123	66
886	76.2	1.0	4.5		124	66
887	76.3	1.0	4.4		122	66
888	76.2	1.0	4.2		121	66
889	76.2	1.0	4.4		120	66
890	76.3	1.0	4.4		119	66
891	76.3	1.0	4.4		136	66
892	76.1	1.7	7.6		145	66
893	76.0	0.4	2.2		139	66
894	76.1	0.4	1.8		135	66
895	76.1	0.4	1.9		131	66
896	76.0	0.4	2.0		129	66
897	76.1	0.4	2.1		128	66
898	76.1	0.4	1.9		126	66
899	75.9	0.4	1.9		124	66
900	76.2	0.3	1.8		123	66
901	76.0	0.3	1.7		122	66
902	76.0	0.3	1.7		121	67
903	76.0	0.3	1.8		121	65
904	76.0	0.3	1.8		119	65
905	76.1	0.3	1.6		119	66
906	76.1	0.3	1.7		117	65
907	76.2	0.3	1.7		116	65
908	76.2	0.3	1.7		116	65
909	76.2	0.3	1.8		116	65
910	76.2	0.3	1.7		115	65
911	76.2	0.3	1.7		113	66
912	76.2	0.3	1.8		112	66
913	76.2	0.3	1.8		113	66
914	76.1	0.3	1.8		111	66
915	76.2	0.3	1.7		112	66
916	76.2	0.3	1.9		109	66
917	76.2	0.3	1.7		108	66
918	76.1	0.3	1.8		110	66
919	76.3	0.3	1.8		109	67
920	76.2	0.3	1.9		107	67
921	76.1	0.3	1.7		110	67
922	76.2	0.3	1.9		141	67
923	76.1	0.6	3.8		131	67
924	76.2	0.1	0.9		126	67
925	76.1	0.1	0.8		124	67
926	76.1	0.1	0.8		122	67

927	76.1	0.1	0.8		119	67
928	76.2	0.1	0.7		118	67
929	76.1	0.1	0.8		116	67
930	76.1	0.1	0.7		114	67
931	76.2	0.1	0.8		114	67
932	76.2	0.1	0.8		112	67
933	76.2	0.1	0.8		111	68
934	76.1	0.1	0.7		111	68
935	76.1	0.1	0.8		110	68
936	76.1	0.1	0.8		109	68
937	76.1	0.1	0.8		109	68
938	76.2	0.1	0.8		108	68
939	76.2	0.1	0.9		108	68
940	76.0	0.1	0.9		107	68
941	76.1	0.1	0.9		108	68
942	76.1	0.1	1.0		106	68
943	76.2	0.1	0.9		106	68
944	76.2	0.1	0.9		106	68
945	76.1	0.1	1.0		105	68
946	76.1	0.1	1.0		105	68
947	76.2	0.1	1.0		104	68
948	76.1	0.1	1.0		104	68
949	76.1	0.1	1.0		104	69
950	76.1	0.1	1.0		103	68
951	76.3	0.1	1.0		103	68
952	76.2	0.1	1.1		103	68
953	76.1	0.1	1.0		138	68
954	76.0	0.3	2.2		124	68
955	76.2	0.1	0.7		120	68
956	76.0	0.1	0.6		117	68
957	76.0	0.1	0.6		116	68
958	76.0	0.1	0.5		114	68
959	76.2	0.1	0.5		113	68
960	76.1	0.1	0.5		111	68
961	76.0	0.1	0.5		111	68
962	76.1	0.1	0.5		109	68
963	76.0	0.1	0.5		108	69
964	76.0	0.1	0.5		108	68
965	76.1	0.1	0.5		105	68
966	76.0	0.1	0.5		105	69
967	76.1	0.1	0.5		105	69
968	76.1	0.1	0.6		105	69
969	75.9	0.1	0.6		104	69

970	76.1	0.1	0.6		103	69
971	76.2	0.1	0.6		103	69
972	76.2	0.1	0.7		102	69
973	76.0	0.1	0.6		101	69
974	76.0	0.1	0.6		101	69
975	76.1	0.1	0.7		100	69
976	76.0	0.1	0.7		100	69
977	76.0	0.1	0.7		100	69
978	76.1	0.1	0.7		99	69
979	76.1	0.1	0.7		99	69
980	76.0	0.1	0.7		99	69
981	76.1	0.1	0.7		100	69
982	76.0	0.1	0.7		98	69
983	76.1	0.1	0.7		99	69
984	76.1	0.1	0.7		130	69
985	76.0	0.1	1.4		118	69
986	76.0	0.1	0.6		115	69
987	76.1	0.1	0.6		113	69
988	75.9	0.1	0.5		110	69
989	76.0	0.0	0.5		109	69
990	75.9	0.0	0.4		108	69
991	75.8	0.0	0.4		107	69
992	75.9	0.0	0.4		106	69
993	75.9	0.0	0.4		105	69
994	75.9	0.0	0.4		104	69
995	76.0	0.0	0.4		103	69
996	75.9	0.0	0.4		103	69
997	75.9	0.0	0.4		101	69
998	75.9	0.0	0.4		101	69
999	76.0	0.0	0.4		100	69
1000	75.8	0.0	0.4		100	69
1001	76.0	0.1	0.5		100	69
1002	75.9	0.1	0.5		99	70
1003	76.1	0.1	0.5		123	69
1004	76.0	0.1	1.0		114	69
1005	75.8	0.0	0.5		117	69
1006	75.6	0.1	0.5		129	69
1007	75.4	0.1	0.6		138	69
1008	75.4	0.1	0.8		145	69
1009	75.4	0.2	1.2		151	70
1010	75.1	0.4	1.6		156	70
1011	75.2	0.6	2.4		161	70
1012	74.8	0.8	3.4		166	70

1013	74.6	1.1	4.4		170	70
1014	74.4	1.2	5.1		174	70
1015	74.3	1.2	5.7		177	70
1016	74.0	1.2	5.9		182	70
1017	73.4	1.2	6.1		189	70
1018	73.3	1.2	6.2		196	70
1019	72.8	1.2	6.5		202	70
1020	72.3	1.3	6.9		208	70
1021	72.0	1.4	7.5		214	70
1022	71.5	1.5	8.1		219	70
1023	71.0	1.6	8.7		225	70
1024	70.4	1.7	9.5		233	70
1025	69.7	1.8	10.2		243	70
1026	69.3	1.8	10.9		254	70
1027	68.5	1.9	11.4		267	70
1028	67.9	1.3	15.6		278	70
1029	67.1	1.2	15.9		286	70
1030	66.4	1.0	15.8		293	70
1031	65.4	0.9	15.9		299	70
1032	64.7	0.8	16.3		306	70
1033	64.1	0.8	16.4		310	70
1034	63.2	0.6	16.7		315	70
1035	62.6	0.5	16.7		319	70
1036	62.0	0.4	16.6		322	70
1037	61.1	0.3	16.8		317	70
1038	60.7	0.4	16.8		282	70
1039	60.5	0.3	16.4		262	69
1040	60.4	0.7	16.6		248	69
1041	60.0	1.0	18.0		238	70
1042	60.0	0.5	16.6		232	70
1043	59.8	0.3	14.2		225	70
1044	59.7	0.3	13.4		219	70
1045	59.6	0.3	13.6		214	70
1046	59.6	0.3	11.9		210	70
1047	59.4	0.5	9.8		206	70
1048	59.4	0.6	8.3		202	70
1049	59.5	0.6	7.4		199	70
1050	59.3	0.6	6.6		196	70
1051	59.2	0.6	6.0		193	70
1052	59.3	0.6	5.6		190	70
1053	59.2	0.6	5.2		186	70
1054	59.1	0.5	4.3		183	70
1055	59.2	0.5	3.9		180	70

1056	59.2	0.7	4.3		177	70
1057	59.1	1.2	5.4		175	69
1058	59.1	1.6	6.5		172	69
1059	59.1	1.9	7.1		169	69
1060	59.1	2.2	8.0		167	69
1061	59.1	2.5	8.5		164	69
1062	59.1	2.9	9.5		162	69
1063	59.1	3.0	9.7		160	69
1064	59.2	3.2	10.2		158	69
1065	59.1	3.3	10.5		156	69
1066	59.0	3.4	10.8		155	69
1067	59.0	3.5	11.0		152	69
1068	59.0	3.7	11.4		150	69
1069	59.1	3.6	11.3		148	69
1070	59.1	3.7	11.3		147	69
1071	59.1	3.6	11.2		146	69
1072	59.0	3.7	11.4		145	69
1073	59.0	3.7	11.5		143	69
1074	59.2	3.7	11.5		143	69
1075	59.0	3.6	11.3		141	69
1076	59.0	3.8	11.7		141	69
1077	59.1	3.7	11.4		140	69
1078	59.0	3.7	11.5		138	69
1079	59.2	3.7	11.6		137	69
1080	59.0	3.6	11.3		137	68
1081	59.1	3.5	11.2		137	68
1082	59.2	3.6	11.3		135	69
1083	59.1	3.6	11.4		135	68
1084	59.0	3.5	11.1		134	68
1085	59.2	3.5	11.1		135	68
1086	59.0	3.4	10.9		133	68
1087	59.2	3.4	11.0		133	68
1088	59.2	3.4	10.8		133	68
1089	59.2	3.3	10.7		132	68
1090	59.2	3.3	10.6		132	68
1091	59.1	3.2	10.5		132	68
1092	59.0	3.3	10.6		144	68
1093	58.8	3.2	10.3		140	68
1094	59.1	1.5	6.1		135	68
1095	58.9	0.6	3.2		132	68
1096	58.8	0.5	2.8		131	68
1097	58.9	0.5	2.7		129	68
1098	59.0	0.6	2.7		128	68

1099	59.0	0.6	2.9		127	68
1100	58.9	0.7	3.0		126	68
1101	58.8	0.7	3.2		126	68
1102	58.9	0.7	3.2		126	68
1103	58.8	0.7	3.3		126	68
1104	58.9	0.7	3.3		126	68
1105	58.9	0.8	3.4		125	68
1106	59.1	0.8	3.4		124	68
1107	59.0	0.8	3.5		123	68
1108	59.0	0.8	3.4		125	68
1109	59.0	0.8	3.5		124	68
1110	59.0	0.8	3.5		123	68
1111	59.0	0.8	3.6		123	68
1112	59.0	0.7	3.5		121	68
1113	59.0	0.7	3.5		121	68
1114	58.8	0.8	3.6		121	68
1115	59.0	0.8	3.6		121	68
1116	58.9	0.8	3.7		121	68
1117	59.1	0.7	3.6		121	68
1118	59.1	0.8	3.7		121	68
1119	59.0	0.7	3.6		121	67
1120	59.2	0.7	3.6		120	67
1121	59.1	0.7	3.7		119	68
1122	59.3	0.7	3.6		121	68
1123	59.0	0.7	3.6		133	67
1124	59.1	0.7	3.7		129	68
1125	58.9	0.3	2.0		126	68
1126	59.1	0.2	1.3		123	68
1127	59.1	0.1	1.1		121	68
1128	59.1	0.1	1.0		120	68
1129	59.0	0.1	1.0		119	68
1130	59.2	0.2	1.0		117	68
1131	59.1	0.2	1.1		117	68
1132	59.0	0.2	1.1		116	68
1133	59.0	0.2	1.2		116	68
1134	59.0	0.2	1.2		115	68
1135	59.1	0.2	1.4		114	68
1136	59.1	0.2	1.4		114	68
1137	59.1	0.2	1.5		113	68
1138	59.1	0.2	1.5		113	68
1139	59.1	0.2	1.5		111	68
1140	59.2	0.2	1.6		113	68
1141	59.2	0.2	1.6		112	67

