



Evaluation Report

NON - CBI

**Central Boiler, Inc. and WoodMaster Inc. (an
affiliate of Central Boiler, Inc.)**

700 Series (CB 760.1 and WM 700.1)

Report Number: 0117WB044E

OMNI-Test Laboratories, Inc.

Product Testing & Certification

www.omni-test.com



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Evaluation Report

Particulate Emissions of a Wood-Fired Outdoor Hydronic Heater type.

NON - CBI

Central Boiler, Inc. and WoodMaster Inc. (an affiliate of Central Boiler, Inc.)

models: Classic Edge 760.1, CleanFire 700.1

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**

AUTHORIZED SIGNATORIES

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4/1/2025

Date

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1. INTRODUCTION

1.1 Purpose of Test Program

The Central Boiler, Inc. 700 series Wood-Fired Outdoor Hydronic Heater type is an appliance designed for use in residential heating applications and is identified as being an affected facility under the US Environmental Protection Agency's jurisdiction (EPA SCC code 2104008610) and is subject to the US EPA's performance requirements. Central Boiler, Inc. and WoodMaster Inc. (an affiliate of Central Boiler, Inc.) contracted with OMNI to test the particulate emissions of the appliance in accordance with EPA regulations.

Testing was performed by OMNI at OMNI-Test Laboratories facility located at 13327 NE Airport Way - Portland, Oregon (45.563° latitude, -122.525° longitude and at an altitude of 30 feet above sea level). The unit was received in good condition and logged in on 02/17/25, then assigned and labeled with OMNI ID #2501. OMNI representative Riley Tiegs, Ken Morgan conducted the certification testing and completed all testing by 03/01/25. This report is organized in accordance with the EPA-recommended outline and its format is characterized in the Table of Contents immediately preceding this section. The results in this report are limited to the item submitted.

1.2 Executive Summary

Year-Round Use Weighted Average Emissions-Rate :	0.052	lb./MMBtu.
Tested Heat Load Range :	32411 - 243056	Btu/hr.
Weighted Year-Round Efficiency:	78.3	%
Stack Loss Efficiency (<i>Straight Arithmetic Average</i>):	83.4	%
Average Carbon Monoxide Emission Rate:	0.93	g/min

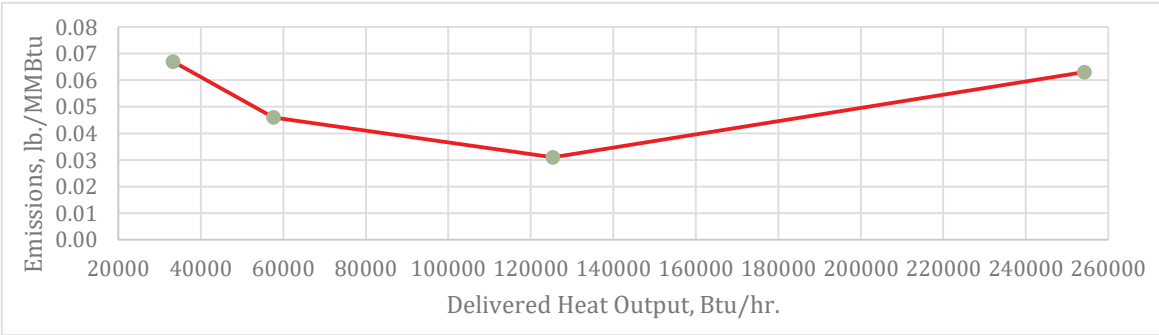


Figure 1 - Emissions Plot by Delivered Heat Output Rate

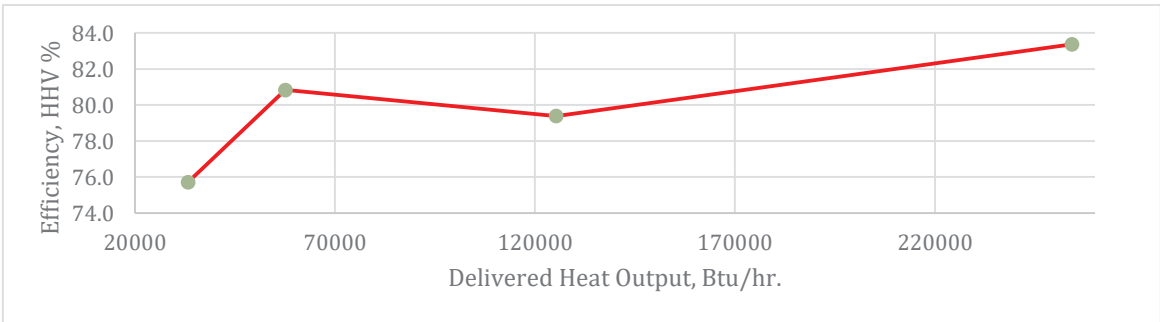


Figure 2 - Efficiency Plot (HHV) by Delivered Heat Output Rate

2. Materials and Methods

2.1 - Test Methodology

The testing methodology used for the evaluation of the appliance described in this report is composed of four distinct aspects:

- **Particulate Matter Emissions:**

The 700 Series (CB 760.1 and WM 700.1) Hydronic Heater was tested in accordance with the U.S. EPA 40 CFR Part 60, Subpart QQQQ – Standards of Performance for New Residential Wood Heaters using ASTM E2515-11 "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel".

- **Appliance Operation Procedure:**

The 700 Series (CB 760.1 and WM 700.1) Hydronic Heater was fueled and operated following written instructions from the manufacturer and in accordance with ASTM E2618-13 "Standard Test Method for Measurement of Particulate Emissions and Heating Efficiency of Solid Fuel-Fired Hydronic Heating Appliances". Tests were performed at the four heat output categories as follows:

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

- **Stack Loss Efficiency and Carbon Monoxide Emissions:**

Stack-loss efficiencies and carbon monoxide emissions were evaluated following CSA B415.1:22 "Performance testing of solid-biofuel-burning heating appliance". It is also used to calculate the emissions of carbon monoxide. Example calculations for CSA B415.1:22 are not provided in this report because OMNI uses software provided by CSA (version 2.4). Printouts of the software's reporting is provided in the test data section of this report for each test run.

- **Applicable Alternate Test Method(s):**

ALT -154 was used during this evaluation. See Appendix C for a copy of this alternate method.

2.2 Description of Appliance Under Test

The Central Boiler, Inc. 700 series are manually-fed cordwood-fueled hydronic heating appliances intended for residential installation and use.

The appliance is designed to heat and circulate water in a closed loop, supplying energy to an existing hydronic 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. The unit is well insulated and protected by an outer sheet metal skin designed for outdoor installation.

A model variant is the CleanFire 700.1 by WoodMaster. There is no difference other than the model designation and color scheme for marketing purposes.



Figure 3 - model Classic Edge 760.1 Frontal View

Air Introduction System

Combustion air is regulated by a blower and multiple electric-actuated 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 firebox in the Gasification, or “Reaction” Chamber. Flue gasses are routed through the heat exchanger and exit through an 6” (ID) flue opening at the upper area of the rear of the unit.

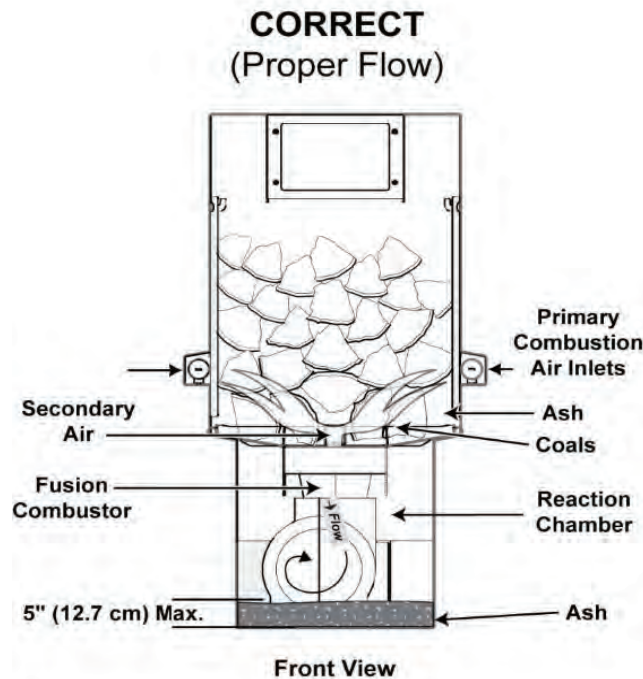


Figure 4 - Fuel, Combustion Air Path and Combustion Chamber relevant locations

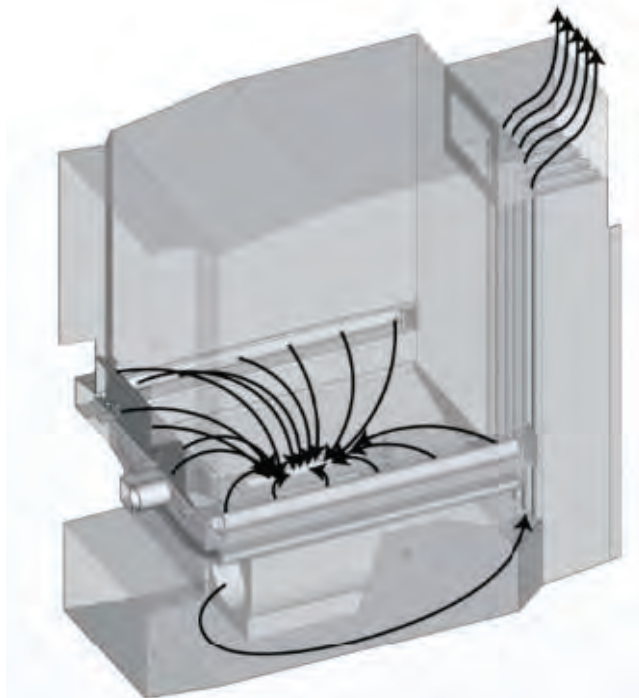


Figure 5 - Air Flow Diagram

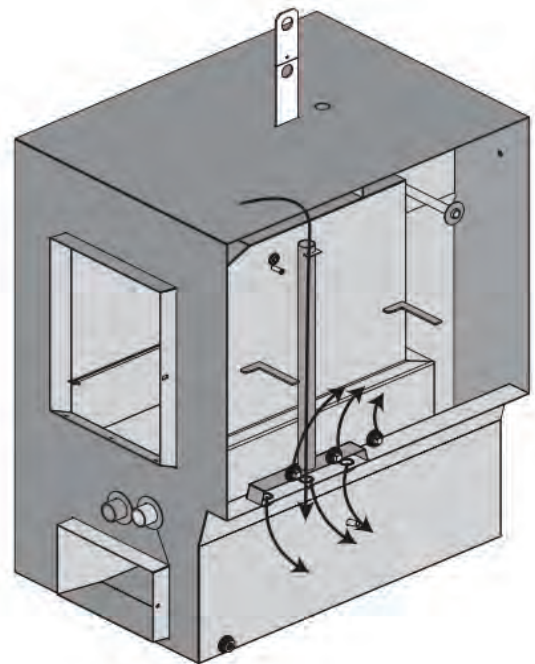


Figure 6 - Water Flow Diagram

The appliance 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.

Flue Outlet:

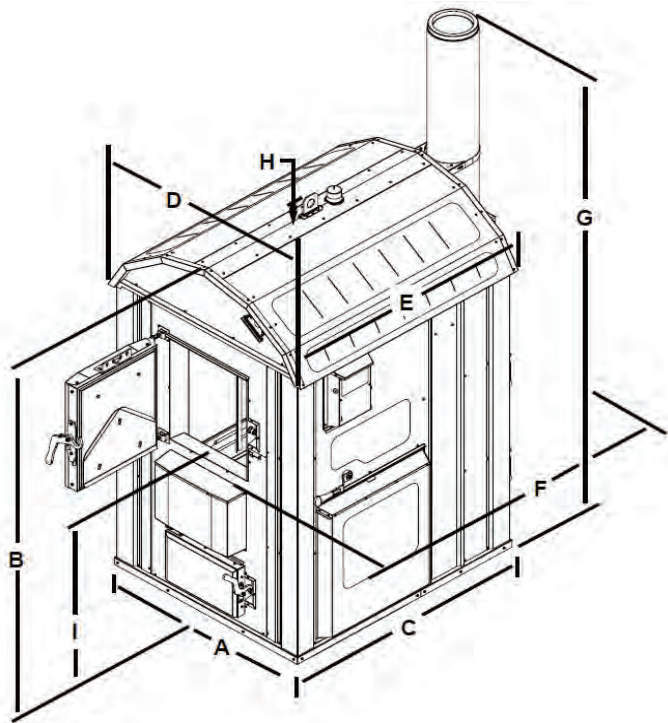
The 8” diameter flue exits the appliance on the back side, near the top. A built-in TEE section provides ready addition of vertical 8" solid-pack chimney sections.

Other Features:

Other features of the Classic Edge 760.1 include over temperature protection, atmospheric pressure vent for water circuit, network-enabled temperature logging and a gasification chamber access door.

Appliance Dimensions and Capacities

Overall Height	84.75	inches
Overall Width	53.5	inches
Overall Depth	59.75	inches
Overall Depth (Including Chimney)	79	inches
Dry (Empty of water) Wet	2457	pounds
Wet (filled with water) Weight	5168	pounds
Water Jacket Capacity	325	gallons (nominally)
Total Firebox Volume	26.08	cubic feet
Usable Firebox Volume	22.09	cubic feet
Fuel Load Capacity	265	pounds (nominally, based on 12 lb./ft ³ of firebox volume)
Manufacturer's Stated Maximum Output Rate	245,000	Btu/hr.



Classic Edge 760 Measurements									
	A	B	C	D	E	F	G	H	I
in.	51	84.75	59.75	53.5	60.5	79	164	5	39
cm	130	215	152	136	154	201	417	13	99

Usable Firebox Volume : 22.09 Cubic Feet

Non-usable firebox volume = $V_6 + V_7 + V_8 + V_9 = 6909.98 \text{ in}^3 = 3.99 \text{ ft}^3$

2.3 Appliance Installation

The empty (dry) appliance was placed on a 5000 lb. scale that was zeroed beforehand and the weight of the appliance was noted. The scale was re-zeroed and the appliance was filled with water. The resulting weight was noted. The appliance was fitted with a section an 8-inch diameter solid-pack 103 HT type chimney that extended upward for a total system height of approximately 15 feet from the top of the platform scale. At a height of approximately 8 feet from the base of the appliance, a 3/8-inch diameter hole was drilled into the chimney for connection of the flue gas probe. Within 1 inch of this hole, a 3/16" diameter hole was drilled for the flue gas, which was a shielded Type K thermocouple. A 3/8" diameter hole was drilled into the lower portion of the chimney pipe within 1 foot of the appliance and a draft probe was inserted. Water lines for the Supply and Return connections between the boiler and heat exchanger were insulated and attached with a pump located in-line between the supply side of the heat exchanger input and the supply of the boiler.



Figure 7 - Central Boiler Classic Edge 760.1 installed in test structure and general work area



Figure 8 - Close-up of Classic Edge 760.1 installed in test booth

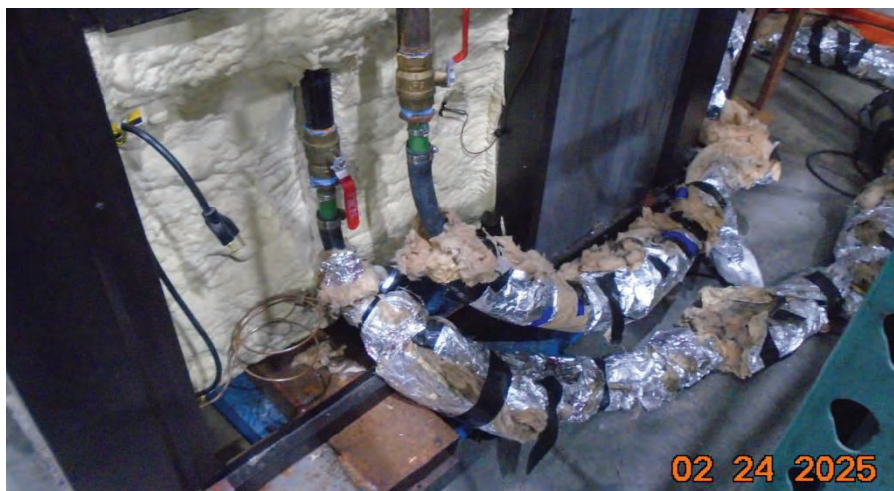


Figure 9 - Insulated Boiler Supply and Return Lines

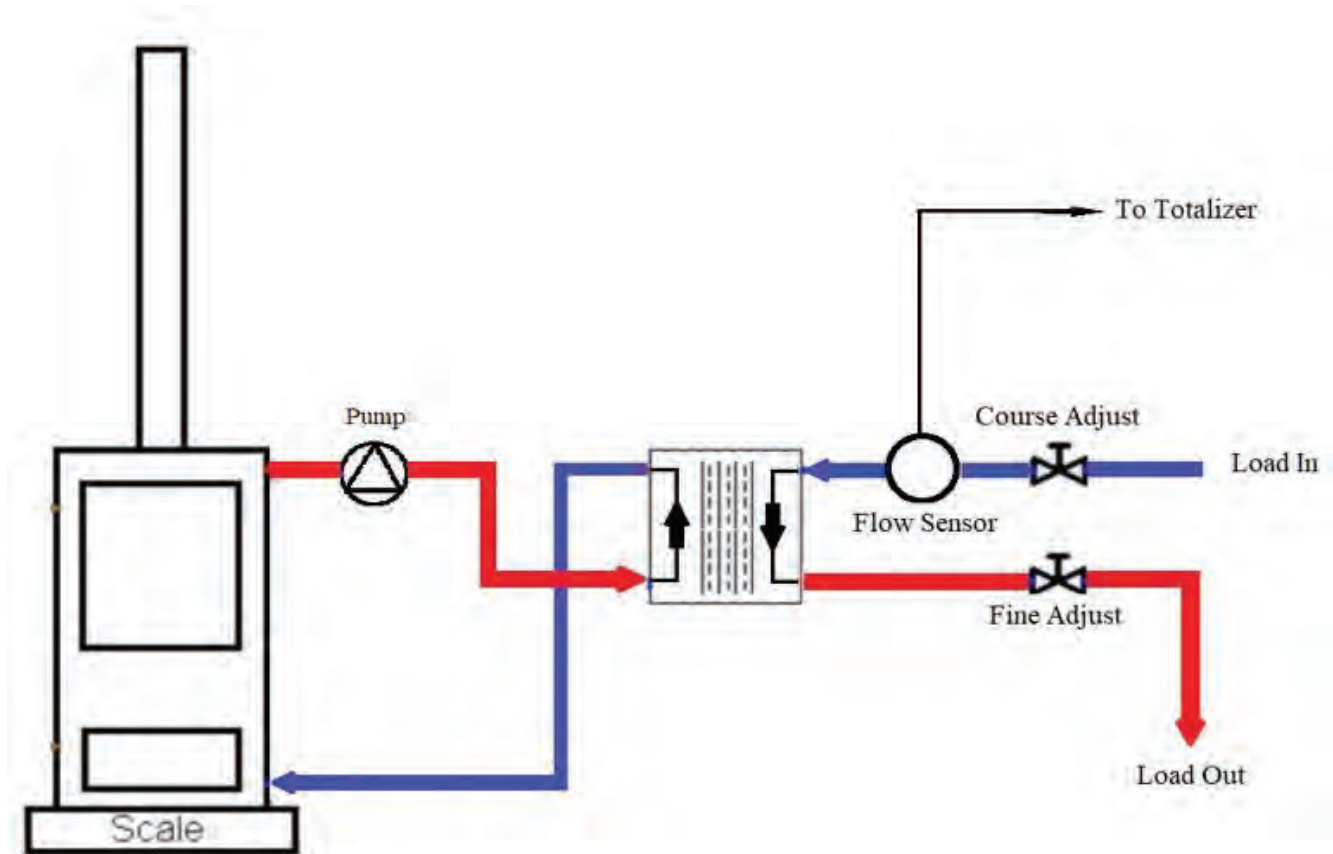


Figure 10 - Schematic of Heat Exchanger Plumbing

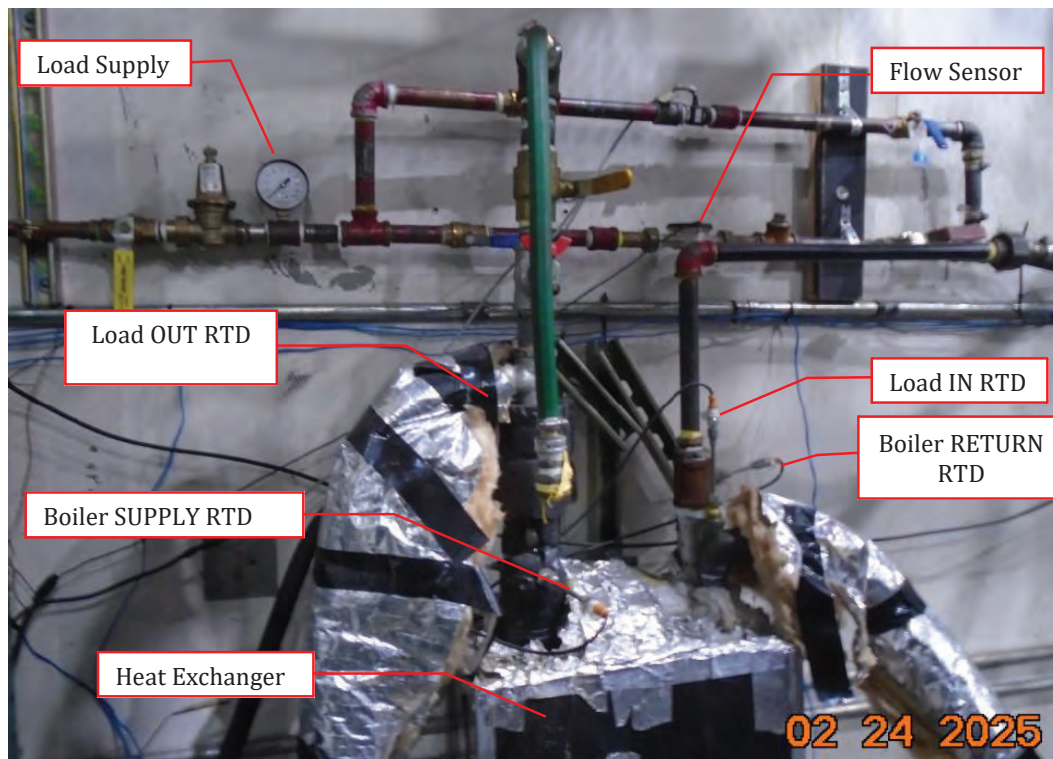


Figure 11 - Photograph of Heat Exchanger



Figure 12 - General Work Area, First Hour, background and water flow DAQ systems



Figure 13- General Work Area, Sampling Trains A and B



Figure 14- Broad View of General Work Area

2.4 Appliance Conditioning

Pre-test conditioning at a medium heat load for 93 hours was performed by the Central Boiler, Inc. staff at their facility in Greenbush Minnesota. This conditioning data has been placed in Appendix A of this report.

2.5 Dilution Tunnel

OMNI's facility uses permanent and dedicated dilution tunnels that are designed and are maintained to meet the specifications of the dilution tunnel specifications prescribed in ASTM E2515. The dilution tunnel was cleaned on 2/19/25 prior to installation of the test specimen. Prior to testing, sample point and traverse point locations were verified to ensure their locations are within the prescribed specifications. Collection hood, tunnel diameter, and mixing section length are also verified to be within specifications.

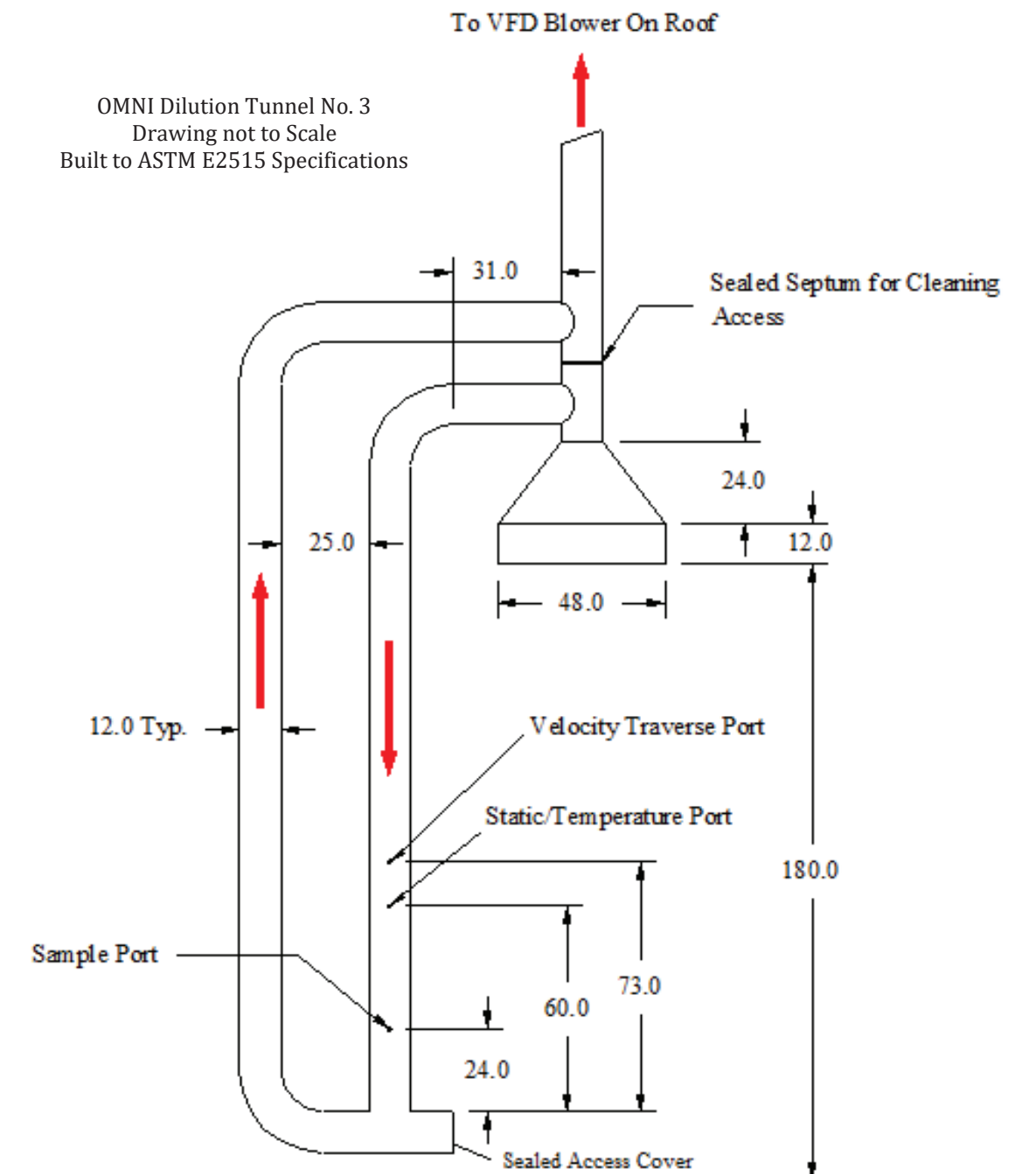


Figure 15 - Dilution Tunnel at OMNI-Test Laboratories Portland, Oregon Facility

2.6 Particulate Sampling Systems

The sampling systems consisted of an independent datalogging system managing all four dry gas meter sampling systems (Trains A and B durational sample trains, Train C first hour emissions train and Train D room background train. Each of these system trains were arranged identically and in accordance with Section 6 of ASTM E2515. The only exception is the pressure drop through an orifice on the exhaust end of each meter were monitored with a manometer to aid in detecting and responding to changes in the sample flow rates during operation as well as being used to account for internal meter pressures.

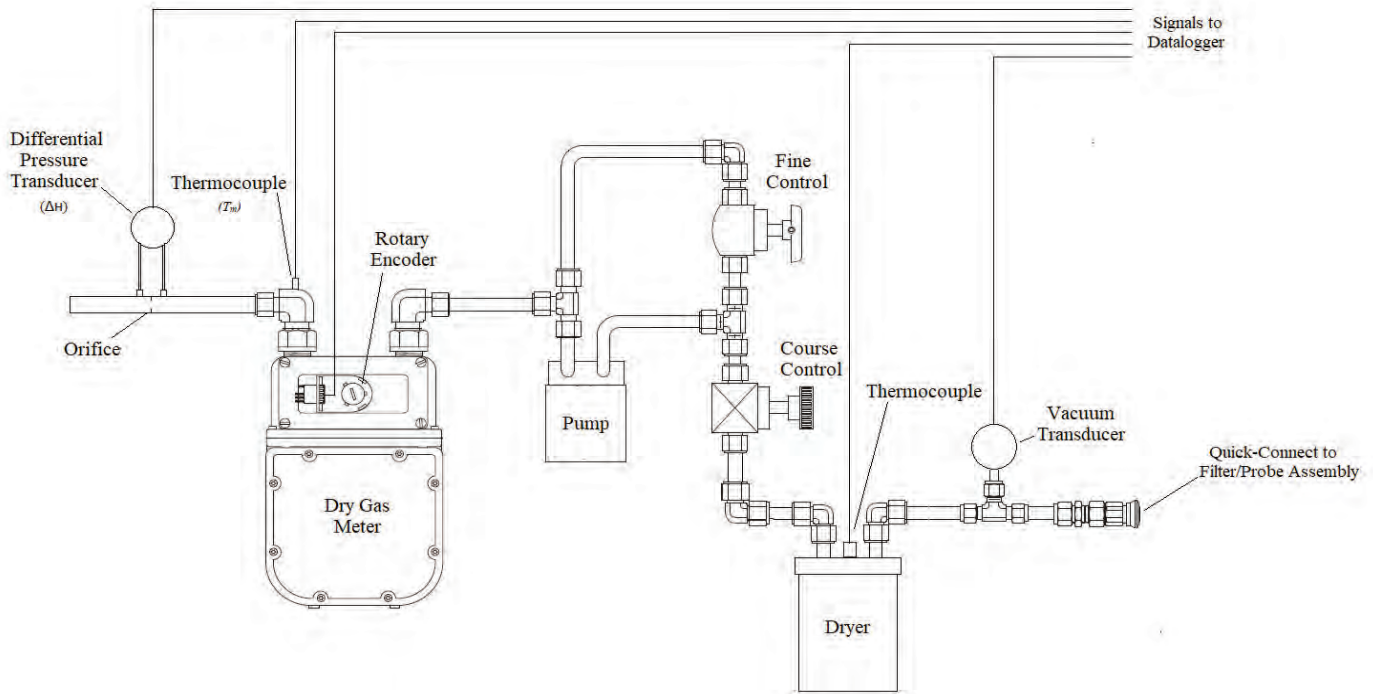


Figure 16 - Sampling System (typical) Used At OMNI-Test Laboratories

2.7 Particulate Sampling Probes and Filters

The probes used were 1/4" OD stainless steel. The probe holders used were aluminum, the O-ring seals used were 47mm x 3mm diameter Viton and the filters used were PALL A/E glass Fiber, 1μm, 47mm diameter.

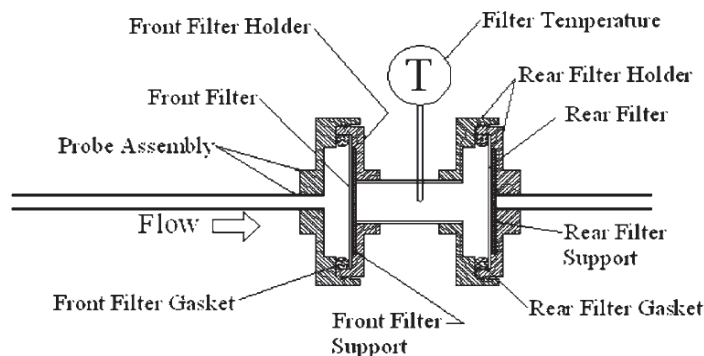


Figure 17 - Sample Probe Assembly as specified in ASTM E2515-11

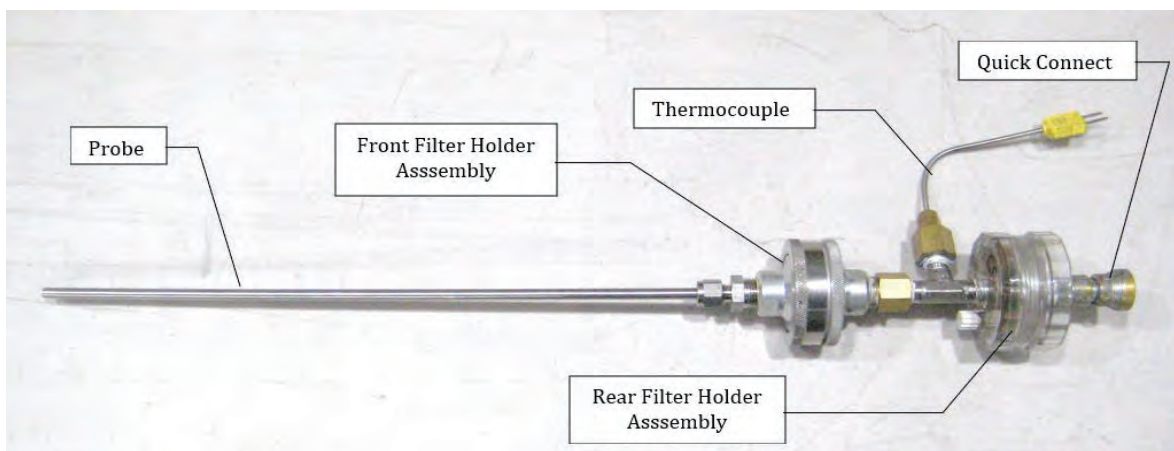


Figure 18 - Sample Probe used by OMNI

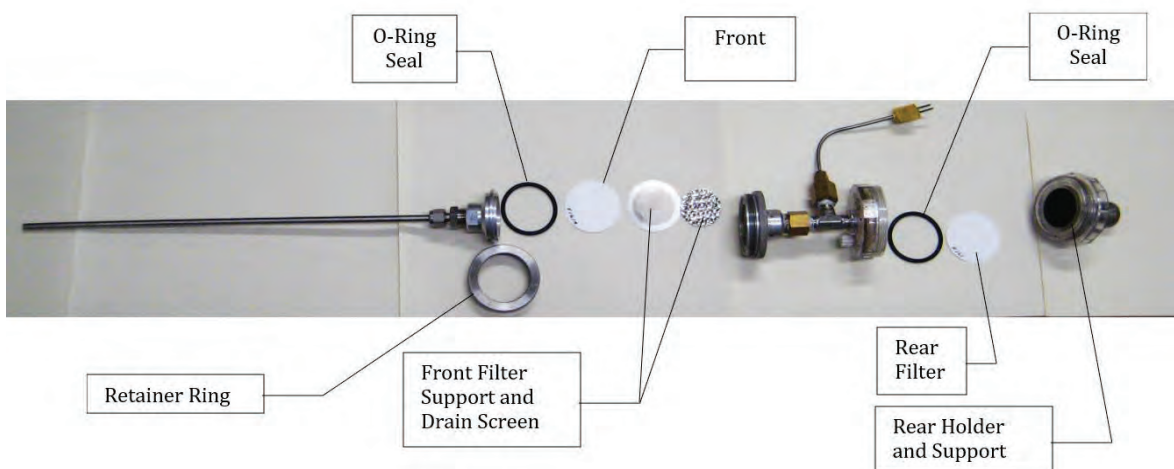


Figure 19 - Exploded View of Sample Probe Assembly used by OMNI

Clause 6.1.1 of ASTM E2515-11 requires that the filter face velocity shall not exceed 150 mm/sec (30 ft/sec). The O-ring seal covers a narrow portion of the perimeter of the filter thus reducing its effective diameter from 47mm to 43mm. The area used in subsequent calculations of the filter face velocity is therefore based on 43mm diameter.



Figure 20 - Effective facial area of sample filter (file photo, not from the evaluation in this report)

2.8 Flue Gas Sampling Equipment

Carbon dioxide (CO_2) and carbon monoxide (CO) concentration measurements of the flue gases are required by CSA B415.1 to determine stack loss based efficiencies. Oxygen measurements are not taken as CSA B415.1 calculates oxygen empirically using mass-balance equations based upon the measured CO_2 and CO concentrations.

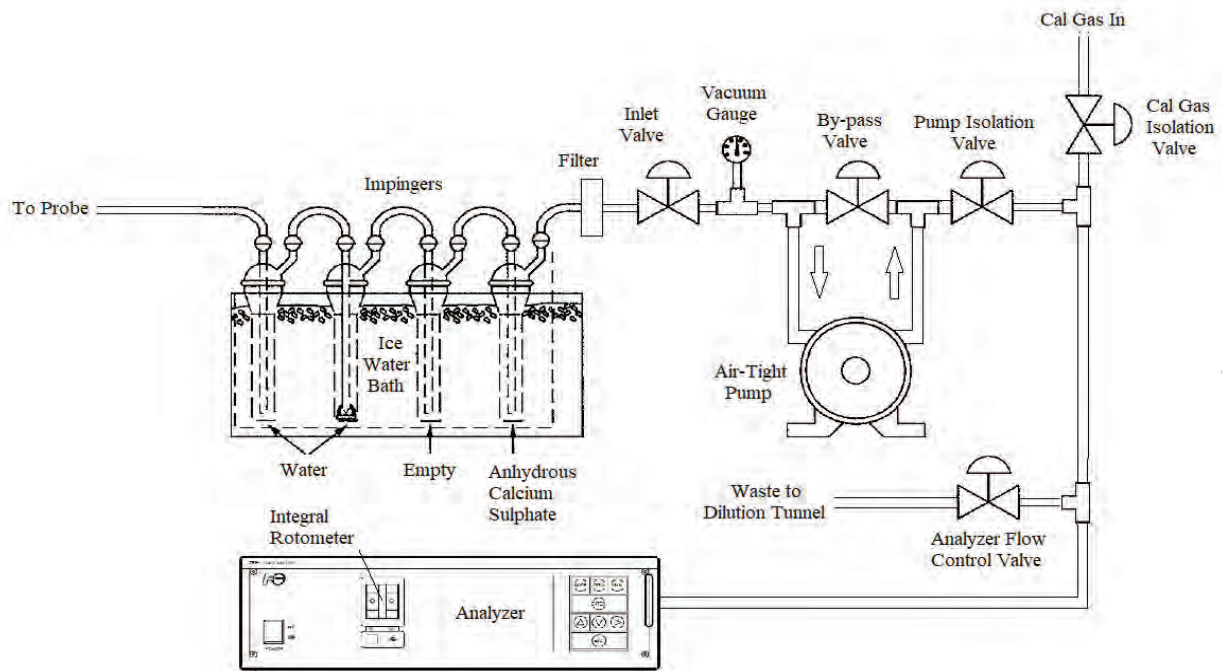


Figure 21 - Flue Gas Measurement System

2.9 Gravimetric Analysis Equipment

All taring of filters, Probes and O-Ring seals take place in a dedicated room for this purpose with ample facility for the preparation and handling of tared reagents as well as post-test processing. Upon test program completion, all filters are placed in plastic petri dishes, marked and stored for a period of 6 months.



Figure 22 - Analytical Scale and Desiccator

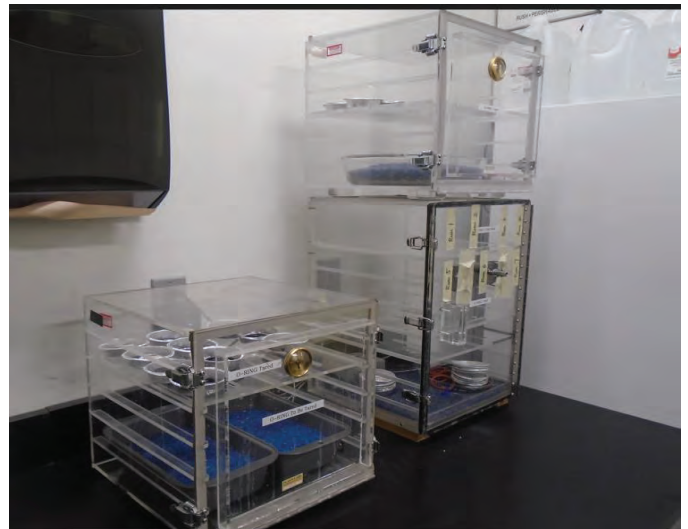


Figure 23 - Additional Desiccators

2.10 Test Fuel Acquisition

The fuel used for this test series was provided by the manufacturer and sent to OMNI at the same time as the appliance. The fuel species was Maple and the manufacturer had procured a laboratory analysis that was used for calorific values and elemental composition for use by CSA B415.1 (See Appendix D). This fuel supply was abundant enough to complete the entire test series. Few pieces were devoid of bark due to loosening with drying and handling, however the majority had retained their bark. The fuel was of good quality and devoid of any decay, moss or fungi.



Figure 24 - Typical bins of supplied fuel

2.11 Specific Manufacturer's Written Operating Instructions

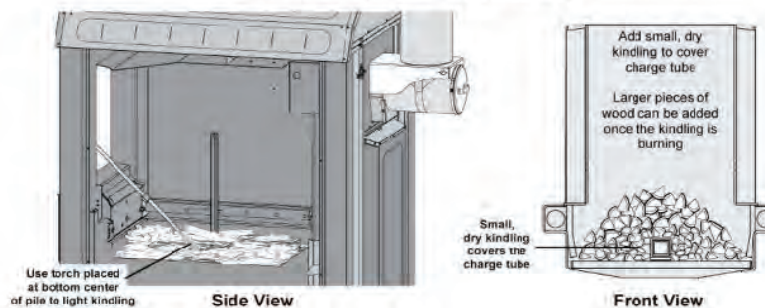
Classic Edge and CleanFire Operation Guide

The Following Information can be Found in your Owner's Manual

Cold Start Initial Fire Up with Dry Kindling

Open the firebox door and add small, dry kindling to cover the charge tube. Smaller kindling is preferred. It should be staggered and able to ignite and burn quickly for the initial fire. The intent is to make sure the combustion air will be able to flow past the charge tube and into the Reaction Chamber.

Initial Fire Up with Dry Kindling



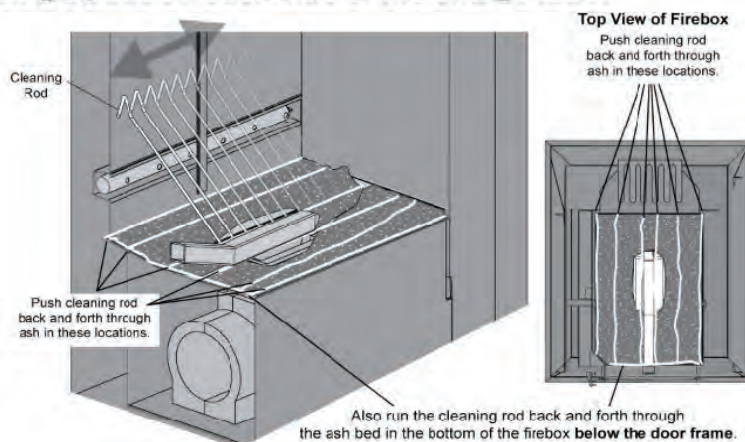
Wood Selection and Preparation

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 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.

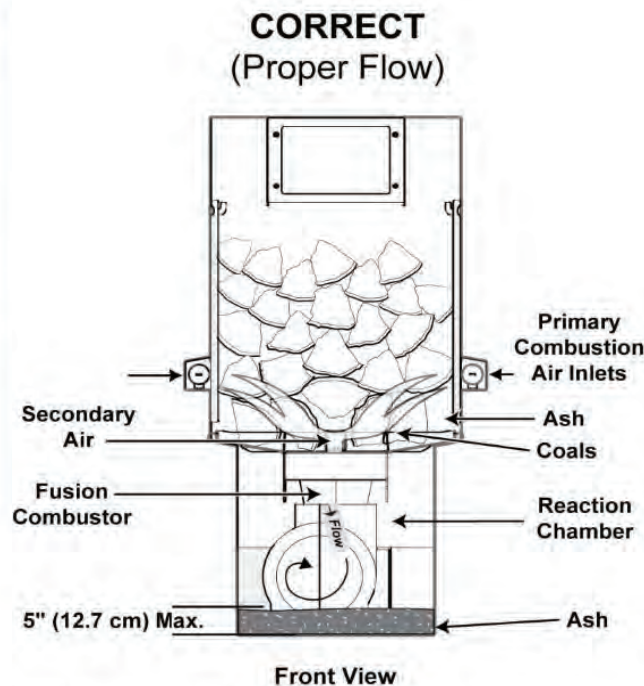
Stirring the Coal Bed

While it is important to not pack the charge tube with coals, it is equally important to bust up the coal bed and break down larger coals. When doing this, you must 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 charge tube.



Combustion Gas Flow

A key point to remember about the operation of the Classic Edge and CleanFire 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 below:





Classic Edge 760.1 & CleanFire 700.1



Pre-burn Schedule

Btu/hr. draw at Max. capacity

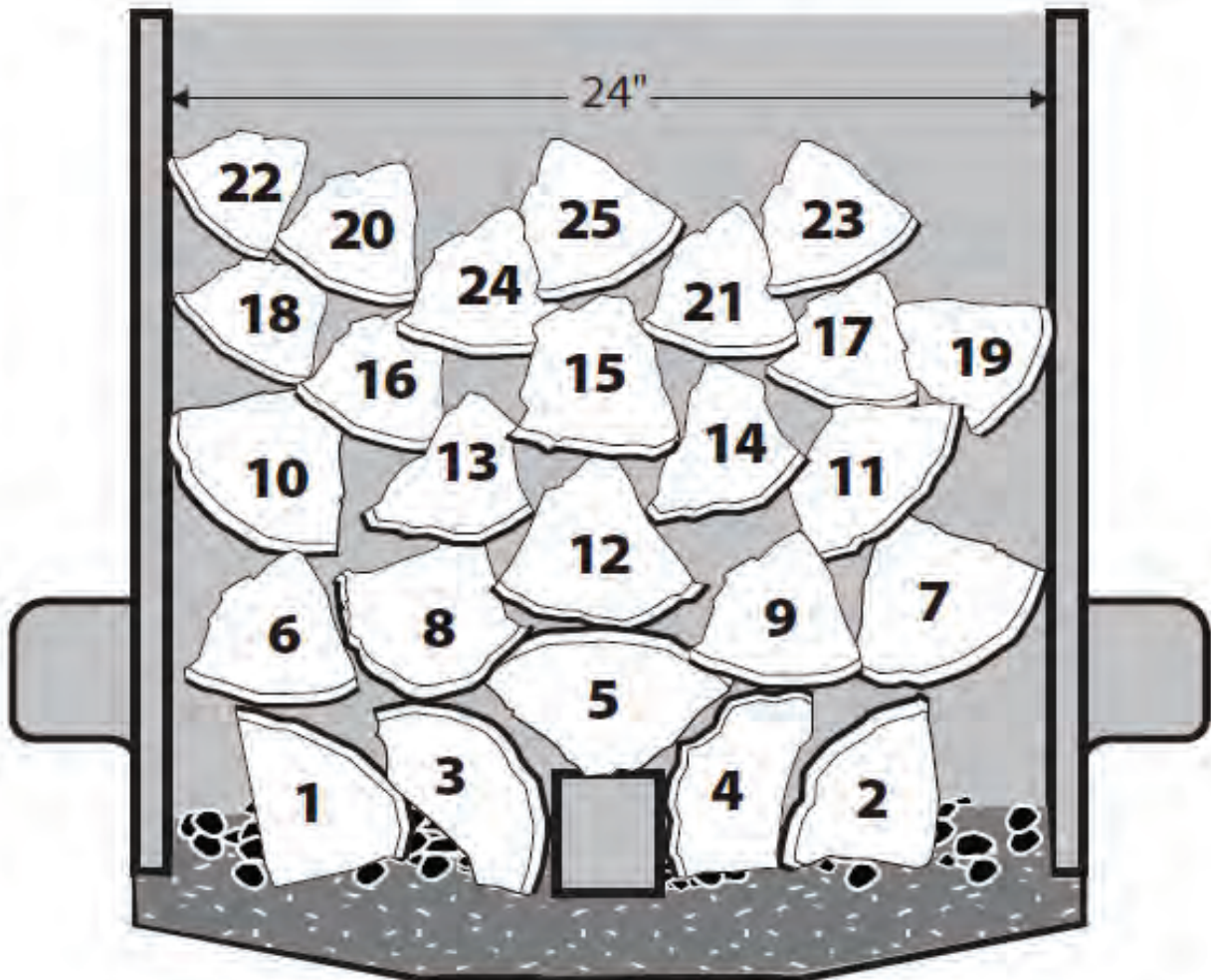
- 0.0 lb. Add approx. 30 lb. of charcoal and/or small wood from previous burn
- 30 lb. total
- Add approx. 50 lb. of small wood at a scale reading of approx. 25 lb.
- 80 lb. total
- Add approx. 50 lb. of small wood at a scale reading of approx. 50 lb.
- 130 lb. total
- Add approx. 50 lb. of small wood at a scale reading of approx. 60 lb.
- 180 lb. total
- Add approx. 50 lb. of small wood at a scale reading of approx. 65 lb.
- 230 lb. total
- Add approx. 50 lb. of small wood at a scale reading of approx. 65 lb.
- 280 lb. total
- At scale reading of 65 lb. add remaining preburn approx. 35 lb. of small wood, and set heat draw to category
- 315 lb. total
- At a scale reading of approx. 57-55 lb. Burn ~5 lb. before preparing to load at 52-50 lb. of coal bed. (52.8 max)

Note: When stirring the coal bed, only fluff the top layer. Stirring the entire coal bed can cause the area around the charge tube to become packed with coals, resulting in poor combustion.

Example Wood Load

Classic Edge 760.1/CleanFire 700.1

Volume = 22.09 ft³



Load Density = 12 lb/ft³

Test Fuel Charge = 12 lb/ft³ x 22.09ft³ ≈ 265 lb

NOTE: "All test loads must follow Test Fuel Charge instruction/specifications as outlined in ASTM E2618-19 Section 12.2.3 and Table 2 and Figure 2"

Pre-burn Weight = ±10% Test Fuel Charge

3. Test Results

3.1 - Test Result Tables

Table 1 - Particulate Emissions and Delivered Heat Output, Sorted by load category

Run No.	Date	Heat Input Q _{IN} Btu (HHV)	Heat Input Q _{IN} Btu (LHV)	Heat Output Q _{OUT} Btu	HHV Efficiency η _{DEL} , %	LHV Efficiency η _{DEL} , %	Uncorrected ¹		Corrected ²		Test Duration θ, min
							ASTM E2515 Emissions (g/hr.)	Emissions Rate, Lb./MMBtu Output)	ASTM E2515 Emissions (g/hr.)	Emissions Rate, Lb./MMBtu Output)	
1	2/24/2025	1829712	1697616	1525346	83.4	89.9	7.25	0.063	7.25	0.063	360
2	2/25/2025	1825870	1693402	1449467	79.4	85.6	1.78	0.031	1.78	0.031	694
3	2/26/2025	1875421	1740025	1515889	80.8	87.1	1.19	0.046	1.19	0.046	1579
4	2/27/2025	1800695	1670694	1363358	75.7	81.6	1.01	0.067	1.01	0.067	2460
Averages		1832925	1700434	1463515	79.8	86.0	2.81	0.052	2.81	0.052	1273

Table 2 - Burn-Rate Categories

Manufacture's Stated Max Output Rate:				245000	Btu/hr.
Run No.	Burn-Rate Category	Load Heat Output* (Btu/hr.)	Load Percentage (% of Max**)		
1	IV	243,056	99.21		
2	III	119,149	48.63		
3	II	56,514	23.07		
4	I	32,411	13.23		

*Represents heat output to load water only

**Maximum Manufacturer's Stated Rating

Table 3 - Particulate Emissions, g/hr., First Hour

Run No.	Uncorrected ¹	Corrected ²
1	5.47	5.47
2	2.40	2.40
3	6.67	6.67
4	5.06	7.05

¹ Uncorrected refers to gravimetric analysis that takes negative filter weights as a negative value in cases where filter residue was transferred to (stuck to) O-ring gaskets to account for the mass transfer.

² Corrected refers to gravimetric analysis where negative filter weights are taken as zero, thus reporting a higher value by over-reporting of transferred filter material. The corrected values were added to OMNI's reporting in response to a request by the US EPA.

Table 4 - B415.1 Efficiency and CO Emissions

Run No.	Heat Output (Btu/hr.)	Efficiency (%)		CO Emissions			
		HHV	LHV	g/kg	g/MJ	g/hr.	g/min
1	256550	84.1	90.2	1.76	0.11	29.29	0.49
2	131350	83.2	89.2	9.00	0.56	77.65	1.29
3	59493	83.4	89.4	14.93	0.93	58.21	0.97
4	36488	83.0	89.0	23.79	1.49	57.14	0.95
Averages	120970	83.4	89.5	12.37	0.77	55.57	0.93

Table 5 - Test Facility Conditions

Run No.	Room Temperature, °F		Barometric Pressure, in Hg		Room Air Relative Humidity, %		Room Air Velocity, fpm	
	Before	After	Before	After	Before	After	Before	After
1	65	65	29.70	29.78	57	53	8	12
2	63	65	30.23	30.31	54	50	8	9
3	63	65	30.16	30.18	48	45	8	5
4	67	66	30.12	29.85	44	47	12	9

Table 6 - Preburn Test Fuel load description

Run No.	Number of Pieces	Pre-Test Fuel Weight, lb.	Pre-Test Moisture %, Dry Basis	Coal Bed Weight lb.
1	22	268.5	21.1	50.6
2	10	266.5	21.3	44.4
3	17	275.0	21.6	48.0
4	16	282.0	20.9	50.1

Table 7 - Test Fuel Properties

Run No.	Mass lb., Wet	Mass, lb. Dry	Moisture content %, wb	Moisture content %, db	Length In.	Loading Density lb./ft ³	Direction ¹ E/W or N/S
1	265.6	220.53	16.97	20.44	24	12.02	N/S
2	270.8	219.98	18.77	23.10	24	12.26	N/S
3	274.2	226.04	17.57	21.31	24	12.41	N/S
4	264.7	217.03	18.01	21.96	24	11.98	N/S

¹ "E/W" means "East-West", meaning the lengths of the fuel pieces ran from right-to-left within the firebox relative to the firebox door opening. "N/S" means "North-South", meaning the lengths of the fuel pieces ran from front-to-back within the firebox relative to the firebox door opening.

Table 8 - Dilution Tunnel Gas Measurements Summary

Run No.	Length of test, min	Velocity, ft/sec	Flow Rate, dscfm	Temperature °F
1	360	22.190	981.1	87.7
2	694	21.964	1010.5	75.8
3	1579	21.757	1006.0	71.3
4	2460	22.562	1038.5	70.5

Table 9 - ASTM E2618 Test Condition Summary

Category	Run No.	Load % Capacity	Load ¹ , Btu/hr.		% of Maximum ² Load	Test Duration, min	Wood Weight as fired, lb.	Wood Moisture, % db	British thermal units		
			Target	Actual					Input LHV	Heat Input HHV	Heat Output ³
I	4	< 15 % of max	< 36750	32411	13.23	2460	264.7	21.96	1670694	1800695	1363358
II	3	16 - 24 % of max	39200 - 58800	56514	23.07	1579	274.2	21.31	1740025	1875421	1515889
III	2	25 - 50 % of max	61250 - 122500	119149	48.63	694	270.8	23.10	1693402	1825170	1449467
IV	1	Max Capacity	245000	243056	99.21	360	265.6	20.44	1697616	1829712	1525346

¹ Refers to sum of interval measurements of heat taken away by heat exchanger

² Maximum means manufacturer's maximum stated rating

³ Total heat output means heat taken by heat exchange plus heat gains or losses of appliance and water mass over course of test.

Table 10 - ASTM E2618 Test Results Summary Table

Category	Run No.	Load Capacity, %	Min Return Water Temp, °F	Particulate Emissions					Delivered Efficiency (HHV)	SLM Efficiency (HHV)
				Total, g	lb./MMBtu Output	g/MJ Output	g/hr.	g/kg		
I	4	< 15 % of max	157.6	41.61	0.067	0.0289	1.01	0.42	75.7	83.0
II	3	16 - 24 % of max	156.3	31.44	0.046	0.0197	1.19	0.31	80.8	83.4
III	2	25 - 50 % of max	140.7	20.60	0.031	0.0135	1.78	0.21	79.4	83.2
IV	1	Max Capacity	121.7	43.53	0.063	0.0270	7.25	0.44	83.4	84.1
Averages			144.1	34.30	0.052	0.022	2.81	0.35	79.825	83.425

¹ Load refers sum of interval measurements of heat taken away by heat exchanger

Table 11 - Year-Round Use Weighting

Category	Weighting Factor (F _i)	LHV $\eta_{del,i} \times F_i$	HHV $\eta_{del,i} \times F_i$	SLM (LHV) Efficiency x F _i (%)	SLM (HHV) Efficiency x F _i (%)	E _{g/MJ,i} x F _i	E _{g/kg,i} x F _i	E _{lb/MMBtu Out,i} x F _i	E _{g/hr,i} x F _i
I	0.437	35.661	33.087	38.893	36.271	0.013	0.184	0.029	0.441
II	0.238	20.734	19.237	21.277	19.849	0.005	0.074	0.011	0.283
III	0.275	23.539	21.831	24.530	22.880	0.004	0.058	0.009	0.490
IV	0.05	4.493	4.168	4.510	4.205	0.001	0.022	0.003	0.363
Totals	1	84.427	78.323	89.210	83.205	0.022	0.337	0.052	1.577

Table 12 - Heating Season Weighting

Category	Weighting Factor (F _i)	LHV $\eta_{del,i} \times F_i$	HHV $\eta_{del,i} \times F_i$	SLM (LHV) Efficiency x F _i (%)	SLM (HHV) Efficiency x F _i (%)	E _{g/MJ,i} x F _i	E _{g/kg,i} x F _i	E _{lb/MMBtu Out,i} x F _i	E _{g/hr,i} x F _i
I	0.175	14.281	13.250	15.575	14.525	0.005	0.074	0.012	0.177
II	0.275	23.958	22.228	24.585	22.935	0.005	0.085	0.013	0.327
III	0.45	38.518	35.723	40.140	37.440	0.006	0.095	0.014	0.801
IV	0.1	8.985	8.337	9.020	8.410	0.003	0.044	0.006	0.725
Totals	1	85.741	79.538	89.320	83.310	0.019	0.297	0.045	2.030

Table 13 – Year Round Use Weighting – Carbon Monoxide Emission

Category	Weighting Factor (F_i)	Rate (g/hr.), Unweighted	Rate (g/hr.) x F_i	Rate (g/min), Unweighted	Rate (g/min) x F_i
I	0.437	57.14	24.97	0.95	0.42
II	0.238	58.21	13.85	0.97	0.23
III	0.275	77.65	21.35	1.29	0.36
IV	0.05	29.29	1.46	0.49	0.02
Totals	1	222.29	61.64	3.70	1.03

Table 14 – Heating Season Weighting - Carbon Monoxide Emission Rates

Category	Weighting Factor (F_i)	Rate (g/hr.), Unweighted	Rate (g/hr.) x F_i	Rate (g/min), Unweighted	Rate (g/min) x F_i
I	0.175	57.14	10.00	0.95	0.17
II	0.275	58.21	16.01	0.97	0.27
III	0.45	77.65	34.94	1.29	0.58
IV	0.1	29.29	2.93	0.49	0.05
Totals	1	222.29	63.88	3.7048333	1.06

4. Discussion

4.1 The Test Series - Started February 24, 2025

The plan for this test series required a minimum of 4 test runs:

- * A load demand within $\pm 10\%$ of manufacturer's stated capacity (Category IV)
- * A load demand of 25-50% of manufacturer's stated capacity (Category III)
- * A load demand of 16-24% of manufacturer's stated capacity (Category II)
- * A load demand of less than 15% of the manufacturer's stated capacity (Category I)

The tests were performed in descending order of load demand (Category IV to Category I). No additional tests were required. The dilution tunnel was partially dismantled and cleaned on February 19, 2025 in advance of the test series.

For the first test of this series, a large kindling fire with scrap fuel was created within the cold appliance and allowed to burn somewhat robustly with the intent of driving out any moisture mass that may have accumulated in the appliance refractory materials and to pre-heat system to some degree. All coals and ashes were removed from the appliance and the scale re-zeroed. Subsequent tests did not require any cold-start kindling as the heat and readily ignitable coals remaining from the previous test was sufficient to light the newly added pre-burn charges. Before each pre-burn all coals and ash were removed, the scale re-zeroed, then sufficient coals added back to provide ignition of the preburn.

For the preburn fuel for all of the tests, nominal 24 -inch length pieces of fuel were randomly selected and measured for moisture content and weight. When a suitable mass of preburn fuel was produced, some of the larger ones were further split. Typical preburn charges weighed nominally 270 lbs. ($\pm 10\%$) and were administered to the appliance in 35-45 lb. doses. Splitting the larger pieces into smaller ones and administering in partial doses ensured a more even and uniform coal bed at the end of the preburn with minimal stirring. The load placed upon the appliance during the entire last hour of each preburn was at the target load draw for the respective test category to be performed.



Figure 25 - Typical Pre-Burn Pieces (partial load)

OMNI personnel present and participating in the testing were Riley Tiegs and Ken Morgan. The length of the tests and over-lapping of personnel schedules resulted in multiple signatures in the written notes.

Manufacturer representatives Mark Reese, Justin Voecks and Kohl Zak were present for the majority of the test program departing on 02/27/24. Their presence was to inspect the initial set-up and to observe the tests that were performed.

The manufacturer's written instructions were that of what is contained within the owner's manual, a guide for preburn activities and a generalized visual representation of how the test load should appear within the firebox when loaded . The automatic nature of the appliance once a fire has been established required no further instruction.

Notes concerning CSA B415.1 "Stack Loss Method" versus delivered efficiencies

ASTM E2618-13, clause 13.4.5.1 requires; *"Whenever the overall efficiency (SLM) is found to be lower than the delivered efficiency (del), as determined by Eq 20 of this method, 14.1.7 of the test report must include a discussion of the reasons for this result. "*

In this test series, the none of the overall (SLM) efficiencies were lower than the delivered efficiencies.

Table 15 - SLM (HHV) vs. Delivered Efficiencies,

Run No.	Category	SLM	Del	Difference
1	IV	83.0	75.7	7.3
2	III	83.4	80.8	2.6
3	II	83.2	79.4	3.8
4	I	84.1	83.8	0.3

The CSA -provided spreadsheet only allows entry of 980 intervals of data. Run 3 data was input in 2 -minute intervals and run 4 was entered in 3 -minute intervals as these tests well exceeded 980 minutes.

4.2 - Individual Test Run Narratives

Run 1 - February 24, 2025, Target 100% Manufacturer's Rated Capacity

Preburn

Prior to commencement of the pre-burn, the appliance was cold from being freshly filled with facility water (approximately 55° F.), and a fire was created within the appliance using scrap pieces of fuel and with no load applied in order to heat the water and steel of the appliance more quickly. The appliance side pump was active during this time to internally distribute the heat evenly. The appliance was fired with scrap fuel for some time, then the remaining coals and ash were removed and the scale re-zeroed. During the preceding warming-up of the appliance, a suitable fuel load weighing 268.5 lb. was produced. Once the scale was zeroed, 7.5 lb. of active coals from the warm-up were placed back into the fire chamber and 65 lb. of the pre-burn charge was added. Each time the pre-burn charge had burned-down to approximately 40 pounds, an additional 40-60 pound batch was added. This was repeated until the last batch of the preburn fuel had been added.

Preburn Activities		
Time	Activity	Fuel, Subtotal, lb.
11:41	Coals scooped, scale zeroed	0.0
11:44	7.5 lb. coals added to appliance	7.5
11:45	65 lb. fuel added	72.5
12:24	41.5 lb. fuel added	114.0
13:09	43.5 lb. fuel added	157.5
14:08	45.5 lb. fuel added	203.0
14:10	Draft probe inserted	N/A
15:09	65.5 lb. fuel added	268.5

The target category for this test was a category IV, therefore the load placed upon the unit was the maximum for the duration of the pre-burn. The only constraint with regard to the maximum load imposed on the boiler was to keep the boiler return temperature above 120° F as required by ASTM E2618 clause 12.2.9. The average load for the last hour of the preburn was 251,403 Btu/hr. with an average boiler return temperature of 127.5° F. It could be seen during the pre-burn that the boiler return temperature was trending downward slowly. By the end of the subsequent sampling portion of the test, the minimum boiler return temperature recorded was 121.7°, so this proved to be the maximum load that could be imposed on the boiler under laboratory conditions with respect to clause 12.2.9 of ASTM E2618.

The load output-rate for the last 60 minutes of the pre-burn was 251,403 Btu/hr. and the coal bed was 50.6 pounds.

Other activities during the pre-burn included preparation of the test fuel charge, assembly and leak-checking of the sampling probes, calibration of the continuous gas analyzers and velocity traverse measurements were made. Just before the end of the preburn, a calibration check of the water flow meter was conducted. Upon completion of the pre-burn, the remaining coals were raked and leveled and the platform scale was zeroed.

Run 1 - Sampling portion of test

Upon completion of the pre-burn and zeroing of the platform scale, the appliance was loaded and initiation of the sampling pumps were done simultaneously.

Sampling portion Start-up Procedures

- Bypass: Not used (Not needed, coals fully volatized)
- Fuel Loading: Fuel completely loaded by 95 seconds.
- Door: Fuel loading door closed at 105 seconds.



Figure 26 - Run 1 - Test Fuel



Figure 27- Run 1 - Freshly Loaded Appliance

At exactly one hour from the start of sampling, the first-hour (Sample Train C) was stopped and a leak check was immediately performed on it. The test continued without incident until it ended with zero mass remaining on the scale at 360 minutes from the start of the sampling portion of this test with a resultant load heat output rate of 243,056 Btu/hr. The target was a Category IV and the manufacturer's rated maximum heat output is 245,000 Btu/hr. ASTM E2618, clause 12.2.10 "Heat Output Capacity Validation" requires that a Category IV burn-rate be the first test in the series and that it must produce a heat output rate that is within 10% of the manufacturer's rated heat output capacity. This tested heat output was within 0.79 % of the rated manufacture's rated capacity and therefore qualifies as the Category IV test for this test series.

Upon completion of the sampling portion of the test, all remaining sampling trains (A, B and ambient background) were leak-checked. Other tasks performed were (but not limited to) leak checking of pitot tube, recording of environmental conditions, post-test verification of water flow meter, post-test verification of continuous gas analyzers and placement of disassembled sample probe elements in desiccator.

This test occurred without any anomalies. A review of all of the data indicates that no measurements or parameters specified in ASTM E2515 or ASTM E2618 were outside their respective specifications. This test run is considered valid and appropriate for inclusion in the test series.

Run 2 - Category III - February 25, 2025

Preburn

Prior to commencement of the pre-burn, all coals and ashes were removed and the scale was zeroed. Sufficient coals were added back to the appliance to assist in ignition of the preburn charge. Over the next 4 hours, the remainder of the preburn was added to the appliance in approximately 45 to 50 lb. batches at a time.

Preburn Activities		
Time	Activity	Fuel Added subtotal
5:30	Appliance emptied, scale	0.0
5:30	Added 17.5 lb. coal	17.5
5:30	Added 25.5 lb. Fuel	43.0
6:16	Added 37.5 lb. fuel	80.5
6:34	Added 43.0 lb. fuel	123.5
7:20	Added 48.0 lb. fuel	171.5
8:18	Added 49.0 lb. fuel	220.5
9:11	Added 18.0 lb. fuel	238.5
9:26	added 28 lb. fuel	266.5

The load output-rate for the last 60 minutes of the pre-burn was 120,625 Btu/hr. and the coal bed was 44.4 pounds.

Other activities during the pre-burn included preparation of the test fuel charge, assembly and leak-checking of the sampling probes, calibration of the continuous gas analyzers and velocity traverse measurements were made. Just before the end of the preburn, a calibration check of the water flow meter was conducted. Upon completion of the pre-burn, the remaining coals were raked and leveled and the platform scale was zeroed.

Run 2 - Sampling portion of test

Upon completion of the pre-burn and zeroing of the platform scale, the appliance was loaded and initiation of the sampling pumps were done simultaneously.

Sampling portion Start-up Procedures

Bypass: Not used (Not needed, coals fully volatized)
Fuel Loading: 85 seconds
Door Closed: 95 seconds



Figure 28 - Run 2 - Test Fuel



Figure 29 - Run 2 - Freshly Loaded Appliance

At exactly one hour from the start of sampling, the first-hour (Sample Train C) was stopped and a leak check was immediately performed on it. The test continued without incident until it ended with zero mass remaining on the scale at 694 minutes from the start of the test and a resulting load heat output rate of 119,149 Btu/hr. The target was a Category III which ASTM E2618, clause 4.3.3 defines as "A heat output of 25 to 50% of the manufacturer's Rated Heat Output Capacity". This test was performed at 48.63% of the manufacturer's rated heat output capacity and therefore qualifies as the Category III test for this test series.

Upon completion of the sampling portion of the test, all remaining sampling trains (A, B and ambient background) were leak-checked. Other tasks performed were (but not limited to) leak checking of pitot tube, recording of environmental conditions, post-test verification of water flow meter, post-test verification of continuous gas analyzers and placement of disassembled sample probe elements in desiccator.

This test occurred without any anomalies. A review of all of the data indicates that no measurements or parameters specified in ASTM E2515 or ASTM E2618 were outside their respective specifications. This test run is considered valid and appropriate for inclusion in the test series.

Run 3 - Category II - February 26, 2025

Preburn

Prior to commencement of the pre-burn, all coals and ashes were removed and the scale was zeroed. Sufficient coals were added back to the appliance to assist in ignition of the preburn charge. Over the next 4 hours the remainder of the preburn was added to the appliance in approximately 55 lb. batches at a time.

Preburn Activities		
Time	Activity	Fuel Added subtotal
5:22	Coals removed, scale zeroed	0.0
5:22	Added 18.5 lb. coals	18.5
5:22	Added 16.5 lb. fuel	35.0
5:49	Added 60.0 lb. fuel	95.0
6:29	Added 55.0 lb. fuel	150.0
7:36	Added 55.5 lb. fuel	205.5
8:40	Added 69.5 lb. fuel	275.0
9:50	Stirred coal bed	N/A

The load output-rate for the last 60 minutes of the pre-burn was 56,788 Btu/hr. and the coal bed was 48.0 pounds.

Other activities during the pre-burn included preparation of the test fuel charge, assembly and leak-checking of the sampling probes, calibration of the continuous gas analyzers and velocity traverse measurements were made. Just before the end of the preburn, a calibration check of the water flow meter was conducted. Upon completion of the pre-burn, the remaining coals were raked and leveled and the platform scale was zeroed.

Run 3 - Sampling portion of Test

Upon completion of the pre-burn and zeroing of the platform scale, the appliance was loaded and initiation of the sampling pumps were done simultaneously.

Bypass: Not used (Not needed as coals were fully volatized)
Fuel Loading: 110 sec.
Door Closed: 120 sec.



Figure 30 - Run 3 - Test Fuel



Figure 31 - Run 3 Freshly Loaded Appliance

At exactly one hour from the start of sampling, the first-hour (Sample Train C) was stopped and a leak check was immediately performed on it. The test continued without incident until it ended with zero mass remaining on the scale at 1579 minutes from the start of the test and a resulting load heat output rate of 56,514 Btu/hr. The target was a Category II which ASTM E2618, clause 4.3.2 defines as "A heat output of 16 to 24% of the manufacturer's Rated Heat Output Capacity". This test was performed at 23.07% of the manufacturer's rated heat output capacity and therefore qualifies as the Category II test for this test series.

Upon completion of the sampling portion of the test, all remaining sampling trains (A, B and ambient background) were leak-checked. Other tasks performed were (but not limited to) leak checking of pitot tube, recording of environmental conditions, post-test verification of water flow meter, post-test verification of continuous gas analyzers and placement of disassembled sample probe elements in desiccator.

This test occurred without any anomalies. A review of all of the data indicates that no measurements or parameters specified in ASTM E2515 or ASTM E2618 were outside their respective specifications. This test run is considered valid and appropriate for inclusion in the test series.

Run 4 - Category I - February 27, 2025

Preburn

Prior to commencement of the pre-burn, all coals and ashes were removed and the scale was zeroed. Sufficient coals were added back to the appliance to assist in ignition of the preburn charge. Over the next 4.5 hours the remainder of the preburn was added to the appliance in approximately 45 lb. batches at a time.

Preburn Activities		
Time	Activity	Fuel Added subtotal
13:42	Emptied appliance, zeroed scale	0.0
13:42	Added 14.5 lb. live coals	14.5
13:42	Added 57.0 lb. Fuel	71.5
14:15	Added 41.5 lb. Fuel	113.0
15:05	Added 47.0 lb. fuel	160.0
16:08	Added 48.0 lb. Fuel	208.0
17:11	Added 39.0 lb., fuel	247.0
17:41	Added 35.0 lb. Fuel	282.0
18:15	Stirred	N/A

The load output-rate for the last 60 minutes of the pre-burn was 33,291 Btu/hr. and the coal bed was 50.1 pounds.

Other activities during the pre-burn included preparation of the test fuel charge, assembly and leak-checking of the sampling probes, calibration of the continuous gas analyzers and velocity traverse measurements were made. Just before the end of the preburn, a calibration check of the water flow meter was conducted. Upon completion of the pre-burn, the remaining coals were raked and leveled and the platform scale was zeroed.

Run 4 - Sampling portion of Test

Upon completion of the pre-burn and zeroing of the platform scale, the appliance was loaded and initiation of the sampling pumps were done simultaneously.