1142	59.2	0.3	1.7		112	68
1143	59.1	0.3	1.7		112	68
1144	59.3	0.3	1.8		112	68
1145	59.2	0.3	1.8		111	68
1146	59.1	0.3	1.8		110	67
1147	59.2	0.3	1.9		109	68
1148	59.2	0.3	1.9		109	68
1149	59.2	0.3	1.9		109	68
1150	59.2	0.3	1.9		110	68
1151	59.4	0.3	1.9		108	68
1152	59.2	0.3	2.0		108	68
1153	59.3	0.3	2.0		127	67
1154	59.1	0.3	2.0		124	67
1155	59.2	0.4	2.5		121	68
1156	59.2	0.1	1.2		118	68
1157	59.1	0.1	0.9		116	68
1158	59.2	0.1	0.8		114	68
1159	59.1	0.1	0.7		112	68
1160	59.1	0.1	0.7		112	67
1161	59.1	0.1	0.7		110	67
1162	59.3	0.1	0.7		110	67
1163	59.2	0.1	0.7		109	67
1164	59.2	0.1	0.7		108	67
1165	59.3	0.1	0.7		108	67
1166	59.4	0.1	0.8		107	67
1167	59.2	0.1	0.8		107	67
1168	59.2	0.1	0.9		106	67
1169	59.3	0.1	0.9		106	67
1170	59.3	0.1	1.0		106	67
1171	59.2	0.1	1.0		104	67
1172	59.2	0.1	1.1		104	67
1173	59.4	0.1	1.1		104	67
1174	59.5	0.1	1.2		104	67
1175	59.2	0.2	1.2		103	67
1176	59.3	0.2	1.2		103	67
1177	59.3	0.2	1.3		103	67
1178	59.2	0.2	1.3		103	67
1179	59.3	0.2	1.3		102	67
1180	59.3	0.2	1.4		102	67
1181	59.5	0.2	1.4		102	67
1182	59.4	0.2	1.5		103	67
1183	59.3	0.2	1.5		102	67
1184	59.4	0.2	1.5		125	67

1185	59.2	0.2	1.5		117	67
1186	59.1	0.2	2.0		113	67
1187	59.2	0.1	1.0		111	67
1188	59.2	0.1	0.9		109	67
1189	59.2	0.1	0.8		108	67
1190	59.4	0.1	0.7		107	67
1191	59.1	0.1	0.7		106	67
1192	59.2	0.1	0.7		105	68
1193	59.3	0.1	0.7		104	67
1194	59.4	0.1	0.6		103	67
1195	59.5	0.1	0.6		103	67
1196	59.3	0.1	0.7		102	67
1197	59.2	0.1	0.7		102	67
1198	59.1	0.1	0.7		101	67
1199	59.3	0.1	0.7		101	67
1200	59.3	0.1	0.8		100	67
1201	59.3	0.1	0.8		99	67
1202	59.2	0.1	0.9		114	67
1203	59.2	0.1	1.1		117	67
1204	59.1	0.3	1.5		132	67
1205	59.1	0.4	1.5		145	67
1206	58.8	0.6	1.9		155	67
1207	58.7	0.9	2.8		165	67
1208	58.2	1.0	3.6		176	67
1209	57.9	1.2	4.6		186	67
1210	57.9	1.3	5.4		196	67
1211	57.4	1.4	6.1		206	67
1212	57.0	1.6	7.2		217	67
1213	56.7	1.7	8.5		227	67
1214	56.2	1.9	9.4		238	67
1215	55.8	1.8	10.9		250	67
1216	55.1	1.4	12.4		261	67
1217	54.6	0.9	14.0		272	67
1218	53.9	0.5	14.5		281	67
1219	53.3	0.2	14.9		291	67
1220	52.7	0.2	15.6		299	68
1221	52.1	0.2	16.5		305	67
1222	51.5	0.2	16.9		311	67
1223	50.9	0.2	17.4		315	67
1224	50.2	0.2	17.1		318	67
1225	49.7	0.2	16.9		320	67
1226	49.1	0.1	16.7		323	67
1227	48.3	0.1	16.4		325	67

1228	47.5	0.1	16.3		327	67
1229	47.0	0.1	16.2		329	67
1230	46.6	0.1	16.3		332	67
1231	45.8	0.1	16.3		322	67
1232	45.4	0.1	16.1		288	67
1233	45.5	0.1	16.1		268	67
1234	45.2	0.1	15.7		254	67
1235	44.9	0.2	15.4		244	67
1236	44.8	0.2	16.2		237	67
1237	44.7	0.2	15.1		231	67
1238	44.5	0.1	13.4		224	67
1239	44.6	0.2	12.7		219	67
1240	44.4	0.2	12.6		215	67
1241	44.4	0.2	11.5		211	67
1242	44.5	0.2	10.1		207	67
1243	44.3	0.3	9.1		203	67
1244	44.3	0.4	8.2		200	67
1245	44.3	0.4	7.5		197	67
1246	44.3	0.5	6.9		194	67
1247	44.3	0.5	6.5		190	67
1248	44.3	0.5	6.0		186	67
1249	44.3	0.5	5.1		183	67
1250	44.3	0.4	4.5		180	67
1251	44.2	0.5	4.3		177	67
1252	44.2	0.5	4.4		174	67
1253	44.4	0.7	4.8		171	67
1254	44.3	0.9	5.3		168	68
1255	44.2	1.0	5.8		166	68
1256	44.3	1.2	6.3		163	68
1257	44.2	1.3	6.8		161	68
1258	44.2	1.4	7.2		158	68
1259	44.1	1.5	7.3		156	67
1260	44.4	1.6	7.6		154	68
1261	44.3	1.7	8.0		152	68
1262	44.2	1.8	8.2		150	68
1263	44.3	1.8	8.3		148	67
1264	44.2	1.9	8.6		146	67
1265	44.5	2.0	9.0		145	67
1266	44.1	2.0	9.1		143	67
1267	44.5	2.1	9.3		142	67
1268	44.1	2.2	9.5		140	68
1269	44.4	1.5	7.0		139	67
1270	44.2	1.9	8.3		135	67

1271	44.3	1.5	6.7		133	67
1272	44.2	1.4	6.3		132	67
1273	44.2	1.5	6.6		131	67
1274	44.3	1.6	6.8		130	67
1275	44.3	1.6	6.9		129	67
1276	44.3	1.5	6.5		128	67
1277	44.4	1.5	6.6		126	67
1278	44.3	1.5	6.4		125	67
1279	44.4	1.4	6.0		126	67
1280	44.5	1.5	6.2		125	67
1281	44.4	1.4	6.2		123	67
1282	44.5	1.4	6.0		123	68
1283	44.4	1.5	6.2		121	68
1284	44.6	1.5	6.3		123	68
1285	44.5	1.6	6.5		123	67
1286	44.3	2.6	10.2		146	67
1287	44.3	0.5	2.6		138	67
1288	44.3	0.5	2.3		133	67
1289	44.4	0.5	2.3		129	67
1290	44.3	0.5	2.4		127	68
1291	44.2	0.5	2.5		125	68
1292	44.2	0.5	2.5		123	68
1293	44.4	0.5	2.4		122	68
1294	44.2	0.5	2.2		121	68
1295	44.3	0.5	2.3		119	68
1296	44.3	0.4	2.1		117	67
1297	44.2	0.4	2.1		116	67
1298	44.3	0.4	2.3		117	67
1299	44.4	0.5	2.4		116	67
1300	44.2	0.4	2.3		114	67
1301	44.3	0.4	2.3		114	67
1302	44.4	0.4	2.3		113	67
1303	44.3	0.4	2.4		111	67
1304	44.3	0.4	2.3		111	67
1305	44.5	0.4	2.4		110	67
1306	44.6	0.5	2.5		108	67
1307	44.4	0.4	2.3		109	67
1308	44.3	0.4	2.2		109	67
1309	44.4	0.4	2.3		110	68
1310	44.3	0.5	2.5		107	67
1311	44.4	0.4	2.3		108	67
1312	44.4	0.4	2.3		106	67
1313	44.4	0.4	2.2		105	67

1314	44.5	0.3	2.0		104	67
1315	44.4	0.4	2.1		106	68
1316	44.4	0.4	2.2		125	68
1317	44.4	0.8	4.4		128	68
1318	44.5	0.2	1.2		124	68
1319	44.4	0.2	1.0		121	68
1320	44.5	0.2	0.9		118	68
1321	44.2	0.2	0.9		117	68
1322	44.5	0.1	0.8		115	68
1323	44.4	0.1	0.8		114	68
1324	44.4	0.1	0.8		112	68
1325	44.5	0.1	0.7		111	68
1326	44.5	0.1	0.8		109	68
1327	44.3	0.1	0.8		109	68
1328	44.4	0.2	0.9		108	68
1329	44.5	0.1	0.9		107	68
1330	44.5	0.1	0.9		107	68
1331	44.6	0.1	0.9		106	68
1332	44.4	0.1	0.9		105	68
1333	44.5	0.2	1.0		105	68
1334	44.5	0.2	1.0		103	68
1335	44.6	0.2	1.0		104	69
1336	44.4	0.2	1.1		103	69
1337	44.4	0.2	1.0		102	68
1338	44.4	0.2	1.0		103	68
1339	44.3	0.2	1.2		102	68
1340	44.5	0.2	1.1		102	68
1341	44.3	0.2	1.2		100	68
1342	44.5	0.2	1.0		101	68
1343	44.4	0.2	1.1		101	68
1344	44.4	0.2	1.1		99	68
1345	44.4	0.2	1.1		99	68
1346	44.5	0.2	1.1		99	67
1347	44.3	0.2	1.1		127	67
1348	44.6	0.3	2.2		119	67
1349	44.6	0.1	0.8		115	68
1350	44.5	0.1	0.7		113	68
1351	44.6	0.1	0.6		110	68
1352	44.4	0.1	0.5		109	68
1353	44.4	0.1	0.5		107	68
1354	44.5	0.1	0.4		106	68
1355	44.5	0.1	0.4		105	68
1356	44.4	0.1	0.4		104	68