Bypass: Not used (Not needed as coals were fully volatized)
Fuel Loading: 100 seconds
Door Closed: 106 seconds



Figure 32 - Run 4 - Test Fuel



Figure 33 - Run 4 - Loaded Stove

At exactly one hour from the start of sampling, the first-hour (Sample Train C) was stopped and a leak check was immediately performed on it. The test continued without incident until it ended with zero mass remaining on the scale at 2460 minutes from the start of the test and a resulting load heat output rate of 32,411 Btu/hr. The target was a Category I which ASTM E2618, clause 4.3.1 defines as "A heat output of 15% or less of the manufacturer's Rated Heat Output Capacity". This test was performed at 13.23% of the manufacturer's rated heat output capacity and therefore qualifies as the Category I test for this test series.

Upon completion of the sampling portion of the test, all remaining sampling trains (A, B and ambient background) were leak-checked. Other tasks performed were (but not limited to) leak checking of pitot tube, recording of environmental conditions, post-test verification of water flow meter, post-test verification of continuous gas analyzers and placement of disassembled sample probe elements in desiccator.

This test occurred without any anomalies. A review of all of the data indicates that no measurements or parameters specified in ASTM E2515 or ASTM E2618 were outside their respective specifications. This test run is considered valid and appropriate for inclusion in the test series.

5. Test Data by Run

The data presented in this section is arranged as follows:

1. Test Run 1 as follows:
 - a. Run 1 Cover Page
 - b. Emissions Test Results
 - c. CSA B415 Results and Data
 - d. Test Fuel Properties
 - e. Velocity Traverse and Supplemental Data
 - f. Pre-Burn Data
 - g. Sample Train A and Dilution Tunnel Data
 - h. Sample Train B and Appliance Temperature Data
 - i. Sample Train C (First Hour) Data
 - j. Sample Train D (Background) and Flue Gas Data
 - k. Water Flow and Temperature Data
 - l. Gravimetric Analysis
 - m. Hand-Written Notes
 - n. Equations and Calculations
2. Subsequent test runs in the same format as above
3. Reagent Tares
4. Water Flow Sensor Verifications

Run 1 Test Data

Test Date: 2/24/2025
Manufacturer: Central Boiler
Model Classic Edge 760.1

Contents, in the following order:

- Emissions Test Results
- CSA B415 Results and Data
- Test Fuel Properties
- Velocity Traverse / Supplemental Data Worksheet
- Test Pre-Burn Data
- Sample Train A / Dilution Tunnel Data
- Sample Train B Data
- Sample Train C (First Hour) Data
- Sample Train D (Background) / Flue Gas Data
- Water Flow Data
- Gravimetric Lab Analysis
- Test Lab Notes
 - Appliance Operation Notes
 - Velocity Traverse / Supplemental Data Notes
 - Test Fuel Notes
 - Gravimetric Analysis Notes
 - Supplemental Hand-Written Notes
- Equations and Calculations

Particulate Emissions and Delivered Efficiency Test Results

ASTM E2618 / ASTM E2515



Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Project No.: 0117WB044E
 Tracking No.: 2501
 Run: 1
 Test Date: 02/24/25

Quick View Summary	
lb./MMBtu	0.063
Delivered Efficiency %	83.4
PM 2.5 Emission Rate, g/hr.	7.25
PM 2.5 Emission Factor, g/kg	0.44

Particulate Emissions and Heat Output

Heat Input, Q_{IN} Btu	Heat Output Q_{OUT} Btu	Delivered Efficiency %	Uncorrected ¹		Corrected ²	
			ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)	ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)
1829712	1525346	83.4	7.25	0.063	7.25	0.063

Burn Rate, dry kg/hr	16.67
Emission Rate, E_g /MJ	0.027
Load Heat Output Rate, Btu/hr	243056

	Avg. of Trains A and B		First Hour	
	Uncorrected	Corrected	Uncorrected	Corrected
Total Emissions - E_T , g	43.53	43.53	5.47	5.47
Emission Rate, g/hr	7.25	7.25	5.47	5.47
Emissions Factor, g/kg	0.44	0.44	n/a	n/a

Fuel and Appliance Parameters

Wet Fuel Mass	265.6	lb.
Duration of test	360	min
Higher Heating Value (HHV) of Fuel	8297	Btu
Lower Heating Value (LHV) of Fuel	7698	Btu
TI_{avg} - Average Temperature of Appliance at Start of Test:	131.2	°F
TF_{avg} - Average Temperature of Appliance at End of Test:	153.8	°F
MC_{Ave} - Average Moisture of Fuel, dry-basis:	20.44	%

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Dilution Tunnel Flow Parameters

	First Hour	Duration of Test
Average Tunnel Temperature, °F	87.5	87.7
Average Tunnel Gas Velocity (vs), feet/second	22.233	22.190
Average Tunnel Gas Flow Rate(Qsd)	DSCF/hr	58922.6
	DSCF/min	58871.8
Average Delta p, in. H2O	0.111	0.110
Tunnel Static Pressure, in. H2O	-0.300	-0.300
Total Time of Test, Min	60	360

Particulate Sample Parameters - Uncorrected

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V_m), ft ³	56.354	57.372	58.029	9.553
Average Gas Meter Temperature, °F	76	89	87	71
Total Sample Volume (V_{mstd}), DSCF	55.710	55.616	57.199	9.510
Total Particulates (mn), mg - m_n	0.1	7.1	7.0	0.9
Particulate Concentration ($C_s - C_r$), g/DSCF	0.00000	0.00013	0.00012	0.00009
Total Particulate Emissions (ET), grams	n/a	44.46	42.59	5.47
Particulate Emission Rate, g/hr	n/a	7.41	7.10	5.47
Emissions Factor, g/kg	n/a	0.44	0.43	n/a
Difference, ET from Average ET, grams	n/a	0.93	-0.93	n/a

Particulate Sample Parameters - Corrected for any negative filter weights

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V_m), ft ³	56.354	57.372	58.029	9.553
Average Gas Meter Temperature, °F	76	89	87	71
Total Sample Volume (V_{mstd}), DSCF	55.710	55.616	57.199	9.510
Total Particulates (mn), mg - m_n	0.1	7.1	7.0	0.9
Particulate Concentration ($C_s - C_r$), g/DSCF	0.00000	0.00013	0.00012	0.00009
Total Particulate Emissions (ET), grams	n/a	44.46	42.59	5.47
Particulate Emission Rate, g/hr	n/a	7.41	7.10	5.47
Emissions Factor, g/kg	n/a	0.44	0.43	n/a
Difference, ET from Average ET, grams	n/a	0.93	-0.93	n/a

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Test Methodology Specifications Quality Checks

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	Train 1	Train 2	
Filter Temperature, °F	< 90	72	70	69	✓
Filter face velocity, fpm	< 30	8.62	8.73	8.78	✓
Dryer Exit, °F	< 80	61	60	59	✓
Tunnel Velocity, fpm	>800	1,334	1,331		✓
First Hour Leakage Rate	0.006	0.002			✓
Train A Leakage Rate	0.006		0.000		✓
Train B Leakage Rate	0.006			0.000	✓

Leakage Rate Limits (cfm) are < 4% of average sample rate or < 0.01 cfm, which ever is less

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	A	B	
Negative Probe Weight	=> 0	0	0	0	✓
Pro-Rate Variation	< 90 for < 10% of θ	0.00%	0.28%	0.00%	✓
	> 110 for < 10% of θ	0.00%	0.00%	0.00%	✓
	# Readings < 80%	0	0	0	✓
	# Readings > 120%	0	0	0	✓
Room Temp, °F (min)	> 55		64.1		✓
Room Temp, °F (max)	< 90		66		✓
Dual Train Precision	(1) < 7.5%		2.14%		✓
1 or 2 must conform	(2) < 0.5 g/kg		0.02		
Room Air Velocity	< 50 fpm		12		✓
Preburn Min. Weight	239.0		268.5		✓
Preburn Max. Weight	292.2				✓
Min. Coal Bed Weight	26.6		50.6		✓
Max. Coal Bed Weight	53.1				✓

CSA B415.1-11 Efficiency Results

Manufacturer Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 1
Test Date: 2/24/2025

Efficiency results reported herein are based on a stack-loss method in accordance with CSA B415.1:22 "Performance testing of solid-biofuel-burning heating appliance". OMNI uses the spreadsheet provided by CSA that is to be used in conjunction with the current version of the test standard. The most recent version of the software is version 2.4, dated April 15, 2010. OMNI received confirmation from CSA on October 18, 2023 that this is the current version of the software.

Stack Loss Efficiency

Manufacturer: Central Boiler
Model: Edge 760.1
Date: 02/24/25
Run: 1
Control #: 2495
Test Duration: 360
Output Category: IV

Technicians: R. Tiegs, J McShane, K. Morgan

Test Results in Accordance with CSA B415.1-10

	HHV Basis	LHV Basis
Overall Efficiency	84.1%	90.2%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	85%	90.6%

Output Rate (kJ/h)	270,449	256,550	(Btu/h)
Burn Rate (kg/h)	16.68	36.75	(lb/h)
Input (kJ/h)	321,618	305,089	(Btu/h)

Test Load Weight (dry kg)	100.06	220.53	dry lb
MC wet (%)	16.97		
MC dry (%)	20.44		
Particulate (g)	43.53		
CO (g)	176		
Test Duration (h)	6.00		

Emissions	Particulate	CO
g/MJ Output	0.03	0.11
g/kg Dry Fuel	0.44	1.76
g/h	7.26	29.29
lb/MM Btu Output	0.06	0.25

Air/Fuel Ratio (A/F)	7.59
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VERSION:

2.4

4/15/2010

VERSION: 2.4

4/15/2010

Manufacturer: Central Boiler

Model: Edge 760.1

Date: 2/24/2025

Run: 1

Control #: 2495

Test Duration: 360

Output Category: IV

Appliance Type: Non Cat (Cat, Non

Temp. Units F (F or C)

Weight Units lb (kg or lb)

Fuel Data

Maple

HHV 19,286 kJ/kg

%C 49.85

%H 6.02

%O 43.6

%Ash 0.53

Wood Moisture (% wet): 16.97

Load Weight (lb wet): 265.60

Burn Rate (dry kg/h): 16.67

Total Particulate Emissions: 43.53 g

Averages

0.02

16.12

#DIV/0!

279.44

65.11

Temp. (°F)

Elapsed
Time (min)Fuel Weight
Remaining (lb)Flue Gas Composition (%)
CO CO₂ O₂Flue
GasRoom
Temp

0	265.60	0.02	14.63		243.8	64.5
1	265.00	0.25	2.43		221.0	64.7
2	264.50	0.16	2.15		215.6	65.0
3	263.07	0.06	14.81		240.9	64.8
4	262.10	0.03	14.00		252.6	65.1
5	261.00	0.03	15.06		248.9	65.4
6	260.56	0.02	15.93		246.4	65.0
7	260.67	0.03	16.25		245.6	65.0
8	259.04	0.01	14.44		241.4	64.8
9	259.19	0.02	16.09		243.4	64.7
10	258.71	0.01	14.67		240.6	65.0
11	258.04	0.02	16.41		237.8	65.1
12	256.68	0.02	15.66		240.3	64.8
13	256.04	0.02	15.97		241.6	64.9
14	255.69	0.01	15.77		242.5	65.0
15	255.50	0.01	15.34		242.4	65.1
16	254.38	0.01	15.18		241.7	64.9
17	253.68	0.01	15.19		242.0	64.8
18	253.54	0.01	15.32		243.3	64.7
19	252.46	0.01	15.49		244.1	64.7
20	251.30	0.01	15.38		244.8	65.1
21	250.45	0.01	15.29		245.4	65.1
22	250.67	0.01	15.28		245.5	64.6
23	249.68	0.01	15.25		245.9	64.5
24	249.02	0.01	15.19		246.1	64.4

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
25	248.26	0.01	15.07		246.1	64.8
26	247.10	0.02	15.01		245.3	65.2
27	246.44	0.02	15.01		244.8	64.8
28	245.68	0.01	15.00		245.5	65.2
29	245.26	0.02	15.43		246.5	65.4
30	243.97	0.01	15.51		247.4	65.1
31	243.22	0.01	15.61		251.0	65.1
32	242.57	0.03	14.83		263.1	65.3
33	241.64	0.03	14.81		268.4	65.4
34	241.42	0.04	14.67		270.6	65.0
35	240.26	0.03	14.61		271.0	65.1
36	239.57	0.04	14.46		269.8	64.7
37	238.62	0.04	14.24		267.7	65.2
38	238.41	0.03	14.04		265.3	65.1
39	238.08	0.03	13.80		264.4	65.7
40	236.96	0.03	13.82		264.3	65.2
41	236.53	0.01	13.77		264.0	65.1
42	235.33	0.02	13.65		263.3	65.5
43	234.32	0.02	13.52		263.0	65.5
44	234.50	0.02	13.44		262.4	65.5
45	232.79	0.02	13.67		263.4	65.7
46	232.90	0.01	13.66		263.0	65.5
47	231.61	0.01	13.85		265.2	65.3
48	231.30	0.01	14.06		266.4	65.6
49	230.99	0.016	13.54		265.1	65.4
50	230.29	0.016	13.595		266	65.5
51	229.25	0.016	13.711		268	65.5
52	228.59	0.015	13.918		270.4	65
53	227.90	0.01	13.989		273.3	65.6
54	227.57	0.008	14.261		276	65.4
55	226.75	0.012	14.044		275	65.5
56	225.88	0.013	14.077		276.3	65.3
57	224.87	0.003	14.482		277.1	64.9
58	224.41	0.017	14.262		277	65.4
59	222.99	-0.002	14.434		277.9	65.6
60	223.13	0.009	14.55		278.4	65.6
61	221.92	0.007	14.623		277.2	65.5
62	220.57	0.009	14.745		277.2	65.3
63	220.56	0.008	14.757		278.1	65.4
64	219.96	0.008	14.675		279.3	65.4
65	219.48	0.01	14.93		280.5	65.4
66	218.70	0.013	14.77		276.9	64.9

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
67	217.97	0.011	16.145		269.2	65.1
68	217.25	0.02	14.637		276.3	65.6
69	216.53	0.012	15.928		269.4	64.9
70	215.03	0.013	15.252		268.7	65.3
71	214.20	0.005	16.022		263.8	65.3
72	213.94	0.01	15.025		270.2	65.1
73	213.50	0.012	16.238		264.5	64.7
74	212.82	0.009	15.414		265.2	65.1
75	211.18	0.01	16.29		262.1	64.9
76	210.84	0.014	16.359		261.5	65.1
77	210.88	0.015	16.293		261	64.9
78	209.89	0.009	16.18		261.2	64.8
79	208.66	0.003	16.225		261.1	64.8
80	208.61	0.007	17.052		260.7	64.7
81	207.64	0.011	17.032		260.5	64.8
82	206.82	0.009	16.984		261	65
83	206.09	0.008	17.171		261.1	65
84	205.82	0.004	17.072		261.8	64.4
85	204.21	0.011	17.21		262.3	64.4
86	204.54	0.001	17.12		262.9	64.7
87	202.99	0.005	17.211		263.3	64.8
88	203.01	0.007	17.339		263.2	64.6
89	201.36	0.011	17.206		263.1	64.5
90	201.39	0.007	17.024		262.8	64.7
91	200.36	0.016	16.836		262.9	65.1
92	199.55	0.012	16.719		264	64.8
93	199.25	0.005	16.791		264.4	65.1
94	197.79	0.01	16.598		264.2	64.7
95	197.88	0.011	16.426		263.8	64.7
96	196.63	0.002	16.331		263.7	64.6
97	196.02	0.008	15.99		270.8	64.7
98	195.72	0.012	15.892		272.2	65
99	194.52	0.001	16.191		268.6	64.7
100	193.65	-0.003	15.94		273.9	64.7
101	193.46	0.006	16.117		269.6	65.2
102	193.01	0.003	16.539		268.6	65.2
103	191.78	0.007	17.387		269.2	65.2
104	190.74	0.013	17.917		269.7	64.9
105	189.67	0.006	17.683		269.3	65.1
106	188.83	0.016	17.913		268.7	65.3
107	188.08	0.012	17.539		268.9	65.2
108	187.33	0.013	18.346		269.5	65.2

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
109	186.61	0.017	18.382		265.4	65.1
110	186.24	0.013	18.056		268	65.6
111	185.70	0.021	18.274		263.3	65.3
112	185.00	0.013	17.853		267.2	65.4
113	184.67	0.025	18.673		260.9	65.5
114	183.93	0.015	18.268		267.6	65.7
115	182.89	-0.003	16.182		264.6	65
116	181.72	0.007	18.73		259.3	65.2
117	181.01	0.008	18.272		266.2	65.3
118	180.93	-0.006	16.434		264	65.1
119	179.61	0.01	17.732		261.7	65.4
120	179.15	0.004	18.294		266.3	65.5
121	178.43	0.008	17.55		266.5	65.5
122	177.90	-0.005	16.204		266	65.2
123	176.44	0.008	17.871		263.4	65.2
124	176.22	0.01	18.443		265.5	65.3
125	175.47	0.072	18.017		266.3	65.2
126	174.62	0.012	18.413		264.3	65
127	173.35	0.013	18.531		270	65.1
128	172.84	0.006	17.879		268.5	65.4
129	173.01	0.026	18.834		266.1	65.6
130	171.88	0.021	18.481		270.6	65.3
131	170.58	0.024	16.556		268.3	65.2
132	170.25	0.02	18.582		264.9	65.2
133	169.49	0.01	17.338		273	65.6
134	168.30	-0.006	14.746		270.1	65.7
135	168.24	0.007	17.222		275.2	65.1
136	167.56	0.003	15.076		273	65.2
137	166.15	0.007	17.153		276.5	65.3
138	165.36	0.012	17.185		278.4	65.4
139	164.59	0.003	14.986		275.3	65.7
140	164.17	0.012	17.343		278.5	65.6
141	163.45	0.01	17.059		279.5	65.2
142	162.89	0.007	17.011		280.1	65.4
143	162.25	0.007	17.189		280.4	65.6
144	161.47	0.006	17.526		276.4	65.4
145	160.60	0.004	17.473		279.2	65.2
146	159.89	-0.004	15.219		277	65.1
147	159.04	0.009	17.694		277.7	65.3
148	157.98	0.003	17.53		278.9	65.4
149	157.27	-0.001	15.562		278.2	64.9
150	156.44	0.013	17.469		280.5	65.5

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
151	155.76	-0.008	15.291		277.3	65.2
152	155.24	0.006	17.529		274.2	65
153	154.61	0.006	17.351		278.7	64.6
154	153.75	-0.001	15.75		276.7	64.9
155	152.40	0.001	16.786		272.6	64.5
156	151.66	0.006	17.338		278	64.5
157	151.47	0.003	17.488		276.4	64.5
158	151.06	0.006	17.45		278	64.7
159	149.42	0.002	15.52		275.4	64.6
160	149.39	0.005	15.919		273.6	64.6
161	148.68	0.022	17.418		277.7	64.9
162	147.32	0.012	16.544		276.2	64.1
163	147.25	0.008	17.296		279.5	64.4
164	145.96	0.002	14.692		276.7	64.8
165	146.04	0.016	17.089		276.7	64.9
166	144.35	0.01	16.731		278.9	64.6
167	144.36	0.01	17.011		280	64.6
168	142.98	0.021	16.65		278.6	64.8
169	143.12	0.018	16.898		280.7	64.9
170	141.56	0.016	17.061		282.4	64.8
171	141.29	0.01	14.731		278.6	64.7
172	140.66	0.021	16.743		281.5	64.7
173	139.23	0.023	16.541		282.8	65
174	139.12	0.027	16.395		283.3	64.9
175	138.54	0.027	16.475		283.5	64.5
176	137.11	0.018	16.502		284.2	65
177	136.60	0.031	16.418		284.8	64.8
178	136.57	0.028	16.41		284.4	65
179	135.15	0.03	16.621		284.2	64.8
180	134.36	0.024	16.47		284.4	65
181	134.11	0.033	16.444		284.6	65.1
182	133.21	0.033	16.638		284.8	64.8
183	132.33	0.027	17.283		282.9	65.1
184	131.74	0.019	16.78		282.2	64.7
185	131.27	0.021	17.072		276.7	64.7
186	130.08	0.011	16.822		281.6	64.8
187	129.31	0.001	14.783		277.6	64.8
188	129.36	0.017	17.095		282.3	64.9
189	128.05	-0.002	14.373		278.1	64.6
190	127.07	0.017	17.001		282.5	64.7
191	127.16	0.005	15.178		279.1	64.8
192	126.20	0.015	16.859		282.5	65

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
193	124.89	0.022	17.445		279.7	65.2
194	124.72	0.016	16.426		282.5	65
195	124.18	0.028	17.162		285.8	65
196	122.66	0.011	15.813		282.6	64.7
197	122.06	0.018	16.805		285.5	64.9
198	122.17	0.024	16.946		283.5	65.2
199	120.47	0.019	16.69		286	64.9
200	119.93	0.014	16.607		280.6	64.8
201	119.73	0.014	16.317		284.4	64.7
202	118.01	0.009	16.173		285.8	64.9
203	117.98	0.014	16.124		286.9	65
204	117.04	0.006	16.011		287	64.8
205	116.41	0.008	16.066		287.5	64.9
206	115.54	0.007	16.05		287.7	64.9
207	114.67	0.006	16.084		287.8	65.2
208	113.96	0.009	16.1		288	65
209	113.81	0.006	15.956		288	64.9
210	112.12	0.013	15.869		287.8	65.1
211	111.36	0.007	15.759		287.3	65.2
212	111.00	0.014	16.009		286.9	65.2
213	110.45	0.012	16.052		286.9	65.3
214	109.63	0.018	16.373		287.2	65.2
215	108.43	0.026	16.355		287.5	65.3
216	107.71	0.017	16.331		287.5	64.7
217	106.96	0.011	16.144		287.4	65.2
218	106.33	0.009	16.023		286.8	65
219	105.46	0.027	16.432		290.4	65
220	104.73	0.024	16.571		290.9	65
221	103.83	0.012	16.287		288.5	65.1
222	103.09	0.012	16.328		287.8	65.1
223	102.12	0.018	16.406		288.2	64.9
224	100.94	0.028	16.695		288.8	64.9
225	100.30	0.018	16.394		288.7	65.4
226	99.65	0.017	17.378		289.6	65.1
227	99.07	0.021	17.751		289	65.2
228	98.28	0.06	17.664		287.8	65.4
229	97.63	0.016	17.353		290.2	65.1
230	97.07	0.033	17.444		291.4	65.1
231	96.17	0.03	16.983		291.3	65.2
232	95.35	0.044	16.892		291.3	65.2
233	94.42	0.049	16.775		291.1	65.2
234	93.34	0.054	16.743		291.1	65.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
235	92.13	0.043	16.696		291.6	65.1
236	91.13	0.032	16.505		291.5	64.9
237	90.91	0.023	16.317		291.6	64.9
238	90.14	0.035	16.453		291.6	65.7
239	88.70	0.022	16.323		291.5	65.3
240	88.53	0.021	16.048		290.9	65.3
241	88.02	0.022	15.966		290.3	65.2
242	86.41	0.033	15.918		289.9	65.1
243	85.99	0.057	16.185		293.2	64.8
244	85.41	0.034	16.239		293.4	65
245	83.92	0.015	16.172		291	65
246	83.59	0.028	15.999		290	65.2
247	83.25	0.042	16.023		295.3	65.4
248	81.82	0.018	15.617		294.9	65.3
249	80.59	0.039	16.398		292.3	65
250	80.36	0.031	16.183		290.3	65.4
251	79.87	0.023	15.753		294.4	65
252	78.29	0.021	15.857		296.4	65.2
253	77.71	0.023	15.89		296.5	64.9
254	77.71	0.005	15.598		296.9	65.3
255	76.31	0.02	15.658		294.5	65.1
256	75.45	0	15.758		291	65.1
257	75.25	0.01	15.702		293.8	65.1
258	73.78	0.014	15.806		296.1	65.3
259	73.74	0.013	15.642		296.3	64.9
260	72.62	0.007	14.871		295.1	65.5
261	71.48	0.012	15.311		298.6	65.5
262	71.18	0.007	15.509		294.6	65.3
263	70.61	0.016	15.755		295.7	65.2
264	69.97	0.006	15.644		297.7	65.8
265	69.26	0.007	15.879		292.2	65.4
266	68.51	0.019	15.807		295.2	65.4
267	67.04	0.024	15.692		299.8	65.3
268	66.12	0.039	15.646		297.8	65.8
269	65.59	0.026	15.686		299	65.6
270	65.09	0.045	15.77		299.4	65.1
271	64.60	0.011	15.964		293.5	65.3
272	63.60	0.033	15.837		294	65.2
273	62.41	0.031	16.293		295.6	65.1
274	61.39	0.018	16.094		292.1	65.3
275	60.75	0.021	15.748		290.3	65.3
276	60.16	0.031	15.823		292.4	65.2

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
277	59.43	0.056	16.036		295.6	65.6
278	58.81	0.033	15.971		292.3	65.4
279	58.20	0.028	15.868		296.7	65.2
280	57.41	0.036	15.631		292.5	65.7
281	56.66	0.027	15.863		293.4	65.9
282	55.44	0.086	19.014		292.5	65.4
283	54.68	0.056	17.705		291.9	65.9
284	53.86	0.035	17.432		289.4	65.5
285	53.23	0.029	17.69		292.2	65.3
286	52.86	0.039	17.671		292.4	65.5
287	51.90	0.034	18.082		293.8	65.5
288	50.16	0.058	18.496		293.3	65.3
289	49.76	0.035	17.635		291.7	65.3
290	48.94	0.037	17.521		293.2	65.2
291	47.76	0.048	17.524		293.7	65.4
292	47.63	0.024	17.403		292.7	65.3
293	45.87	0.032	17.302		292.5	65.2
294	45.66	0.028	17.555		292.7	65.4
295	44.86	0.034	17.684		293.4	65.7
296	43.53	0.026	17.201		293.1	65.4
297	42.57	0.031	16.781		292.3	65.4
298	41.93	0.029	16.549		292	65.6
299	41.21	0.028	16.668		291.6	65
300	40.49	0.022	16.458		290.9	65.1
301	39.55	0.023	16.338		290.3	65.5
302	38.78	0.018	16.292		293.4	65.4
303	38.57	0.02	16.357		293.3	65.3
304	37.97	0.016	16.582		292.4	65.2
305	36.55	0.011	16.544		292	65.2
306	35.59	0.011	16.288		295.3	65.3
307	35.45	0.017	16.193		294.2	65.2
308	34.86	0.006	15.965		300.2	65.1
309	33.55	0.009	16.325		295.1	65.6
310	32.71	0.002	16.301		298.6	65.5
311	32.36	0.004	16.003		297.2	65.3
312	31.31	-0.005	16.54		301.6	65.1
313	30.28	0.002	16.838		295.2	65.7
314	30.49	0.01	15.647		299.7	65.6
315	28.88	0	16.897		297.2	66
316	28.60	-0.003	16.203		294	65.3
317	27.78	-0.001	15.723		292.4	65.3
318	27.29	0.01	17.37		293.4	65.5

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
319	25.71	-0.002	16.855		292.6	65.7
320	25.14	0.008	16.552		291.9	65.5
321	25.20	-0.001	16.251		291.5	65.3
322	24.04	0.001	16.145		290.8	65.7
323	23.27	0.002	16.129		292.3	65.7
324	22.32	-0.006	16.48		291.9	65.3
325	21.74	-0.004	16.503		291.8	65.7
326	21.39	0.002	16.649		291.8	65.5
327	21.01	0.008	16.587		291.8	65.3
328	20.06	-0.006	16.546		291.2	65.6
329	18.78	-0.003	16.199		290.9	65.5
330	18.13	-0.005	16.286		290.6	65.2
331	17.36	-0.001	16.168		289.7	65.3
332	17.06	-0.002	16.112		289.9	65.1
333	16.50	-0.003	16.506		290.5	65.2
334	16.22	-0.003	16.074		290.4	65.3
335	14.70	0.006	15.69		298.7	65.4
336	14.19	0.004	15.684		301.1	65.4
337	14.13	0.006	15.673		305.7	65.3
338	12.87	0.002	15.839		302.5	64.9
339	12.46	0.003	15.74		302.9	65.4
340	12.16	0.002	15.683		305.9	64.7
341	10.83	0	15.726		307.7	64.8
342	10.05	-0.001	15.695		307.2	64.9
343	9.74	0.005	15.63		305.9	65.2
344	9.35	-0.001	15.555		309.5	64.7
345	8.39	0.003	15.558		307.8	64.7
346	7.61	0.003	15.92		298.5	64.7
347	7.51	0.001	15.747		304.1	64.9
348	6.83	0.002	15.798		303.2	64.4
349	5.92	0.001	15.737		302.9	64.6
350	5.56	-0.004	15.95		299.6	64.8
351	5.23	0.002	15.821		301.6	64.8
352	3.80	0.004	15.734		301.6	64.9
353	3.87	0.013	15.667		304.9	64.3
354	3.50	0.002	15.484		306.8	64.5
355	2.72	-0.001	15.264		309.4	64.7
356	1.98	0.008	15.365		311.3	64.6
357	1.33	0.003	15.316		312.5	64.5
358	1.15	0.005	15.232		313.3	64.8
359	0.03	0.014	15.179		313.1	64.6
360	0.00	0.007	15.041		308	64.6

Test Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
Model : Classic Edge 760.1
Tracking No. : 2501
Project No. : 0117WB044E
Test Date : 2/24/2025
Run No. : 1

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Firebox Volume : 22.090 ft³
Manufacturer's Recommended Loading Density 13
Ideal Fuel Weight : 287.17 lb.
Minimum Fuel Weight : 258.45 lb.
Maximum Fuel Weight : 315.89 lb.
Fuel Species : Maple

Fuel Piece Data

PC No.	Weight, Lb. (W _i)	Cross- Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	12.5	7.50	4.25	24.00	19.8	20.9	19.5	21.3	19.4	20.2	252.25
2	13.2	8.00	4.25	24.00	19.6	20.1	19.5	19.4	19.4	19.6	258.72
3	12.9	6.00	5.00	24.00	19.2	19.1	19.1	19.1	20.6	19.4	250.52
4	13.9	8.50	4.00	24.00	20.6	20.2	19.8	20.2	20.7	20.3	282.17
5	11.0	7.25	3.50	24.00	19.7	19.5	19.8	19.3	19.0	19.5	214.06
6	9.1	6.50	3.25	24.00	19.8	19.7	19.4	19.5	19.7	19.6	178.54
7	10.1	7.00	3.75	24.00	20.0	21.3	19.6	19.0	19.3	19.8	200.38
8	10.5	5.50	5.00	24.00	19.5	19.2	19.5	19.3	19.0	19.3	202.65
9	9.4	6.50	3.50	24.00	20.0	20.2	20.2	21.6	20.5	20.5	192.70
10	11.4	6.25	4.00	24.00	19.0	19.4	19.5	19.0	19.8	19.3	220.48
11	13.0	7.00	4.00	24.00	20.6	19.7	19.8	19.5	19.6	19.8	257.92
12	17.2	8.00	3.75	24.00	19.7	22.4	20.0	23.5	23.0	21.7	373.58
13	11.7	7.50	4.00	24.00	19.2	19.4	19.5	19.0	19.1	19.2	225.11
14	9.7	6.00	4.50	24.00	19.7	18.9	22.9	20.2	19.7	20.3	196.72
15	14.1	7.00	4.50	24.00	24.3	23.4	22.3	22.9	24.0	23.4	329.66
16	15.5	6.50	4.00	24.00	20.1	22.7	23.0	19.6	22.0	21.5	332.94
17	8.9	5.50	4.00	24.00	22.4	19.4	23.4	19.4	23.0	21.5	191.53
18	10.1	6.00	3.00	24.00	20.1	21.5	20.4	19.6	19.2	20.2	203.62
19	10.4	6.50	4.50	24.00	22.9	19.5	19.5	21.2	23.1	21.2	220.90
20	10.1	6.00	4.50	24.00	19.4	19.6	20.2	20.1	19.6	19.8	199.78
21	14.4	7.50	4.00	24.00	20.1	23.0	19.6	19.8	20.8	20.7	297.50
22	16.5	8.50	5.00	24.00	20.9	19.7	20.4	24.3	19.8	21.0	346.83
23											
24											
25											
26											
27											
28											
29											
30											
TOTAL	265.6										5428.55
Averages	12.07	6.86	4.10	24.00	20.30	20.40	20.31	20.31	20.47	20.36	246.75

Fuel Load Properties

Number of Pieces	Wet Weight, lb.	Dry Weight, lb.	Fuel Loading Density, lb/ft ³ Wet Basis	Fuel Loading Density, lb/ft ³ Dry Basis	Moisture, % dry basis (ΣW _i · MC _i) / ΣW _i	Moisture, % wet Basis
22	265.6	220.53	12.02	9.98	20.44	16.97

Compliance Checks, Loading Density and Moisture

	Fuel Load, Wet Lb.	Load Density, lb/ft ³ of FB vol	Number of moisture readings > 28%	Number of moisture readings < 18%	Average Fuel Moisture, % DB
Measured	265.6	12.02	0	0	20.47
Required	258.5 - 315.9	10 - 15	0	0	19 - 25
Complies ?	Yes	Yes	Yes	Yes	Yes

Compliance Checks, Fuel weights and Dimensions

	Cross Section of Individual Pieces		Minimum Piece Weight, Lb.	Maximum Piece Weight, Lb.
	Min	Max		
Measured	3.00	8.50	8.9	17.2
Required	3	12	8.8	26.5
Complies ?	Yes	Yes	Yes	Yes

Pre-Burn Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
 Model : Classic Edge 760.1
 Tracking No. : 2501
 Project No. : 0117WB044E
 Test Date : 2/24/2025
 Run No. : 1

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Average Moisture Content, % Dry Basis : 21.1
 Total Mass, lb. : 268.5

Piece No.	Moisture, db					Weight, lb.
	1	2	3	4	5	
1	21.3	21.9	21.2	20.6	21.8	11.6
2	19.5	19.5	19.1	19.1	19.5	10.1
3	21.0	20.2	20.2	20.2	20.9	10.8
4	19.5	20.1	19.0	19.7	19.4	10.5
5	19.7	19.2	19.2	19.0	20.1	12.5
6	20.4	20.1	20.0	20.1	20.2	15.3
7	20.1	20.2	20.0	20.6	20.1	13.9
8	24.2	24.3	22.1	24.0	25.0	13.0
9	21.2	21.3	20.9	20.5	22.1	24.6
10	25.0	22.3	19.5	21.0	25.7	23.1
11	21.6	20.9	21.6	20.8	20.2	18.4
12	19.2	20.0	20.5	18.6	19.7	21.0
13	20.0	24.6	22.7	24.8	24.1	11.9
14	20.0	21.0	20.2	20.1	20.2	8.9
15	19.5	21.2	19.2	19.7	18.5	14.8
16	25.5	20.9	21.0	19.6	20.7	14.4
17	25.1	25.0	25.7	26.1	24.1	12.0
18	20.9	19.8	21.5	20.8	19.1	17.4
19	19.3	19.0	19.4	20.2	20.6	12.2
20	19.2	19.4	19.1	19.2	20.0	9.1
21	24.0	22.9	20.6	21.7	20.4	12.5
22	22.7	19.5	25.7	26.0	23.9	18.8
Subtotal						316.8
The above pieces were measured for moisture content, weighed and then split into slightly smaller pieces to ensure uniform coal bed charcoalization and consistency.						
Mass of coals that were used as part of the preburn (+)						7.5
Mass of preburn charge ultimately not used (-)						55.8
Net mass of preburn used						268.5

Dilution Tunnel Velocity Traverse and Supplementary Data

ASTM E2515-11

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1

Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/24/2025

Dilution Tunnel Velocity Traverse

Pitot Location								
Traverse Point	% of Diameter	Inches into Tunnel	dP in. H ₂ O	Tunnel Temp, °F	dP ^{1/2}	Tunnel Static Pressure	-0.320	in. H ₂ O
X1	4.4	0.53	0.102	85	0.319	Tunnel Moisture	2.00	%
X2	14.6	1.75	0.114	84.1	0.338	Tunnel Diameter	12.00	inches
X3	29.6	3.55	0.112	85.4	0.335	Pitot Tube C _p	0.99	inches
X4	70.4	8.45	0.116	86	0.341	Tunnel Molecular Weight	29	(dry)
X5	85.4	10.25	0.110	85.9	0.332	Tunnel Molecular Weight	28.78	(M _s , wet)
X6	95.6	11.47	0.068	86.6	0.261	Tunnel Area	0.78539816	ft ²
Y1	4.4	0.53	0.104	86.6	0.322	K _p	85.49	constant
Y2	14.6	1.75	0.116	86.7	0.341	P _s =P _{bar} +Tunnel Static	29.6764706	in HG
Y3	29.6	3.55	0.114	87.1	0.338	$V_{strav} = K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 22.080$		
Y4	70.4	8.45	0.114	86.1	0.338			
Y5	85.4	10.25	0.108	85.2	0.329			
Y6	95.6	11.47	0.058	86.4	0.241	$V_{scent} = K_p C_p \sqrt{\Delta p_{center}} \sqrt{\frac{T_{s,center}}{P_s M_s}} = 22.398$		
Center	50.0	6.00	0.110	83.8	0.332			

* Probe location must be no closer than 0.50 in to tunnel wall

$$F_p = V_{strav} / V_{scent} = 0.986$$

$$\text{Initial Tunnel Velocity, } V_s = F_p K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 21.779877 \text{ ft/sec}$$

Supplementary Data and Information

Environment	Test Start	Test End
Time of Day	16:22	22:22
Barometric Pressure, in. Hg	29.70	29.78
Room Air Velocity, fpm	8	12
Room Air Temperature, °F	65	65
Room Relative Humidity, %	57.0	53.0
Platform Scale Audit, lb.	20.0	20.0

Leak Checks

Pitot and associated tubing, (pass/fail) ¹	pass	pass
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See sampling box worksheets for sampling boxes

Dilution Tunnel

Date last cleaned	2/19/2025	
Smoke Capture, % (visual) ²	100	
Draft Inducement, (pass/fail) ³	pass	
Static Pressure, in. H ₂ O	-0.300	-0.340

¹ Both sides (independently) of the pitot system are brought under a minimum vacuum of 3 in. H₂O and then sealed. Any indication of pressure loss is deemed a fail.

² Create a smoking condition during start of pre-burn activities and using adequate lighting pointed upward and around tunnel hood, visually observe if 100% of visible smoke is being captured by the hood. If not, increase flow tunnel flow and / or re-assess chimney proximity to draft hood as required and repeat until 100% capture is observed.

³ With the appliance installed and the dilution tunnel flow turned-off, observe the flue draft gauge while turning the dilution tunnel on. Any detectible response by the draft gauge associated with activation of the tunnel flow indicates that draft inducement is occurring. Determine the cause (i.e. flue chimney too deep into tunnel?) before continuing.

Preburn Data

ASTM E2618

Run: 1

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/24/25

Final Coal Bed Weight: 50.6 lb.
 Average Heat Output Rate Last One Hour, Btu/hr: 251403.4 Btu/hr.

Beginning Clock Time: 11:52
 Logging Intervqal, Min: 1

Coal Bed Range **26.6 53.1**
 (lb): (min) (max)

270		Appliance					Load										
Elapsed Time (Min)	Fuel Remaining (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σι, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
0	68.0	160.2	153.1	7.1	289.7	-0.001	56.3	160	103.6	2.443	1.0012	8.335	20.36	2112.7	126760	62.3	
1	67.7	160.8	153.3	7.6	279.6	-0.002	52.6	160	107.8	2.691	1.0012	8.339	22.44	2421.0	145257	62.3	
2	66.7	162.1	154.5	7.6	284.9	-0.004	51.7	162	110.1	2.691	1.0012	8.340	22.44	2474.8	148487	62	
3	65.1	162.3	154.5	7.8	282.4	-0.002	50.1	162	111.7	2.691	1.0012	8.341	22.45	2511.4	150683	62.3	
4	64.3	162.5	155.0	7.5	282.7	-0.002	49.8	162	112.3	2.650	1.0012	8.341	22.1	2486.1	149165	62.1	
5	64.0	162.6	154.8	7.8	286.2	-0.001	49.8	162	112.5	2.622	1.0012	8.341	21.87	2463.8	147825	62.2	
6	63.2	163.0	152.1	11.0	289.1	-0.003	49.8	162	112.6	3.091	1.0012	8.341	25.78	2907.9	174473	62.4	
7	62.2	163.2	149.4	13.8	292.5	0.002	49.5	162	112.4	4.471	1.0012	8.342	37.3	4198.9	251935	62.2	
8	61.3	163.4	149.5	13.8	291.8	-0.002	49.2	162	112.9	4.457	1.0012	8.342	37.18	4204.5	252273	62.2	
9	59.9	163.1	147.7	15.4	296.2	-0.003	49.2	161	112.3	4.816	1.0012	8.342	40.18	4517.4	271044	62.2	
10	59.5	163.2	147.7	15.5	286.1	0.002	49.0	161	112.4	4.968	1.0012	8.342	41.44	4665.9	279955	62.6	
11	58.5	162.7	147.3	15.5	298.9	-0.001	48.9	161	112.1	5.009	1.0012	8.342	41.79	4691.9	281512	62.5	
12	56.8	162.5	147.1	15.5	288	-0.003	48.9	161	112.0	4.996	1.0012	8.342	41.67	4672.7	280364	62.4	
13	56.4	162.3	146.9	15.4	296.3	-0.003	48.8	161	111.9	4.996	1.0012	8.342	41.67	4668.2	280091	62.5	
14	55.7	162.0	146.6	15.4	301.2	-0.001	48.8	160	111.5	5.009	1.0012	8.342	41.79	4666.7	280000	62.5	
15	54.7	161.9	146.5	15.5	301.5	-0.001	48.8	160	111.5	5.009	1.0012	8.342	41.79	4664.4	279866	62.5	
16	53.5	161.5	146.1	15.4	302.9	-0.001	48.8	160	111.1	5.009	1.0012	8.342	41.79	4647.8	278865	62.3	
17	53.0	161.3	145.9	15.4	290.2	-0.001	48.7	160	110.8	5.009	1.0012	8.342	41.79	4637.6	278259	62.4	
18	51.3	160.9	145.6	15.3	300.7	-0.002	48.7	159	110.5	5.023	1.0012	8.342	41.91	4636.9	278212	62.5	
19	51.5	160.7	145.3	15.5	287.9	-0.002	48.7	159	110.3	4.982	1.0012	8.342	41.56	4588.6	275319	62.3	
20	49.8	160.4	145.0	15.4	289.5	0	48.7	159	110.0	5.092	1.0012	8.342	42.48	4679.7	280785	62.5	
21	48.8	160.1	145.4	14.8	290.7	-0.001	48.6	159	110.0	4.899	1.0012	8.342	40.87	4500.2	270010	62.5	
22	48.3	159.8	144.3	15.5	297.4	0	48.7	158	109.4	5.037	1.0012	8.342	42.02	4602.7	276163	62.8	
23	47.7	159.6	144.2	15.4	299.7	-0.003	48.6	158	109.3	5.120	1.0012	8.342	42.71	4673.9	280432	62.6	
24	45.8	159.6	144.1	15.5	301.4	-0.001	48.6	158	109.2	5.120	1.0012	8.342	42.71	4670.1	280204	62.7	
25	45.2	159.4	143.9	15.5	301.4	0	48.5	157	108.9	5.134	1.0012	8.342	42.83	4671.1	280267	62.6	
26	44.6	159.6	144.1	15.5	301	-0.001	48.5	158	109.2	5.120	1.0012	8.342	42.71	4670.3	280215	62.7	
27	43.2	159.4	144.0	15.4	300.5	-0.002	48.5	158	109.1	5.120	1.0012	8.342	42.71	4665.3	279920	62.8	
28	42.6	159.1	143.7	15.4	302.2	-0.002	48.5	157	108.7	5.106	1.0012	8.342	42.6	4637.2	278230	62.8	
29	42.2	158.9	143.6	15.3	301.2	-0.003	48.5	157	108.6	5.120	1.0012	8.342	42.71	4644.8	278686	62.9	
30	40.9	158.8	143.5	15.4	301.9	-0.001	48.5	157	108.5	5.134	1.0012	8.342	42.83	4654.1	279244	62.9	
31	39.8	158.6	143.4	15.3	294.2	0.001	48.5	157	108.4	5.106	1.0012	8.343	42.6	4622.3	277339	62.9	
32	39.1	158.6	143.3	15.4	299.7	-0.001	48.5	157	108.4	5.023	1.0012	8.343	41.91	4546.2	272771	62.9	
33	60.0	158.1	142.8	15.3	278.6	0	48.4	157	108.2	5.134	1.0012	8.343	42.83	4638.7	278323	63.1	
34	78.7	158.4	143.1	15.3	292.9	0	48.4	156	107.5	5.147	1.0012	8.343	42.94	4623.2	277395	63.1	
35	78.6	157.5	142.3	15.2	273.4	-0.001	48.4	155	107.0	5.134	1.0012	8.343	42.83	4589.8	275387	63.1	
36	77.5	156.9	142.6	14.3	280.7	0.001	48.3	156	107.5	5.009	1.0012	8.343	41.79	4496.4	269786	63	
37	76.5	156.5	141.7	14.8	274.4	-0.002	48.3	155	106.9	5.009	1.0012	8.343	41.79	4471.3	268281	63.2	
38	76.6	156.3	141.2	15.2	268.5	0	48.3	155	106.3	5.189	1.0012	8.343	43.29	4606.2	276374	63.1	
39	74.8	155.8	140.8	15.1	276	0	48.3	154	105.8	5.161	1.0012	8.343	43.06	4563.3	273797	63.1	
40	74.1	155.5	140.5	15.0	269.5	-0.002	48.2	154	105.5	5.161	1.0012	8.343	43.06	4547.2	272831	63.1	
41	73.4	155.1	140.2	14.9	271	-0.001	48.2	153	105.1	5.147	1.0012	8.343	42.94	4520.1	271205	63.2	
42	73.4	154.8	139.9	14.9	271.3	-0.002	48.2	153	104.8	5.175	1.0012	8.343	43.17	4530.3	271817	63.1	

270		Appliance					Load										
Elapsed Time (Min)	Fuel Remaining g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
43	71.1	154.4	139.6	14.8	268.3	-0.002	48.2	153	104.5	5.175	1.0012	8.343	43.17	4519.3	271158	63.2	
44	69.8	154.2	139.3	14.9	276.9	-0.003	48.1	152	104.2	5.189	1.0012	8.343	43.29	4516.4	270982	63.2	
45	69.4	154.0	139.2	14.8	271.1	0	48.1	152	104.1	5.175	1.0012	8.343	43.17	4500.1	270006	63.1	
46	68.9	153.9	139.1	14.8	276.1	-0.001	48.1	152	104.0	5.161	1.0012	8.343	43.06	4481.6	268895	62.7	
47	67.3	153.8	139.1	14.8	271	-0.002	48.0	152	103.9	5.175	1.0012	8.343	43.17	4493.4	269602	63	
48	66.8	153.5	138.8	14.7	277.3	0	48.0	152	103.7	5.175	1.0012	8.343	43.17	4482.0	268918	62.4	
49	66.1	153.3	138.9	14.4	268.5	0	48.0	152	103.5	5.147	1.0012	8.343	42.94	4451.6	267094	62.3	
50	64.6	153.1	138.3	14.8	274.8	-0.003	48.0	151	103.5	5.161	1.0012	8.343	43.06	4460.3	267617	62.7	
51	64.1	153.0	138.2	14.8	266.4	-0.001	47.9	151	103.2	5.189	1.0012	8.343	43.29	4472.8	268368	62.4	
52	63.3	152.8	138.1	14.7	271.3	0	47.9	151	103.0	5.175	1.0012	8.343	43.17	4453.3	267196	62.9	
53	62.1	152.5	137.8	14.7	273.2	-0.001	47.9	151	102.7	5.189	1.0012	8.343	43.29	4451.3	267080	62.6	
54	61.5	152.4	137.8	14.6	267.5	0.002	47.9	151	102.7	5.189	1.0012	8.343	43.29	4450.7	267042	62.7	
55	60.8	151.9	137.3	14.6	273.8	-0.002	47.9	150	102.2	5.175	1.0012	8.343	43.18	4417.8	265071	62.7	
56	59.2	152.0	137.4	14.6	264.9	-0.001	47.8	150	102.3	5.161	1.0012	8.343	43.06	4409.1	264544	62.6	
57	59.2	151.8	137.2	14.6	270.5	-0.004	47.8	150	102.2	5.175	1.0012	8.343	43.18	4417.5	265050	62.8	
58	58.0	151.6	137.1	14.6	275	-0.002	47.8	150	101.9	5.175	1.0012	8.343	43.18	4405.7	264343	62.9	
59	57.3	151.6	137.0	14.6	270.2	-0.001	47.8	150	101.9	5.175	1.0012	8.343	43.18	4405.9	264354	63.9	
60	56.3	151.6	137.4	14.1	270	-0.003	47.8	150	102.1	5.106	1.0012	8.343	42.6	4355.9	261353	64.1	
61	54.4	151.5	136.9	14.5	281.5	0.002	47.8	150	102.0	5.175	1.0012	8.343	43.18	4408.8	264527	64.7	
62	54.0	151.5	136.9	14.6	278	-0.002	47.7	150	101.9	5.189	1.0012	8.343	43.29	4417.1	265026	63.5	
63	53.4	151.4	136.9	14.5	275.3	0	47.7	150	101.9	5.175	1.0012	8.343	43.18	4403.9	264232	63.6	
64	52.0	151.3	136.8	14.5	273.2	-0.001	47.7	149	101.7	5.175	1.0012	8.343	43.18	4396.7	263802	63.6	
65	51.6	151.4	136.9	14.5	272.3	0	47.7	149	101.8	5.189	1.0012	8.343	43.29	4411.9	264715	63.1	
66	50.0	151.4	136.9	14.5	278.5	0	47.7	150	101.8	5.189	1.0012	8.343	43.29	4413.7	264824	63.3	
67	49.3	151.3	136.7	14.5	279.7	-0.002	47.7	149	101.7	5.189	1.0012	8.343	43.29	4407.7	264462	63.1	
68	48.4	151.3	136.8	14.5	274	-0.002	47.7	149	101.8	5.203	1.0012	8.343	43.41	4422.9	265371	62.6	
69	47.3	151.2	136.7	14.5	280.8	-0.001	47.7	149	101.7	5.189	1.0012	8.343	43.29	4410.0	264602	63	
70	47.2	151.1	136.6	14.5	279.8	-0.003	47.6	149	101.5	5.203	1.0012	8.343	43.41	4413.0	264778	63.2	
71	46.1	151.2	136.7	14.5	276.5	0.001	47.6	149	101.7	5.189	1.0012	8.343	43.29	4409.5	264571	62.9	
72	45.0	150.9	136.4	14.5	274	-0.002	47.6	149	101.4	5.189	1.0012	8.343	43.29	4396.0	263758	62.2	
73	43.9	151.0	136.5	14.6	273.1	-0.002	47.6	149	101.5	5.203	1.0012	8.343	43.41	4410.7	264640	62.8	
74	43.6	150.8	136.3	14.5	273.1	-0.002	47.6	149	101.3	5.189	1.0012	8.343	43.29	4392.9	263574	62.8	
75	43.1	150.8	136.3	14.5	273.1	-0.004	47.6	149	101.3	5.203	1.0012	8.343	43.41	4403.7	264219	62.8	
76	42.1	150.8	136.3	14.5	273.8	-0.002	47.6	149	101.3	5.175	1.0012	8.343	43.18	4379.1	262748	62.6	
77	41.0	150.7	137.1	13.6	273.6	-0.001	47.6	149	101.4	5.037	1.0012	8.343	42.02	4267.2	256031	62.8	
78	39.9	150.8	136.2	14.6	272.2	-0.001	47.6	149	101.3	5.147	1.0012	8.343	42.95	4354.7	261285	62.9	
79	83.0	150.9	136.3	14.6	266.8	-0.002	47.6	149	101.3	5.216	1.0012	8.343	43.52	4415.0	264898	63	
80	82.4	150.9	136.9	13.9	272	-0.002	47.6	149	101.6	5.023	1.0012	8.343	41.91	4263.3	255800	62.8	
81	81.7	150.5	135.9	14.6	258.9	-0.005	47.6	149	101.0	5.134	1.0012	8.343	42.83	4332.2	259932	62.6	
82	80.4	150.0	136.4	13.6	263.7	0	47.5	148	100.8	5.106	1.0012	8.343	42.6	4301.5	258090	62.3	
83	80.5	150.0	135.9	14.1	266.7	-0.003	47.5	148	100.7	5.065	1.0012	8.343	42.26	4259.0	255541	62.6	
84	78.7	149.7	135.3	14.4	263.8	-0.002	47.5	148	100.3	5.244	1.0012	8.343	43.75	4395.7	263743	62.5	
85	78.6	149.5	135.0	14.4	261.4	-0.002	47.5	147	100.0	5.230	1.0012	8.343	43.64	4367.0	262022	62.7	
86	77.7	149.3	136.2	13.1	266.8	-0.001	47.4	148	100.3	4.940	1.0012	8.343	41.22	4138.3	248300	62.2	
87	76.4	149.0	134.7	14.4	266.6	0	47.5	147	99.6	5.161	1.0012	8.343	43.06	4296.1	257766	62.4	
88	75.9	149.0	134.7	14.3	263.6	0.005	47.4	147	99.6	5.216	1.0012	8.343	43.52	4342.2	260533	62.6	
89	75.1	148.7	134.9	13.8	262.9	-0.002	47.4	147	99.6	5.147	1.0012	8.343	42.95	4282.3	256937	62.9	
90	74.6	148.6	134.3	14.3	263.8	-0.002	47.4	147	99.3	5.175	1.0012	8.343	43.18	4292.4	257544	62.7	
91	73.7	148.3	134.1	14.2	263.8	-0.005	47.4	146	99.0	5.244	1.0012	8.343	43.75	4335.4	260127	62.9	
92	72.5	148.2	133.9	14.2	263.2	-0.003	47.4	146	98.8	5.230	1.0012	8.343	43.64	4318.4	259102	63	
93	71.5	148.0	133.7	14.3	264.1	0	47.4	146	98.6	5.230	1.0012	8.343	43.64	4310.1	258607	62.8	
94	70.9	147.7	133.6	14.2	264.4	-0.001	47.4	146	98.5	5.244	1.0012	8.343	43.75	4315.2	258915	62.8	
95	70.0	147.6	133.4	14.2	263.5	-0.001	47.4	146	98.3	5.230	1.0012	8.343	43.64	4294.2	257650	62.7	
96	69.7	147.5	133.4	14.1	263.5	0	47.3	146	98.2	5.230	1.0012	8.343	43.64	4290.9	257455	62.8	
97	69.0	147.3	133.2	14.1	263.5	-0.001	47.4	145	98.0	5.230	1.0012	8.343	43.64	4281.7	256905	62.8	
98	68.4	147.2	133.2	14.1	263.7	0	47.4	145	98.0	5.244	1.0012	8.343	43.75	4291.0	257463	62.8	
99	67.5	146.9	132.8	14.0	263	-0.001	47.4	145	97.5	5.230	1.0012	8.343	43.64	4259.9	255592	62.4	
100	67.1	146.7	133.2	13.5	262.9	-0.001	47.4	145	97.6	5.134	1.0012	8.343	42.83	4185.4	251126	62.8	
101	65.9	146.7	132.7	14.0	262.3	0	47.4	145	97.4	5.161	1.0012	8.343	43.06	4198.1	251886	62.7	

270		Appliance						Load										
Elapsed Time (Min)	Fuel Remaining g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F		
102	64.6	146.5	132.5	14.0	261.7	-0.001	47.4	145	97.2	5.244	1.0012	8.343	43.75	4257.9	255477	62.7		
103	64.0	146.5	132.5	14.0	261.1	0.003	47.3	145	97.4	5.230	1.0012	8.343	43.64	4256.6	255396	62.8		
104	63.7	146.3	132.3	13.9	260.5	-0.002	47.4	144	97.0	5.230	1.0012	8.343	43.64	4237.9	254276	62.6		
105	62.4	146.0	132.3	13.7	259.9	-0.001	47.3	144	96.8	5.203	1.0012	8.343	43.41	4207.7	252461	62.8		
106	62.1	146.0	132.1	13.9	257.7	0	47.3	144	96.7	5.244	1.0012	8.343	43.75	4237.5	254251	62.7		
107	61.3	145.8	132.0	13.8	258.3	0.001	47.3	144	96.6	5.230	1.0012	8.343	43.64	4219.3	253157	62.6		
108	60.8	145.7	131.9	13.8	258.3	0.003	47.3	144	96.5	5.244	1.0012	8.343	43.75	4227.3	253640	62.9		
109	59.5	145.6	131.8	13.8	258.4	-0.003	47.3	144	96.3	5.244	1.0012	8.343	43.75	4218.7	253121	63		
110	59.3	145.4	131.5	13.8	258.2	-0.002	47.3	143	96.0	5.230	1.0012	8.343	43.64	4195.4	251723	62.8		
111	58.4	145.4	131.5	13.8	257.2	-0.003	47.4	143	96.0	5.244	1.0012	8.343	43.75	4206.0	252362	62.9		
112	57.1	145.2	131.3	13.9	255.7	-0.002	47.4	143	95.8	5.258	1.0012	8.343	43.87	4208.3	252496	62.8		
113	56.9	145.1	131.3	13.8	253.4	-0.004	47.4	143	95.8	5.230	1.0012	8.343	43.64	4184.4	251064	62.7		
114	56.4	144.9	131.2	13.7	251.7	-0.001	47.3	143	95.7	5.244	1.0012	8.343	43.75	4191.1	251468	62.7		
115	55.1	144.6	130.9	13.7	251.1	0	47.3	143	95.4	5.230	1.0012	8.343	43.64	4168.2	250095	62.8		
116	54.3	144.6	130.9	13.6	253.6	-0.003	47.3	143	95.5	5.258	1.0012	8.343	43.87	4193.4	251602	62.6		
117	54.0	144.4	130.7	13.7	255.1	-0.002	47.3	143	95.2	5.244	1.0012	8.343	43.75	4169.9	250197	62.1		
118	53.7	144.4	130.7	13.7	255.5	-0.002	47.3	143	95.2	5.244	1.0012	8.343	43.75	4170.2	250211	62.1		
119	52.9	144.2	130.6	13.6	258.1	-0.002	47.3	142	95.0	5.244	1.0012	8.343	43.75	4161.9	249715	62.5		
120	51.6	144.2	130.5	13.7	258.5	-0.003	47.3	142	94.6	5.244	1.0012	8.343	43.75	4146.2	248773	62.5		
121	52.1	144.2	130.5	13.7	259.8	0	47.3	142	94.9	5.244	1.0012	8.343	43.75	4156.4	249385	62.7		
122	50.7	144.2	130.6	13.7	258.6	-0.002	47.3	142	94.8	5.244	1.0012	8.343	43.75	4154.0	249237	63		
123	49.5	144.0	130.4	13.6	257.4	0.002	47.3	142	94.4	5.244	1.0012	8.343	43.75	4135.2	248112	62.7		
124	49.0	144.0	130.3	13.6	257.4	-0.003	47.3	142	94.7	5.244	1.0012	8.344	43.75	4147.7	248864	62.8		
125	48.8	143.8	130.1	13.7	258	-0.003	47.3	142	94.6	5.244	1.0012	8.344	43.75	4145.1	248704	62.8		
126	47.8	143.9	130.9	13.0	258.7	-0.001	47.3	142	94.9	5.134	1.0012	8.344	42.83	4068.5	244107	62.4		
127	46.8	143.7	130.8	12.9	258.8	0	47.3	142	94.8	4.968	1.0012	8.343	41.45	3933.1	235987	62.2		
128	46.1	143.8	130.1	13.6	258.5	0.002	47.3	142	94.6	5.230	1.0012	8.343	43.64	4134.5	248071	62.7		
129	45.7	143.7	130.1	13.7	259.1	-0.001	47.3	142	94.7	5.272	1.0012	8.344	43.98	4171.1	250264	62.6		
130	45.2	143.8	130.3	13.5	257.1	-0.001	47.3	142	95.1	5.230	1.0012	8.344	43.64	4154.0	249240	63		
131	44.3	143.6	130.3	13.4	254.6	-0.003	47.3	142	94.6	5.175	1.0012	8.344	43.18	4089.8	245388	62.9		
132	43.9	143.6	130.2	13.4	255.5	0	47.3	142	94.6	5.189	1.0012	8.344	43.29	4100.4	246022	62.5		
133	43.0	143.7	130.2	13.4	260.5	0.003	47.3	142	94.5	5.175	1.0012	8.344	43.18	4084.5	245071	62.4		
134	42.1	143.6	130.2	13.4	260.2	-0.024	47.3	144	97.1	5.175	1.0012	8.344	43.18	4198.3	251897	62.7		
135	41.4	143.5	130.1	13.5	259.3	-0.001	47.3	142	94.4	5.175	1.0012	8.344	43.18	4081.1	244864	61.8		
136	40.9	143.5	130.6	12.9	258.7	-0.006	47.3	142	94.5	5.065	1.0012	8.344	42.26	3998.7	239920	62		
137	40.4	143.7	130.5	13.2	251.4	-0.001	47.3	142	94.5	5.023	1.0012	8.344	41.91	3967.0	238023	62.4		
138	85.6	143.8	130.4	13.5	263.7	-0.001	47.3	142	94.7	5.189	1.0012	8.344	43.29	4105.7	246344	61.9		
139	84.8	143.5	130.1	13.4	252.4	-0.005	47.3	142	94.4	5.175	1.0012	8.344	43.18	4081.8	244907	62		
140	84.2	143.2	129.8	13.4	246.4	-0.029	47.2	141	94.0	5.216	1.0012	8.344	43.52	4094.6	245675	62.4		
141	83.1	143.1	129.8	13.4	254.2	-0.039	47.2	141	94.0	5.203	1.0012	8.344	43.41	4087.3	245237	62.2		
142	82.5	143.0	129.5	13.4	253.9	-0.029	47.2	141	93.8	5.230	1.0012	8.344	43.64	4098.5	245909	61.9		
143	82.3	142.9	129.5	13.4	253.5	-0.033	47.2	141	93.8	5.230	1.0012	8.344	43.64	4098.3	245898	61.8		
144	80.8	142.8	129.3	13.5	252	-0.035	47.2	135	87.4	5.258	1.0012	8.344	43.87	3838.4	230301	61.9		
145	80.0	142.7	129.4	13.3	256.5	-0.026	47.2	127	79.5	5.216	1.0012	8.344	43.52	3464.7	207879	61.9		
146	79.3	142.6	129.1	13.5	260.5	-0.029	47.2	148	100.5	5.327	1.0012	8.344	44.44	4470.1	268208	62.1		
147	78.5	142.4	129.0	13.5	258.8	-0.033	47.2	156	108.6	5.244	1.0012	8.344	43.75	4756.7	285404	61.9		
148	77.2	142.5	129.1	13.4	256.1	-0.033	47.2	141	94.0	5.244	1.0012	8.344	43.75	4117.7	247061	61.8		
149	77.2	142.5	129.0	13.5	262.5	-0.035	47.2	141	93.9	5.299	1.0012	8.344	44.21	4155.0	249298	61.7		
150	76.5	142.6	129.0	13.6	263.5	-0.032	47.2	143	96.0	5.285	1.0012	8.344	44.1	4238.0	254279	62.1		
151	74.8	142.7	129.1	13.6	263.8	-0.027	47.2	141	93.5	5.285	1.0012	8.344	44.1	4129.3	247756	62.1		
152	74.7	142.5	129.0	13.5	265.4	-0.046	47.2	141	93.3	5.299	1.0012	8.344	44.21	4130.5	247831	62.2		
153	73.3	142.8	129.7	13.1	265	-0.03	47.2	141	93.8	5.106	1.0012	8.344	42.6	3999.5	239972	62.3		
154	72.9	142.9	129.2	13.6	264.5	-0.025	47.2	141	93.7	5.299	1.0012	8.344	44.21	4146.1	248765	62.6		
155	71.6	143.0	129.3	13.6	263.7	-0.034	47.2	141	93.7	5.299	1.0012	8.344	44.21	4149.2	248951	62.6		
156	70.7	142.8	129.3	13.5	262.9	-0.04	47.2	141	93.8	5.285	1.0012	8.344	44.1	4139.4	248366	62.8		
157	70.0	142.9	129.8	13.1	263.5	-0.033	47.2	141	93.9	5.189	1.0012	8.344	43.29	4069.4	244163	62.8		
158	69.8	143.0	129.3	13.6	264.5	-0.034	47.2	141	93.7	5.244	1.0012	8.344	43.75	4106.4	246385	62.8		
159	68.3	143.0	129.4	13.6	264	-0.032	47.2	141	93.8	5.313	1.0012	8.344	44.33	4163.3	249795	62.8		
160	67.7	143.0	129.3	13.6	263.6	-0.042	47.2	141	93.7	5.299	1.0012	8.344	44.21	4149.8	248987	63.1		

270		Appliance					Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F
161	66.8	143.0	129.4	13.6	262.9	-0.038	47.2	141	93.9	5.299	1.0012	8.344	44.21	4155.2	249311	62.9
162	66.5	143.1	129.5	13.6	262.1	-0.026	47.2	141	93.9	5.299	1.0012	8.344	44.21	4157.1	249424	63
163	65.3	142.9	129.3	13.6	261.4	-0.018	47.2	141	93.8	5.299	1.0012	8.344	44.21	4152.1	249127	63.1
164	64.5	142.9	129.3	13.6	262.3	-0.032	47.1	141	93.7	5.285	1.0012	8.344	44.1	4138.0	248277	63
165	64.5	142.8	129.3	13.5	262.5	-0.034	47.2	141	93.7	5.258	1.0012	8.344	43.87	4114.0	246840	63.3
166	63.5	142.8	130.1	12.7	263	-0.04	47.2	141	94.0	4.968	1.0012	8.344	41.45	3899.9	233992	63.2
167	62.9	142.9	129.3	13.6	261.3	-0.034	47.2	141	93.6	5.258	1.0012	8.344	43.87	4113.0	246779	63.2
168	61.4	143.1	129.5	13.6	262.4	-0.033	47.1	141	93.9	5.285	1.0012	8.344	44.1	4144.6	248676	63.2
169	61.1	143.0	129.4	13.6	263.9	-0.037	47.1	141	94.0	5.285	1.0012	8.344	44.1	4148.8	248927	63.5
170	59.9	143.1	129.5	13.6	264.7	-0.033	47.1	141	94.0	5.299	1.0012	8.344	44.21	4162.8	249766	63.6
171	59.8	143.3	129.6	13.7	264.6	-0.026	47.1	141	94.1	5.285	1.0012	8.344	44.1	4154.7	249285	63.6
172	59.2	143.5	129.9	13.7	264.4	-0.031	47.1	142	94.4	5.285	1.0012	8.344	44.1	4167.1	250024	63.6
173	57.9	143.4	129.7	13.6	263.6	-0.028	47.1	141	94.2	5.285	1.0012	8.344	44.1	4160.0	249599	63.7
174	57.5	143.5	129.8	13.7	262.7	-0.034	47.1	141	94.4	5.285	1.0012	8.344	44.1	4166.1	249964	63.4
175	56.9	143.6	130.4	13.2	262.3	-0.035	47.2	142	94.6	5.065	1.0012	8.344	42.26	4001.8	240108	63.6
176	55.6	143.6	129.9	13.7	262.5	-0.033	47.2	142	94.4	5.230	1.0012	8.344	43.64	4126.0	247561	63.6
177	55.2	143.6	130.0	13.6	262.5	-0.023	47.2	142	94.5	5.272	1.0012	8.344	43.98	4160.3	249619	63.8
178	54.5	143.8	130.1	13.8	262.9	-0.039	47.1	142	94.6	5.285	1.0012	8.344	44.1	4176.6	250597	63.7
179	53.2	143.9	130.2	13.7	263.1	-0.033	47.1	142	94.8	5.272	1.0012	8.344	43.98	4176.2	250572	63.8
180	53.1	143.8	130.2	13.6	263.6	-0.027	47.1	142	94.7	5.230	1.0012	8.344	43.64	4136.9	248212	63.8
181	52.2	143.8	130.2	13.6	263.8	-0.034	47.1	142	94.6	5.230	1.0012	8.344	43.64	4135.3	248116	63.8
182	51.2	144.0	130.5	13.6	264	-0.016	47.2	142	94.9	5.216	1.0012	8.344	43.52	4135.3	248119	63.9
183	50.6	144.1	130.5	13.6	264.2	-0.035	47.2	142	94.9	5.216	1.0012	8.344	43.52	4137.3	248238	64.1
184	49.6	144.3	130.7	13.6	264.2	-0.031	47.2	142	95.2	5.216	1.0012	8.344	43.52	4148.5	248908	64.2
185	49.5	144.3	131.2	13.1	264.1	-0.029	47.2	143	95.4	5.092	1.0012	8.344	42.49	4059.7	243582	64.2
186	47.8	144.5	130.8	13.7	263.8	-0.033	47.2	143	95.3	5.134	1.0012	8.344	42.83	4088.5	245311	64.1
187	47.4	144.4	130.8	13.7	262.8	-0.03	47.1	143	95.4	5.230	1.0012	8.344	43.64	4166.9	250012	64.1
188	46.8	144.4	130.8	13.6	261.7	-0.033	47.1	143	95.4	5.203	1.0012	8.344	43.41	4146.9	248813	64.2
189	46.1	144.6	131.0	13.7	266.7	-0.033	47.1	143	95.5	5.230	1.0012	8.344	43.64	4174.6	250473	64.4
190	45.3	144.6	131.0	13.6	268.2	-0.028	47.2	143	95.5	5.203	1.0012	8.344	43.41	4152.8	249166	64.3
191	45.2	144.6	130.9	13.7	263.3	-0.029	47.2	143	95.5	5.203	1.0012	8.344	43.41	4148.6	248915	64.4
192	43.9	144.6	130.9	13.7	269.5	-0.03	47.2	143	95.5	5.175	1.0012	8.344	43.18	4129.4	247765	64.4
193	43.8	144.6	131.5	13.1	266.6	-0.029	47.2	143	95.7	5.037	1.0012	8.344	42.03	4025.6	241539	63.9
194	46.6	144.6	131.0	13.6	263.2	-0.033	47.2	143	95.7	5.175	1.0012	8.344	43.18	4135.6	248136	64.3
195	41.9	145.0	131.2	13.7	259.9	-0.023	47.1	143	95.9	5.230	1.0012	8.344	43.64	4190.2	251410	64.4
196	41.9	144.7	131.0	13.7	266.5	-0.027	47.1	143	95.7	5.203	1.0012	8.344	43.41	4158.7	249520	64.1
197	41.3	145.0	131.2	13.8	262.6	-0.039	47.1	143	95.9	5.216	1.0012	8.344	43.52	4177.5	250652	63.9
198	41.0	145.0	131.3	13.7	259.8	-0.026	47.1	143	95.9	5.216	1.0012	8.344	43.52	4180.1	250806	63.6
199	81.3	145.2	131.3	13.8	234.3	-0.018	47.1	143	95.9	5.216	1.0012	8.344	43.52	4181.2	250871	63.8
200	105.4	146.2	132.3	13.9	260.7	-0.03	47.2	144	97.0	5.216	1.0012	8.344	43.52	4226.5	253589	64
201	104.5	144.9	131.3	13.7	250.3	-0.031	47.2	143	95.9	5.203	1.0012	8.344	43.41	4168.1	250086	64.2
202	103.8	144.4	130.8	13.6	255	-0.023	47.2	143	95.3	5.203	1.0012	8.344	43.41	4143.8	248629	64.3
203	103.1	144.1	130.5	13.6	254.2	-0.023	47.1	142	95.1	5.216	1.0012	8.344	43.52	4142.1	248525	64.1
204	102.4	144.0	130.4	13.6	256.8	-0.032	47.1	142	95.0	5.216	1.0012	8.344	43.52	4138.1	248285	63.9
205	101.4	143.9	130.4	13.6	257.7	-0.05	47.1	142	94.9	5.216	1.0012	8.344	43.52	4134.6	248074	63.6
206	100.6	143.8	130.3	13.5	257.5	-0.037	47.2	142	94.7	5.175	1.0012	8.344	43.18	4094.5	245671	63.3
207	99.6	143.8	130.3	13.5	257.1	-0.035	47.1	142	94.6	5.189	1.0012	8.344	43.29	4102.6	246158	63.5
208	98.5	143.6	130.1	13.5	258.1	-0.037	47.0	142	94.7	5.189	1.0012	8.344	43.29	4104.5	246268	63.8
209	98.4	143.6	130.0	13.5	255.2	-0.028	46.9	142	94.8	5.216	1.0012	8.344	43.52	4129.2	247754	63.7
210	97.3	143.3	129.8	13.5	257.2	-0.025	46.9	141	94.5	5.216	1.0012	8.344	43.52	4118.2	247092	63.9
211	97.0	143.2	129.7	13.5	253	-0.037	46.9	141	94.4	5.216	1.0012	8.344	43.52	4114.6	246873	64.2
212	95.3	143.1	129.6	13.5	256.5	-0.032	46.8	141	94.3	5.216	1.0012	8.344	43.53	4110.4	246626	63.6
213	94.4	143.0	129.5	13.4	253.5	-0.022	46.8	141	94.2	5.216	1.0012	8.344	43.53	4104.8	246289	64.1
214	93.6	142.8	129.4	13.4	256.9	-0.03	46.9	141	94.0	5.216	1.0012	8.344	43.52	4096.5	245791	63.6
215	93.5	142.8	129.4	13.4	254.3	-0.029	46.9	141	93.9	5.203	1.0012	8.344	43.41	4083.1	244987	63.3
216	92.8	142.6	129.3	13.4	256.9	-0.016	47.0	141	93.7	5.203	1.0012	8.344	43.41	4072.4	244342	63.7
217	91.1	142.6	129.2	13.4	258.4	-0.023	47.0	141	93.6	5.216	1.0012	8.344	43.52	4077.1	244627	63.5
218	91.2	142.5	129.1	13.4	259.2	-0.031	47.1	141	93.5	5.216	1.0012	8.344	43.52	4072.9	244377	63.7
219	90.2	142.5	129.2	13.3	260	-0.031	47.1	141	93.5	5.216	1.0012	8.344	43.52	4074.3	244461	63.4