1357	44.6	0.1	0.4		103	68
1358	44.5	0.1	0.4		102	68
1359	44.6	0.1	0.4		102	68
1360	44.5	0.1	0.4		100	68
1361	44.5	0.1	0.4		100	68
1362	44.6	0.1	0.5		99	68
1363	44.7	0.1	0.5		99	68
1364	44.3	0.1	0.5		98	68
1365	44.6	0.1	0.5		97	68
1366	44.5	0.1	0.5		98	68
1367	44.5	0.1	0.5		97	68
1368	44.6	0.1	0.5		97	68
1369	44.6	0.1	0.5		96	68
1370	44.4	0.1	0.5		95	69
1371	44.6	0.1	0.5		96	69
1372	44.6	0.1	0.5		95	69
1373	44.5	0.1	0.6		95	69
1374	44.7	0.1	0.5		93	69
1375	44.6	0.1	0.6		94	69
1376	44.6	0.1	0.6		93	69
1377	44.7	0.1	0.5		93	69
1378	44.5	0.1	0.6		120	68
1379	44.6	0.2	1.3		111	69
1380	44.5	0.1	0.6		108	69
1381	44.5	0.1	0.5		106	69
1382	44.5	0.1	0.5		104	69
1383	44.6	0.1	0.4		102	69
1384	44.6	0.0	0.4		101	69
1385	44.5	0.0	0.4		100	69
1386	44.6	0.0	0.3		99	69
1387	44.5	0.0	0.3		99	69
1388	44.6	0.0	0.3		97	69
1389	44.5	0.0	0.3		97	69
1390	44.5	0.0	0.3		97	69
1391	44.6	0.0	0.3		96	69
1392	44.5	0.0	0.3		96	69
1393	44.6	0.0	0.3		95	69
1394	44.7	0.0	0.4		94	69
1395	44.5	0.0	0.4		94	69
1396	44.5	0.0	0.4		93	69
1397	44.6	0.0	0.4		92	70
1398	44.6	0.0	0.4		93	69
1399	44.5	0.1	0.4		91	69

1400	44.7	0.1	0.4		93	69
1401	44.5	0.1	0.5		92	69
1402	44.6	0.1	0.5		91	69
1403	44.7	0.1	0.5		92	69
1404	44.7	0.1	0.5		91	69
1405	44.7	0.1	0.6		90	69
1406	44.7	0.1	0.6		90	69
1407	44.7	0.1	0.6		90	69
1408	44.6	0.1	0.6		89	69
1409	44.6	0.1	0.7		113	69
1410	44.6	0.2	1.8		105	69
1411	44.5	0.1	1.1		110	69
1412	44.5	0.1	1.2		124	69
1413	44.4	0.2	1.1		142	69
1414	44.3	0.3	1.3		151	69
1415	44.3	0.4	1.6		157	69
1416	44.3	0.6	2.2		164	69
1417	43.9	0.8	2.8		170	69
1418	43.9	0.2	0.9		176	69
1419	43.6	1.3	5.3		183	69
1420	43.5	1.7	6.5		193	69
1421	43.2	1.9	7.6		202	69
1422	42.9	1.9	8.9		211	69
1423	42.4	1.9	10.3		218	69
1424	42.3	1.7	11.3		226	69
1425	41.8	1.3	13.1		234	69
1426	41.3	1.2	13.9		243	69
1427	41.0	0.8	14.6		251	69
1428	40.4	0.5	14.8		260	69
1429	40.1	0.2	16.5		270	69
1430	39.6	0.2	17.3		279	69
1431	38.9	0.1	17.1		287	69
1432	38.4	0.1	17.1		292	69
1433	37.9	0.1	16.8		297	69
1434	37.3	0.1	16.5		302	69
1435	36.9	0.1	16.4		306	69
1436	36.1	0.1	16.6		312	69
1437	35.5	0.2	18.9		321	68
1438	35.0	0.2	19.0		327	68
1439	34.3	0.2	19.0		332	68
1440	33.5	0.1	18.9		337	68
1441	32.7	0.2	18.9		342	68
1442	32.0	0.2	18.9		344	68

1443	31.8	0.1	18.3		306	68
1444	31.4	0.2	18.2		280	68
1445	31.3	0.2	16.9		264	68
1446	31.1	0.1	14.6		251	68
1447	31.0	0.1	12.2		244	68
1448	30.8	0.1	13.5		237	68
1449	30.8	0.1	12.5		230	67
1450	30.6	0.1	10.9		225	68
1451	30.6	0.1	9.6		220	68
1452	30.5	0.2	8.8		215	68
1453	30.5	0.2	7.8		211	68
1454	30.4	0.2	6.9		208	68
1455	30.4	0.3	6.1		204	68
1456	30.2	0.3	5.6		201	68
1457	30.4	0.3	5.1		197	68
1458	30.4	0.2	4.0		194	68
1459	30.2	0.3	3.8		190	68
1460	30.4	0.5	4.8		187	68
1461	30.3	0.8	5.5		184	68
1462	30.4	1.2	6.7		181	68
1463	30.3	1.5	7.7		177	68
1464	30.3	1.6	7.8		175	68
1465	30.2	1.8	8.1		172	68
1466	30.4	1.9	8.3		169	68
1467	30.3	2.0	8.3		167	68
1468	30.2	2.1	8.5		164	68
1469	30.2	2.0	8.2		162	68
1470	30.4	2.0	8.1		159	68
1471	30.3	2.1	8.0		158	68
1472	30.4	2.1	8.1		155	68
1473	30.4	2.2	8.2		153	68
1474	30.3	2.1	7.9		152	68
1475	30.3	2.2	8.3		150	68
1476	30.3	2.1	7.8		147	68
1477	30.4	2.0	7.5		145	68
1478	30.4	2.0	7.4		144	68
1479	30.5	2.0	7.5		142	68
1480	30.4	2.0	7.4		140	68
1481	30.3	2.2	7.9		139	68
1482	30.3	2.1	7.6		138	68
1483	30.0	1.9	7.2		136	68
1484	30.2	2.1	7.5		134	68
1485	30.3	2.1	7.8		133	68

1486	30.3	2.1	7.6		132	68
1487	30.3	2.0	7.5		131	68
1488	30.3	2.0	7.3		130	68
1489	30.3	2.1	7.8		129	68
1490	30.3	2.1	7.5		127	68
1491	30.3	1.9	7.0		126	68
1492	30.5	2.0	7.4		126	68
1493	30.5	2.0	7.3		124	68
1494	30.3	1.9	7.1		124	68
1495	30.3	2.1	7.8		124	68
1496	30.4	2.0	7.2		121	68
1497	30.1	1.8	6.5		148	68
1498	30.3	1.4	5.8		144	68
1499	30.2	1.2	4.8		137	68
1500	30.3	1.1	4.5		133	68
1501	30.2	1.1	4.5		130	68
1502	30.3	1.1	4.7		128	68
1503	30.1	1.1	4.7		126	68
1504	30.1	1.0	4.3		125	68
1505	30.4	0.8	3.9		123	68
1506	30.3	0.8	3.7		121	68
1507	30.2	0.7	3.3		120	68
1508	30.3	0.7	3.1		119	68
1509	30.2	0.7	3.5		119	68
1510	30.3	0.7	3.3		117	68
1511	30.2	0.6	3.1		118	68
1512	30.4	0.7	3.4		115	68
1513	30.2	0.6	3.1		113	67
1514	30.3	0.7	3.4		114	67
1515	30.2	0.6	3.1		113	68
1516	30.3	0.6	3.1		111	68
1517	30.3	0.6	3.1		111	68
1518	30.3	0.6	3.1		110	68
1519	30.4	0.6	3.1		110	68
1520	30.2	0.6	3.2		108	68
1521	30.3	0.6	3.0		110	68
1522	30.4	0.6	3.3		109	68
1523	30.4	0.6	3.0		106	68
1524	30.2	0.6	3.0		106	68
1525	30.2	0.5	2.9		106	68
1526	30.4	0.6	3.1		108	68
1527	30.4	0.5	2.8		106	68
1528	30.2	0.5	3.0		131	68

1529	30.2	0.4	2.8		126	68
1530	30.3	0.4	2.4		122	68
1531	30.4	0.3	2.2		120	68
1532	30.3	0.3	2.0		117	68
1533	30.3	0.3	1.9		116	68
1534	30.3	0.3	1.8		114	68
1535	30.2	0.3	1.7		113	68
1536	30.3	0.2	1.6		113	68
1537	30.4	0.2	1.7		111	68
1538	30.3	0.2	1.6		109	68
1539	30.3	0.2	1.6		109	68
1540	30.5	0.2	1.7		108	68
1541	30.4	0.2	1.8		107	67
1542	30.3	0.2	1.8		107	67
1543	30.4	0.2	1.7		105	67
1544	30.3	0.2	1.8		106	67
1545	30.3	0.2	1.7		104	68
1546	30.4	0.2	1.9		104	68
1547	30.4	0.2	1.9		102	68
1548	30.5	0.2	1.9		102	67
1549	30.5	0.2	1.8		103	67
1550	30.4	0.3	2.0		103	67
1551	30.5	0.3	2.1		102	67
1552	30.4	0.2	1.9		102	67
1553	30.5	0.3	2.1		102	67
1554	30.4	0.2	2.0		100	67
1555	30.4	0.2	2.0		100	67
1556	30.4	0.2	2.0		100	67
1557	30.4	0.2	2.1		100	67
1558	30.3	0.2	2.0		99	67
1559	30.5	0.4	3.0		121	67
1560	30.3	0.2	2.2		116	67
1561	30.4	0.2	1.9		113	67
1562	30.5	0.2	1.8		112	67
1563	30.2	0.2	1.6		109	67
1564	30.3	0.1	1.4		108	67
1565	30.5	0.1	1.3		107	67
1566	30.4	0.1	1.2		105	67
1567	30.3	0.1	1.1		104	67
1568	30.5	0.1	1.1		104	67
1569	30.4	0.1	1.1		102	67
1570	30.3	0.1	1.0		101	67
1571	30.4	0.1	1.0		100	67

1572	30.3	0.1	1.1		99	67
1573	30.4	0.1	1.1		100	67
1574	30.4	0.1	1.2		98	67
1575	30.5	0.1	1.3		99	67
1576	30.3	0.1	1.2		98	67
1577	30.7	0.1	1.4		97	67
1578	30.3	0.1	1.4		96	67
1579	30.4	0.1	1.4		97	67
1580	30.5	0.1	1.4		95	67
1581	30.5	0.1	1.4		95	67
1582	30.4	0.2	1.5		95	67
1583	30.4	0.2	1.5		94	67
1584	30.5	0.2	1.7		95	67
1585	30.5	0.2	1.6		94	67
1586	30.4	0.2	1.8		94	67
1587	30.6	0.2	1.8		93	67
1588	30.4	0.2	1.8		92	67
1589	30.5	0.2	1.9		93	67
1590	30.3	0.4	4.4		113	67
1591	30.4	0.2	2.3		109	67
1592	30.5	0.2	2.1		106	67
1593	30.4	0.2	1.9		104	67
1594	30.7	0.2	1.7		102	67
1595	30.4	0.1	1.5		101	67
1596	30.4	0.1	1.4		101	67
1597	30.3	0.1	1.2		99	67
1598	30.5	0.1	1.2		99	67
1599	30.4	0.1	1.1		98	67
1600	30.4	0.1	1.0		97	67
1601	30.5	0.1	1.0		96	67
1602	30.4	0.1	0.9		95	67
1603	30.5	0.1	0.9		95	67
1604	30.5	0.1	0.9		95	67
1605	30.5	0.1	0.8		94	67
1606	30.5	0.1	0.8		93	67
1607	30.5	0.1	0.8		92	67
1608	30.5	0.1	0.8		92	67
1609	30.6	0.1	0.8		91	67
1610	30.7	0.1	0.8		91	67
1611	30.5	0.1	0.8		90	67
1612	30.5	0.1	0.7		89	67
1613	30.5	0.1	0.8		89	67
1614	30.4	0.1	0.8		89	67

1615	30.5	0.1	0.7		89	67
1616	30.6	0.1	0.7		88	67
1617	30.6	0.1	0.7		88	67
1618	30.6	0.1	0.7		88	67
1619	30.6	0.1	0.7		87	67
1620	30.6	0.1	0.7		91	67
1621	30.5	0.6	5.5		107	67
1622	30.5	0.2	2.3		102	67
1623	30.4	0.2	2.1		100	67
1624	30.5	0.2	1.9		98	67
1625	30.6	0.1	1.7		96	67
1626	30.6	0.1	1.5		96	67
1627	30.5	0.1	1.4		95	67
1628	30.5	0.1	1.3		94	67
1629	30.5	0.1	1.1		93	67
1630	30.6	0.1	1.0		92	67
1631	30.6	0.1	1.0		91	67
1632	30.6	0.1	1.0		91	67
1633	30.5	0.1	0.9		91	67
1634	30.5	0.1	0.9		90	67
1635	30.4	0.1	0.8		90	67
1636	30.6	0.1	0.8		89	67
1637	30.5	0.1	0.7		88	67
1638	30.5	0.1	0.7		88	67
1639	30.5	0.1	0.7		87	66
1640	30.5	0.1	0.7		87	67
1641	30.6	0.1	0.6		86	67
1642	30.5	0.1	0.6		86	67
1643	30.5	0.1	0.6		85	66
1644	30.6	0.1	0.6		86	67
1645	30.5	0.1	0.6		85	66
1646	30.6	0.1	0.5		85	66
1647	30.6	0.1	0.5		85	66
1648	30.6	0.1	0.5		85	66
1649	30.5	0.0	0.5		84	66
1650	30.6	0.0	0.5		84	66
1651	30.5	0.0	0.5		96	66
1652	30.6	0.5	5.2		102	66
1653	30.6	0.2	2.4		98	66
1654	30.4	0.2	2.3		95	66
1655	30.6	0.2	2.1		94	66
1656	30.5	0.2	1.8		93	66
1657	30.4	0.2	2.5		114	66

1658	30.3	1.0	2.9		143	66
1659	30.1	1.5	4.3		164	66
1660	29.9	2.2	6.9		186	66
1661	29.5	2.2	9.3		206	66
1662	28.9	2.4	11.6		222	66
1663	28.7	2.0	13.0		234	66
1664	28.3	1.8	13.1		244	66
1665	27.9	1.5	12.8		253	66
1666	27.5	1.3	13.6		261	66
1667	26.8	0.6	15.9		271	66
1668	26.3	0.3	16.8		282	66
1669	25.7	0.2	17.1		290	66
1670	25.1	0.2	16.8		296	66
1671	24.5	0.1	16.9		302	66
1672	23.8	0.1	17.1		309	66
1673	23.4	0.1	16.8		314	66
1674	22.6	0.1	17.0		318	66
1675	21.9	0.1	17.5		324	66
1676	21.2	0.1	17.5		329	66
1677	20.7	0.1	17.8		333	68
1678	19.9	0.1	17.6		334	66
1679	19.4	0.1	17.4		337	66
1680	18.7	0.1	17.3		340	66
1681	18.2	0.1	17.3		311	67
1682	17.9	0.2	17.7		283	67
1683	17.6	0.2	17.0		265	67
1684	17.6	0.1	14.8		253	68
1685	17.3	0.1	12.3		245	67
1686	17.1	0.1	12.7		238	67
1687	17.1	0.1	12.1		231	67
1688	17.2	0.1	10.5		225	67
1689	17.1	0.1	9.1		220	67
1690	17.0	0.2	8.3		216	67
1691	17.0	0.2	7.6		212	67
1692	16.9	0.2	6.9		208	67
1693	17.0	0.2	6.3		204	68
1694	16.7	0.2	5.8		201	68
1695	16.8	0.3	5.5		198	68
1696	16.8	0.2	4.2		194	68
1697	16.8	0.2	3.8		191	68
1698	16.7	0.4	4.1		187	68
1699	16.6	0.7	5.0		184	68
1700	16.8	1.0	5.7		181	68

1701	16.7	1.3	6.5		178	68
1702	16.7	1.4	6.9		175	68
1703	16.7	1.6	7.4		172	68
1704	16.7	1.8	7.7		169	68
1705	16.7	1.8	7.5		167	68
1706	16.5	1.8	7.4		164	68
1707	16.7	1.9	7.8		162	68
1708	16.5	1.9	7.6		160	68
1709	16.7	2.1	8.1		158	68
1710	16.7	1.9	7.6		155	68
1711	16.7	2.0	7.7		153	68
1712	16.6	2.0	7.6		151	69
1713	16.8	2.1	7.8		149	69
1714	16.7	2.1	7.8		147	69
1715	16.6	2.1	7.6		145	69
1716	16.7	1.9	7.1		144	69
1717	16.6	2.1	7.7		142	69
1718	16.6	1.9	7.0		141	69
1719	16.7	2.2	7.7		139	69
1720	16.7	1.9	7.0		138	69
1721	16.9	2.0	7.2		136	69
1722	16.6	2.1	7.5		135	70
1723	16.6	1.9	6.9		133	69
1724	16.8	2.1	7.5		131	69
1725	16.8	1.9	6.8		131	69
1726	16.8	1.8	6.3		129	69
1727	16.7	2.0	6.9		128	70
1728	16.6	1.9	6.6		127	69
1729	16.8	1.7	5.9		126	70
1730	16.6	1.9	6.7		124	69
1731	16.8	1.8	6.2		123	69
1732	16.8	1.7	6.0		122	70
1733	16.8	1.7	6.0		121	70
1734	16.9	2.0	6.8		120	70
1735	16.7	1.8	6.1		147	70
1736	16.6	1.4	5.1		146	70
1737	16.7	1.1	3.8		138	70
1738	16.7	1.0	3.6		133	70
1739	16.6	1.0	3.6		130	70
1740	16.5	1.0	3.7		127	70
1741	16.5	1.0	3.7		125	70
1742	16.6	0.9	3.5		124	70
1743	16.6	0.8	3.2		122	70

1744	16.5	0.7	3.0		121	70
1745	16.7	0.7	3.0		120	70
1746	16.6	0.6	2.7		119	70
1747	16.6	0.6	2.6		117	70
1748	16.5	0.6	2.7		116	70
1749	16.6	0.6	2.7		116	70
1750	16.6	0.6	2.8		114	70
1751	16.7	0.6	2.6		114	70
1752	16.7	0.6	2.8		112	70
1753	16.6	0.6	2.6		111	70
1754	16.6	0.6	2.7		111	70
1755	16.6	0.6	2.7		110	70
1756	16.7	0.6	2.6		110	70
1757	16.7	0.5	2.6		108	70
1758	16.7	0.6	2.7		108	70
1759	16.5	0.6	2.8		106	71
1760	16.8	0.5	2.5		104	70
1761	16.6	0.5	2.6		105	71
1762	16.7	0.5	2.5		106	71
1763	16.7	0.5	2.5		107	71
1764	16.7	0.5	2.5		104	71
1765	16.8	0.5	2.6		104	71
1766	16.7	0.5	2.4		133	71
1767	16.6	0.5	2.4		127	71
1768	16.6	0.4	1.8		123	71
1769	16.7	0.3	1.7		120	71
1770	16.6	0.3	1.5		118	71
1771	16.7	0.3	1.5		115	71
1772	16.6	0.3	1.4		114	70
1773	16.6	0.2	1.3		112	71
1774	16.6	0.2	1.2		111	71
1775	16.7	0.2	1.2		111	70
1776	16.6	0.2	1.2		109	70
1777	16.6	0.2	1.3		109	70
1778	16.7	0.2	1.2		107	70
1779	16.5	0.2	1.3		106	70
1780	16.7	0.2	1.3		106	70
1781	16.8	0.2	1.2		106	70
1782	16.7	0.2	1.3		104	70
1783	16.5	0.2	1.4		104	69
1784	16.6	0.2	1.4		103	69
1785	16.5	0.2	1.3		103	69
1786	16.6	0.2	1.4		101	69

1787	16.7	0.2	1.4		101	69
1788	16.7	0.2	1.4		102	69
1789	16.7	0.2	1.4		101	69
1790	16.6	0.2	1.5		100	69
1791	16.8	0.2	1.4		100	69
1792	16.6	0.2	1.5		98	69
1793	16.7	0.2	1.4		97	69
1794	16.5	0.2	1.5		98	69
1795	16.7	0.2	1.6		98	69
1796	16.6	0.2	1.5		98	69
1797	16.7	0.2	1.5		122	69
1798	16.8	0.2	1.6		116	69
1799	16.6	0.2	1.3		113	68
1800	16.6	0.2	1.2		110	69
1801	16.6	0.1	1.0		108	68
1802	16.7	0.1	0.9		107	68
1803	16.6	0.1	0.8		106	68
1804	16.7	0.1	0.8		105	68
1805	16.5	0.1	0.7		103	68
1806	16.7	0.1	0.7		102	68
1807	16.7	0.1	0.7		102	68
1808	16.7	0.1	0.7		101	68
1809	16.5	0.1	0.7		100	68
1810	16.7	0.1	0.7		98	68
1811	16.7	0.1	0.6		98	68
1812	16.7	0.1	0.7		98	68
1813	16.7	0.1	0.7		98	68
1814	16.7	0.1	0.7		97	68
1815	16.7	0.1	0.8		96	68
1816	16.8	0.1	0.8		96	68
1817	16.7	0.1	0.8		96	68
1818	16.7	0.1	0.8		94	68
1819	16.8	0.1	0.8		94	68
1820	16.8	0.1	0.9		94	68
1821	16.7	0.1	0.9		94	68
1822	16.7	0.1	0.9		93	68
1823	16.8	0.1	1.0		92	68
1824	16.7	0.1	0.9		92	68
1825	16.6	0.1	1.0		92	68
1826	16.8	0.1	1.0		91	68
1827	16.7	0.1	1.0		91	68
1828	16.7	0.1	1.2		114	68
1829	16.9	0.2	1.4		109	68