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Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 16:22
 Test Length: 360 min
 Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg
 Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
Tot / Avg		-265.6	57.372	0.159	1.21	89.4	2.19	69.55	59.86	65.11	100.0	87.7	0.110	0.332	22.19
Minimum	0.0	-1.8	-0.002	0.137	0.01	66	0.03	64	42	64	87.7	74	0.102	0.319	21.63
Max	265.0	0.3	57.370	0.163	1.25	96	2.33	71	63	66	105.7	94	0.118	0.344	22.72
0	265.6		-0.002		0.01	66	0.03	63.8	46.6	65		84	0.113	0.336	22.72
1	265.0	-0.6	0.135	0.137	1.17	66	2.02	64.5	42.9	65	87.7	81	0.112	0.335	22.29
2	264.5	-0.5	0.291	0.156	1.24	67	2.11	64.8	42.3	65	101.6	83	0.105	0.324	21.88
3	263.1	-1.4	0.450	0.159	1.22	66	2.11	65.4	42.3	65	105.2	88	0.111	0.333	21.90
4	262.1	-1.0	0.606	0.156	1.21	66	2.15	65.7	42.6	65	102.5	89	0.114	0.338	22.41
5	261.0	-1.1	0.766	0.160	1.24	66	2.13	65.9	42.9	65	103.5	86	0.114	0.338	22.54
6	260.6	-0.4	0.924	0.158	1.22	66	2.13	66	43.4	65	102.1	86	0.111	0.333	22.37
7	260.7	0.1	1.081	0.157	1.23	67	2.16	66.1	43.9	65	102.1	86	0.111	0.333	22.21
8	259.0	-1.6	1.241	0.160	1.22	67	2.15	66.2	44.3	65	104.2	86	0.112	0.335	22.26
9	259.2	0.2	1.398	0.157	1.24	67	2.14	66.4	44.7	65	102.1	86	0.111	0.333	22.25
10	258.7	-0.5	1.555	0.157	1.22	67	2.14	66.5	45.1	65	102.7	85	0.106	0.326	21.95
11	258.0	-0.7	1.714	0.159	1.24	67	2.14	66.5	45.5	65	104.1	84	0.115	0.339	22.13
12	256.7	-1.4	1.871	0.157	1.21	67	2.15	66.7	45.9	65	102.3	85	0.107	0.327	22.18
13	256.0	-0.6	2.029	0.158	1.22	67	2.18	66.9	46.2	65	103.0	85	0.114	0.338	22.14
14	255.7	-0.3	2.189	0.160	1.24	68	2.16	67	46.5	65	103.5	85	0.114	0.338	22.49
15	255.5	-0.2	2.348	0.159	1.24	68	2.17	67.1	46.8	65	102.0	85	0.113	0.336	22.44
16	254.4	-1.1	2.506	0.158	1.24	68	2.18	67.2	47.1	65	102.2	85	0.108	0.329	22.14
17	253.7	-0.7	2.666	0.160	1.24	68	2.14	67.3	47.4	65	104.6	85	0.110	0.332	21.99
18	253.5	-0.1	2.824	0.158	1.24	69	2.15	67.4	47.7	65	102.8	86	0.115	0.339	22.35
19	252.5	-1.1	2.981	0.157	1.20	69	2.18	67.5	47.9	65	100.7	86	0.115	0.339	22.60
20	251.3	-1.2	3.141	0.160	1.23	69	2.16	67.7	48.2	65	102.3	86	0.112	0.335	22.45
21	250.5	-0.9	3.299	0.158	1.23	70	2.15	67.7	48.5	65	101.9	86	0.110	0.332	22.20
22	250.7	0.2	3.457	0.158	1.24	70	2.14	67.8	48.8	65	103.4	86	0.104	0.322	21.80
23	249.7	-1.0	3.617	0.160	1.22	71	2.16	67.9	49	65	105.7	86	0.109	0.330	21.75
24	249.0	-0.7	3.774	0.157	1.22	71	2.14	67.9	49.3	64	103.2	87	0.109	0.330	22.01
25	248.3	-0.8	3.932	0.158	1.22	71	2.14	68	49.5	65	103.0	86	0.111	0.333	22.11
26	247.1	-1.2	4.091	0.159	1.21	71	2.14	68.1	49.8	65	103.2	86	0.110	0.332	22.16
27	246.4	-0.7	4.249	0.158	1.22	72	2.16	68.2	50	65	102.7	86	0.108	0.329	22.00
28	245.7	-0.8	4.407	0.158	1.23	72	2.12	68.2	50.3	65	103.0	86	0.110	0.332	22.01
29	245.3	-0.4	4.566	0.159	1.21	73	2.17	68.3	50.6	65	102.7	86	0.115	0.339	22.36
30	244.0	-1.3	4.723	0.157	1.21	72	2.16	68.3	50.8	65	100.9	86	0.108	0.329	22.27
31	243.2	-0.7	4.882	0.159	1.21	73	2.18	68.4	51.1	65	102.6	87	0.113	0.336	22.18
32	242.6	-0.6	5.039	0.157	1.21	74	2.18	68.6	51.4	65	102.1	89	0.104	0.322	22.00
33	241.6	-0.9	5.196	0.157	1.20	73	2.09	68.7	51.5	65	102.7	90	0.112	0.335	21.98
34	241.4	-0.2	5.355	0.159	1.22	74	2.12	68.8	51.7	65	103.1	90	0.113	0.336	22.44
35	240.3	-1.2	5.513	0.158	1.21	74	2.12	68.9	51.9	65	101.3	90	0.112	0.335	22.44
36	239.6	-0.7	5.670	0.157	1.22	75	2.15	68.9	52.2	65	100.3	90	0.115	0.339	22.54
37	238.6	-0.9	5.828	0.158	1.21	75	2.12	68.9	52.3	65	100.6	89	0.112	0.335	22.53
38	238.4	-0.2	5.985	0.157	1.22	75	2.19	68.9	52.6	65	100.7	89	0.108	0.329	22.17
39	238.1	-0.3	6.144	0.159	1.23	76	2.15	69	52.8	66	102.6	89	0.113	0.336	22.22
40	237.0	-1.1	6.302	0.158	1.22	76	2.17	69.1	53	65	101.1	89	0.114	0.338	22.52

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 16:22
 Test Length: 360 min
 Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg
 Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
41	236.5	-0.4	6.459	0.157	1.21	77	2.11	69.1	53.2	65	99.9	89	0.111	0.333	22.42
42	235.3	-1.2	6.618	0.159	1.21	77	2.13	69.2	53.4	66	101.3	89	0.114	0.338	22.42
43	234.3	-1.0	6.775	0.157	1.22	77	2.13	69.1	53.6	66	100.3	89	0.108	0.329	22.27
44	234.5	0.2	6.932	0.157	1.22	78	2.11	69.2	53.8	66	101.4	89	0.107	0.327	21.91
45	232.8	-1.7	7.091	0.159	1.21	78	2.12	69.2	53.9	66	103.5	89	0.108	0.329	21.91
46	232.9	0.1	7.248	0.157	1.21	78	2.11	69.3	54.1	66	101.8	88	0.109	0.330	22.01
47	231.6	-1.3	7.406	0.158	1.19	78	2.11	69.3	54.2	65	102.0	89	0.110	0.332	22.11
48	231.3	-0.3	7.565	0.159	1.24	79	2.19	69.4	54.4	66	102.2	89	0.111	0.333	22.22
49	231.0	-0.3	7.725	0.160	1.23	79	2.16	69.4	54.6	65	102.5	89	0.110	0.332	22.22
50	230.3	-0.7	7.884	0.159	1.24	79	2.18	69.5	54.7	66	102.2	90	0.108	0.329	22.08
51	229.3	-1.0	8.045	0.161	1.24	80	2.14	69.6	54.9	66	103.6	90	0.112	0.335	22.19
52	228.6	-0.7	8.205	0.160	1.24	80	2.13	69.6	55	65	102.3	90	0.111	0.333	22.34
53	227.9	-0.7	8.364	0.159	1.23	80	2.20	69.6	55.2	66	101.6	91	0.110	0.332	22.25
54	227.6	-0.3	8.524	0.160	1.25	80	2.18	69.7	55.3	65	102.6	91	0.110	0.332	22.21
55	226.7	-0.8	8.685	0.161	1.23	81	2.19	69.8	55.5	66	103.1	91	0.111	0.333	22.26
56	225.9	-0.9	8.845	0.160	1.22	81	2.13	69.8	55.6	65	102.1	91	0.111	0.333	22.31
57	224.9	-1.0	9.005	0.160	1.23	81	2.11	69.8	55.7	65	102.7	92	0.106	0.326	22.07
58	224.4	-0.5	9.166	0.161	1.23	81	2.17	69.9	55.9	65	103.8	91	0.111	0.333	22.07
59	223.0	-1.4	9.326	0.160	1.24	82	2.12	69.9	56	66	102.7	91	0.109	0.330	22.20
60	223.1	0.1	9.485	0.159	1.22	82	2.13	69.9	56.2	66	100.9	90	0.118	0.344	22.54
61	221.9	-1.2	9.644	0.159	1.23	82	2.17	69.9	56.3	66	100.0	89	0.108	0.329	22.48
62	220.6	-1.3	9.806	0.162	1.25	82	2.16	69.9	56.4	65	103.3	88	0.106	0.326	21.86
63	220.6	0.0	9.966	0.160	1.24	82	2.13	69.9	56.6	65	102.6	88	0.115	0.339	22.20
64	220.0	-0.6	10.125	0.159	1.23	83	2.12	69.9	56.6	65	100.3	88	0.112	0.335	22.50
65	219.5	-0.5	10.285	0.160	1.24	83	2.14	69.9	56.7	65	101.1	88	0.107	0.327	22.09
66	218.7	-0.8	10.447	0.162	1.24	83	2.20	69.7	56.8	65	103.9	86	0.106	0.326	21.77
67	218.0	-0.7	10.607	0.160	1.24	83	2.14	69.7	57	65	103.1	85	0.107	0.327	21.74
68	217.3	-0.7	10.766	0.159	1.23	84	2.21	69.7	57.1	66	101.9	86	0.111	0.333	22.00
69	216.5	-0.7	10.927	0.161	1.24	84	2.20	69.6	57.2	65	102.2	84	0.109	0.330	22.09
70	215.0	-1.5	11.087	0.160	1.24	84	2.13	69.6	57.3	65	101.2	84	0.110	0.332	22.01
71	214.2	-0.8	11.248	0.161	1.23	84	2.13	69.5	57.3	65	101.9	83	0.110	0.332	22.05
72	213.9	-0.3	11.407	0.159	1.23	85	2.13	69.5	57.5	65	100.2	84	0.113	0.336	22.20
73	213.5	-0.4	11.568	0.161	1.24	85	2.13	69.4	57.5	65	101.3	82	0.107	0.327	22.05
74	212.8	-0.7	11.728	0.160	1.23	85	2.20	69.4	57.6	65	101.5	82	0.108	0.329	21.78
75	211.2	-1.6	11.888	0.160	1.23	85	2.15	69.3	57.8	65	101.2	82	0.114	0.338	22.13
76	210.8	-0.3	12.047	0.159	1.23	86	2.21	69.3	57.8	65	99.5	82	0.110	0.332	22.22
77	210.9	0.0	12.209	0.162	1.24	86	2.09	69.2	57.9	65	101.3	82	0.112	0.335	22.12
78	209.9	-1.0	12.369	0.160	1.23	86	2.23	69.1	58	65	100.5	81	0.108	0.329	22.02
79	208.7	-1.2	12.528	0.159	1.22	86	2.19	69	58.1	65	100.4	81	0.109	0.330	21.87
80	208.6	0.0	12.688	0.160	1.21	87	2.15	69	58.2	65	100.9	81	0.111	0.333	22.02
81	207.6	-1.0	12.850	0.162	1.23	87	2.12	69	58.2	65	102.0	83	0.108	0.329	21.98
82	206.8	-0.8	13.010	0.160	1.22	87	2.15	69	58.3	65	100.8	83	0.112	0.335	22.05
83	206.1	-0.7	13.169	0.159	1.24	87	2.16	68.9	58.4	65	100.0	82	0.107	0.327	21.99
84	205.8	-0.3	13.330	0.161	1.23	87	2.13	68.8	58.5	64	102.2	82	0.105	0.324	21.63

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 16:22
 Test Length: 360 min
 Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg
 Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
85	204.2	-1.6	13.491	0.161	1.21	87	2.11	68.8	58.5	64	102.8	82	0.110	0.332	21.78
86	204.5	0.3	13.651	0.160	1.24	87	2.12	68.8	58.6	65	101.0	83	0.112	0.335	22.14
87	203.0	-1.5	13.810	0.159	1.23	87	2.23	68.8	58.7	65	99.8	83	0.108	0.329	22.04
88	203.0	0.0	13.972	0.162	1.24	88	2.23	68.7	58.7	65	102.1	84	0.110	0.332	21.95
89	201.4	-1.7	14.132	0.160	1.22	87	2.16	68.8	58.8	65	100.7	84	0.111	0.333	22.11
90	201.4	0.0	14.292	0.160	1.22	88	2.11	68.8	58.8	65	100.1	84	0.112	0.335	22.21
91	200.4	-1.0	14.452	0.160	1.20	87	2.12	68.8	58.9	65	99.8	84	0.112	0.335	22.27
92	199.6	-0.8	14.614	0.162	1.22	88	2.11	68.8	59	65	101.0	85	0.112	0.335	22.28
93	199.2	-0.3	14.774	0.160	1.23	89	2.10	68.8	59.1	65	100.1	85	0.108	0.329	22.08
94	197.8	-1.5	14.934	0.160	1.25	89	2.16	68.8	59.1	65	100.2	85	0.115	0.339	22.24
95	197.9	0.1	15.094	0.160	1.23	88	2.11	68.8	59.2	65	99.5	85	0.111	0.333	22.39
96	196.6	-1.3	15.256	0.162	1.24	89	2.15	68.8	59.2	65	101.3	85	0.107	0.327	21.99
97	196.0	-0.6	15.416	0.160	1.24	88	2.22	68.9	59.3	65	100.9	87	0.113	0.336	22.11
98	195.7	-0.3	15.576	0.160	1.22	89	2.23	69	59.4	65	100.5	86	0.109	0.330	22.22
99	194.5	-1.2	15.735	0.159	1.23	89	2.11	69	59.4	65	99.5	87	0.113	0.336	22.22
100	193.6	-0.9	15.898	0.163	1.22	89	2.10	69	59.5	65	102.3	88	0.107	0.327	22.14
101	193.5	-0.2	16.058	0.160	1.22	89	2.15	69	59.6	65	101.1	87	0.109	0.330	21.94
102	193.0	-0.5	16.217	0.159	1.22	89	2.23	69	59.6	65	100.5	87	0.110	0.332	22.08
103	191.8	-1.2	16.377	0.160	1.24	89	2.14	69.1	59.7	65	101.0	87	0.107	0.327	21.97
104	190.7	-1.0	16.539	0.162	1.24	90	2.23	69.1	59.8	65	102.7	87	0.108	0.329	21.87
105	189.7	-1.1	16.699	0.160	1.24	90	2.21	69.1	59.8	65	101.2	87	0.111	0.333	22.07
106	188.8	-0.8	16.858	0.159	1.20	90	2.23	69.1	59.8	65	99.6	87	0.112	0.335	22.27
107	188.1	-0.8	17.019	0.161	1.22	90	2.14	69.2	59.9	65	100.5	87	0.110	0.332	22.23
108	187.3	-0.8	17.180	0.161	1.22	90	2.12	69.2	59.9	65	101.2	87	0.107	0.327	21.98
109	186.6	-0.7	17.340	0.160	1.23	90	2.12	69.1	60	65	100.6	85	0.114	0.338	22.16
110	186.2	-0.4	17.499	0.159	1.22	90	2.11	69.2	60.1	66	98.9	87	0.113	0.336	22.46
111	185.7	-0.5	17.660	0.161	1.22	90	2.12	69.1	60.2	65	100.1	86	0.108	0.329	22.17
112	185.0	-0.7	17.820	0.160	1.22	90	2.12	69.2	60.2	65	100.5	87	0.109	0.330	21.96
113	184.7	-0.3	17.980	0.160	1.24	90	2.22	69.1	60.3	66	100.5	85	0.112	0.335	22.16
114	183.9	-0.7	18.139	0.159	1.21	90	2.12	69.2	60.3	66	99.4	87	0.109	0.330	22.16
115	182.9	-1.0	18.301	0.162	1.23	91	2.12	69.2	60.4	65	101.5	87	0.111	0.333	22.12
116	181.7	-1.2	18.460	0.159	1.24	90	2.11	69.1	60.4	65	99.7	84	0.108	0.329	22.05
117	181.0	-0.7	18.620	0.160	1.21	91	2.23	69.3	60.4	65	100.8	87	0.108	0.329	21.90
118	180.9	-0.1	18.780	0.160	1.21	90	2.22	69.3	60.5	65	101.5	87	0.106	0.326	21.82
119	179.6	-1.3	18.941	0.161	1.23	91	2.21	69.3	60.5	65	102.1	86	0.110	0.332	21.91
120	179.1	-0.5	19.101	0.160	1.22	91	2.23	69.3	60.6	66	100.8	86	0.109	0.330	22.06
121	178.4	-0.7	19.260	0.159	1.21	91	2.23	69.3	60.6	66	100.5	88	0.105	0.324	21.83
122	177.9	-0.5	19.421	0.161	1.21	91	2.17	69.4	60.7	65	102.0	87	0.112	0.335	21.99
123	176.4	-1.5	19.581	0.160	1.22	91	2.11	69.3	60.7	65	99.7	86	0.116	0.341	22.52
124	176.2	-0.2	19.741	0.160	1.22	91	2.23	69.3	60.7	65	98.3	86	0.112	0.335	22.51
125	175.5	-0.7	19.900	0.159	1.22	92	2.12	69.4	60.8	65	98.4	87	0.110	0.332	22.22
126	174.6	-0.9	20.061	0.161	1.23	92	2.21	69.3	60.8	65	100.4	87	0.111	0.333	22.18
127	173.3	-1.3	20.221	0.160	1.22	92	2.23	69.4	60.8	65	99.6	88	0.113	0.336	22.34
128	172.8	-0.5	20.380	0.159	1.21	92	2.12	69.5	60.9	65	98.7	88	0.111	0.333	22.34

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 16:22
 Test Length: 360 min
 Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg
 Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
129	173.0	0.2	20.540	0.160	1.22	92	2.13	69.4	60.9	66	99.5	86	0.110	0.332	22.17
130	171.9	-1.1	20.701	0.161	1.21	92	2.13	69.5	60.9	65	100.9	88	0.108	0.329	22.03
131	170.6	-1.3	20.861	0.160	1.22	92	2.18	69.5	61	65	101.0	88	0.107	0.327	21.89
132	170.3	-0.3	21.020	0.159	1.22	92	2.22	69.5	61.1	65	100.1	86	0.112	0.335	22.08
133	169.5	-0.8	21.181	0.161	1.22	92	2.21	69.6	61.1	66	100.3	88	0.113	0.336	22.39
134	168.3	-1.2	21.341	0.160	1.20	92	2.11	69.6	61.2	66	99.2	88	0.111	0.333	22.35
135	168.2	-0.1	21.500	0.159	1.21	92	2.11	69.7	61.1	65	99.1	89	0.109	0.330	22.15
136	167.6	-0.7	21.659	0.159	1.20	92	2.17	69.7	61.2	65	99.1	88	0.115	0.339	22.36
137	166.1	-1.4	21.820	0.161	1.22	92	2.14	69.7	61.2	65	100.1	89	0.108	0.329	22.31
138	165.4	-0.8	21.979	0.159	1.22	92	2.23	69.7	61.2	65	99.2	89	0.113	0.336	22.22
139	164.6	-0.8	22.138	0.159	1.21	92	2.11	69.8	61.3	66	98.6	89	0.115	0.339	22.57
140	164.2	-0.4	22.299	0.161	1.22	92	2.12	69.8	61.3	66	99.5	89	0.109	0.330	22.37
141	163.4	-0.7	22.458	0.159	1.22	92	2.11	69.8	61.3	65	99.3	90	0.110	0.332	22.13
142	162.9	-0.6	22.617	0.159	1.22	92	2.24	69.9	61.4	65	99.9	91	0.110	0.332	22.20
143	162.2	-0.6	22.777	0.160	1.20	93	2.13	69.9	61.4	66	100.1	89	0.111	0.333	22.24
144	161.5	-0.8	22.937	0.160	1.20	92	2.23	69.8	61.4	65	100.0	86	0.108	0.329	22.09
145	160.6	-0.9	23.096	0.159	1.20	92	2.14	69.9	61.5	65	99.6	88	0.111	0.333	22.08
146	159.9	-0.7	23.254	0.158	1.22	92	2.21	69.9	61.5	65	99.1	87	0.107	0.327	22.03
147	159.0	-0.8	23.415	0.161	1.20	93	2.13	69.8	61.5	65	100.9	86	0.111	0.333	22.01
148	158.0	-1.1	23.574	0.159	1.20	93	2.12	69.7	61.5	65	99.5	86	0.109	0.330	22.11
149	157.3	-0.7	23.733	0.159	1.20	93	2.17	69.8	61.6	65	99.7	86	0.107	0.327	21.91
150	156.4	-0.8	23.893	0.160	1.19	93	2.14	69.8	61.6	66	100.3	86	0.112	0.335	22.05
151	155.8	-0.7	24.053	0.160	1.22	93	2.13	69.7	61.6	65	100.0	85	0.107	0.327	22.05
152	155.2	-0.5	24.211	0.158	1.20	93	2.25	69.6	61.7	65	98.9	84	0.109	0.330	21.87
153	154.6	-0.6	24.371	0.160	1.21	93	2.24	69.6	61.7	65	100.1	85	0.111	0.333	22.07
154	153.8	-0.9	24.531	0.160	1.22	93	2.23	69.5	61.7	65	99.9	84	0.107	0.327	21.98
155	152.4	-1.3	24.690	0.159	1.21	93	2.18	69.4	61.7	65	99.5	83	0.110	0.332	21.91
156	151.7	-0.7	24.848	0.158	1.22	94	2.23	69.4	61.7	65	98.5	84	0.111	0.333	22.11
157	151.5	-0.2	25.009	0.161	1.21	94	2.18	69.3	61.8	65	99.5	83	0.113	0.336	22.26
158	151.1	-0.4	25.168	0.159	1.19	93	2.16	69.3	61.7	65	97.8	84	0.113	0.336	22.35
159	149.4	-1.6	25.327	0.159	1.20	93	2.22	69.3	61.8	65	98.2	83	0.108	0.329	22.11
160	149.4	0.0	25.488	0.161	1.22	93	2.24	69.2	61.8	65	100.2	83	0.110	0.332	21.95
161	148.7	-0.7	25.647	0.159	1.23	94	2.24	69.2	61.8	65	99.1	85	0.111	0.333	22.11
162	147.3	-1.4	25.807	0.160	1.22	93	2.22	69.3	61.8	64	99.3	85	0.111	0.333	22.18
163	147.3	-0.1	25.967	0.160	1.21	94	2.10	69.1	61.8	64	99.2	84	0.111	0.333	22.18
164	146.0	-1.3	26.129	0.162	1.23	94	2.15	69.1	61.9	65	100.1	83	0.112	0.335	22.21
165	146.0	0.1	26.289	0.160	1.22	94	2.10	69	61.9	65	98.4	83	0.114	0.338	22.35
166	144.3	-1.7	26.449	0.160	1.22	93	2.22	69	61.9	65	98.5	85	0.110	0.332	22.26
167	144.4	0.0	26.609	0.160	1.22	93	2.16	69	61.9	65	99.4	85	0.109	0.330	22.03
168	143.0	-1.4	26.771	0.162	1.22	93	2.12	69.1	61.9	65	101.0	85	0.111	0.333	22.08
169	143.1	0.1	26.931	0.160	1.21	94	2.14	69	62	65	99.1	86	0.114	0.338	22.35
170	141.6	-1.6	27.090	0.159	1.22	94	2.24	69.1	62	65	98.2	86	0.109	0.330	22.26
171	141.3	-0.3	27.250	0.160	1.22	93	2.23	69.1	62	65	99.2	86	0.112	0.335	22.15
172	140.7	-0.6	27.411	0.161	1.22	94	2.22	69.1	62	65	100.1	86	0.109	0.330	22.16

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 16:22
 Test Length: 360 min
 Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg
 Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
173	139.2	-1.4	27.571	0.160	1.19	94	2.21	69.1	62	65	99.4	87	0.113	0.336	22.22
174	139.1	-0.1	27.730	0.159	1.22	93	2.23	69.1	62	65	98.4	87	0.112	0.335	22.38
175	138.5	-0.6	27.891	0.161	1.21	94	2.17	69.2	62	65	99.2	87	0.114	0.338	22.43
176	137.1	-1.4	28.051	0.160	1.21	94	2.22	69.2	62.1	65	98.6	87	0.111	0.333	22.38
177	136.6	-0.5	28.211	0.160	1.22	93	2.21	69.2	62.1	65	98.9	87	0.113	0.336	22.34
178	136.6	0.0	28.370	0.159	1.20	94	2.14	69.2	62.1	65	98.1	87	0.113	0.336	22.44
179	135.1	-1.4	28.531	0.161	1.23	94	2.13	69.2	62.1	65	99.4	87	0.110	0.332	22.29
180	134.4	-0.8	28.690	0.159	1.21	94	2.13	69.2	62.1	65	98.3	88	0.115	0.339	22.40
181	134.1	-0.2	28.850	0.160	1.22	93	2.22	69.3	62.1	65	98.8	88	0.110	0.332	22.40
182	133.2	-0.9	29.010	0.160	1.24	93	2.21	69.3	62.1	65	99.4	88	0.110	0.332	22.15
183	132.3	-0.9	29.171	0.161	1.21	94	2.23	69.3	62.1	65	100.6	87	0.109	0.330	22.09
184	131.7	-0.6	29.330	0.159	1.21	94	2.14	69.4	62.2	65	99.1	88	0.113	0.336	22.24
185	131.3	-0.5	29.489	0.159	1.22	94	2.21	69.3	62.1	65	98.5	86	0.111	0.333	22.33
186	130.1	-1.2	29.651	0.162	1.22	94	2.11	69.4	62.2	65	100.3	88	0.111	0.333	22.24
187	129.3	-0.8	29.810	0.159	1.22	94	2.17	69.4	62.2	65	98.6	88	0.112	0.335	22.30
188	129.4	0.0	29.969	0.159	1.21	94	2.17	69.5	62.2	65	98.4	88	0.112	0.335	22.35
189	128.1	-1.3	30.129	0.160	1.23	94	2.14	69.4	62.2	65	99.0	87	0.111	0.333	22.30
190	127.1	-1.0	30.290	0.161	1.21	94	2.14	69.4	62.2	65	99.6	88	0.113	0.336	22.35
191	127.2	0.1	30.450	0.160	1.20	94	2.13	69.5	62.2	65	99.0	88	0.111	0.333	22.35
192	126.2	-1.0	30.609	0.159	1.22	94	2.13	69.6	62.2	65	98.5	89	0.112	0.335	22.30
193	124.9	-1.3	30.770	0.161	1.23	94	2.15	69.5	62.2	65	100.1	87	0.108	0.329	22.15
194	124.7	-0.2	30.931	0.161	1.21	94	2.12	69.6	62.2	65	100.6	89	0.111	0.333	22.10
195	124.2	-0.5	31.091	0.160	1.22	94	2.20	69.7	62.3	65	99.7	89	0.112	0.335	22.32
196	122.7	-1.5	31.250	0.159	1.22	94	2.15	69.7	62.3	65	98.4	89	0.113	0.336	22.42
197	122.1	-0.6	31.411	0.161	1.21	94	2.21	69.7	62.3	65	100.5	90	0.102	0.319	21.92
198	122.2	0.1	31.571	0.160	1.21	94	2.23	69.7	62.3	65	101.3	89	0.111	0.333	21.82
199	120.5	-1.7	31.731	0.160	1.22	94	2.14	69.7	62.3	65	100.8	89	0.108	0.329	22.11
200	119.9	-0.5	31.891	0.160	1.21	94	2.21	69.8	62.3	65	100.6	88	0.106	0.326	21.86
201	119.7	-0.2	32.052	0.161	1.22	94	2.22	69.8	62.3	65	101.3	89	0.113	0.336	22.11
202	118.0	-1.7	32.212	0.160	1.21	94	2.16	69.8	62.4	65	99.7	90	0.111	0.333	22.38
203	118.0	0.0	32.371	0.159	1.21	94	2.21	69.9	62.4	65	98.8	90	0.110	0.332	22.24
204	117.0	-0.9	32.531	0.160	1.21	94	2.16	69.9	62.4	65	100.5	90	0.104	0.322	21.88
205	116.4	-0.6	32.692	0.161	1.21	94	2.13	69.9	62.4	65	101.8	90	0.111	0.333	21.93
206	115.5	-0.9	32.851	0.159	1.21	94	2.17	69.9	62.4	65	100.4	90	0.105	0.324	21.98
207	114.7	-0.9	33.009	0.158	1.21	94	2.21	70	62.4	65	99.4	90	0.113	0.336	22.09
208	114.0	-0.7	33.170	0.161	1.24	94	2.16	70	62.4	65	100.7	90	0.108	0.329	22.24
209	113.8	-0.1	33.329	0.159	1.19	95	2.22	70	62.5	65	99.7	90	0.107	0.327	21.93
210	112.1	-1.7	33.488	0.159	1.21	94	2.15	70.1	62.5	65	100.1	90	0.111	0.333	22.09
211	111.4	-0.8	33.648	0.160	1.20	94	2.23	70	62.5	65	99.6	90	0.114	0.338	22.44
212	111.0	-0.4	33.807	0.159	1.19	94	2.23	70	62.4	65	98.0	90	0.113	0.336	22.53
213	110.4	-0.6	33.966	0.159	1.19	94	2.17	70	62.5	65	98.0	90	0.112	0.335	22.43
214	109.6	-0.8	34.126	0.160	1.21	94	2.16	70.1	62.5	65	98.9	90	0.112	0.335	22.38
215	108.4	-1.2	34.286	0.160	1.22	94	2.22	70.2	62.5	65	99.4	90	0.109	0.330	22.23
216	107.7	-0.7	34.444	0.158	1.20	94	2.24	70.1	62.5	65	98.5	90	0.112	0.335	22.24

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 16:22
 Test Length: 360 min
 Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg
 Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
217	107.0	-0.7	34.603	0.159	1.21	94	2.24	70.1	62.5	65	98.4	90	0.116	0.341	22.59
218	106.3	-0.6	34.763	0.160	1.20	94	2.26	70.2	62.6	65	98.1	90	0.113	0.336	22.64
219	105.5	-0.9	34.922	0.159	1.20	95	2.23	70.2	62.6	65	97.4	90	0.115	0.339	22.59
220	104.7	-0.7	35.079	0.157	1.19	94	2.23	70.2	62.6	65	96.7	90	0.110	0.332	22.45
221	103.8	-0.9	35.240	0.161	1.19	95	2.24	70.2	62.6	65	100.5	90	0.106	0.326	21.99
222	103.1	-0.7	35.398	0.158	1.19	94	2.25	70.3	62.6	65	99.3	90	0.113	0.336	22.14
223	102.1	-1.0	35.555	0.157	1.19	95	2.24	70.3	62.6	65	97.8	90	0.110	0.332	22.34
224	100.9	-1.2	35.715	0.160	1.19	94	2.18	70.3	62.6	65	100.0	90	0.106	0.326	21.99
225	100.3	-0.6	35.873	0.158	1.18	95	2.27	70.3	62.6	65	99.4	90	0.112	0.335	22.09
226	99.7	-0.7	36.031	0.158	1.19	95	2.16	70.3	62.6	65	98.6	90	0.110	0.332	22.29
227	99.1	-0.6	36.190	0.159	1.21	95	2.22	70.3	62.7	65	98.9	90	0.111	0.333	22.24
228	98.3	-0.8	36.349	0.159	1.19	94	2.23	70.3	62.7	65	98.9	90	0.111	0.333	22.28
229	97.6	-0.7	36.506	0.157	1.19	95	2.18	70.3	62.6	65	97.5	90	0.112	0.335	22.34
230	97.1	-0.6	36.666	0.160	1.21	94	2.22	70.4	62.7	65	99.3	91	0.111	0.333	22.35
231	96.2	-0.9	36.825	0.159	1.20	94	2.15	70.3	62.7	65	98.7	90	0.112	0.335	22.35
232	95.4	-0.8	36.983	0.158	1.17	94	2.23	70.4	62.8	65	98.0	90	0.112	0.335	22.40
233	94.4	-0.9	37.143	0.160	1.21	95	2.24	70.4	62.7	65	99.3	90	0.110	0.332	22.29
234	93.3	-1.1	37.302	0.159	1.18	95	2.23	70.4	62.7	65	98.5	91	0.115	0.339	22.45
235	92.1	-1.2	37.459	0.157	1.19	94	2.22	70.3	62.7	65	97.6	91	0.104	0.322	22.15
236	91.1	-1.0	37.619	0.160	1.19	94	2.24	70.4	62.7	65	100.9	90	0.109	0.330	21.84
237	90.9	-0.2	37.777	0.158	1.20	95	2.17	70.4	62.8	65	99.4	91	0.112	0.335	22.25
238	90.1	-0.8	37.935	0.158	1.20	94	2.16	70.4	62.8	66	97.8	91	0.115	0.339	22.55
239	88.7	-1.4	38.095	0.160	1.19	94	2.17	70.4	62.8	65	98.5	91	0.112	0.335	22.55
240	88.5	-0.2	38.253	0.158	1.20	95	2.24	70.4	62.8	65	98.0	90	0.108	0.329	22.20
241	88.0	-0.5	38.411	0.158	1.19	95	2.20	70.4	62.8	65	98.7	91	0.112	0.335	22.20
242	86.4	-1.6	38.571	0.160	1.20	94	2.15	70.4	62.9	65	99.8	90	0.109	0.330	22.25
243	86.0	-0.4	38.729	0.158	1.19	95	2.24	70.5	62.8	65	98.6	91	0.111	0.333	22.20
244	85.4	-0.6	38.887	0.158	1.20	95	2.25	70.5	62.9	65	98.1	91	0.114	0.338	22.46
245	83.9	-1.5	39.047	0.160	1.19	94	2.20	70.5	62.8	65	98.9	91	0.110	0.332	22.41
246	83.6	-0.3	39.206	0.159	1.18	94	2.16	70.5	62.9	65	99.4	91	0.106	0.326	22.00
247	83.3	-0.3	39.363	0.157	1.20	95	2.24	70.5	62.9	65	99.0	92	0.111	0.333	22.07
248	81.8	-1.4	39.524	0.161	1.20	95	2.23	70.5	62.9	65	100.6	91	0.112	0.335	22.37
249	80.6	-1.2	39.683	0.159	1.19	94	2.23	70.6	62.9	65	98.3	91	0.114	0.338	22.50
250	80.4	-0.2	39.841	0.158	1.20	95	2.16	70.5	62.9	65	97.8	90	0.108	0.329	22.30
251	79.9	-0.5	40.001	0.160	1.21	94	2.16	70.5	62.9	65	100.2	92	0.108	0.329	22.00
252	78.3	-1.6	40.160	0.159	1.18	94	2.22	70.6	62.9	65	100.0	91	0.111	0.333	22.17
253	77.7	-0.6	40.318	0.158	1.19	95	2.23	70.6	62.9	65	98.6	91	0.111	0.333	22.31
254	77.7	0.0	40.478	0.160	1.21	95	2.20	70.7	63	65	100.1	92	0.106	0.326	22.07
255	76.3	-1.4	40.637	0.159	1.20	95	2.15	70.7	63	65	100.3	91	0.109	0.330	21.97
256	75.4	-0.9	40.795	0.158	1.20	94	2.26	70.7	63	65	99.1	90	0.112	0.335	22.25
257	75.3	-0.2	40.954	0.159	1.21	95	2.15	70.7	63	65	98.6	91	0.114	0.338	22.51
258	73.8	-1.5	41.114	0.160	1.20	95	2.17	70.7	63	65	98.5	91	0.113	0.336	22.56
259	73.7	0.0	41.271	0.157	1.21	95	2.22	70.7	63	65	96.6	91	0.113	0.336	22.52
260	72.6	-1.1	41.431	0.160	1.20	94	2.18	70.7	63	66	98.5	92	0.115	0.339	22.63