1830	16.8	0.1	1.3		105	68
1831	16.7	0.1	1.1		103	68
1832	16.7	0.1	1.0		101	68
1833	16.8	0.1	0.9		100	68
1834	16.9	0.1	0.8		99	68
1835	16.7	0.1	0.8		98	68
1836	16.8	0.1	0.7		97	68
1837	16.8	0.1	0.7		96	68
1838	16.8	0.1	0.6		95	68
1839	16.8	0.1	0.6		95	68
1840	16.8	0.1	0.6		94	68
1841	16.8	0.1	0.6		93	68
1842	16.9	0.1	0.6		93	68
1843	16.8	0.1	0.6		92	68
1844	16.8	0.1	0.6		92	67
1845	16.8	0.1	0.5		91	67
1846	16.9	0.1	0.6		91	67
1847	16.8	0.1	0.6		90	67
1848	16.8	0.1	0.6		90	67
1849	16.8	0.1	0.6		90	67
1850	16.9	0.1	0.6		89	67
1851	17.0	0.1	0.6		89	67
1852	16.8	0.1	0.6		88	67
1853	16.9	0.1	0.7		88	67
1854	16.9	0.1	0.7		88	67
1855	16.8	0.1	0.7		88	67
1856	16.8	0.1	0.7		87	67
1857	16.9	0.1	0.7		87	67
1858	16.9	0.1	0.7		86	67
1859	16.9	0.2	1.4		109	67
1860	16.9	0.1	1.5		103	67
1861	16.9	0.1	1.3		99	67
1862	17.0	0.1	1.2		97	67
1863	16.8	0.1	1.1		96	67
1864	16.8	0.1	1.0		95	67
1865	16.8	0.1	0.9		94	67
1866	16.9	0.1	0.8		93	67
1867	17.1	0.1	0.7		92	67
1868	16.9	0.1	0.7		92	67
1869	17.0	0.1	0.6		91	67
1870	16.9	0.1	0.6		90	67
1871	17.0	0.1	0.6		90	67
1872	16.8	0.1	0.6		89	67

1873	16.9	0.1	0.5		89	67
1874	17.0	0.1	0.6		88	67
1875	16.9	0.1	0.5		88	67
1876	16.9	0.1	0.5		87	67
1877	17.0	0.1	0.5		87	67
1878	16.9	0.0	0.0		87	67
1879	17.0	0.1	0.6		86	67
1880	16.9	0.1	0.6		86	67
1881	16.9	0.1	0.6		86	67
1882	17.0	0.1	0.6		86	67
1883	17.0	0.1	0.5		85	67
1884	17.0	0.1	0.6		85	67
1885	17.1	0.1	0.5		84	67
1886	17.0	0.1	0.5		84	67
1887	17.0	0.1	0.5		83	67
1888	17.0	0.1	0.6		83	67
1889	17.1	0.1	0.6		83	67
1890	17.0	0.3	2.5		106	67
1891	16.9	0.2	1.6		99	67
1892	16.9	0.1	1.5		95	67
1893	16.8	0.1	1.4		93	67
1894	16.9	0.1	1.2		92	67
1895	16.9	0.1	1.0		91	67
1896	16.9	0.1	1.0		90	67
1897	17.1	0.1	0.9		89	67
1898	17.0	0.1	0.8		89	67
1899	16.9	0.1	0.7		108	67
1900	16.9	0.2	1.5		133	67
1901	16.7	0.3	1.0		146	67
1902	16.8	0.5	1.3		155	67
1903	16.7	0.6	1.8		162	67
1904	16.6	0.7	2.4		168	67
1905	16.5	1.0	3.2		174	67
1906	16.2	1.1	4.6		182	67
1907	14.7	2.0	7.2		196	67
1908	15.6	2.4	8.5		198	66
1909	15.4	2.4	9.8		210	66
1910	14.8	1.6	18.1		224	66
1911	14.3	2.3	18.0		244	67
1912	13.9	0.4	18.6		267	67
1913	13.2	0.1	17.3		283	66
1914	12.6	0.1	17.4		294	67
1915	12.1	0.1	17.2		302	67

1916	11.6	0.1	17.2		308	66
1917	11.0	0.1	17.2		313	66
1918	10.3	0.1	17.4		318	66
1919	9.7	0.1	17.5		321	66
1920	9.2	0.1	17.5		326	66
1921	8.6	0.1	17.5		330	66
1922	8.0	0.1	17.2		330	66
1923	7.4	0.1	17.3		334	67
1924	7.0	0.1	17.6		337	66
1925	6.2	0.2	17.6		339	66
1926	5.8	0.2	17.6		342	66
1927	4.9	0.1	17.3		344	66
1928	4.8	0.1	16.9		309	66
1929	4.5	0.0	14.2		283	66
1930	4.4	0.0	13.0		266	66
1931	4.3	0.0	11.3		254	66
1932	4.0	0.1	9.7		246	66
1933	3.9	0.1	11.7		240	66
1934	3.9	0.1	11.3		233	66
1935	4.0	0.1	10.0		227	66
1936	3.7	0.1	8.9		222	66
1937	3.6	0.1	8.3		218	66
1938	3.7	0.1	7.8		214	66
1939	3.5	0.1	7.0		210	66
1940	3.5	0.1	6.3		206	66
1941	3.5	0.1	5.7		203	66
1942	3.5	0.1	4.8		199	66
1943	3.3	0.1	3.6		196	66
1944	3.6	0.2	3.5		192	66
1945	3.5	0.5	4.2		189	66
1946	3.4	0.8	4.9		185	66
1947	3.4	1.1	5.7		182	66
1948	3.5	1.5	6.6		179	66
1949	3.5	1.6	6.9		176	66
1950	3.4	1.7	6.9		173	66
1951	3.5	1.8	7.3		170	66
1952	3.4	1.9	7.2		167	66
1953	3.5	1.9	7.0		165	66
1954	3.5	1.9	7.0		162	67
1955	3.4	1.9	6.9		160	66
1956	3.4	1.7	6.1		157	66
1957	3.5	1.7	6.3		155	66
1958	3.5	1.7	6.3		153	66

1959	3.5	1.8	6.4		151	67
1960	3.5	1.8	6.3		149	67
1961	3.4	1.7	6.1		147	67
1962	3.5	1.6	5.7		145	67
1963	3.5	1.5	5.4		143	67
1964	3.5	1.7	5.9		141	67
1965	3.5	1.5	5.2		139	67
1966	3.4	1.6	5.5		137	67
1967	3.5	1.4	5.0		136	67
1968	3.5	1.3	4.6		134	67
1969	3.6	1.3	4.7		133	67
1970	3.6	1.3	4.6		131	67
1971	3.5	1.3	4.4		130	67
1972	3.5	1.2	4.3		128	67
1973	3.6	1.3	4.4		127	68
1974	3.7	1.2	4.0		126	68
1975	3.6	1.1	3.9		125	68
1976	3.6	1.2	3.9		123	68
1977	3.5	1.0	3.5		122	68
1978	3.7	1.1	3.7		120	68
1979	3.6	1.1	3.6		119	68
1980	3.6	1.1	3.5		118	68
1981	3.7	1.0	3.4		118	68
1982	3.6	1.0	3.4		152	68
1983	3.5	1.6	6.0		148	68
1984	3.6	1.3	5.0		138	68
1985	3.5	1.2	4.7		132	68
1986	3.5	1.2	4.7		128	68
1987	3.4	1.2	4.7		126	68
1988	3.5	1.1	4.5		123	68
1989	3.5	1.0	4.1		122	69
1990	3.6	0.8	3.5		119	69
1991	3.4	0.8	3.3		118	69
1992	3.5	0.7	2.8		116	69
1993	3.5	0.6	2.6		115	69
1994	3.6	0.6	2.6		114	69
1995	3.5	0.6	2.6		112	69
1996	3.6	0.6	2.5		112	69
1997	3.5	0.6	2.5		110	69
1998	3.4	0.5	2.3		109	69
1999	3.5	0.5	2.3		109	69
2000	3.6	0.5	2.3		107	69
2001	3.5	0.5	2.2		106	69

2002	3.5	0.5	2.1		106	69
2003	3.5	0.5	2.0		105	69
2004	3.6	0.5	2.1		104	69
2005	3.6	0.5	2.0		104	69
2006	3.6	0.5	2.1		103	69
2007	3.5	0.4	1.9		103	69
2008	3.7	0.4	1.9		103	69
2009	3.7	0.4	1.8		102	69
2010	3.7	0.4	1.9		102	69
2011	3.6	0.4	1.8		101	69
2012	3.7	0.4	1.7		100	69
2013	3.7	0.5	2.0		134	69
2014	3.8	0.5	2.6		129	69
2015	3.8	0.4	2.2		123	70
2016	3.6	0.4	2.0		119	69
2017	3.6	0.3	1.8		116	69
2018	3.8	0.3	1.6		113	69
2019	3.7	0.2	1.4		110	69
2020	3.8	0.2	1.3		109	70
2021	3.9	0.2	1.2		108	70
2022	3.8	0.2	1.0		106	70
2023	3.9	0.2	1.0		105	70
2024	4.0	0.2	1.0		104	70
2025	3.6	0.2	1.0		103	70
2026	3.7	0.2	0.9		103	70
2027	3.9	0.2	1.0		102	70
2028	3.7	0.2	0.9		101	70
2029	3.8	0.2	0.9		100	70
2030	3.9	0.2	0.9		99	70
2031	3.9	0.2	0.9		99	70
2032	3.8	0.1	0.9		99	70
2033	3.9	0.1	0.9		97	70
2034	3.8	0.1	0.9		97	70
2035	3.8	0.2	0.9		96	70
2036	3.8	0.2	1.0		95	70
2037	3.8	0.1	0.9		95	70
2038	3.9	0.1	0.9		94	70
2039	3.9	0.1	0.9		93	70
2040	4.0	0.2	1.0		93	70
2041	3.8	0.1	0.9		92	70
2042	3.9	0.1	0.9		91	70
2043	3.9	0.1	0.9		91	70
2044	3.8	0.3	2.1		120	70

2045	3.9	0.3	2.2		113	70
2046	3.9	0.3	2.0		109	69
2047	3.8	0.2	1.8		107	69
2048	3.7	0.2	1.6		104	69
2049	3.9	0.2	1.4		103	69
2050	3.8	0.2	1.2		101	69
2051	3.8	0.2	1.2		100	69
2052	3.7	0.1	1.0		99	70
2053	3.8	0.1	0.9		98	70
2054	3.8	0.1	0.9		97	70
2055	3.8	0.1	0.9		96	70
2056	3.9	0.1	0.8		95	70
2057	3.7	0.1	0.7		95	70
2058	4.0	0.1	0.8		94	70
2059	3.8	0.1	0.7		93	70
2060	3.9	0.1	0.7		93	69
2061	3.8	0.1	0.7		92	69
2062	3.8	0.1	0.7		92	70
2063	3.9	0.1	0.6		91	69
2064	3.7	0.1	0.7		91	69
2065	3.8	0.1	0.7		91	69
2066	3.8	0.1	0.7		90	69
2067	3.8	0.1	0.7		89	69
2068	3.8	0.1	0.6		89	69
2069	3.8	0.1	0.7		88	69
2070	3.7	0.1	0.7		89	69
2071	3.8	0.1	0.7		88	69
2072	3.8	0.1	0.7		87	69
2073	3.9	0.1	0.7		87	69
2074	3.9	0.1	0.7		87	68
2075	3.8	0.5	3.7		114	69
2076	3.9	0.3	2.2		107	68
2077	3.9	0.2	2.1		103	68
2078	3.8	0.2	1.9		99	68
2079	3.9	0.2	1.6		98	68
2080	4.0	0.2	1.5		96	68
2081	3.7	0.2	1.3		95	68
2082	3.9	0.1	1.1		94	68
2083	3.9	0.1	1.1		93	68
2084	3.7	0.1	0.9		92	68
2085	4.0	0.1	0.9		91	68
2086	3.8	0.1	0.8		91	68
2087	4.0	0.1	0.8		90	68

2088	3.9	0.1	0.7		90	68
2089	4.0	0.1	0.7		89	68
2090	3.8	0.1	0.7		89	68
2091	3.9	0.1	0.6		89	68
2092	3.9	0.1	0.6		88	68
2093	3.9	0.1	0.5		87	68
2094	3.9	0.1	0.5		87	67
2095	3.9	0.1	0.5		86	68
2096	3.9	0.1	0.5		86	68
2097	3.8	0.1	0.4		85	68
2098	3.9	0.0	0.4		85	68
2099	3.8	0.1	0.4		95	68
2100	3.8	0.5	4.1		128	67
2101	3.9	0.5	1.6		148	67
2102	3.6	1.0	2.1		161	67
2103	3.5	1.9	3.7		173	67
2104	3.3	2.3	5.6		186	67
2105	3.1	2.3	6.9		197	67
2106	2.8	2.4	8.4		209	67
2107	2.4	2.7	10.7		221	67
2108	1.9	2.3	11.9		231	67
2109	1.6	1.8	12.8		242	67
2110	1.2	1.3	13.0		253	67
2111	0.7	1.2	14.6		264	67
2112	0.2	1.0	13.9		273	67
2113	0.0	0.8	14.1		281	67
2114	0.0	0.9	14.0		287	67

Section 5

Testing Results

Table 1A - Data Summary Part A

						θ	W_{fuel}	MC_{ave}	Q_{inLHV}	Q_{inHHV}	Q_{out}
Category	Run No	Load % Capacity	Target Load	Actual Load	Actual Load	Test Duration	Wood Weight as-fired	Wood Moisture	Heat Input (LHV)	Heat Input (HHV)	Heat Output
			Btu/hr	Btu/hr	% of max	hrs	lb	% DB	Btu	Btu	Btu
I	5	< 15% of max	<29209	25386	13.0%	35.23	153	21.76	1003720	1080620	894442
II	3	16-24% of max	31156-46734	42832	22.0%	21.62	154.8	19.91	1031223	1110231	925883
III	2	25-50% of max	48681-97362	86334	44.3%	11.00	154.6	19.66	1032047	1111117	949678
IV	1	Max capacity	N/A	194724	100.0%	4.78	151.3	19.74	1009332	1086662	931430

Table 1B - Data Summary Part B

			T2 Min	E_T	E	E	$E_{g/hr}$	$E_{g/kg}$	η_{del}	η_{SLM}
Category	Run No	Load % Capacity	Min Return Water Temp.	Total PM Emissions	PM Output Based	PM Output Based	PM Rate	PM Factor	Delivered Efficiency (HHV)	Stack Loss Efficiency (HHV)
			°F	g	lb/MMBtu Out	g/MJ	g/hr	g/kg	%	%
I	5	< 15% of max	157.1	59.0	0.15	0.06	1.7	1.0	82.8	78.7
II	3	16-24% of max	149.9	63.8	0.15	0.07	3.0	1.1	83.4	75.7
III	2	25-50% of max	147.6	53.3	0.12	0.05	4.8	0.9	85.5	81.7
IV	1	Max capacity	126.3	47.6	0.11	0.05	10.0	0.8	85.7	81.4

Table 1C - Hang Tag Information

MANUFACTURER:	Central Boiler		
MODEL NUMBER:	Edge 560		
MAXIMUM OUTPUT RATING	Q_{MAX}	194,724	Btu/hr
ANNUAL EFFICIENCY RATING:	ηavg	83.8%	**(Using higher heating value)**
		90.2%	(Using lower heating value)
PARTICLE EMISSIONS:	E_{avg}	3.3	GRAMS/HR (average)
		0.14	LBS/MILLION Btu OUTPUT
CARBON MONOXIDE	CO	3.25	Grams/Minute (average)

Table 2 - Year Round Use Weighting

Category	Weighting Factor (F_i)	$\eta_{del,i} \times F_i$	$E_{g/MJ,i} \times F_i$	$E_{g/kg,i} \times F_i$	$E_{lb/MMBtu\ Out,i} \times F_i$	$E_{g/hr,i} \times F_i$	CO/hr,i x Fi
I	0.437	36.2	0.03	0.45	0.06	0.73	54.07
II	0.238	19.8	0.02	0.26	0.04	0.70	40.10
III	0.275	23.5	0.01	0.25	0.03	1.33	51.13
IV	0.05	4.3	0.00	0.04	0.00	0.50	15.12
Totals	1	83.8	0.06	1.0	0.14	3.3	160.4

Higher Heating Value Weighted Results

Manufacturer: Central Boiler
Model: Edge 560
Tracking No.: 2374
Project No.: 0117WB038E
Technician: B. Davis
Comments:

Adjustable Parameters:	Category I	Category II	Category III	Category IV
Run Number:	5	3	2	1
Test Date:	10/17/19	10/8/19	9/18/19	9/17/19
Total Fuel Weight (lb):	153.0	154.8	154.6	151.3
Average Moisture of Fuel (% dry):	21.8	19.9	19.7	19.7
Average Temperature of Appliance Water at Start of Test:	167.3	172.6	166.2	147.8
Average Temperature of Appliance Water at End of Test:	164.6	170.6	172.7	168.1
Average Thermopile Reading:	109.5	106.5	102.7	93.5
Average Load Side Liquid Flow Rate (gal/min):	0.5	0.8	1.7	4.0
Time Interval (min):	2114	1297	660	287
Burn Rate (kg/hr):	1.62	2.71	5.33	11.98
Emissions (g):	59.0	63.8	53.3	47.6

Constant Parameters:

Fuel Heating Value: 8600 Btu/lb Higher Heating Value

Heating Season Weighting

Category I Weighting Factor:	0.175
Category II Weighting Factor:	0.275
Category III Weighting Factor:	0.450
Category IV Weighting Factor:	0.100

Year Round Use Weighting

Category I Weighting Factor:	0.437
Category II Weighting Factor:	0.238
Category III Weighting Factor:	0.275
Category IV Weighting Factor:	0.050

Calculations:	Category I	Category II	Category III	Category IV	Totals
Heat Input (Btu):	1080620	1110231	1111117	1086662	
Heat Input Rate (Btu/hr):	30670	51360	101011	227177	
Appliance Water Specific Heat (Btu/lb °F):	1.001	1.001	1.001	1.001	
Heat Output (Btu):	894442	925883	949678	931430	
Heat Output Rate (Btu/hr):	25386	42832	86334	194724	
Total Particulate Emissions (g):	59.0	63.8	53.3	47.6	
Time Interval (hr):	35.2	21.6	11.0	4.8	
Emissions (g/kg):	1.0	1.1	0.9	0.8	
Heating Season Weighting:	0.181	0.300	0.409	0.083	1.0
Year Round Use Weighting:	0.452	0.259	0.250	0.042	1.0
Total Particulate Emissions Rate (g/MJ):	0.06	0.07	0.05	0.05	
Heating Season Weighting:	0.011	0.018	0.024	0.005	0.06
Year Round Use Weighting:	0.027	0.016	0.015	0.002	0.06
Total Particulate Emissions Rate (lbs/mmbtu input):	0.12	0.13	0.11	0.10	
Heating Season Weighting:	0.021	0.035	0.048	0.010	0.11
Year Round Use Weighting:	0.053	0.030	0.029	0.005	0.12
Total Particulate Emissions Rate (lbs/mmbtu output):	0.145	0.152	0.124	0.113	
Heating Season Weighting:	0.025	0.042	0.056	0.011	0.13
Year Round Use Weighting:	0.064	0.036	0.034	0.006	0.14
Total Particulate Emissions Rate (g/hr 10,000BTU):	0.02	0.03	0.05	0.11	
Heating Season Weighting:	0.003	0.009	0.023	0.011	0.05
Year Round Use Weighting:	0.008	0.008	0.014	0.005	0.04
Emissions (g/hr):	1.7	3.0	4.8	10.0	
Heating Season Weighting:	0.29	0.81	2.18	1.00	4.3
Year Round Use Weighting:	0.73	0.70	1.33	0.50	3.3
Efficiency (%):	82.8	83.4	85.5	85.7	
Heating Season Weighting:	14.5	22.9	38.5	8.6	84.5
Year Round Use Weighting:	36.2	19.8	23.5	4.3	83.8
First Hour Emissions (g/hr):	-0.5	-0.7	1.8	3.2	
Target Load High:	29209	46734	97362	194724	
Target Load Low:	NA	31156	48681	NA	

Weighted Emissions

Heating Season Use:	0.11 lbs/mmbtu input	**8 Hr Burn Load**		**8 Hr Efficiency Rating**		
Year Round Use:	0.12 lbs/mmbtu input	X1 =	86334	X1 =	85.5	
		Y1 =	11.0	Y1 =	11.0	
Heating Season Use:	0.13 lbs/mmbtu output	X2 =	194724	X2 =	85.7	
Year Round Use:	0.14 lbs/mmbtu output	Y2 =	4.8	Y2 =	4.8	

Weighted Efficiency

Heating Season Use:	84.5 %	8 Hr Burn Load =	138640	Btu/hr
Year Round Use:	83.8 %	8 Hr Efficiency =	85.6	%

TEST RESULTS AND DISCUSSION

Results

A total of four test runs were performed on the Classic Edge 560 boiler. Four test runs were conducted in the following categories based on the manufacturer's rated heat capacity: one in the 15% or less of maximum capacity (category I); one in the 16-24% of capacity (category II); one in the 25-50% of capacity (category III); and one at the manufacturer's rated heat capacity (category IV).