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Start Time: 16:22

Test Length: 360 min

Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg

Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
261	71.5	-1.1	41.590	0.159	1.20	94	2.16	70.7	63	66	98.3	93	0.109	0.330	22.45
262	71.2	-0.3	41.748	0.158	1.19	94	2.21	70.7	63	65	98.4	91	0.111	0.333	22.23
263	70.6	-0.6	41.906	0.158	1.20	95	2.16	70.7	63.1	65	98.7	91	0.109	0.330	22.21
264	70.0	-0.6	42.066	0.160	1.21	95	2.14	70.7	63.1	66	100.3	93	0.109	0.330	22.13
265	69.3	-0.7	42.224	0.158	1.18	95	2.26	70.7	63.1	65	98.9	91	0.112	0.335	22.28
266	68.5	-0.8	42.383	0.159	1.20	95	2.22	70.7	63.1	65	98.9	92	0.111	0.333	22.36
267	67.0	-1.5	42.542	0.159	1.20	95	2.15	70.8	63.1	65	99.2	93	0.108	0.329	22.19
268	66.1	-0.9	42.700	0.158	1.19	94	2.19	70.7	63.1	66	99.0	92	0.111	0.333	22.19
269	65.6	-0.5	42.859	0.159	1.20	95	2.25	70.8	63.1	66	99.6	93	0.108	0.329	22.18
270	65.1	-0.5	43.018	0.159	1.18	95	2.23	70.8	63.1	65	99.6	92	0.111	0.333	22.18
271	64.6	-0.5	43.176	0.158	1.18	95	2.17	70.7	63.1	65	98.9	91	0.108	0.329	22.17
272	63.6	-1.0	43.334	0.158	1.20	95	2.26	70.8	63.1	65	99.0	91	0.110	0.332	22.11
273	62.4	-1.2	43.494	0.160	1.19	95	2.26	70.8	63.1	65	100.1	91	0.111	0.333	22.26
274	61.4	-1.0	43.652	0.158	1.18	95	2.26	70.8	63.1	65	98.3	91	0.111	0.333	22.31
275	60.8	-0.6	43.810	0.158	1.21	95	2.27	70.7	63.1	65	98.7	91	0.107	0.327	22.10
276	60.2	-0.6	43.970	0.160	1.21	94	2.25	70.8	63.1	65	100.8	91	0.108	0.329	21.95
277	59.4	-0.7	44.127	0.157	1.21	95	2.16	70.8	63.1	66	99.5	91	0.105	0.324	21.86
278	58.8	-0.6	44.286	0.159	1.18	95	2.15	70.8	63.1	65	100.0	91	0.116	0.341	22.26
279	58.2	-0.6	44.445	0.159	1.19	95	2.25	70.8	63.1	65	98.4	92	0.111	0.333	22.57
280	57.4	-0.8	44.603	0.158	1.19	95	2.20	70.8	63.1	66	97.9	91	0.109	0.330	22.22
281	56.7	-0.7	44.762	0.159	1.20	95	2.27	70.8	63.1	66	99.5	91	0.109	0.330	22.11
282	55.4	-1.2	44.920	0.158	1.19	95	2.17	70.8	63.1	65	98.8	90	0.111	0.333	22.20
283	54.7	-0.8	45.078	0.158	1.18	94	2.18	70.8	63.2	66	98.5	91	0.110	0.332	22.25
284	53.9	-0.8	45.236	0.158	1.18	95	2.19	70.7	63.2	66	98.7	91	0.109	0.330	22.16
285	53.2	-0.6	45.394	0.158	1.17	95	2.26	70.7	63.2	65	99.0	91	0.109	0.330	22.11
286	52.9	-0.4	45.551	0.157	1.17	95	2.21	70.7	63.2	66	98.5	91	0.109	0.330	22.11
287	51.9	-1.0	45.710	0.159	1.19	95	2.19	70.8	63.2	66	99.6	91	0.111	0.333	22.22
288	50.2	-1.7	45.868	0.158	1.18	95	2.26	70.8	63.2	65	98.8	90	0.108	0.329	22.16
289	49.8	-0.4	46.024	0.156	1.18	95	2.21	70.8	63.2	65	97.4	91	0.113	0.336	22.25
290	48.9	-0.8	46.183	0.159	1.18	95	2.22	70.8	63.2	65	99.4	91	0.106	0.326	22.16
291	47.8	-1.2	46.341	0.158	1.19	95	2.25	70.8	63.2	65	99.3	91	0.110	0.332	22.01
292	47.6	-0.1	46.498	0.157	1.19	95	2.18	70.8	63.2	65	98.2	91	0.112	0.335	22.31
293	45.9	-1.8	46.657	0.159	1.18	95	2.18	70.7	63.2	65	98.9	91	0.110	0.332	22.31
294	45.7	-0.2	46.813	0.156	1.18	95	2.23	70.8	63.3	65	97.5	91	0.107	0.327	22.06
295	44.9	-0.8	46.972	0.159	1.18	95	2.25	70.7	63.2	66	99.6	91	0.113	0.336	22.21
296	43.5	-1.3	47.129	0.157	1.16	95	2.26	70.7	63.2	65	98.1	91	0.106	0.326	22.16
297	42.6	-1.0	47.286	0.157	1.17	95	2.24	70.7	63.2	65	99.4	91	0.103	0.321	21.65
298	41.9	-0.6	47.445	0.159	1.18	95	2.18	70.7	63.3	66	101.4	91	0.110	0.332	21.86
299	41.2	-0.7	47.602	0.157	1.16	95	2.19	70.7	63.2	65	98.6	91	0.112	0.335	22.31
300	40.5	-0.7	47.760	0.158	1.20	95	2.17	70.7	63.2	65	98.2	91	0.110	0.332	22.31
301	39.5	-0.9	47.918	0.158	1.19	95	2.27	70.7	63.2	66	98.2	91	0.112	0.335	22.31
302	38.8	-0.8	48.074	0.156	1.18	95	2.20	70.8	63.2	65	97.1	92	0.110	0.332	22.32
303	38.6	-0.2	48.233	0.159	1.18	95	2.20	70.8	63.3	65	99.6	92	0.106	0.326	22.02
304	38.0	-0.6	48.390	0.157	1.17	95	2.26	70.8	63.2	65	98.6	92	0.113	0.336	22.17

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 16:22
 Test Length: 360 min
 Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0.003 cfm @ 27 in. Hg
 Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
305	36.5	-1.4	48.547	0.157	1.19	95	2.19	70.8	63.2	65	98.5	91	0.103	0.321	22.01
306	35.6	-1.0	48.706	0.159	1.20	95	2.19	70.8	63.3	65	100.9	93	0.108	0.329	21.77
307	35.5	-0.1	48.863	0.157	1.17	95	2.26	70.8	63.3	65	98.9	91	0.114	0.338	22.33
308	34.9	-0.6	49.021	0.158	1.19	95	2.20	70.9	63.2	65	98.3	92	0.108	0.329	22.33
309	33.5	-1.3	49.179	0.158	1.18	95	2.27	70.8	63.3	66	98.6	92	0.112	0.335	22.23
310	32.7	-0.8	49.335	0.156	1.18	95	2.19	70.8	63.3	66	97.2	92	0.111	0.333	22.37
311	32.4	-0.4	49.494	0.159	1.18	95	2.26	70.8	63.3	65	99.4	94	0.107	0.327	22.14
312	31.3	-1.0	49.652	0.158	1.21	95	2.32	71	63.3	65	99.1	93	0.113	0.336	22.25
313	30.3	-1.0	49.812	0.160	1.23	95	2.31	70.9	63.3	66	100.3	91	0.104	0.322	22.07
314	30.5	0.2	49.973	0.161	1.22	95	2.31	70.9	63.3	66	101.0	91	0.115	0.339	22.16
315	28.9	-1.6	50.134	0.161	1.23	95	2.24	70.9	63.3	66	100.0	90	0.110	0.332	22.45
316	28.6	-0.3	50.294	0.160	1.22	95	2.31	70.8	63.3	65	98.5	89	0.116	0.341	22.48
317	27.8	-0.8	50.453	0.159	1.22	95	2.27	70.8	63.3	65	98.0	88	0.108	0.329	22.36
318	27.3	-0.5	50.614	0.161	1.21	95	2.26	70.7	63.3	66	99.7	88	0.113	0.336	22.20
319	25.7	-1.6	50.775	0.161	1.23	95	2.24	70.7	63.4	66	100.0	87	0.107	0.327	22.14
320	25.1	-0.6	50.935	0.160	1.23	95	2.24	70.6	63.3	66	99.5	87	0.113	0.336	22.13
321	25.2	0.1	51.094	0.159	1.22	95	2.30	70.6	63.3	65	98.4	87	0.111	0.333	22.32
322	24.0	-1.2	51.256	0.162	1.23	96	2.24	70.5	63.4	66	100.5	86	0.106	0.326	21.96
323	23.3	-0.8	51.417	0.161	1.19	95	2.29	70.5	63.4	66	100.6	86	0.112	0.335	22.01
324	22.3	-1.0	51.576	0.159	1.22	95	2.31	70.4	63.4	65	98.9	86	0.109	0.330	22.16
325	21.7	-0.6	51.736	0.160	1.20	95	2.26	70.4	63.3	66	99.1	86	0.113	0.336	22.20
326	21.4	-0.3	51.898	0.162	1.21	96	2.25	70.3	63.4	66	99.5	85	0.115	0.339	22.50
327	21.0	-0.4	52.058	0.160	1.22	95	2.28	70.2	63.4	65	98.0	85	0.109	0.330	22.29
328	20.1	-1.0	52.218	0.160	1.22	95	2.30	70.2	63.4	66	98.7	85	0.113	0.336	22.19
329	18.8	-1.3	52.377	0.159	1.21	95	2.25	70.1	63.4	66	98.2	85	0.110	0.332	22.24
330	18.1	-0.7	52.539	0.162	1.22	95	2.33	70	63.4	65	100.1	84	0.111	0.333	22.13
331	17.4	-0.8	52.699	0.160	1.21	95	2.32	70	63.4	65	99.1	84	0.109	0.330	22.07
332	17.1	-0.3	52.859	0.160	1.20	95	2.23	69.9	63.4	65	99.3	84	0.111	0.333	22.07
333	16.5	-0.6	53.019	0.160	1.21	95	2.33	69.8	63.4	65	99.3	84	0.109	0.330	22.07
334	16.2	-0.3	53.181	0.162	1.22	95	2.33	69.8	63.4	65	100.3	84	0.113	0.336	22.17
335	14.7	-1.5	53.341	0.160	1.20	95	2.24	69.8	63.4	65	98.0	86	0.118	0.344	22.64
336	14.2	-0.5	53.500	0.159	1.21	95	2.32	69.8	63.4	65	96.9	85	0.108	0.329	22.40
337	14.1	-0.1	53.661	0.161	1.22	95	2.22	69.8	63.4	65	99.6	87	0.110	0.332	22.00
338	12.9	-1.3	53.823	0.162	1.22	95	2.30	69.7	63.4	65	100.6	85	0.113	0.336	22.26
339	12.5	-0.4	53.983	0.160	1.23	95	2.32	69.7	63.4	65	98.5	85	0.111	0.333	22.29
340	12.2	-0.3	54.143	0.160	1.22	95	2.32	69.7	63.4	65	99.0	86	0.108	0.329	22.04
341	10.8	-1.3	54.304	0.161	1.25	95	2.24	69.6	63.4	65	101.2	87	0.103	0.321	21.66
342	10.1	-0.8	54.466	0.162	1.23	95	2.27	69.6	63.4	65	101.9	86	0.116	0.341	22.07
343	9.7	-0.3	54.626	0.160	1.24	95	2.31	69.5	63.4	65	98.6	86	0.113	0.336	22.56
344	9.3	-0.4	54.787	0.161	1.22	95	2.26	69.5	63.4	65	99.0	87	0.108	0.329	22.17
345	8.4	-1.0	54.947	0.160	1.23	95	2.27	69.5	63.4	65	99.5	85	0.110	0.332	22.00
346	7.6	-0.8	55.110	0.163	1.23	95	2.30	69.4	63.4	65	101.2	83	0.111	0.333	22.12
347	7.5	-0.1	55.270	0.160	1.23	95	2.31	69.3	63.4	65	99.7	86	0.105	0.324	21.88
348	6.8	-0.7	55.431	0.161	1.22	95	2.24	69.3	63.4	64	101.0	84	0.110	0.332	21.84

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 1
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 16:22
Test Length: 360 min
Recording Interval: 1 min

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
Pre-test 0.003 cfm @ 27 in. Hg
Post-Test 0 cfm @ 5.96 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
349	5.9	-0.9	55.591	0.160	1.25	95	2.29	69.2	63.4	65	99.4	84	0.114	0.338	22.27
350	5.6	-0.4	55.754	0.163	1.22	95	2.23	69.2	63.4	65	100.0	83	0.112	0.335	22.36
351	5.2	-0.3	55.915	0.161	1.24	95	2.22	69.1	63.4	65	98.6	84	0.113	0.336	22.31
352	3.8	-1.4	56.076	0.161	1.23	95	2.29	69.1	63.4	65	98.3	84	0.116	0.341	22.51
353	3.9	0.1	56.237	0.161	1.21	95	2.23	69	63.3	64	97.8	84	0.114	0.338	22.56
354	3.5	-0.4	56.398	0.161	1.23	95	2.30	69	63.3	65	98.2	86	0.113	0.336	22.44
355	2.7	-0.8	56.561	0.163	1.25	95	2.30	69	63.3	65	100.1	86	0.111	0.333	22.30
356	2.0	-0.7	56.723	0.162	1.24	95	2.22	69	63.4	65	99.9	86	0.112	0.335	22.26
357	1.3	-0.7	56.884	0.161	1.24	95	2.28	68.9	63.3	65	99.4	86	0.111	0.333	22.26
358	1.1	-0.2	57.045	0.161	1.24	95	2.26	68.9	63.3	65	99.6	86	0.110	0.332	22.16
359	0.0	-1.1	57.207	0.162	1.24	95	2.20	68.9	63.3	65	100.6	86	0.110	0.332	22.11
360	0.0	0.0	57.370	0.163	1.25	95	2.26	68.7	63.2	65	99.8	74	0.116	0.341	22.29

Train B - Particulate Sampling

ASTM E2515

Run: 1

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0.002 cfm @ 26 in. Hg

Post-Test 0 cfm @ 6.2 in. Hg

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	58.029	0.161	1.23	86.9	2.35	68.52	58.57	100.0
Minimum	0.000	0.158	0.05	65	0.01	63	45	96.8
Max	58.029	0.164	1.27	92	2.46	70	61	104.3
0	0.000		0.05	66	0.01	63.3	48.4	
1	0.158	0.158	1.26	65	2.30	63.8	44.7	99.7
2	0.319	0.161	1.23	65	2.29	64.1	44.5	103.4
3	0.479	0.160	1.24	65	2.38	64.6	44.6	104.3
4	0.640	0.161	1.21	66	2.32	64.8	44.9	104.3
5	0.803	0.163	1.28	66	2.37	65	45	103.9
6	0.964	0.161	1.25	66	2.33	65.1	45.3	102.5
7	1.124	0.160	1.24	66	2.33	65.2	45.4	102.5
8	1.285	0.161	1.23	66	2.38	65.3	45.5	103.3
9	1.447	0.162	1.23	66	2.38	65.5	45.8	103.8
10	1.607	0.160	1.24	66	2.38	65.6	46.1	103.2
11	1.767	0.160	1.24	66	2.34	65.6	46.3	103.3
12	1.926	0.159	1.23	67	2.37	65.9	46.6	102.0
13	2.088	0.162	1.23	67	2.36	66	46.9	104.0
14	2.247	0.159	1.24	67	2.36	66.1	47.1	101.3
15	2.406	0.159	1.23	68	2.36	66.2	47.4	100.6
16	2.566	0.160	1.24	68	2.35	66.3	47.6	102.0
17	2.727	0.161	1.22	68	2.35	66.4	47.9	103.6
18	2.885	0.158	1.24	68	2.37	66.6	48.2	101.2
19	3.045	0.160	1.24	68	2.35	66.6	48.4	101.1
20	3.206	0.161	1.24	69	2.35	66.7	48.8	101.4
21	3.368	0.162	1.23	69	2.36	66.9	49	102.9
22	3.527	0.159	1.24	69	2.37	66.9	49.3	102.5
23	3.686	0.159	1.24	70	2.36	67	49.6	103.5
24	3.847	0.161	1.23	70	2.36	67.1	49.8	104.3
25	4.008	0.161	1.25	70	2.35	67.2	50.1	103.4
26	4.168	0.160	1.23	71	2.34	67.2	50.4	102.3
27	4.327	0.159	1.24	71	2.34	67.3	50.6	101.8
28	4.488	0.161	1.22	71	2.34	67.3	50.8	103.4
29	4.649	0.161	1.24	71	2.34	67.4	51.1	102.6
30	4.809	0.160	1.23	72	2.35	67.5	51.3	101.3
31	4.968	0.159	1.23	72	2.35	67.6	51.6	101.1
32	5.129	0.161	1.23	72	2.36	67.7	51.8	103.2
33	5.289	0.160	1.23	73	2.33	67.8	52	103.2
34	5.449	0.160	1.23	73	2.37	67.9	52.2	102.2
35	5.608	0.159	1.24	73	2.36	67.9	52.5	100.5
36	5.769	0.161	1.22	74	2.37	67.9	52.7	101.4
37	5.929	0.160	1.23	74	2.35	67.9	52.9	100.5
38	6.088	0.159	1.23	74	2.35	68	53.1	100.5
39	6.248	0.160	1.23	75	2.35	68	53.4	101.8
40	6.410	0.162	1.24	75	2.35	68.1	53.6	102.2

Train B - Particulate Sampling

ASTM E2515

Run: 1

Test Date: 2/24/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0.002 cfm @ 26 in. Hg

Post-Test 0 cfm @ 6.2 in. Hg

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
41	6.570	0.160	1.22	75	2.33	68.2	53.8	100.4
42	6.729	0.159	1.24	76	2.34	68.2	54.1	100.0
43	6.889	0.160	1.24	76	2.34	68.2	54.3	100.9
44	7.051	0.162	1.24	76	2.34	68.2	54.4	103.2
45	7.210	0.159	1.23	76	2.35	68.3	54.6	102.1
46	7.369	0.159	1.25	77	2.33	68.3	54.9	101.8
47	7.529	0.160	1.23	77	2.34	68.3	55	101.9
48	7.691	0.162	1.23	77	2.35	68.4	55.1	102.7
49	7.850	0.159	1.23	78	2.32	68.4	55.3	100.5
50	8.010	0.160	1.22	78	2.32	68.5	55.4	101.5
51	8.170	0.160	1.23	78	2.35	68.6	55.6	101.6
52	8.331	0.161	1.24	78	2.30	68.6	55.8	101.6
53	8.490	0.159	1.23	79	2.30	68.6	55.9	100.2
54	8.650	0.160	1.23	79	2.35	68.7	56.1	101.2
55	8.810	0.160	1.23	79	2.34	68.8	56.3	101.1
56	8.971	0.161	1.23	79	2.36	68.8	56.4	101.5
57	9.130	0.159	1.23	79	2.35	68.8	56.5	100.7
58	9.289	0.159	1.24	80	2.32	68.8	56.6	101.2
59	9.450	0.161	1.25	80	2.32	68.8	56.7	102.0
60	9.610	0.160	1.23	80	2.35	68.9	56.9	100.1
61	9.769	0.159	1.23	81	2.36	68.8	57	98.7
62	9.929	0.160	1.21	81	2.28	68.8	57.1	100.7
63	10.091	0.162	1.23	81	2.35	68.8	57.2	102.5
64	10.250	0.159	1.23	81	2.37	68.8	57.3	99.0
65	10.408	0.158	1.21	81	2.37	68.8	57.5	98.6
66	10.568	0.160	1.23	82	2.35	68.7	57.5	101.2
67	10.730	0.162	1.22	82	2.30	68.7	57.6	103.0
68	10.888	0.158	1.21	82	2.30	68.7	57.7	100.0
69	11.048	0.160	1.22	82	2.33	68.7	57.8	100.3
70	11.208	0.160	1.24	82	2.34	68.6	57.9	100.0
71	11.368	0.160	1.22	83	2.30	68.6	58	99.9
72	11.527	0.159	1.22	83	2.38	68.5	58.1	98.8
73	11.687	0.160	1.21	83	2.35	68.5	58.2	99.4
74	11.848	0.161	1.22	83	2.33	68.4	58.2	100.8
75	12.007	0.159	1.23	83	2.36	68.4	58.3	99.3
76	12.166	0.159	1.22	84	2.35	68.4	58.4	98.3
77	12.326	0.160	1.20	84	2.34	68.3	58.4	98.8
78	12.486	0.160	1.22	84	2.27	68.2	58.5	99.2
79	12.646	0.160	1.23	84	2.32	68.2	58.6	99.8
80	12.805	0.159	1.23	84	2.28	68.2	58.7	99.1
81	12.966	0.161	1.22	84	2.36	68.1	58.7	100.2
82	13.127	0.161	1.22	84	2.24	68.1	58.8	100.3
83	13.287	0.160	1.22	85	2.37	68	58.9	99.5
84	13.446	0.159	1.22	85	2.35	68	58.9	99.8

Train B - Particulate Sampling

ASTM E2515

Run: 1

Test Date: 2/24/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0.002 cfm @ 26 in. Hg

Post-Test 0 cfm @ 6.2 in. Hg

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
85	13.607	0.161	1.22	85	2.39	67.9	58.9	101.5
86	13.768	0.161	1.22	85	2.36	67.9	59	100.3
87	13.928	0.160	1.23	85	2.34	67.9	59.1	99.1
88	14.088	0.160	1.24	85	2.27	67.9	59.1	99.6
89	14.249	0.161	1.22	85	2.28	67.9	59.2	100.1
90	14.411	0.162	1.24	86	2.38	67.9	59.2	100.2
91	14.571	0.160	1.22	86	2.27	67.9	59.3	98.6
92	14.731	0.160	1.22	86	2.35	67.9	59.3	98.5
93	14.892	0.161	1.22	86	2.36	67.9	59.4	99.6
94	15.054	0.162	1.24	86	2.28	67.9	59.4	100.3
95	15.215	0.161	1.23	86	2.36	67.9	59.5	99.0
96	15.375	0.160	1.23	86	2.35	67.9	59.5	98.9
97	15.535	0.160	1.24	86	2.27	67.9	59.6	99.7
98	15.697	0.162	1.23	87	2.27	68	59.6	100.5
99	15.858	0.161	1.24	87	2.34	68	59.6	99.6
100	16.018	0.160	1.23	87	2.34	68	59.7	99.3
101	16.178	0.160	1.23	87	2.26	68.1	59.7	100.0
102	16.339	0.161	1.23	87	2.25	68.1	59.7	100.6
103	16.501	0.162	1.21	87	2.30	68.1	59.8	101.1
104	16.662	0.161	1.23	87	2.25	68.1	59.7	100.9
105	16.821	0.159	1.23	87	2.25	68.1	59.8	99.4
106	16.982	0.161	1.23	87	2.26	68.2	59.8	99.7
107	17.145	0.163	1.23	87	2.35	68.2	59.9	100.6
108	17.305	0.160	1.23	87	2.33	68.2	59.9	99.4
109	17.465	0.160	1.23	88	2.35	68.1	59.9	99.4
110	17.625	0.160	1.22	88	2.36	68.2	60	98.3
111	17.787	0.162	1.23	88	2.36	68.2	60	99.5
112	17.948	0.161	1.23	88	2.36	68.3	60.1	100.0
113	18.108	0.160	1.23	88	2.24	68.2	60.1	99.4
114	18.267	0.159	1.22	88	2.34	68.3	60.1	98.3
115	18.428	0.161	1.22	88	2.35	68.3	60.1	99.7
116	18.590	0.162	1.23	88	2.33	68.2	60.1	100.4
117	18.750	0.160	1.23	88	2.33	68.3	60.2	99.7
118	18.909	0.159	1.21	88	2.33	68.3	60.2	99.7
119	19.070	0.161	1.23	88	2.34	68.3	60.2	100.9
120	19.232	0.162	1.23	88	2.29	68.3	60.2	100.9
121	19.392	0.160	1.24	88	2.35	68.4	60.2	100.0
122	19.552	0.160	1.22	89	2.36	68.4	60.3	100.2
123	19.712	0.160	1.22	88	2.36	68.4	60.3	98.5
124	19.874	0.162	1.23	89	2.27	68.3	60.2	98.4
125	20.034	0.160	1.23	89	2.37	68.4	60.3	97.9
126	20.194	0.160	1.22	89	2.35	68.4	60.3	98.8
127	20.354	0.160	1.22	89	2.30	68.5	60.3	98.6
128	20.516	0.162	1.23	89	2.36	68.5	60.4	99.5

Train B - Particulate Sampling

ASTM E2515

Run: 1Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044ETest Start Time: 16:22Total Sampling Time: 360 minRecording Interval: 1 minTest Date: 2/24/25Meter Box Y Regression Offset: 1.0244Meter Box Y Regression Slope: 0Meter Box Dynamic Y: 1.024Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0.002 cfm @ 26 in. HgPost-Test 0 cfm @ 6.2 in. Hg

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
129	20.676	0.160	1.24	89	2.29	68.4	60.4	98.4
130	20.835	0.159	1.21	89	2.36	68.5	60.4	98.5
131	20.995	0.160	1.23	89	2.35	68.6	60.4	99.9
132	21.157	0.162	1.22	89	2.25	68.5	60.4	100.9
133	21.317	0.160	1.21	89	2.36	68.6	60.4	98.6
134	21.477	0.160	1.22	89	2.37	68.7	60.3	98.1
135	21.637	0.160	1.22	89	2.36	68.7	60.4	98.7
136	21.799	0.162	1.22	89	2.35	68.7	60.4	99.9
137	21.959	0.160	1.22	89	2.36	68.7	60.4	98.4
138	22.118	0.159	1.22	89	2.28	68.8	60.5	98.1
139	22.278	0.160	1.23	89	2.36	68.9	60.5	98.1
140	22.440	0.162	1.23	89	2.35	68.9	60.5	99.0
141	22.600	0.160	1.21	90	2.36	68.9	60.5	98.8
142	22.759	0.159	1.22	90	2.28	68.9	60.5	98.8
143	22.919	0.160	1.22	90	2.36	68.9	60.5	99.1
144	23.080	0.161	1.22	90	2.25	68.9	60.6	99.5
145	23.240	0.160	1.22	90	2.34	68.9	60.6	99.1
146	23.399	0.159	1.22	90	2.27	69	60.6	98.6
147	23.559	0.160	1.22	90	2.36	68.8	60.6	99.2
148	23.721	0.162	1.22	90	2.35	68.9	60.6	100.2
149	23.880	0.159	1.21	90	2.27	68.9	60.6	98.6
150	24.039	0.159	1.21	90	2.37	68.9	60.6	98.7
151	24.200	0.161	1.22	90	2.36	68.8	60.6	99.5
152	24.361	0.161	1.22	90	2.30	68.7	60.6	99.7
153	24.520	0.159	1.21	90	2.30	68.7	60.6	98.4
154	24.679	0.159	1.20	90	2.29	68.6	60.6	98.2
155	24.840	0.161	1.23	90	2.35	68.6	60.6	99.7
156	25.001	0.161	1.21	90	2.35	68.4	60.6	99.3
157	25.160	0.159	1.23	90	2.25	68.4	60.6	97.3
158	25.320	0.160	1.22	90	2.28	68.4	60.6	97.3
159	25.481	0.161	1.22	90	2.29	68.3	60.6	98.4
160	25.642	0.161	1.22	90	2.28	68.3	60.6	99.2
161	25.801	0.159	1.22	90	2.27	68.2	60.6	98.0
162	25.961	0.160	1.22	90	2.27	68.2	60.6	98.3
163	26.122	0.161	1.22	90	2.34	68.1	60.6	98.7
164	26.283	0.161	1.22	90	2.27	68.2	60.6	98.5
165	26.442	0.159	1.22	90	2.35	68	60.6	96.8
166	26.602	0.160	1.23	90	2.28	68.1	60.6	97.4
167	26.763	0.161	1.22	90	2.36	68.1	60.6	98.9
168	26.924	0.161	1.22	91	2.38	68.1	60.5	99.3
169	27.083	0.159	1.24	90	2.31	68.1	60.5	97.5
170	27.243	0.160	1.20	91	2.28	68.1	60.5	97.8
171	27.404	0.161	1.21	90	2.30	68.1	60.5	98.8
172	27.565	0.161	1.23	91	2.30	68.1	60.5	99.1

Train B - Particulate Sampling

ASTM E2515

Run: 1

Test Date: 2/24/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0.002 cfm @ 26 in. Hg

Post-Test 0 cfm @ 6.2 in. Hg

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
173	27.724	0.159	1.22	90	2.37	68.1	60.5	97.8
174	27.884	0.160	1.24	91	2.32	68.2	60.5	98.0
175	28.047	0.163	1.24	91	2.42	68.2	60.5	99.3
176	28.211	0.164	1.24	91	2.34	68.2	60.5	100.0
177	28.373	0.162	1.25	91	2.32	68.2	60.4	99.0
178	28.536	0.163	1.23	91	2.38	68.2	60.4	99.5
179	28.698	0.162	1.27	91	2.37	68.2	60.5	99.0
180	28.860	0.162	1.24	91	2.40	68.3	60.5	99.2
181	29.023	0.163	1.25	91	2.40	68.3	60.5	99.6
182	29.186	0.163	1.26	91	2.40	68.3	60.5	100.1
183	29.350	0.164	1.24	91	2.34	68.3	60.5	101.3
184	29.512	0.162	1.25	91	2.37	68.3	60.5	99.9
185	29.674	0.162	1.25	91	2.32	68.3	60.5	99.3
186	29.836	0.162	1.25	91	2.42	68.4	60.5	99.3
187	29.998	0.162	1.25	91	2.41	68.4	60.5	99.5
188	30.161	0.163	1.24	91	2.33	68.4	60.4	99.9
189	30.325	0.164	1.24	91	2.36	68.4	60.5	100.4
190	30.487	0.162	1.25	91	2.37	68.4	60.4	99.2
191	30.649	0.162	1.26	91	2.41	68.5	60.5	99.2
192	30.811	0.162	1.25	91	2.36	68.5	60.4	99.2
193	30.973	0.162	1.25	91	2.42	68.5	60.5	99.7
194	31.136	0.163	1.26	91	2.38	68.6	60.4	100.8
195	31.300	0.164	1.24	91	2.40	68.6	60.4	101.2
196	31.463	0.163	1.25	91	2.36	68.6	60.4	99.8
197	31.625	0.162	1.25	91	2.32	68.6	60.4	100.1
198	31.787	0.162	1.26	91	2.34	68.7	60.4	101.5
199	31.949	0.162	1.25	91	2.39	68.6	60.4	101.0
200	32.112	0.163	1.25	91	2.32	68.7	60.4	101.5
201	32.274	0.162	1.24	91	2.32	68.7	60.4	100.9
202	32.438	0.164	1.25	91	2.34	68.7	60.4	101.1
203	32.600	0.162	1.25	91	2.39	68.8	60.4	99.6
204	32.762	0.162	1.24	91	2.33	68.8	60.3	100.7
205	32.924	0.162	1.26	91	2.40	68.8	60.4	101.4
206	33.086	0.162	1.24	91	2.35	68.8	60.4	101.2
207	33.248	0.162	1.25	91	2.36	68.9	60.4	100.8
208	33.412	0.164	1.24	91	2.40	68.9	60.4	101.5
209	33.574	0.162	1.24	91	2.39	68.9	60.3	100.6
210	33.735	0.161	1.24	91	2.40	68.9	60.3	100.3
211	33.896	0.161	1.23	91	2.35	69	60.4	99.2
212	34.059	0.163	1.23	91	2.40	68.9	60.4	99.4
213	34.221	0.162	1.24	91	2.41	69	60.4	98.8
214	34.384	0.163	1.25	91	2.39	69	60.4	99.7
215	34.546	0.162	1.24	91	2.35	69	60.4	99.6
216	34.707	0.161	1.25	91	2.37	69.1	60.4	99.3

Train B - Particulate Sampling

ASTM E2515

Run: 1

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Date: 2/24/25

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0.002 cfm @ 26 in. Hg

Post-Test 0 cfm @ 6.2 in. Hg

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
217	34.869	0.162	1.24	91	2.35	69	60.4	99.2
218	35.031	0.162	1.23	91	2.37	69.1	60.3	98.3
219	35.194	0.163	1.26	91	2.37	69.1	60.3	98.9
220	35.356	0.162	1.24	91	2.36	69.1	60.3	98.7
221	35.518	0.162	1.24	91	2.41	69.2	60.4	100.0
222	35.679	0.161	1.24	91	2.36	69.1	60.4	100.1
223	35.841	0.162	1.24	91	2.40	69.2	60.3	99.9
224	36.003	0.162	1.24	91	2.41	69.1	60.4	100.2
225	36.166	0.163	1.24	91	2.36	69.2	60.4	101.4
226	36.327	0.161	1.24	91	2.38	69.2	60.4	99.5
227	36.488	0.161	1.23	91	2.34	69.2	60.4	99.2
228	36.649	0.161	1.23	91	2.33	69.2	60.4	99.1
229	36.811	0.162	1.24	91	2.35	69.2	60.4	99.6
230	36.975	0.164	1.24	91	2.33	69.2	60.4	100.7
231	37.137	0.162	1.25	91	2.38	69.2	60.4	99.5
232	37.299	0.162	1.26	91	2.34	69.3	60.4	99.3
233	37.461	0.162	1.24	91	2.32	69.3	60.4	99.4
234	37.622	0.161	1.25	91	2.41	69.3	60.4	98.7
235	37.785	0.163	1.24	91	2.41	69.3	60.4	100.3
236	37.948	0.163	1.24	91	2.41	69.3	60.4	101.7
237	38.110	0.162	1.26	91	2.40	69.3	60.4	100.8
238	38.271	0.161	1.22	91	2.42	69.3	60.4	98.7
239	38.433	0.162	1.24	91	2.42	69.3	60.4	98.6
240	38.594	0.161	1.24	91	2.42	69.4	60.4	98.8
241	38.757	0.163	1.25	92	2.41	69.3	60.4	100.7
242	38.920	0.163	1.25	92	2.42	69.3	60.4	100.6
243	39.081	0.161	1.23	92	2.38	69.3	60.4	99.4
244	39.242	0.161	1.24	92	2.38	69.4	60.4	99.0
245	39.403	0.161	1.24	91	2.42	69.4	60.4	98.5
246	39.565	0.162	1.24	92	2.38	69.4	60.4	100.1
247	39.728	0.163	1.22	92	2.43	69.5	60.4	101.7
248	39.889	0.161	1.24	92	2.42	69.4	60.4	99.6
249	40.050	0.161	1.23	92	2.36	69.4	60.4	98.5
250	40.211	0.161	1.24	92	2.41	69.4	60.4	98.6
251	40.373	0.162	1.24	92	2.41	69.4	60.4	100.4
252	40.536	0.163	1.24	91	2.36	69.4	60.4	101.4
253	40.698	0.162	1.23	92	2.34	69.4	60.4	100.1
254	40.858	0.160	1.22	92	2.33	69.5	60.4	99.1
255	41.020	0.162	1.25	92	2.35	69.5	60.4	101.1
256	41.182	0.162	1.25	92	2.39	69.5	60.4	100.5
257	41.345	0.163	1.24	92	2.39	69.5	60.4	100.0
258	41.508	0.163	1.22	92	2.41	69.5	60.4	99.3
259	41.670	0.162	1.24	92	2.40	69.5	60.4	98.7
260	41.832	0.162	1.24	92	2.40	69.6	60.4	98.7

Train B - Particulate Sampling

ASTM E2515

Run: 1

Test Date: 2/24/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Pre-test 0.002 cfm @ 26 in. Hg

Post-Test 0 cfm @ 6.2 in. Hg

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
261	41.993	0.161	1.24	92	2.34	69.5	60.3	98.4
262	42.155	0.162	1.24	92	2.34	69.5	60.4	99.8
263	42.318	0.163	1.24	92	2.41	69.5	60.4	100.7
264	42.481	0.163	1.23	92	2.40	69.6	60.4	101.1
265	42.642	0.161	1.24	92	2.39	69.5	60.4	99.7
266	42.804	0.162	1.25	92	2.33	69.6	60.4	99.7
267	42.966	0.162	1.24	92	2.36	69.6	60.4	100.1
268	43.128	0.162	1.25	92	2.33	69.6	60.4	100.5
269	43.292	0.164	1.25	92	2.35	69.6	60.4	101.7
270	43.454	0.162	1.24	92	2.32	69.6	60.4	100.5
271	43.616	0.162	1.24	92	2.32	69.6	60.4	100.4
272	43.778	0.162	1.24	92	2.39	69.6	60.4	100.5
273	43.940	0.162	1.25	92	2.35	69.6	60.4	100.3
274	44.102	0.162	1.25	92	2.42	69.6	60.4	99.8
275	44.265	0.163	1.26	92	2.41	69.6	60.4	100.7
276	44.428	0.163	1.24	92	2.41	69.6	60.4	101.5
277	44.590	0.162	1.24	92	2.36	69.6	60.4	101.6
278	44.752	0.162	1.24	92	2.32	69.6	60.4	100.8
279	44.914	0.162	1.24	92	2.40	69.7	60.4	99.3
280	45.076	0.162	1.25	92	2.34	69.6	60.4	99.4
281	45.240	0.164	1.24	92	2.41	69.7	60.4	101.6
282	45.402	0.162	1.25	92	2.37	69.5	60.4	100.3
283	45.564	0.162	1.25	92	2.32	69.7	60.4	99.9
284	45.725	0.161	1.22	92	2.35	69.7	60.4	99.5
285	45.887	0.162	1.24	92	2.42	69.6	60.3	100.5
286	46.049	0.162	1.24	92	2.34	69.6	60.3	100.6
287	46.212	0.163	1.24	92	2.42	69.7	60.4	101.0
288	46.373	0.161	1.24	92	2.40	69.6	60.4	99.6
289	46.534	0.161	1.23	92	2.39	69.7	60.4	99.5
290	46.696	0.162	1.23	92	2.37	69.7	60.4	100.2
291	46.857	0.161	1.24	92	2.41	69.7	60.4	100.1
292	47.020	0.163	1.23	92	2.38	69.7	60.4	101.0
293	47.182	0.162	1.24	92	2.38	69.6	60.4	99.6
294	47.343	0.161	1.24	92	2.38	69.7	60.4	99.6
295	47.504	0.161	1.22	92	2.35	69.6	60.4	99.9
296	47.666	0.162	1.23	92	2.42	69.7	60.4	100.2
297	47.828	0.162	1.25	92	2.36	69.6	60.3	101.5
298	47.990	0.162	1.24	92	2.35	69.6	60.4	102.2
299	48.151	0.161	1.23	92	2.35	69.6	60.3	100.1
300	48.312	0.161	1.23	92	2.43	69.6	60.3	99.0
301	48.474	0.162	1.24	92	2.37	69.6	60.4	99.6
302	48.636	0.162	1.24	92	2.43	69.6	60.4	99.7
303	48.798	0.162	1.23	92	2.38	69.7	60.4	100.4
304	48.959	0.161	1.24	92	2.35	69.7	60.3	100.1