The Classic Edge 560 furnace meets the 2020 particulate matter emission limit of a weighted average 0.15 lbs/mmBtu heat output when tested with Oak cord wood.

Emissions (lb/mmbtu output)	
Heating Season	0.13
Year-Round Use	0.14

The average Btu/hr for 8-hour burn time was measured to be **138,640 Btu/hr**. The average efficiency for 8-hour burn time was measured to be **85.6%**.

Precision

The precision and accuracy of the emissions and heating efficiency results presented in this report cannot be specified because of the unmeasured variability of results that would occur between identical appliances and fueling protocols. It is estimated, using precision data from similar sampling and measurement methods, that the precision of the results presented in this report are +/- 10 to 12 percentage points of the emissions values and +/- 3 to 4 percentage points of thermal efficiency.

One-Hour Filter Discussion

§ 60.5476(c)(6) of 40 CFR 60 states, "For all tests conducted using ASTM 2515–11 [sic]… the manufacturer and approved test laboratory must also measure the first hour of particulate matter emissions for each test run using a separate filter in one of the two parallel trains. The manufacturer and approved test laboratory must report the test results for the first hour separately and also include them in the total particulate matter emissions per run.

Section 6

Example Calculations

Equations and Sample Calculations – Wood-fired Hydronic Heater

Manufacturer:	Central Boiler
Model:	Edge 560
Run:	5
Category:	I

Equations used to calculate the parameters listed below are described in this appendix. Sample calculations are provided for each equation. The raw data and printout results from a sample run are also provided for comparison to the sample calculations.

BR	Dry burn rate, kg/hr
m_n	Total particulate matter collected, mg
$V_{m(std)}$	Volume of gas sampled corrected to standard conditions, dscf
v_s	Average dilution tunnel gas velocity, ft/sec
C_s	Particulate concentration, g/dscf
Q_{sd}	Dilution tunnel gas flow rate, dscf/min
E	Particulate emission rate, lbs/hr
E_T	Total particulate emissions, grams
MC_{avg}	Average fuel load moisture content, %
PR	Proportional rate variation, %
Q_{in}	Heat input, Btu
Q_{out}	Heat output, Btu
	Heat output rate, Btu/hr
$E_{g/MJ}$	Emission rate, g/MJ
$E_{lb/MMBtu\ input}$	Emission rate, lb/MMBtu input
$E_{lb/MMBtu\ output}$	Emission rate, lb/MMBtu output
$E_{g/kg}$	Emission rate, g/kg
$E_{g/hr}$	Emission rate, g/hr
$E_{g/hr\ 10,000\ BTU}$	Emission rate, g/hr 10,000 Btu
η_{del}	Delivered efficiency, %
E_{avg}, η_{avg}	Weighted average emissions and efficiency, g/kg, %
	Average Btu/hr for 8 hour burn time, Btu/hr

BR – Dry Burn Rate, kg/hr
Using EPA Method 28 equation 28-3:

$$BR = \frac{60 \times W_{wd}}{\theta} \times \frac{100 - \%M_w}{100}$$

Where,

BR	=	Dry burn rate, kg/hr
W_{wd}	=	Mass of wood burned (wet basis) during test run, lb
θ	=	Total time of test run, minutes
$\%M_w$	=	Average moisture content of test fuel charge, wet basis percent

Sample Calculation:

Using the equation 28-2 for converting dry basis moisture to wet basis moisture,

$$\%M_w = \frac{\%M_D \times 100}{\%M_D + 100}$$

$$\%M_W = \frac{21.75 \text{ x } 100}{21.75 + 100}$$

$\%M_W$ = 17.87 %

W_{wd} = 153 lbs

W_{wd} = 153 x 0.4536 kg/lb

W_{wd} = 69.4 kg

$$BR = \frac{60 \text{ x } 69.4}{2114} \text{ x } \frac{100 - 17.87}{100}$$

BR = 1.62 kg/hr

m_n – Total Particulate Matter Collected, mg
ASTM E2515 Equation (12)

$$m_n = m_p + m_f + m_g$$

Where:

m_n = Total particulate matter collected, mg
m_p = Particulate matter from probe, mg
m_f = Particulate matter from filters, mg
m_g = Particulate matter from filter seals, mg

Sample Calculation:

Using equation for Train 1 (first-hour):

m_n = 0.0 + -0.2 + 0.0

m_n = -0.2 mg

Using equation for Train 1(Post First Hour Change-out):

m_n = 1.7 + 24.5 + 0.0

m_n = 26.2 mg

Train 1 Aggregate:

m_n = -0.2 + 26.2

m_n = 26.0 mg

Using equation for Train 2:

m_n = 0.8 + 23.0 + 0.3

m_n = 24.1 mg

$V_{m(std)}$ – Volume of Gas Sampled Corrected to Dry Standard Conditions, dscf
ASTM E2515 equation (6)

$$V_{m(std)} = V_m \times Y \times K_1 \times \frac{(P_b + \frac{\Delta H}{13.6})}{T_m}$$

Where:

K_1	=	17.64 °R/in. Hg
V_m	=	Volume of gas sample measured at the dry gas meter, dcf
Y	=	Dry gas meter calibration factor, dimensionless
P_b	=	Barometric pressure at the testing site, in. Hg
ΔH	=	Average pressure differential across the orifice meter, in. H_2O
T_m	=	Absolute average dry gas meter temperature, °R

Sample Calculation:

Using equation for Train 1:

$$V_{m(std)} = \frac{340.1 \times 1.009 \times 17.64 \times \frac{(29.93 + \frac{1.33}{13.6})}{(80.52 + 460)}}{}$$

$V_{m(std)}$ = 336.28 ft3

Using equation for Train 2:

$$V_{m(std)} = \frac{341.25 \times 0.990 \times 17.64 \times \frac{(29.93 + \frac{1.06}{13.6})}{(80.4 + 460)}}{}$$

$V_{m(std)}$ = 330.93 ft3

Using equation for ambient train:

$$V_{m(std)} = \frac{446.16 \times 0.988 \times 17.64 \times \frac{(29.93 + \frac{0.26}{13.6})}{(67.93 + 460)}}{}$$

$V_{m(std)}$ = 441.11 ft3

Using equation for First Hour Train:

$$V_{m(std)} = \frac{9.618 \times 1.009 \times 17.64 \times \frac{(29.90 + \frac{1.33}{13.6})}{(77 + 460)}}{}$$

$V_{m(std)}$ = 9.560 ft3

v_s – Dilution Tunnel Gas Velocity, ft/sec
ASTM E2515 equation (7)

$$v_s = F_P \times k_p \times C_p \times (\sqrt{\Delta P})_{avg} \times \sqrt{\frac{T_{s(avg)}}{P_s \times M_s}}$$

Where:

F_p = Adjustment factor for center of tunnel pitot tube placement, $Fp = \frac{V_{strav}}{V_{scent}}$, ASTM E2515 Equation (1)

v_{scent} = Dilution tunnel velocity calculated after the multi-point pitot traverse at the center, ft/sec

v_{strav} = Dilution tunnel velocity calculated after the multi-point pitot traverse, ft/sec

k_p = Pitot tube constant, $85.49 \frac{ft}{\sec}\left[\frac{(lb/lb-mole)\times(inches\,Hg)}{(R)\times(inches\,H_2O)}\right]^{1/2}$

C_p = Pitot tube coefficient: 0.99, unitless

ΔP* = Velocity pressure in the dilution tunnel, in H_2O

T_s = Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)

P_s = Absolute average gas static pressure in diltuion tunnel, = P_{bar} + P_g, in Hg

P_{bar} = Barometric pressure at test site, in. Hg

P_g = Static pressure of tunnel, in. H_20; (in Hg = in H_20/13.6)

M_s = **The dilution tunnel wet molecular weight; M_s = 28.78 assuming a dry weight of 29 lb/lb-mole

Sample calculation:

$$M_s = 29 \times (1 - 0.02) + 18.0 \times 0.02 = 28.78$$

$$V_s = \frac{0.947}{} \text{ x } 85.49 \text{ x } \frac{0.99}{} \text{ x } \frac{0.13}{} \text{ x } \left(\frac{74.656 + 460}{\left(\frac{29.93}{} + \frac{-0.18}{13.6}\right) \text{x } 28.78}\right)^{1/2}$$

V_s = 8.20 ft/s

*The ASTM test standard mistakenly has the square root of the average delta p instead of the average of the square root of delta p. The current EPA Method 2 is also incorrect. This was verified by Mike Toney at EPA.

**The ASTM test standard mistakenly identifies Ms as the dry molecular weight. It should be the wet molecular weight as indicated in EPA Method 2.

C_s – Particulate Concentration, g/dscf
ASTM E2515 equation (13)

$$C_s = K_2 \times \frac{m_n}{V_{m(std)}}$$

Where:

K_2	=	Constant, 0.001 g/mg
C_s	=	Concentration of particulate matter in stack gas, dry basis, corrected to standard conditions, g/dscf
m_n	=	Total mass of particulate matter collected in the sampling train, mg
$V_{m(std)}$	=	Volume of gas sampled corrected to dry standard conditions, dscf

Sample calculation:

For Train 1:

$$C_s = 0.001 \times \frac{26.0}{336.28}$$

C_s = 0.000077 g/dscf

For Train 2

$$C_s = 0.001 \times \frac{24.1}{330.93}$$

C_s = 0.000073 g/dscf

For Ambient Train

$$C_s = 0.001 \times \frac{0.2}{441.11}$$

C_s = 0.000000 g/dscf

For First Hour Train:

$$C_s = 0.001 \times \frac{-0.2}{9.56}$$

C_s = -0.000021 g/dscf

Q_{sd} – Average Dilution Tunnel Gas Flow Rate, dscf/hr
ASTM equation (3)

$$Q_{sd} = 3600 \times (1 - B_{ws}) \times v_s \times A \times \frac{T_{std}}{T_{s(avg)}} \times \frac{P_s}{P_{std}}$$

Where:

Q_{sd}	=	Gas flow rate corrected to dry, standard conditions, dscf/hr
3600	=	Conversion from seconds to hours (ASTM method uses 60 to convert in minutes)
B_{ws}	=	Moisture content of dilution tunnel gas, ratio; assume 2%
v_s	=	Average dilution tunnel gas velocity, ft/sec
A	=	Cross sectional area of dilution tunnel, ft^2
T_{std}	=	Standard absolute temperature, 528 °R
$T_{s(avg)}$	=	Average absolute dilution tunnel temperature, °R, (°R = °F + 460)
P_b	=	Barometric pressure at test site, in. Hg
P_g	=	Dilution tunnel static pressure, in. Hg
P_s	=	Absolute dilution tunnel gas pressure, in Hg, (Hg = $P_b + P_g$)
P_{std}	=	Standard absolute pressure, 29.92 in Hg