Train B - Particulate Sampling

ASTM E2515

Run: 1Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044ETest Date: 2/24/25Meter Box Y Regression Offset: 1.0244Meter Box Y Regression Slope: 0Meter Box Dynamic Y: 1.024Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0.002 cfm @ 26 in. HgPost-Test 0 cfm @ 6.2 in. Hg

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
305	49.120	0.161	1.25	92	2.44	69.6	60.3	100.1
306	49.281	0.161	1.23	92	2.39	69.7	60.3	101.1
307	49.444	0.163	1.22	92	2.38	69.7	60.3	101.6
308	49.606	0.162	1.23	92	2.36	69.7	60.3	99.7
309	49.767	0.161	1.23	92	2.41	69.7	60.3	99.3
310	49.928	0.161	1.23	92	2.40	69.7	60.3	99.2
311	50.089	0.161	1.24	92	2.40	69.6	60.3	99.6
312	50.251	0.162	1.23	92	2.36	69.8	60.3	100.6
313	50.413	0.162	1.25	92	2.35	69.8	60.3	100.4
314	50.574	0.161	1.22	92	2.35	69.7	60.3	99.9
315	50.735	0.161	1.25	92	2.41	69.7	60.3	99.0
316	50.896	0.161	1.22	92	2.37	69.6	60.4	98.0
317	51.058	0.162	1.22	92	2.42	69.6	60.3	98.7
318	51.220	0.162	1.23	92	2.36	69.5	60.3	99.2
319	51.381	0.161	1.23	92	2.38	69.5	60.3	99.0
320	51.542	0.161	1.24	92	2.43	69.4	60.3	99.1
321	51.703	0.161	1.23	92	2.35	69.4	60.2	98.6
322	51.865	0.162	1.23	92	2.46	69.4	60.3	99.5
323	52.027	0.162	1.23	92	2.33	69.4	60.3	100.2
324	52.187	0.160	1.22	92	2.40	69.3	60.3	98.5
325	52.348	0.161	1.25	92	2.40	69.2	60.3	98.6
326	52.509	0.161	1.21	92	2.39	69.2	60.3	97.9
327	52.672	0.163	1.23	92	2.37	69.2	60.3	98.8
328	52.833	0.161	1.23	92	2.43	69.1	60.2	98.3
329	52.993	0.160	1.23	92	2.35	69.1	60.3	97.8
330	53.154	0.161	1.23	92	2.42	69	60.3	98.4
331	53.315	0.161	1.23	92	2.34	68.9	60.3	98.7
332	53.478	0.163	1.23	92	2.39	68.8	60.3	100.1
333	53.639	0.161	1.22	92	2.40	68.8	60.2	98.8
334	53.800	0.161	1.22	92	2.41	68.8	60.2	98.6
335	53.961	0.161	1.23	92	2.42	68.7	60.2	97.6
336	54.123	0.162	1.24	92	2.42	68.7	60.2	97.7
337	54.286	0.163	1.24	92	2.41	68.7	60.2	99.8
338	54.447	0.161	1.24	92	2.37	68.7	60.2	98.9
339	54.608	0.161	1.24	92	2.31	68.5	60.2	98.1
340	54.769	0.161	1.22	92	2.34	68.5	60.2	98.6
341	54.931	0.162	1.21	92	2.37	68.5	60.1	100.9
342	55.094	0.163	1.26	92	2.32	68.4	60.1	101.5
343	55.257	0.163	1.25	92	2.37	68.4	60.1	99.4
344	55.419	0.162	1.25	92	2.38	68.4	60.1	98.6
345	55.581	0.162	1.25	92	2.31	68.4	60.1	99.8
346	55.743	0.162	1.23	92	2.40	68.3	60.1	99.5
347	55.906	0.163	1.25	92	2.39	68.2	60.1	100.5
348	56.070	0.164	1.26	92	2.39	68.1	60	101.9

Train B - Particulate Sampling

ASTM E2515

Run: 1
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Test Start Time: 16:22
Total Sampling Time: 360 min
Recording Interval: 1 min

Test Date: 2/24/25
Meter Box Y Regression Offset: 1.0244
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.024
Sampling Box ID: 691
Sample Train Leak Checks
Pre-test 0.002 cfm @ 26 in. Hg

Post-Test 0 cfm @ 6.2 in. Hg

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
349	56.234	0.164	1.25	92	2.38	68.1	60	100.8
350	56.397	0.163	1.25	92	2.36	68.1	60.1	98.9
351	56.559	0.162	1.26	92	2.30	68	60	98.2
352	56.722	0.163	1.25	92	2.38	67.9	60	98.5
353	56.884	0.162	1.26	92	2.37	67.9	59.9	97.4
354	57.048	0.164	1.26	92	2.32	67.8	59.9	99.0
355	57.211	0.163	1.25	92	2.32	67.8	59.9	99.1
356	57.375	0.164	1.25	92	2.37	67.8	59.9	100.1
357	57.539	0.164	1.26	92	2.39	67.7	59.8	100.3
358	57.702	0.163	1.25	92	2.35	67.7	59.8	99.9
359	57.866	0.164	1.24	92	2.31	67.7	59.8	100.8
360	58.029	0.163	1.26	92	2.35	67.4	59.8	98.8

Train C - First Hour Particulate Sampling

Run:	1	Test Date:	2/24/25
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0056
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.006
Project No.:	0117WB044E	Sample Box ID:	336
Start Time:	16:22	Sample Train Leak Checks	
Total Sampling Time:	60 min	Pre-test	0.002 cfm @ 19.5 in. Hg
Recording Interval:	1 min	Post-Test	0.002 cfm @ 10.96 in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	9.553	0.159	1.03	70.6	2.52	69.6	61.3	99.9
Minimum	0.000	0.156	1.03	67	2.46	66	58	96.6
Max	9.553	0.161	1.07	75	2.59	72	65	102.3
0	0.000		0.00	67	0.03	64.9	59.6	
1	0.156	0.156	1.07	67	2.52	65.5	58.8	96.6
2	0.317	0.161	1.06	67	2.55	65.8	58.4	101.4
3	0.477	0.160	1.05	67	2.51	66.3	58.2	102.3
4	0.637	0.160	1.05	67	2.57	66.6	58.2	101.6
5	0.797	0.160	1.05	67	2.48	66.8	58.1	100.1
6	0.956	0.159	1.05	67	2.48	67	58.1	99.3
7	1.117	0.161	1.05	67	2.56	67.2	58.2	101.2
8	1.275	0.158	1.04	67	2.52	67.3	58.2	99.4
9	1.434	0.159	1.04	67	2.54	67.5	58.2	99.9
10	1.594	0.160	1.04	67	2.54	67.7	58.3	101.1
11	1.753	0.159	1.04	67	2.56	67.8	58.4	100.6
12	1.913	0.160	1.04	68	2.53	68	58.6	100.6
13	2.071	0.158	1.03	68	2.55	68.1	58.7	99.5
14	2.230	0.159	1.04	68	2.56	68.3	58.8	99.4
15	2.390	0.160	1.03	68	2.55	68.4	58.9	99.3
16	2.548	0.158	1.03	68	2.54	68.5	59.1	98.8
17	2.708	0.160	1.03	68	2.50	68.6	59.2	101.0
18	2.866	0.158	1.04	69	2.57	68.8	59.3	99.3
19	3.026	0.160	1.03	69	2.56	68.9	59.4	99.2
20	3.184	0.158	1.03	69	2.53	69	59.6	97.7
21	3.343	0.159	1.04	69	2.55	69.1	59.8	99.1
22	3.503	0.160	1.03	69	2.54	69.2	59.9	101.2
23	3.661	0.158	1.03	70	2.48	69.3	60.1	100.9
24	3.821	0.160	1.03	70	2.51	69.4	60.2	101.7
25	3.979	0.158	1.03	70	2.46	69.5	60.3	99.6
26	4.138	0.159	1.03	70	2.48	69.5	60.5	99.8
27	4.298	0.160	1.03	70	2.55	69.6	60.7	100.7
28	4.456	0.158	1.03	70	2.47	69.7	60.9	99.8
29	4.616	0.160	1.03	71	2.54	69.7	61.1	100.2
30	4.774	0.158	1.03	71	2.47	69.9	61.2	98.4
31	4.934	0.160	1.03	71	2.47	69.9	61.4	100.1
32	5.093	0.159	1.03	71	2.50	70.1	61.5	100.3

Train C - First Hour Particulate Sampling

Run:	<u>1</u>	Test Date:	<u>2/24/25</u>
Manufacturer:	<u>Central Boiler</u>	Meter Box Y Regression Offset:	<u>1.0056</u>
Model:	<u>Classic Edge 760.1</u>	Meter Box Y Regression Factor:	<u>0</u>
Tracking No.:	<u>2501</u>	Meter Box Dynamic Y:	<u>1.006</u>
Project No.:	<u>0117WB044E</u>	Sample Box ID:	<u>336</u>
Start Time:	<u>16:22</u>	Sample Train Leak Checks	
Total Sampling Time:	<u>60</u> min	Pre-test	<u>0.002</u> cfm @ <u>19.5</u> in. Hg
Recording Interval:	<u>1</u> min	Post-Test	<u>0.002</u> cfm @ <u>10.96</u> in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
33	5.252	0.159	1.03	71	2.51	70.3	61.7	101.0
34	5.411	0.159	1.03	71	2.48	70.5	61.9	100.1
35	5.569	0.158	1.03	72	2.57	70.5	62	98.4
36	5.729	0.160	1.03	72	2.47	70.6	62.2	99.4
37	5.888	0.159	1.03	72	2.57	70.6	62.3	98.5
38	6.047	0.159	1.03	72	2.57	70.6	62.5	99.2
39	6.206	0.159	1.03	72	2.55	70.6	62.6	99.8
40	6.365	0.159	1.03	72	2.56	70.7	62.8	99.0
41	6.525	0.160	1.03	72	2.49	70.8	62.9	99.1
42	6.684	0.159	1.03	73	2.48	70.8	63.1	98.6
43	6.843	0.159	1.03	73	2.48	70.8	63.2	98.9
44	7.003	0.160	1.03	73	2.48	70.8	63.3	100.6
45	7.162	0.159	1.03	73	2.46	70.9	63.5	100.8
46	7.322	0.160	1.04	73	2.57	70.9	63.5	101.1
47	7.481	0.159	1.03	73	2.52	70.9	63.7	100.1
48	7.640	0.159	1.03	73	2.56	71	63.8	99.7
49	7.800	0.160	1.03	73	2.48	71	63.9	100.0
50	7.959	0.159	1.03	74	2.48	71	64	99.8
51	8.119	0.160	1.03	74	2.57	71	64.1	100.6
52	8.278	0.159	1.03	74	2.49	71.1	64.2	99.4
53	8.437	0.159	1.03	74	2.51	71.2	64.4	99.3
54	8.597	0.160	1.03	74	2.59	71.2	64.4	100.3
55	8.756	0.159	1.03	74	2.50	71.3	64.6	99.6
56	8.916	0.160	1.03	74	2.49	71.3	64.6	100.0
57	9.075	0.159	1.03	74	2.52	71.4	64.8	99.9
58	9.234	0.159	1.03	74	2.57	71.5	64.9	100.4
59	9.394	0.160	1.03	74	2.58	71.4	64.9	100.6
60	9.553	0.159	1.03	75	2.50	71.4	65	98.8

Train D - Ambient Background and Flue Gas Data

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/24/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 16:22
 Total Sampling Time: 360 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
Tot / Avg	56.354	0.157	1.11	76.1	2.00	279.54	-0.034	306.3	0.02	16.12
Minimum	0.000	0.149	0.00	68	0.04	215.60	-0.062	94.0	-0.01	2.15
Max	56.354	0.159	1.14	77	2.03	313.30	0.011	547.0	0.25	19.01
0	0.000		0.00	68	0.04	243.8	-0.026	268.0	0.02	14.63
1	0.149	0.149	1.14	68	2.03	221	-0.024	547.0	0.25	2.43
2	0.305	0.156	1.11	68	2.02	215.6	-0.017	547.0	0.16	2.15
3	0.460	0.155	1.11	68	2.03	240.9	-0.037	547.0	0.06	14.81
4	0.614	0.154	1.10	68	2.01	252.6	-0.033	414.0	0.03	14.00
5	0.769	0.155	1.09	68	2.00	248.9	-0.018	367.0	0.03	15.06
6	0.923	0.154	1.09	68	1.99	246.4	-0.029	360.0	0.02	15.93
7	1.076	0.153	1.09	68	2.01	245.6	-0.034	351.0	0.03	16.25
8	1.230	0.154	1.09	68	1.96	241.4	-0.027	240.0	0.01	14.44
9	1.384	0.154	1.09	68	1.96	243.4	-0.026	285.0	0.02	16.09
10	1.538	0.154	1.09	69	1.97	240.6	-0.034	212.0	0.01	14.67
11	1.690	0.152	1.09	69	1.98	237.8	-0.024	289.0	0.02	16.41
12	1.844	0.154	1.08	69	1.97	240.3	-0.027	262.0	0.02	15.66
13	1.998	0.154	1.08	69	1.96	241.6	-0.039	253.0	0.02	15.97
14	2.151	0.153	1.08	69	1.97	242.5	-0.034	263.0	0.01	15.77
15	2.303	0.152	1.08	69	1.97	242.4	-0.025	235.0	0.01	15.34
16	2.457	0.154	1.08	69	1.95	241.7	-0.033	238.0	0.01	15.18
17	2.610	0.153	1.07	70	1.96	242	-0.025	241.0	0.01	15.19
18	2.764	0.154	1.08	70	1.96	243.3	-0.023	221.0	0.01	15.32
19	2.916	0.152	1.08	70	1.97	244.1	-0.031	208.0	0.01	15.49
20	3.069	0.153	1.08	70	1.97	244.8	-0.027	211.0	0.01	15.38
21	3.223	0.154	1.07	70	1.97	245.4	-0.036	210.0	0.01	15.29
22	3.377	0.154	1.08	70	1.97	245.5	-0.035	210.0	0.01	15.28
23	3.529	0.152	1.08	70	1.96	245.9	-0.022	219.0	0.01	15.25
24	3.682	0.153	1.07	71	1.96	246.1	-0.012	222.0	0.01	15.19
25	3.836	0.154	1.07	71	1.95	246.1	-0.030	247.0	0.01	15.07
26	3.990	0.154	1.08	71	1.96	245.3	-0.028	271.0	0.02	15.01
27	4.143	0.153	1.08	71	1.97	244.8	-0.025	286.0	0.02	15.01
28	4.296	0.153	1.07	71	1.97	245.5	-0.022	275.0	0.01	15.00
29	4.450	0.154	1.07	71	1.97	246.5	-0.031	282.0	0.02	15.43
30	4.604	0.154	1.08	72	1.97	247.4	-0.044	266.0	0.01	15.51
31	4.756	0.152	1.08	72	1.96	251	-0.032	252.0	0.01	15.61
32	4.910	0.154	1.07	72	1.96	263.1	-0.026	375.0	0.03	14.83

Train D - Ambient Background and Flue Gas Data

Run: 1Test Date: 2/24/2025Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044EMeter Box Y Regression Offset: 1.0074Meter Box Y Regression Factor: 0Meter Box Dynamic Y: 1.007Sample Box ID: 335Test Start Time: 16:22Total Sampling Time 360 minRecording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
33	5.064	0.154	1.07	72	1.98	268.4	-0.046	449.0	0.03	14.81
34	5.218	0.154	1.08	72	1.96	270.6	-0.045	461.0	0.04	14.67
35	5.371	0.153	1.08	72	1.97	271	-0.041	459.0	0.03	14.61
36	5.525	0.154	1.08	72	1.97	269.8	-0.031	473.0	0.04	14.46
37	5.679	0.154	1.08	73	1.97	267.7	-0.038	450.0	0.04	14.24
38	5.833	0.154	1.08	73	1.97	265.3	-0.040	442.0	0.03	14.04
39	5.986	0.153	1.08	73	1.97	264.4	-0.036	426.0	0.03	13.80
40	6.140	0.154	1.08	73	1.97	264.3	-0.035	391.0	0.03	13.82
41	6.295	0.155	1.08	73	1.97	264	-0.033	379.0	0.01	13.77
42	6.448	0.153	1.09	73	1.97	263.3	-0.030	371.0	0.02	13.65
43	6.602	0.154	1.08	73	1.99	263	-0.021	353.0	0.02	13.52
44	6.757	0.155	1.08	73	1.97	262.4	-0.026	330.0	0.02	13.44
45	6.911	0.154	1.09	74	1.97	263.4	-0.031	305.0	0.02	13.67
46	7.065	0.154	1.09	74	1.98	263	-0.031	266.0	0.01	13.66
47	7.219	0.154	1.08	74	1.98	265.2	-0.033	256.0	0.01	13.85
48	7.374	0.155	1.08	74	1.98	266.4	-0.033	273.0	0.01	14.06
49	7.528	0.154	1.09	74	1.98	265.1	-0.037	326.0	0.02	13.54
50	7.682	0.154	1.08	74	1.98	266	-0.027	304.0	0.02	13.60
51	7.837	0.155	1.09	74	1.97	268	-0.040	280.0	0.02	13.71
52	7.992	0.155	1.09	74	1.98	270.4	-0.046	276.0	0.02	13.92
53	8.145	0.153	1.09	74	1.99	273.3	-0.034	235.0	0.01	13.99
54	8.300	0.155	1.08	74	1.98	276	-0.034	219.0	0.01	14.26
55	8.455	0.155	1.09	75	1.98	275	-0.031	212.0	0.01	14.04
56	8.609	0.154	1.09	75	1.97	276.3	-0.030	241.0	0.01	14.08
57	8.764	0.155	1.09	75	2.00	277.1	-0.038	220.0	0.00	14.48
58	8.919	0.155	1.09	75	2.00	277	-0.033	250.0	0.02	14.26
59	9.074	0.155	1.09	75	1.98	277.9	-0.026	222.0	0.00	14.43
60	9.229	0.155	1.09	75	1.98	278.4	-0.031	202.0	0.01	14.55
61	9.384	0.155	1.09	75	1.98	277.2	-0.031	239.0	0.01	14.62
62	9.539	0.155	1.09	75	1.98	277.2	-0.031	229.0	0.01	14.75
63	9.692	0.153	1.09	75	1.98	278.1	-0.031	229.0	0.01	14.76
64	9.848	0.156	1.09	75	1.98	279.3	-0.028	251.0	0.01	14.68
65	10.003	0.155	1.09	75	1.98	280.5	-0.039	242.0	0.01	14.93
66	10.157	0.154	1.09	75	2.00	276.9	-0.032	252.0	0.01	14.77
67	10.313	0.156	1.09	75	1.99	269.2	-0.039	244.0	0.01	16.15
68	10.469	0.156	1.10	76	1.98	276.3	-0.035	281.0	0.02	14.64

Train D - Ambient Background and Flue Gas Data**Run:** 1**Test Date:** 2/24/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 16:22

Total Sampling Time 360 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
69	10.623	0.154	1.09	76	1.99	269.4	-0.033	264.0	0.01	15.93
70	10.780	0.157	1.09	76	1.98	268.7	-0.038	236.0	0.01	15.25
71	10.935	0.155	1.10	76	1.98	263.8	-0.034	212.0	0.01	16.02
72	11.090	0.155	1.09	76	1.98	270.2	-0.031	233.0	0.01	15.03
73	11.246	0.156	1.10	76	1.98	264.5	-0.033	269.0	0.01	16.24
74	11.401	0.155	1.10	76	1.98	265.2	-0.028	231.0	0.01	15.41
75	11.557	0.156	1.10	76	1.99	262.1	-0.031	254.0	0.01	16.29
76	11.713	0.156	1.10	76	2.00	261.5	-0.028	242.0	0.01	16.36
77	11.868	0.155	1.10	76	1.97	261	-0.031	237.0	0.02	16.29
78	12.024	0.156	1.10	76	1.98	261.2	-0.036	227.0	0.01	16.18
79	12.180	0.156	1.10	76	1.98	261.1	-0.034	186.0	0.00	16.23
80	12.335	0.155	1.10	76	1.98	260.7	-0.028	226.0	0.01	17.05
81	12.492	0.157	1.10	76	1.98	260.5	-0.030	232.0	0.01	17.03
82	12.648	0.156	1.10	76	2.00	261	-0.027	235.0	0.01	16.98
83	12.803	0.155	1.10	76	1.98	261.1	-0.031	228.0	0.01	17.17
84	12.960	0.157	1.09	76	1.98	261.8	-0.043	232.0	0.00	17.07
85	13.116	0.156	1.11	76	1.99	262.3	-0.038	236.0	0.01	17.21
86	13.271	0.155	1.10	76	1.98	262.9	-0.031	225.0	0.00	17.12
87	13.428	0.157	1.10	76	1.98	263.3	-0.025	206.0	0.01	17.21
88	13.584	0.156	1.10	76	1.99	263.2	-0.022	223.0	0.01	17.34
89	13.740	0.156	1.10	76	1.99	263.1	-0.029	251.0	0.01	17.21
90	13.897	0.157	1.10	76	1.99	262.8	-0.027	265.0	0.01	17.02
91	14.052	0.155	1.11	77	1.99	262.9	-0.025	275.0	0.02	16.84
92	14.209	0.157	1.10	77	1.98	264	-0.035	195.0	0.01	16.72
93	14.365	0.156	1.10	77	1.98	264.4	-0.036	210.0	0.01	16.79
94	14.521	0.156	1.11	77	1.99	264.2	-0.024	217.0	0.01	16.60
95	14.677	0.156	1.10	77	1.99	263.8	-0.035	227.0	0.01	16.43
96	14.834	0.157	1.11	77	1.98	263.7	-0.037	205.0	0.00	16.33
97	14.989	0.155	1.10	77	1.99	270.8	-0.034	216.0	0.01	15.99
98	15.147	0.158	1.11	77	1.99	272.2	-0.037	244.0	0.01	15.89
99	15.302	0.155	1.11	77	1.97	268.6	-0.033	183.0	0.00	16.19
100	15.459	0.157	1.10	77	1.98	273.9	-0.028	185.0	0.00	15.94
101	15.615	0.156	1.10	77	1.99	269.6	-0.034	188.0	0.01	16.12
102	15.771	0.156	1.11	77	1.97	268.6	-0.037	198.0	0.00	16.54
103	15.927	0.156	1.10	77	1.99	269.2	-0.034	234.0	0.01	17.39
104	16.085	0.158	1.11	77	1.99	269.7	-0.037	231.0	0.01	17.92

Train D - Ambient Background and Flue Gas Data

Run: 1

Test Date: 2/24/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
105	16.240	0.155	1.10	77	1.99	269.3	-0.037	273.0	0.01	17.68
106	16.397	0.157	1.10	77	2.00	268.7	-0.031	289.0	0.02	17.91
107	16.553	0.156	1.10	77	2.01	268.9	-0.036	284.0	0.01	17.54
108	16.709	0.156	1.11	77	2.00	269.5	-0.031	291.0	0.01	18.35
109	16.866	0.157	1.10	77	2.01	265.4	-0.034	323.0	0.02	18.38
110	17.021	0.155	1.11	77	1.99	268	-0.034	547.0	0.01	18.06
111	17.178	0.157	1.10	77	2.00	263.3	-0.032	382.0	0.02	18.27
112	17.335	0.157	1.11	77	1.99	267.2	-0.031	274.0	0.01	17.85
113	17.491	0.156	1.10	77	1.98	260.9	-0.031	425.0	0.03	18.67
114	17.648	0.157	1.10	77	2.00	267.6	-0.027	378.0	0.02	18.27
115	17.804	0.156	1.11	77	1.98	264.6	-0.036	169.0	0.00	16.18
116	17.960	0.156	1.10	77	1.98	259.3	-0.036	279.0	0.01	18.73
117	18.117	0.157	1.10	77	2.00	266.2	-0.033	228.0	0.01	18.27
118	18.272	0.155	1.11	77	1.98	264	-0.028	195.0	-0.01	16.43
119	18.429	0.157	1.10	77	2.00	261.7	-0.027	279.0	0.01	17.73
120	18.587	0.158	1.11	77	2.00	266.3	-0.029	219.0	0.00	18.29
121	18.742	0.155	1.11	77	2.02	266.5	-0.033	139.0	0.01	17.55
122	18.899	0.157	1.11	77	2.00	266	-0.033	150.0	-0.01	16.20
123	19.055	0.156	1.11	77	2.00	263.4	-0.024	286.0	0.01	17.87
124	19.212	0.157	1.11	77	2.00	265.5	-0.026	256.0	0.01	18.44
125	19.369	0.157	1.10	77	1.99	266.3	-0.034	547.0	0.07	18.02
126	19.524	0.155	1.11	77	2.00	264.3	-0.035	245.0	0.01	18.41
127	19.681	0.157	1.10	77	2.00	270	-0.024	262.0	0.01	18.53
128	19.839	0.158	1.11	77	2.00	268.5	-0.030	212.0	0.01	17.88
129	19.994	0.155	1.11	77	1.99	266.1	-0.037	377.0	0.03	18.83
130	20.152	0.158	1.11	77	2.01	270.6	-0.035	482.0	0.02	18.48
131	20.307	0.155	1.11	77	1.99	268.3	-0.038	219.0	0.02	16.56
132	20.464	0.157	1.11	77	2.01	264.9	-0.025	381.0	0.02	18.58
133	20.622	0.158	1.11	77	1.98	273	-0.029	226.0	0.01	17.34
134	20.777	0.155	1.11	77	2.00	270.1	-0.027	177.0	-0.01	14.75
135	20.935	0.158	1.11	77	2.00	275.2	-0.033	224.0	0.01	17.22
136	21.091	0.156	1.11	77	2.01	273	-0.030	169.0	0.00	15.08
137	21.248	0.157	1.11	77	1.98	276.5	-0.029	263.0	0.01	17.15
138	21.405	0.157	1.11	77	2.00	278.4	-0.040	276.0	0.01	17.19
139	21.561	0.156	1.11	77	1.99	275.3	-0.040	177.0	0.00	14.99
140	21.718	0.157	1.11	77	2.01	278.5	-0.036	293.0	0.01	17.34

Train D - Ambient Background and Flue Gas Data

Run: 1

Test Date: 2/24/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 16:22

Total Sampling Time: 360 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
141	21.875	0.157	1.11	77	2.00	279.5	-0.041	295.0	0.01	17.06
142	22.031	0.156	1.11	77	2.01	280.1	-0.026	244.0	0.01	17.01
143	22.189	0.158	1.11	77	1.99	280.4	-0.035	251.0	0.01	17.19
144	22.345	0.156	1.11	77	1.99	276.4	-0.040	248.0	0.01	17.53
145	22.502	0.157	1.11	77	2.01	279.2	-0.029	224.0	0.00	17.47
146	22.659	0.157	1.12	77	2.00	277	-0.040	138.0	0.00	15.22
147	22.815	0.156	1.11	77	1.98	277.7	-0.039	213.0	0.01	17.69
148	22.973	0.158	1.11	77	1.99	278.9	-0.035	175.0	0.00	17.53
149	23.129	0.156	1.12	77	2.01	278.2	-0.040	194.0	0.00	15.56
150	23.286	0.157	1.10	77	2.00	280.5	-0.030	276.0	0.01	17.47
151	23.444	0.158	1.11	77	1.99	277.3	-0.035	153.0	-0.01	15.29
152	23.599	0.155	1.11	77	1.98	274.2	-0.039	224.0	0.01	17.53
153	23.757	0.158	1.12	77	2.00	278.7	-0.030	209.0	0.01	17.35
154	23.913	0.156	1.11	77	2.00	276.7	-0.033	126.0	0.00	15.75
155	24.071	0.158	1.11	77	1.99	272.6	-0.037	209.0	0.00	16.79
156	24.228	0.157	1.12	77	2.00	278	-0.033	208.0	0.01	17.34
157	24.384	0.156	1.11	77	2.00	276.4	-0.027	229.0	0.00	17.49
158	24.542	0.158	1.12	77	1.99	278	-0.033	212.0	0.01	17.45
159	24.699	0.157	1.11	77	2.00	275.4	-0.028	134.0	0.00	15.52
160	24.856	0.157	1.11	77	1.99	273.6	-0.026	327.0	0.01	15.92
161	25.014	0.158	1.12	77	2.00	277.7	-0.034	342.0	0.02	17.42
162	25.170	0.156	1.12	77	2.00	276.2	-0.038	185.0	0.01	16.54
163	25.328	0.158	1.11	77	1.98	279.5	-0.034	365.0	0.01	17.30
164	25.484	0.156	1.12	77	2.00	276.7	-0.028	297.0	0.00	14.69
165	25.642	0.158	1.11	77	2.02	276.7	-0.036	306.0	0.02	17.09
166	25.800	0.158	1.12	77	2.00	278.9	-0.036	246.0	0.01	16.73
167	25.956	0.156	1.11	77	1.98	280	-0.030	297.0	0.01	17.01
168	26.114	0.158	1.12	77	2.00	278.6	-0.031	210.0	0.02	16.65
169	26.270	0.156	1.12	77	2.00	280.7	-0.031	313.0	0.02	16.90
170	26.428	0.158	1.11	77	1.99	282.4	-0.035	337.0	0.02	17.06
171	26.585	0.157	1.12	77	2.00	278.6	-0.040	343.0	0.01	14.73
172	26.742	0.157	1.12	77	1.99	281.5	-0.036	375.0	0.02	16.74
173	26.900	0.158	1.12	77	2.00	282.8	-0.032	378.0	0.02	16.54
174	27.056	0.156	1.12	77	1.99	283.3	-0.035	346.0	0.03	16.40
175	27.214	0.158	1.11	77	2.01	283.5	-0.031	427.0	0.03	16.48
176	27.371	0.157	1.12	77	2.00	284.2	-0.033	463.0	0.02	16.50

Train D - Ambient Background and Flue Gas Data

Run:	1	Test Date:	2/24/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	16:22		
Total Sampling Time	360 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
177	27.528	0.157	1.12	77	2.00	284.8	-0.031	435.0	0.03	16.42
178	27.686	0.158	1.11	77	2.00	284.4	-0.037	493.0	0.03	16.41
179	27.842	0.156	1.12	77	2.01	284.2	-0.039	476.0	0.03	16.62
180	28.000	0.158	1.12	77	2.01	284.4	-0.037	456.0	0.02	16.47
181	28.157	0.157	1.12	77	1.98	284.6	-0.036	410.0	0.03	16.44
182	28.314	0.157	1.11	77	2.00	284.8	-0.035	423.0	0.03	16.64
183	28.472	0.158	1.12	77	2.00	282.9	-0.031	445.0	0.03	17.28
184	28.628	0.156	1.12	77	2.01	282.2	-0.032	347.0	0.02	16.78
185	28.786	0.158	1.12	77	2.01	276.7	-0.032	403.0	0.02	17.07
186	28.943	0.157	1.12	77	2.00	281.6	-0.034	300.0	0.01	16.82
187	29.100	0.157	1.11	77	2.01	277.6	-0.029	211.0	0.00	14.78
188	29.258	0.158	1.12	77	2.01	282.3	-0.031	346.0	0.02	17.10
189	29.414	0.156	1.12	77	2.02	278.1	-0.032	158.0	0.00	14.37
190	29.572	0.158	1.12	77	2.01	282.5	-0.033	352.0	0.02	17.00
191	29.728	0.156	1.12	77	1.99	279.1	-0.036	380.0	0.01	15.18
192	29.886	0.158	1.11	77	2.02	282.5	-0.034	373.0	0.02	16.86
193	30.044	0.158	1.12	77	1.99	279.7	-0.044	391.0	0.02	17.45
194	30.200	0.156	1.12	77	2.02	282.5	-0.036	332.0	0.02	16.43
195	30.358	0.158	1.11	77	2.01	285.8	-0.039	437.0	0.03	17.16
196	30.514	0.156	1.12	77	2.00	282.6	-0.034	220.0	0.01	15.81
197	30.672	0.158	1.11	77	1.99	285.5	-0.036	371.0	0.02	16.81
198	30.830	0.158	1.12	77	2.00	283.5	-0.031	447.0	0.02	16.95
199	30.986	0.156	1.12	77	1.99	286	-0.033	344.0	0.02	16.69
200	31.144	0.158	1.12	77	2.01	280.6	-0.039	392.0	0.01	16.61
201	31.301	0.157	1.12	77	1.99	284.4	-0.030	293.0	0.01	16.32
202	31.459	0.158	1.12	77	2.02	285.8	-0.035	271.0	0.01	16.17
203	31.616	0.157	1.12	77	2.00	286.9	-0.041	275.0	0.01	16.12
204	31.773	0.157	1.11	77	2.00	287	-0.031	250.0	0.01	16.01
205	31.931	0.158	1.12	77	2.01	287.5	-0.033	244.0	0.01	16.07
206	32.087	0.156	1.12	77	2.01	287.7	-0.040	252.0	0.01	16.05
207	32.245	0.158	1.12	77	2.01	287.8	-0.037	273.0	0.01	16.08
208	32.401	0.156	1.12	77	2.01	288	-0.040	250.0	0.01	16.10
209	32.559	0.158	1.12	77	2.01	288	-0.036	224.0	0.01	15.96
210	32.717	0.158	1.12	77	2.02	287.8	-0.039	224.0	0.01	15.87
211	32.873	0.156	1.11	77	1.98	287.3	-0.034	223.0	0.01	15.76
212	33.031	0.158	1.12	77	2.01	286.9	-0.038	274.0	0.01	16.01

Train D - Ambient Background and Flue Gas Data**Run:** 1**Test Date:** 2/24/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 16:22

Total Sampling Time 360 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
213	33.188	0.157	1.12	77	2.00	286.9	-0.045	258.0	0.01	16.05
214	33.345	0.157	1.11	77	2.01	287.2	-0.036	360.0	0.02	16.37
215	33.503	0.158	1.12	77	2.00	287.5	-0.034	346.0	0.03	16.36
216	33.659	0.156	1.12	77	2.00	287.5	-0.041	290.0	0.02	16.33
217	33.817	0.158	1.12	77	2.02	287.4	-0.028	267.0	0.01	16.14
218	33.974	0.157	1.12	77	1.98	286.8	-0.037	265.0	0.01	16.02
219	34.132	0.158	1.12	77	2.00	290.4	-0.037	405.0	0.03	16.43
220	34.289	0.157	1.12	77	2.01	290.9	-0.040	356.0	0.02	16.57
221	34.446	0.157	1.12	77	2.01	288.5	-0.041	325.0	0.01	16.29
222	34.604	0.158	1.12	77	2.02	287.8	-0.028	325.0	0.01	16.33
223	34.760	0.156	1.12	77	2.00	288.2	-0.014	339.0	0.02	16.41
224	34.918	0.158	1.12	77	2.00	288.8	-0.043	424.0	0.03	16.70
225	35.075	0.157	1.12	77	2.00	288.7	-0.037	442.0	0.02	16.39
226	35.233	0.158	1.11	77	2.00	289.6	-0.029	361.0	0.02	17.38
227	35.391	0.158	1.12	77	2.02	289	-0.027	412.0	0.02	17.75
228	35.547	0.156	1.12	77	2.01	287.8	-0.034	547.0	0.06	17.66
229	35.705	0.158	1.12	77	1.99	290.2	-0.037	365.0	0.02	17.35
230	35.861	0.156	1.12	77	2.00	291.4	-0.014	461.0	0.03	17.44
231	36.019	0.158	1.11	77	2.01	291.3	0.000	429.0	0.03	16.98
232	36.177	0.158	1.12	77	2.02	291.3	-0.041	547.0	0.04	16.89
233	36.333	0.156	1.12	77	2.01	291.1	-0.036	547.0	0.05	16.78
234	36.491	0.158	1.12	77	2.00	291.1	-0.034	547.0	0.05	16.74
235	36.648	0.157	1.12	77	2.02	291.6	-0.062	547.0	0.04	16.70
236	36.806	0.158	1.12	77	2.01	291.5	0.011	539.0	0.03	16.51
237	36.963	0.157	1.12	77	2.01	291.6	-0.050	411.0	0.02	16.32
238	37.120	0.157	1.11	77	2.01	291.6	-0.028	447.0	0.04	16.45
239	37.278	0.158	1.12	77	2.00	291.5	-0.033	453.0	0.02	16.32
240	37.435	0.157	1.12	77	2.01	290.9	-0.019	374.0	0.02	16.05
241	37.593	0.158	1.12	77	2.01	290.3	-0.041	413.0	0.02	15.97
242	37.750	0.157	1.12	77	2.03	289.9	-0.029	484.0	0.03	15.92
243	37.907	0.157	1.11	77	2.02	293.2	-0.031	547.0	0.06	16.19
244	38.065	0.158	1.12	77	2.01	293.4	-0.037	507.0	0.03	16.24
245	38.222	0.157	1.12	77	2.01	291	-0.034	345.0	0.02	16.17
246	38.380	0.158	1.12	77	2.01	290	-0.028	386.0	0.03	16.00
247	38.536	0.156	1.12	77	2.01	295.3	-0.039	547.0	0.04	16.02
248	38.694	0.158	1.11	77	2.02	294.9	-0.041	527.0	0.02	15.62