Sample calculation:

$$Q_{sd} = 3600 \times (1 - 0.02) \times \frac{8.20}{} \times \frac{0.785}{} \times \frac{528}{\frac{74.66}{} + 460} \times \frac{\frac{29.93}{} + \frac{-0.177}{13.6}}{29.92}$$

Q_{sd} = 22427.57 dscf/hr

E, E_T – Particulate Emissions
ASTM E2515 equation (15) section

$$E_T = (c_s - c_r) \times Q_{std} \times \theta$$

Where:

E_T	=	Particulate emissions, g
C_s	=	Concentration of particulate matter in the stack, g/dscf
C_r	=	Concentration of ambient particulate matter, g/dscf
Q_{std}	=	Average dilution tunnel gas flow rate, dscf/hr
θ	=	Total time of test run, minutes

Sample calculation:

For Train 1

E_T = (0.000077 - 0.000000) x 22427.57 x 2114 /60

E_T = 60.74 g

For Train 2

E_T = (0.000073 - 0.000000) x 22427.6 x 2114 /60

E_T = 57.19 g

Average

E = 58.96 g

For First Hour Train

E_T = (-0.000021 - 0.000000) x 22427.57 x 60 /60

E_T = -0.48 g

Total emission values shall not differ by more than 7.5% from the total average emissions

7.5% of the average =	4.42
Train 1 difference =	1.77
Train 2 difference =	1.77

MC_{avg} – Average Fuel Load Moisture Content, %
Test Method 28 WHH section 13.3

$$MC_{avg} = \left[\sum W_i \times MC_i\right] \div W_{fuel}$$

Where:

W_i = Weight of individual fuel pieces, lbs

MC_i = Average moisture of individual fuel pieces, % dry

Sample calculation:

MC_{avg} = (9.7 x 21.3 + 10.8 x 23.9 + 10.8 x 22.9 +
11.0 x 22.7 + 9.2 x 20.6 + 11.6 x 19.9 +
10.5 x 21.5 + 9.7 x 21.0 + 9.2 x 20.4 +
. . . + (153.0 - 153.0) x 10) / 153.0

MC_{avg} = 21.75 %

PR - Proportional Rate Variation
ASTM E2515 equation (16)

$$PR = \left[\frac{\theta \times V_{mi} \times V_s \times T_m \times T_{si}}{\theta_i \times V_m \times V_{si} \times T_{mi} \times T_s} \right] \times 100$$

Where:

θ = Time of test, min

θ_i = Time of interval, 1 min

V_{mi} = Volume of gas sample measured by the dry gas meter during the “ith” time interval, dscf

V_m = Volume of gas sample as measured by dry gas meter, dscf

V_{si} = Average gas velocity in the dilution tunnel during the "ith" time interval, m/sec

V_s = Average gas velocity in the dilution tunnel, m/sec

T_{mi} = Average dry gas meter temperature during the "ith" time interval, ^oR

T_m = Average dry gas meter temperature, ^oR

T_{si} = Average gas temperature in the dilution tunnel during the "ith" time interval, ^oR

T_s = Average gas temperature in the dilution tunnel, ^oR

Sample calculation (for the first 10 minute interval of Train 1):

$$PR = \left(\frac{2114 \times 0.15 \times 8.201 \times (80.52 + 460) \times (88.0 + 460)}{1 \times 340.1 \times 8.58 \times (74.00 + 460) \times (74.7 + 460)} \right) \times 100$$

PR = 92.46 %

Q_{in} – Heat Input, Btu
Test Method 28 WHH section 13.4

$$Q_{in} = (W_{fuel} / (1 + (MC / 100))) \times HV$$

Where:

W_{fuel} = Fuel charge weight, lbs

MC = Moisture content, %

HHV = Higher heating value, 8600 Btu/lb

LHV = Lower heating value, 7988 Btu/lb

Sample calculation:

For the Higher heating value

Q_{in} = (153 / (1 + (21.8 /100))) x 8600

Q_{in} = 1080722 Btu

For the Lower heating value

Q_{in} = (153 / (1 + (21.8 /100))) x 7988

Q_{in} = 1003815 Btu

Q_{out} – Heat Output, Btu
Test Method 28 WHH section 13.5.1

$$Q_{out} = \left|\sum(C_p \times \Delta T \times M \times t)\right| + (W_{app} \times C_{steel} + C_P \times W_{water}) \times (TF_{avg} - TI_{avg})$$

$$M = V_f \times \sigma$$

$$\sigma = (62.56 + (-0.0003413 \times T_{3i}) + (-0.00006225 \times T_{3i}^2)) \times 0.1337$$

$$C_P = 1.0014 + (-0.000003485 \times T_{3i})$$

Where:

C_p	=	*Heat capacity of water, Btu/lb-°F
C_{steel}	=	Heat capacity of steel, 0.1 Btu/lb-°F
ΔT	=	Load Side thermopile reading, °F
M	=	Mass flow rate of water, lb/min
t	=	Elapsed time, 1 min
W_{app}	=	Weight of appliance, lbs
W_{water}	=	Weight of water, lbs
TF_{avg}	=	Final average temperature of appliance and water, °F
TI_{avg}	=	Initial average temperature of appliance and water, °F
T_{avg}	=	Average temperature of water in the load side, °F
T_{3i}	=	Load inlet temperature at interval i, °F
V_f	=	Volumetric flow rate of water, gal/min
σ	=	Density of water, lb/gal

Sample calculation, For the first 1 minute period: :

C_p = 1.0014 + (-0.000003485 x 64.35)

C_p = 1.001 Btu/lb°F

σ = (62.56+(-0.0003413 x 64.35) + (-0.00006225 x 64.3 ^{2})) x 0.1337

σ = 8.33

M = 0.48 x 8.33

M = 4.03 lbs/min

C_p x ΔT x M x t = 1.001 x 104.4 x 4.03 x 1

C_p x ΔT x M x t = 421 Btu

Total Sum for Run 1:

$\left|\sum(C_p \times \Delta T \times M \times t)\right|$ = 899300 Btu

Q_{out} for Run 1:

Q_{out} = 899300 + (1779 x 0.1 + 1.001 x 1631) x (164.60 - 167.29)

Q_{out} = 894442 Btu

Heat Output Rate, Btu/hr
Test Method 28 WHH section 13.5.2

$$Heat\ \ output\ \ rate\ = Q_{out}\ / test\ \ duration$$

Sample calculation:

Heat output rate = 894442.3 / (2114 / 60)

Heat output rate = 25386 Btu/hr

Emission Rates, g/MJ, lb/MMBTU, g/kg, g/hr
Test Method 28 WHH section 13.5.3

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055)$$

$$E_{lb/MMBtu\ input} = (E_T / 453.59) / (Q_{input} \times 10^{-6})$$

$$E_{lb/MMBtu\ output} = (E_T / 453.59) / (Q_{output} \times 10^{-6})$$

$$E_{g/kg} = E_T / (W_{fuel} / (1 + MC/100))$$

$$E_{g/hr} = E_T / Test\ Duration$$

$$E_{g/hr\ 10{,}000Btu} = \frac{E_T}{(Test\ Duration \times (Q_{out}/10{,}000))}$$

Sample calculation:

$E_{g/MJ}$ = 58.96 / (894442 x 0.001055)

$E_{g/MJ}$ = 0.0625 g/MJ

Using higher heat value

$E_{lb/MMBtu\ input}$ = (58.96 / 453.59)/(1080722 x 10^{-6})

$E_{lb/MMBtu\ input}$ = 0.120 lb/MMBtu input

Using lower heat value

$E_{lb/MMBtu\ input}$ = (58.96 / 453.59)/(1003815 x 10^{-6})

$E_{lb/MMBtu\ input}$ = 0.129 lb/MMBtu input

$E_{lb/MMBtu\ output}$ = (58.96 / 453.59)/(894442 x 10^{-6})

$E_{lb/MMBtu\ output}$ = 0.145 lb/MMBtu output

$E_{g/kg}$ = 58.96 /((153 x 0.4536) / (1 + 21.8 /100))

$E_{g/kg}$ = 1.034 g/kg

$E_{g/hr}$ = 58.96 / (2114 / 60)

$E_{g/hr}$ = 1.67 g/hr

$$E_{g/hr\ 10{,}000\ Btu} = \frac{58.96}{((2114 / 60) \times (894442 / 10{,}000))}$$

$E_{g/hr\ 10{,}000\ Btu}$ = 0.02 g/hr 10,000 Btu

First hour emissions:

$E_{g/kg}$ = -0.48 /((7.63465 x 0.4536) / (1 + 21.8 /100))

$E_{g/kg}$ = -0.169 g/kg

$E_{g/hr}$ = -0.48 / (60 / 60)

$E_{g/hr}$ = -0.48 g/hr

η_{del} – Delivered Efficiency, %
Test Method 28 WHH section 13.5.4

$$\eta_{del} = (Q_{out} / Q_{in}) \times 100$$

$$\eta_{delLHV} = (Q_{out} / Q_{inLHV}) \times 100$$

Sample calculation:

η_{del} = (894442 / 1080722) x 100

η_{del} = 82.76 %

η_{delLHV} = (894442 / 1003815) x 100

η_{delLHV} = 89.10 %

E_{avg}, η_{avg} – Weighted Average Emissions and Efficiency, g/kg, %
Test Method 28 WHH section 13.6.1

$$E_{avg} = \sum E_i \times F_i$$

$$\eta_{avg} = \sum \eta_i \times F_i$$

Sample calculation for emissions (g/kg) seasonal use and lower heating value:

E_{avg}= 1.03 x 0.175 + 1.09 x 0.275 + 0.91 x 0.450 + 0.83 x 0.100

E_{avg}= 1.0 g/kg

Sample calculation for efficiency year round use and high heating value:

η_{avg}= 82.76 x 0.437 + 83.39 x 0.238 + 85.47 x 0.275 + 85.71 x 0.050

η_{avg}= 83.8 %

Average Btu/hr for 8 Hour Burn Time, Btu/hr
Test Method 28 WHH section 13.7.2

$$\frac{Btu}{hr} = X1 + \{(8 - Y1) \times [(X2 - X1)/(Y2 - Y1)]\}$$

Where:

Y1	=	Test duration just above 8 hours
Y2	=	Test duration just below 8 hours
X1	=	Actual load for duration Y1
X2	=	Actual load for duration Y2

Sample calculation:

Btu/hr = 86334 + {(8 - 11) x [(194724 - 86334) / (4.78333 - 11)]}

Btu/hr = 138640 for 8 hour burn time