Train D - Ambient Background and Flue Gas Data

Run:	1	Test Date:	2/24/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	16:22		
Total Sampling Time	360 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
249	38.852	0.158	1.12	77	2.01	292.3	-0.027	547.0	0.04	16.40
250	39.009	0.157	1.12	77	2.01	290.3	-0.043	503.0	0.03	16.18
251	39.167	0.158	1.12	77	2.01	294.4	-0.024	398.0	0.02	15.75
252	39.324	0.157	1.12	77	2.01	296.4	-0.036	407.0	0.02	15.86
253	39.482	0.158	1.12	77	2.02	296.5	-0.035	408.0	0.02	15.89
254	39.639	0.157	1.12	77	2.00	296.9	-0.036	281.0	0.01	15.60
255	39.796	0.157	1.11	77	2.02	294.5	-0.037	327.0	0.02	15.66
256	39.955	0.159	1.12	77	2.02	291	-0.049	258.0	0.00	15.76
257	40.111	0.156	1.12	77	2.02	293.8	-0.041	250.0	0.01	15.70
258	40.269	0.158	1.12	77	2.02	296.1	-0.032	340.0	0.01	15.81
259	40.426	0.157	1.12	77	2.01	296.3	-0.034	275.0	0.01	15.64
260	40.584	0.158	1.12	77	2.02	295.1	-0.038	94.0	0.01	14.87
261	40.741	0.157	1.12	77	2.02	298.6	-0.043	332.0	0.01	15.31
262	40.899	0.158	1.12	77	2.02	294.6	-0.034	354.0	0.01	15.51
263	41.057	0.158	1.12	77	2.01	295.7	-0.044	267.0	0.02	15.76
264	41.213	0.156	1.12	77	2.02	297.7	-0.037	251.0	0.01	15.64
265	41.371	0.158	1.12	77	2.00	292.2	-0.038	256.0	0.01	15.88
266	41.528	0.157	1.12	77	2.01	295.2	-0.034	326.0	0.02	15.81
267	41.686	0.158	1.12	77	2.01	299.8	-0.031	306.0	0.02	15.69
268	41.844	0.158	1.12	77	2.01	297.8	-0.040	488.0	0.04	15.65
269	42.001	0.157	1.12	77	2.01	299	-0.034	467.0	0.03	15.69
270	42.159	0.158	1.12	77	2.03	299.4	-0.038	547.0	0.05	15.77
271	42.316	0.157	1.12	77	2.02	293.5	-0.038	362.0	0.01	15.96
272	42.474	0.158	1.12	77	2.02	294	-0.039	506.0	0.03	15.84
273	42.631	0.157	1.12	77	1.99	295.6	-0.027	516.0	0.03	16.29
274	42.788	0.157	1.12	77	2.02	292.1	-0.033	376.0	0.02	16.09
275	42.947	0.159	1.12	77	2.02	290.3	-0.040	361.0	0.02	15.75
276	43.103	0.156	1.12	77	2.00	292.4	-0.037	547.0	0.03	15.82
277	43.261	0.158	1.12	77	2.00	295.6	-0.030	547.0	0.06	16.04
278	43.418	0.157	1.12	77	2.00	292.3	-0.036	491.0	0.03	15.97
279	43.576	0.158	1.11	77	2.01	296.7	-0.035	490.0	0.03	15.87
280	43.734	0.158	1.12	77	2.00	292.5	-0.033	476.0	0.04	15.63
281	43.891	0.157	1.12	77	2.01	293.4	-0.029	431.0	0.03	15.86
282	44.049	0.158	1.12	77	2.01	292.5	-0.026	547.0	0.09	19.01
283	44.206	0.157	1.12	77	2.01	291.9	-0.015	409.0	0.06	17.71
284	44.364	0.158	1.12	77	2.03	289.4	-0.027	547.0	0.04	17.43

Train D - Ambient Background and Flue Gas Data

Run:	1	Test Date:	2/24/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	16:22		
Total Sampling Time	360 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
285	44.521	0.157	1.13	77	2.02	292.2	-0.044	498.0	0.03	17.69
286	44.679	0.158	1.11	77	2.02	292.4	-0.039	547.0	0.04	17.67
287	44.837	0.158	1.13	77	2.02	293.8	-0.035	503.0	0.03	18.08
288	44.994	0.157	1.12	77	2.02	293.3	-0.039	547.0	0.06	18.50
289	45.152	0.158	1.12	77	2.02	291.7	-0.028	419.0	0.04	17.64
290	45.309	0.157	1.12	77	2.00	293.2	-0.041	547.0	0.04	17.52
291	45.467	0.158	1.12	77	2.02	293.7	-0.026	547.0	0.05	17.52
292	45.624	0.157	1.12	77	2.01	292.7	-0.023	470.0	0.02	17.40
293	45.782	0.158	1.12	77	2.02	292.5	-0.020	469.0	0.03	17.30
294	45.940	0.158	1.12	77	2.03	292.7	-0.039	528.0	0.03	17.56
295	46.097	0.157	1.12	77	2.00	293.4	-0.041	541.0	0.03	17.68
296	46.255	0.158	1.12	77	2.02	293.1	-0.047	477.0	0.03	17.20
297	46.412	0.157	1.12	77	2.00	292.3	-0.035	473.0	0.03	16.78
298	46.570	0.158	1.12	77	2.01	292	-0.043	485.0	0.03	16.55
299	46.728	0.158	1.12	77	2.01	291.6	-0.047	474.0	0.03	16.67
300	46.885	0.157	1.12	77	2.03	290.9	-0.037	418.0	0.02	16.46
301	47.044	0.159	1.13	77	2.00	290.3	-0.028	414.0	0.02	16.34
302	47.200	0.156	1.12	77	2.03	293.4	-0.045	408.0	0.02	16.29
303	47.359	0.159	1.12	77	2.00	293.3	-0.057	369.0	0.02	16.36
304	47.516	0.157	1.12	77	2.02	292.4	-0.014	316.0	0.02	16.58
305	47.674	0.158	1.12	77	2.01	292	-0.025	332.0	0.01	16.54
306	47.831	0.157	1.13	77	2.01	295.3	-0.036	313.0	0.01	16.29
307	47.989	0.158	1.12	77	2.02	294.2	-0.037	319.0	0.02	16.19
308	48.147	0.158	1.13	77	2.02	300.2	-0.044	299.0	0.01	15.97
309	48.304	0.157	1.12	77	2.02	295.1	-0.044	257.0	0.01	16.33
310	48.462	0.158	1.12	77	2.01	298.6	-0.036	273.0	0.00	16.30
311	48.619	0.157	1.12	77	2.02	297.2	-0.026	230.0	0.00	16.00
312	48.777	0.158	1.12	77	2.00	301.6	-0.033	216.0	-0.01	16.54
313	48.935	0.158	1.13	77	2.01	295.2	-0.022	211.0	0.00	16.84
314	49.092	0.157	1.12	77	2.01	299.7	-0.032	233.0	0.01	15.65
315	49.251	0.159	1.13	77	2.03	297.2	-0.040	190.0	0.00	16.90
316	49.407	0.156	1.12	77	2.01	294	-0.042	166.0	0.00	16.20
317	49.566	0.159	1.12	77	2.02	292.4	-0.022	182.0	0.00	15.72
318	49.723	0.157	1.13	77	2.02	293.4	-0.029	214.0	0.01	17.37
319	49.881	0.158	1.12	77	2.02	292.6	-0.030	177.0	0.00	16.86
320	50.039	0.158	1.13	77	2.01	291.9	-0.027	172.0	0.01	16.55

Train D - Ambient Background and Flue Gas Data

Run: 1
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/24/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 16:22
 Total Sampling Time 360 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
321	50.197	0.158	1.12	77	2.02	291.5	-0.042	182.0	0.00	16.25
322	50.355	0.158	1.13	77	2.02	290.8	-0.041	170.0	0.00	16.15
323	50.512	0.157	1.12	77	2.02	292.3	-0.035	160.0	0.00	16.13
324	50.670	0.158	1.12	77	2.02	291.9	-0.028	136.0	-0.01	16.48
325	50.828	0.158	1.13	77	2.02	291.8	-0.020	130.0	0.00	16.50
326	50.986	0.158	1.13	77	2.01	291.8	-0.036	136.0	0.00	16.65
327	51.143	0.157	1.13	77	2.01	291.8	-0.034	138.0	0.01	16.59
328	51.302	0.159	1.12	77	2.01	291.2	-0.038	154.0	-0.01	16.55
329	51.460	0.158	1.13	77	2.00	290.9	-0.036	145.0	0.00	16.20
330	51.617	0.157	1.13	77	2.01	290.6	-0.032	147.0	-0.01	16.29
331	51.776	0.159	1.13	77	2.01	289.7	-0.036	141.0	0.00	16.17
332	51.933	0.157	1.13	77	1.99	289.9	-0.055	130.0	0.00	16.11
333	52.092	0.159	1.13	77	2.02	290.5	-0.039	155.0	0.00	16.51
334	52.249	0.157	1.13	77	2.02	290.4	-0.040	165.0	0.00	16.07
335	52.408	0.159	1.13	77	1.98	298.7	-0.036	216.0	0.01	15.69
336	52.566	0.158	1.13	77	2.01	301.1	-0.034	209.0	0.00	15.68
337	52.723	0.157	1.13	77	1.99	305.7	-0.035	186.0	0.01	15.67
338	52.882	0.159	1.13	77	2.01	302.5	-0.037	199.0	0.00	15.84
339	53.039	0.157	1.13	77	1.99	302.9	-0.039	171.0	0.00	15.74
340	53.198	0.159	1.13	77	2.00	305.9	-0.044	162.0	0.00	15.68
341	53.356	0.158	1.13	77	2.01	307.7	-0.046	156.0	0.00	15.73
342	53.514	0.158	1.13	77	2.00	307.2	-0.037	191.0	0.00	15.70
343	53.672	0.158	1.13	77	2.00	305.9	-0.036	210.0	0.01	15.63
344	53.830	0.158	1.13	77	2.01	309.5	-0.039	199.0	0.00	15.56
345	53.988	0.158	1.13	77	2.00	307.8	-0.034	218.0	0.00	15.56
346	54.147	0.159	1.12	77	1.99	298.5	-0.038	167.0	0.00	15.92
347	54.306	0.159	1.14	77	2.01	304.1	-0.042	178.0	0.00	15.75
348	54.463	0.157	1.13	77	2.01	303.2	-0.040	195.0	0.00	15.80
349	54.622	0.159	1.13	77	2.00	302.9	-0.038	187.0	0.00	15.74
350	54.779	0.157	1.13	77	2.01	299.6	-0.036	165.0	0.00	15.95
351	54.938	0.159	1.13	77	2.02	301.6	-0.033	178.0	0.00	15.82
352	55.096	0.158	1.14	77	2.00	301.6	-0.033	219.0	0.00	15.73
353	55.255	0.159	1.13	77	2.01	304.9	-0.035	206.0	0.01	15.67
354	55.412	0.157	1.14	77	1.99	306.8	-0.037	178.0	0.00	15.48
355	55.571	0.159	1.12	77	2.00	309.4	-0.035	235.0	0.00	15.26
356	55.729	0.158	1.13	77	2.00	311.3	-0.037	241.0	0.01	15.37

Train D - Ambient Background and Flue Gas Data

Run:	1	Test Date:	2/24/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	16:22		
Total Sampling Time	360 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
357	55.887	0.158	1.13	77	2.01	312.5	-0.037	210.0	0.00	15.32
358	56.046	0.159	1.14	77	2.00	313.3	-0.034	210.0	0.01	15.23
359	56.204	0.158	1.13	77	2.00	313.1	-0.037	258.0	0.01	15.18
360	56.354	0.150	0.77	77	2.01	308	-0.033	243.0	0.01	15.04

Water Flow Data

ASTM E2618-13

Run: 1Test Date: 2/24/2025Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044EBoiler Dry Weight, Lb. 2457Boiler Water Weight, Lb. 2711Test Start Time: 16:22 TI_{avg} - Initial Average Boiler Temp, °F 131.20Total Sampling Time 360 min TF_{avg} - Final Average Boiler Temp, °F 153.84Recording Interval 1 min

Elapsed Time (min)	Appliance			Load							
	T_2 Return Temp °F	T_1 Supply Temp °F	ΔT across Appliance	T_3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
Tot / Avg	130.5	143.7	13.22	46.7	141.8	95.07	5.104	1.0012	8.344	42.589	1458338.8
Minimum	121.7	133.8	11.66	46.4	131.8	84.90	4.223	1.0012	8.344	35.236	3577.497
Max	147.3	160.4	14.39	47.0	159.1	112.71	5.810	1.0012	8.344	48.476	4339.163
0	124.0	138.4	14.39	46.8	135.8	88.96	5.699	1.0012	8.344	47.56	4235.9
1	124.2	138.4	14.23	46.8	135.8	89.02	5.768	1.0012	8.344	48.13	4289.9
2	124.2	138.5	14.33	46.8	135.9	89.07	5.810	1.0012	8.344	48.48	4323.2
3	124.5	138.8	14.33	46.8	136.2	89.40	5.810	1.0012	8.344	48.48	4339.2
4	123.5	137.4	13.90	46.8	135.0	88.16	5.755	1.0012	8.344	48.02	4238.4
5	123.1	136.9	13.81	46.8	134.5	87.64	5.699	1.0012	8.344	47.56	4173.1
6	123.0	136.8	13.79	46.8	134.3	87.46	5.713	1.0012	8.344	47.67	4174.5
7	122.8	136.5	13.75	46.8	134.0	87.21	5.686	1.0012	8.344	47.44	4142.3
8	122.5	136.2	13.70	46.8	133.7	86.91	5.699	1.0012	8.344	47.56	4138.0
9	122.6	136.0	13.43	46.8	133.6	86.80	5.644	1.0012	8.344	47.09	4093.0
10	122.4	135.7	13.37	46.8	133.4	86.54	5.603	1.0012	8.344	46.75	4050.6
11	122.3	135.5	13.22	46.8	133.2	86.41	5.575	1.0012	8.344	46.52	4024.5
12	122.4	135.3	12.84	46.9	133.1	86.27	5.437	1.0012	8.344	45.37	3918.9
13	122.3	135.2	12.88	46.9	133.0	86.07	5.437	1.0012	8.344	45.37	3909.6
14	122.1	134.9	12.77	46.9	132.7	85.84	5.437	1.0012	8.344	45.37	3899.0
15	122.0	134.8	12.79	46.9	132.6	85.67	5.423	1.0012	8.344	45.25	3881.7
16	121.9	134.7	12.75	46.9	132.5	85.55	5.437	1.0012	8.344	45.37	3886.1
17	122.2	134.6	12.34	46.9	132.6	85.70	5.272	1.0012	8.344	43.99	3774.4
18	122.1	134.4	12.26	46.9	132.4	85.46	5.258	1.0012	8.344	43.87	3753.9
19	122.1	134.4	12.28	46.9	132.5	85.53	5.244	1.0012	8.344	43.75	3746.8
20	122.1	134.3	12.22	47.0	132.4	85.41	5.244	1.0012	8.344	43.75	3741.7
21	122.0	134.3	12.26	46.9	132.3	85.36	5.230	1.0012	8.344	43.64	3729.7
22	122.0	134.2	12.24	46.9	132.2	85.29	5.244	1.0012	8.344	43.75	3736.7
23	121.9	134.2	12.26	47.0	132.2	85.28	5.230	1.0012	8.344	43.64	3726.1
24	121.9	134.2	12.22	46.9	132.1	85.18	5.258	1.0012	8.344	43.87	3741.6
25	121.9	134.1	12.22	46.9	132.1	85.13	5.244	1.0012	8.344	43.75	3729.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
26	122.5	134.1	11.67	47.0	132.3	85.37	5.147	1.0012	8.344	42.95	3670.9
27	122.3	133.9	11.66	47.0	132.2	85.25	5.023	1.0012	8.344	41.91	3577.5
28	121.9	134.1	12.25	47.0	132.1	85.18	5.244	1.0012	8.344	43.75	3731.6
29	121.8	134.0	12.22	46.9	132.0	85.13	5.258	1.0012	8.344	43.87	3739.1
30	121.8	133.8	12.08	46.9	132.1	85.15	5.244	1.0012	8.344	43.75	3730.4
31	121.7	133.8	12.11	46.9	131.9	85.00	5.244	1.0012	8.344	43.75	3723.6
32	121.7	133.9	12.21	46.9	131.8	84.90	5.244	1.0012	8.344	43.75	3719.3
33	121.9	134.1	12.24	46.9	132.1	85.16	5.244	1.0012	8.344	43.75	3730.7
34	122.1	134.4	12.28	46.9	132.4	85.43	5.258	1.0012	8.344	43.87	3752.3
35	122.2	134.5	12.29	46.9	132.5	85.58	5.230	1.0012	8.344	43.64	3739.5
36	122.4	134.7	12.31	46.9	132.7	85.78	5.244	1.0012	8.344	43.75	3758.0
37	122.5	134.8	12.28	46.9	132.8	85.83	5.258	1.0012	8.344	43.87	3770.2
38	122.4	134.8	12.37	46.9	132.8	85.84	5.244	1.0012	8.344	43.75	3760.6
39	122.5	134.9	12.32	46.9	132.9	85.93	5.244	1.0012	8.344	43.75	3764.6
40	122.5	134.8	12.29	46.9	132.8	85.90	5.258	1.0012	8.344	43.87	3773.2
41	122.5	135.0	12.42	46.9	132.9	85.97	5.258	1.0012	8.344	43.87	3776.3
42	122.5	134.9	12.38	46.9	132.9	85.95	5.285	1.0012	8.344	44.10	3795.3
43	123.0	134.8	11.85	46.9	133.1	86.14	5.037	1.0012	8.344	42.03	3624.7
44	122.6	134.9	12.30	47.0	133.0	86.02	5.285	1.0012	8.344	44.10	3798.3
45	122.6	135.0	12.35	46.9	133.0	86.03	5.272	1.0012	8.344	43.99	3788.6
46	122.7	134.9	12.25	46.9	132.9	85.99	5.244	1.0012	8.344	43.75	3767.4
47	122.9	135.0	12.09	46.9	133.1	86.13	5.147	1.0012	8.344	42.95	3703.6
48	122.9	135.0	12.07	46.9	133.1	86.13	5.134	1.0012	8.344	42.83	3694.0
49	122.8	134.9	12.05	46.9	133.0	86.08	5.161	1.0012	8.344	43.06	3711.4
50	122.9	134.9	12.07	46.9	133.1	86.13	5.147	1.0012	8.344	42.95	3703.9
51	123.0	135.0	12.08	47.0	133.1	86.18	5.147	1.0012	8.344	42.95	3705.8
52	123.0	135.1	12.09	46.9	133.2	86.25	5.147	1.0012	8.344	42.95	3708.9
53	123.1	135.2	12.10	47.0	133.3	86.31	5.147	1.0012	8.344	42.95	3711.5
54	123.1	135.2	12.10	47.0	133.3	86.36	5.147	1.0012	8.344	42.95	3713.8
55	123.1	135.4	12.25	47.0	133.4	86.48	5.175	1.0012	8.344	43.18	3738.8
56	123.4	135.4	12.00	47.0	133.6	86.66	5.134	1.0012	8.344	42.83	3716.4
57	123.2	135.5	12.26	47.0	133.6	86.61	5.189	1.0012	8.344	43.29	3754.5
58	123.4	135.7	12.29	46.9	133.7	86.82	5.203	1.0012	8.344	43.41	3773.4
59	123.2	135.6	12.36	46.7	133.6	86.85	5.216	1.0012	8.344	43.53	3784.7
60	123.4	135.8	12.38	46.7	133.8	87.13	5.203	1.0012	8.344	43.41	3786.9
61	123.5	135.9	12.44	46.6	133.9	87.30	5.216	1.0012	8.344	43.53	3804.4
62	123.5	135.9	12.44	46.6	134.0	87.35	5.230	1.0012	8.344	43.64	3816.7
63	123.5	135.8	12.37	46.6	134.0	87.34	5.203	1.0012	8.344	43.41	3796.0
64	123.7	136.2	12.47	46.6	134.2	87.56	5.230	1.0012	8.344	43.64	3826.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
65	123.9	136.5	12.56	46.6	134.5	87.89	5.203	1.0012	8.344	43.41	3820.1
66	124.0	136.5	12.53	46.6	134.5	87.97	5.216	1.0012	8.344	43.53	3833.7
67	124.1	136.6	12.46	46.6	134.7	88.15	5.230	1.0012	8.344	43.64	3851.9
68	124.1	136.7	12.56	46.6	134.7	88.17	5.203	1.0012	8.344	43.41	3832.1
69	124.2	136.8	12.61	46.5	134.8	88.30	5.230	1.0012	8.344	43.64	3858.2
70	124.5	137.1	12.61	46.5	135.1	88.58	5.216	1.0012	8.344	43.53	3860.4
71	124.5	137.1	12.61	46.5	135.1	88.61	5.203	1.0012	8.344	43.41	3851.2
72	124.5	137.2	12.65	46.5	135.2	88.65	5.216	1.0012	8.344	43.53	3863.5
73	124.6	137.2	12.65	46.5	135.3	88.77	5.216	1.0012	8.344	43.53	3868.4
74	124.7	137.4	12.68	46.5	135.4	88.87	5.203	1.0012	8.344	43.41	3862.7
75	124.8	137.4	12.64	46.5	135.5	88.96	5.216	1.0012	8.344	43.53	3877.0
76	124.7	137.4	12.68	46.5	135.5	88.97	5.216	1.0012	8.344	43.53	3877.5
77	124.8	137.5	12.71	46.5	135.5	89.05	5.216	1.0012	8.344	43.53	3880.7
78	124.9	137.6	12.70	46.5	135.6	89.12	5.230	1.0012	8.344	43.64	3894.0
79	124.8	137.6	12.76	46.5	135.6	89.08	5.216	1.0012	8.344	43.53	3882.0
80	124.8	137.6	12.75	46.5	135.5	89.03	5.258	1.0012	8.344	43.87	3910.9
81	124.9	137.6	12.74	46.5	135.7	89.18	5.230	1.0012	8.344	43.64	3896.9
82	124.8	137.7	12.85	46.6	135.6	89.05	5.285	1.0012	8.344	44.10	3932.1
83	124.8	137.5	12.75	46.6	135.5	88.89	5.299	1.0012	8.344	44.22	3935.2
84	124.8	137.6	12.80	46.7	135.6	88.97	5.272	1.0012	8.344	43.99	3918.5
85	124.9	137.8	12.87	46.7	135.7	89.06	5.285	1.0012	8.344	44.10	3932.4
86	124.9	137.8	12.87	46.7	135.7	89.01	5.272	1.0012	8.344	43.99	3920.1
87	125.0	137.8	12.83	46.7	135.8	89.05	5.285	1.0012	8.344	44.10	3932.0
88	125.0	137.9	12.88	46.7	135.8	89.09	5.285	1.0012	8.344	44.10	3933.7
89	125.0	137.8	12.86	46.8	135.8	89.01	5.285	1.0012	8.344	44.10	3930.2
90	125.0	137.9	12.89	46.7	135.8	89.07	5.299	1.0012	8.344	44.22	3943.0
91	125.1	137.9	12.82	46.8	135.9	89.16	5.272	1.0012	8.344	43.99	3926.4
92	125.0	137.9	12.85	46.8	135.8	89.03	5.272	1.0012	8.344	43.99	3921.0
93	125.0	137.9	12.89	46.8	135.9	89.12	5.285	1.0012	8.344	44.10	3935.1
94	125.2	138.1	12.88	46.7	136.0	89.26	5.285	1.0012	8.344	44.10	3941.3
95	125.1	137.9	12.87	46.8	135.9	89.15	5.272	1.0012	8.344	43.99	3926.1
96	125.1	137.9	12.87	46.8	135.9	89.09	5.285	1.0012	8.344	44.10	3933.8
97	125.2	138.1	12.90	46.8	136.0	89.23	5.272	1.0012	8.344	43.99	3929.8
98	125.2	138.1	12.89	46.8	136.0	89.26	5.285	1.0012	8.344	44.10	3941.3
99	125.3	138.2	12.90	46.8	136.1	89.32	5.272	1.0012	8.344	43.99	3933.8
100	125.3	138.2	12.91	46.8	136.2	89.38	5.285	1.0012	8.344	44.10	3946.6
101	125.3	138.2	12.90	46.8	136.2	89.35	5.285	1.0012	8.344	44.10	3945.3
102	125.4	138.3	12.91	46.8	136.3	89.48	5.285	1.0012	8.344	44.10	3951.0
103	125.4	138.4	12.92	46.8	136.3	89.51	5.161	1.0012	8.344	43.06	3859.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
104	125.5	138.4	12.89	46.8	136.4	89.53	5.272	1.0012	8.344	43.99	3942.9
105	125.5	138.5	12.95	46.8	136.4	89.55	5.285	1.0012	8.344	44.10	3954.3
106	125.6	138.6	12.95	46.8	136.6	89.76	5.285	1.0012	8.344	44.10	3963.4
107	126.2	138.7	12.46	46.8	136.9	90.09	5.092	1.0012	8.344	42.49	3832.4
108	125.8	138.8	12.99	46.8	136.8	89.94	5.203	1.0012	8.344	43.41	3909.2
109	125.7	138.9	13.17	46.8	136.8	90.00	5.313	1.0012	8.344	44.33	3994.7
110	125.8	139.0	13.20	46.8	136.9	90.11	5.368	1.0012	8.344	44.79	4041.1
111	125.7	139.0	13.23	46.8	136.8	90.02	5.354	1.0012	8.344	44.68	4026.9
112	125.8	139.0	13.22	46.8	136.9	90.13	5.354	1.0012	8.344	44.68	4031.7
113	125.8	139.0	13.21	46.8	136.9	90.05	5.354	1.0012	8.344	44.68	4028.2
114	125.9	139.1	13.21	46.8	137.0	90.14	5.368	1.0012	8.344	44.79	4042.7
115	125.8	139.1	13.27	46.8	136.9	90.10	5.341	1.0012	8.344	44.56	4019.8
116	125.9	139.2	13.25	46.8	137.0	90.22	5.354	1.0012	8.344	44.68	4035.7
117	125.9	139.2	13.23	46.8	137.0	90.21	5.368	1.0012	8.344	44.79	4045.8
118	126.0	139.2	13.22	46.8	137.1	90.26	5.354	1.0012	8.344	44.68	4037.4
119	125.9	139.2	13.22	46.8	137.0	90.23	5.354	1.0012	8.344	44.68	4036.0
120	126.0	139.2	13.26	46.8	137.1	90.26	5.368	1.0012	8.344	44.79	4047.7
121	125.9	139.2	13.26	46.8	137.0	90.20	5.354	1.0012	8.344	44.68	4034.9
122	126.0	139.2	13.22	46.8	137.1	90.30	5.354	1.0012	8.344	44.68	4039.4
123	126.0	139.3	13.28	46.8	137.2	90.33	5.354	1.0012	8.344	44.68	4040.6
124	126.0	139.3	13.25	46.8	137.2	90.37	5.368	1.0012	8.344	44.79	4052.7
125	126.1	139.4	13.26	46.8	137.2	90.35	5.354	1.0012	8.344	44.68	4041.4
126	126.2	139.4	13.24	46.8	137.3	90.45	5.354	1.0012	8.344	44.68	4046.1
127	126.1	139.4	13.30	46.9	137.3	90.44	5.354	1.0012	8.344	44.68	4045.4
128	126.2	139.5	13.25	46.9	137.3	90.49	5.368	1.0012	8.344	44.79	4058.2
129	126.3	139.6	13.31	46.8	137.5	90.61	5.354	1.0012	8.344	44.68	4053.2
130	126.3	139.6	13.33	46.8	137.4	90.60	5.354	1.0012	8.344	44.68	4052.9
131	126.4	139.7	13.32	46.9	137.6	90.73	5.354	1.0012	8.344	44.68	4058.4
132	126.5	139.8	13.31	46.9	137.7	90.80	5.354	1.0012	8.344	44.68	4061.5
133	126.5	139.8	13.35	46.9	137.6	90.77	5.354	1.0012	8.344	44.68	4060.4
134	126.5	139.8	13.35	46.9	137.6	90.79	5.341	1.0012	8.344	44.56	4050.7
135	126.6	139.8	13.29	46.9	137.7	90.88	5.341	1.0012	8.344	44.56	4054.5
136	126.6	139.9	13.31	46.9	137.8	90.91	5.327	1.0012	8.344	44.45	4045.7
137	126.6	139.9	13.34	46.9	137.8	90.95	5.368	1.0012	8.344	44.79	4078.7
138	126.6	140.0	13.35	46.8	137.8	90.95	5.341	1.0012	8.344	44.56	4058.0
139	126.8	140.2	13.39	46.9	138.0	91.19	5.368	1.0012	8.344	44.79	4089.8
140	126.8	140.1	13.34	46.9	138.0	91.16	5.368	1.0012	8.344	44.79	4088.5
141	126.8	140.3	13.42	46.9	138.1	91.27	5.354	1.0012	8.344	44.68	4082.7
142	127.0	140.4	13.42	46.8	138.2	91.37	5.354	1.0012	8.344	44.68	4087.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
143	127.0	140.5	13.47	46.8	138.3	91.55	5.354	1.0012	8.344	44.68	4095.0
144	127.2	140.7	13.51	46.7	138.6	91.89	5.354	1.0012	8.344	44.68	4110.5
145	127.2	140.7	13.50	46.6	138.5	91.93	5.341	1.0012	8.344	44.56	4101.7
146	127.2	140.7	13.50	46.6	138.6	92.02	5.368	1.0012	8.344	44.79	4127.1
147	127.3	140.8	13.53	46.6	138.6	92.05	5.354	1.0012	8.344	44.68	4117.8
148	127.4	140.9	13.51	46.6	138.7	92.16	5.341	1.0012	8.344	44.56	4112.1
149	127.4	141.0	13.55	46.6	138.8	92.25	5.368	1.0012	8.344	44.79	4137.2
150	127.7	141.0	13.35	46.5	139.0	92.41	5.299	1.0012	8.344	44.22	4091.3
151	127.7	141.1	13.42	46.5	139.0	92.45	5.285	1.0012	8.344	44.10	4082.2
152	127.8	141.2	13.40	46.5	139.2	92.62	5.272	1.0012	8.344	43.99	4079.1
153	127.8	141.2	13.41	46.5	139.1	92.55	5.272	1.0012	8.344	43.99	4075.9
154	127.9	141.2	13.38	46.5	139.2	92.67	5.285	1.0012	8.344	44.10	4091.8
155	128.0	141.4	13.45	46.5	139.3	92.83	5.285	1.0012	8.344	44.10	4098.9
156	128.0	141.3	13.38	46.5	139.3	92.76	5.285	1.0012	8.344	44.10	4096.2
157	128.0	141.3	13.34	46.5	139.4	92.86	5.285	1.0012	8.344	44.10	4100.4
158	128.1	141.5	13.42	46.5	139.4	92.90	5.285	1.0012	8.344	44.10	4102.4
159	128.1	141.5	13.39	46.5	139.5	92.98	5.272	1.0012	8.344	43.99	4094.9
160	128.0	141.4	13.39	46.5	139.4	92.87	5.285	1.0012	8.344	44.10	4100.9
161	128.1	141.5	13.39	46.5	139.4	92.91	5.285	1.0012	8.344	44.10	4102.8
162	128.0	141.4	13.41	46.6	139.4	92.84	5.285	1.0012	8.344	44.10	4099.4
163	128.3	141.7	13.44	46.6	139.6	93.00	5.258	1.0012	8.344	43.87	4085.3
164	128.2	141.6	13.44	46.7	139.5	92.87	5.272	1.0012	8.344	43.99	4090.0
165	128.2	141.7	13.48	46.7	139.6	92.92	5.285	1.0012	8.344	44.10	4102.9
166	128.4	141.8	13.44	46.7	139.8	93.04	5.272	1.0012	8.344	43.99	4097.5
167	128.4	141.9	13.42	46.7	139.8	93.03	5.285	1.0012	8.344	44.10	4107.7
168	128.5	141.9	13.45	46.7	139.9	93.17	5.272	1.0012	8.344	43.99	4103.0
169	128.4	141.9	13.48	46.7	139.8	93.03	5.285	1.0012	8.344	44.10	4107.8
170	128.5	142.0	13.43	46.7	139.9	93.17	5.272	1.0012	8.344	43.99	4103.3
171	128.6	142.1	13.49	46.8	140.0	93.29	5.272	1.0012	8.344	43.99	4108.5
172	128.6	142.1	13.51	46.8	140.0	93.24	5.258	1.0012	8.344	43.87	4095.7
173	128.7	142.2	13.48	46.8	140.1	93.37	5.285	1.0012	8.344	44.10	4122.8
174	128.7	142.2	13.49	46.8	140.1	93.32	5.272	1.0012	8.344	43.99	4109.9
175	128.8	142.3	13.48	46.8	140.2	93.46	5.272	1.0012	8.344	43.99	4115.9
176	128.8	142.4	13.54	46.8	140.3	93.52	5.285	1.0012	8.344	44.10	4129.3
177	128.9	142.4	13.54	46.8	140.3	93.52	5.285	1.0012	8.344	44.10	4129.3
178	129.2	142.6	13.39	46.8	140.6	93.79	5.244	1.0012	8.344	43.76	4108.7
179	129.5	142.6	13.05	46.8	140.7	93.92	5.134	1.0012	8.344	42.83	4027.8
180	129.6	142.7	13.10	46.8	140.8	94.00	5.092	1.0012	8.344	42.49	3999.0
181	129.8	142.9	13.11	46.8	141.0	94.19	5.106	1.0012	8.344	42.60	4017.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
182	129.9	143.0	13.11	46.8	141.1	94.31	5.092	1.0012	8.344	42.49	4012.1
183	130.0	143.1	13.16	46.8	141.2	94.39	5.092	1.0012	8.344	42.49	4015.6
184	130.0	143.2	13.16	46.8	141.2	94.42	5.092	1.0012	8.344	42.49	4016.7
185	130.1	143.2	13.13	46.8	141.3	94.53	5.092	1.0012	8.344	42.49	4021.2
186	130.2	143.3	13.15	46.8	141.4	94.62	5.106	1.0012	8.344	42.60	4036.4
187	130.2	143.4	13.21	46.8	141.5	94.69	5.092	1.0012	8.344	42.49	4028.4
188	130.2	143.4	13.19	46.8	141.5	94.73	5.092	1.0012	8.344	42.49	4029.9
189	130.3	143.5	13.18	46.8	141.6	94.75	5.092	1.0012	8.344	42.49	4030.7
190	130.5	143.7	13.18	46.8	141.8	94.96	5.092	1.0012	8.344	42.49	4039.6
191	130.4	143.6	13.22	46.8	141.8	94.93	5.092	1.0012	8.344	42.49	4038.3
192	130.5	143.8	13.25	46.8	141.9	95.06	5.106	1.0012	8.344	42.60	4054.7
193	130.4	143.7	13.22	46.8	141.8	94.95	5.092	1.0012	8.344	42.49	4039.3
194	130.6	143.8	13.24	46.8	141.9	95.10	5.106	1.0012	8.344	42.60	4056.8
195	130.6	143.9	13.25	46.8	142.0	95.16	5.078	1.0012	8.344	42.37	4037.2
196	130.7	144.0	13.26	46.8	142.1	95.25	5.078	1.0012	8.344	42.37	4041.2
197	130.8	144.1	13.27	46.8	142.2	95.37	5.106	1.0012	8.344	42.60	4068.0
198	131.0	144.3	13.30	46.8	142.4	95.54	5.078	1.0012	8.344	42.37	4053.4
199	131.0	144.3	13.31	46.8	142.4	95.61	5.092	1.0012	8.344	42.49	4067.2
200	131.0	144.3	13.31	46.8	142.4	95.61	5.092	1.0012	8.344	42.49	4067.5
201	131.1	144.4	13.30	46.8	142.5	95.69	5.065	1.0012	8.344	42.26	4048.6
202	131.0	144.3	13.33	46.8	142.4	95.61	5.106	1.0012	8.344	42.60	4078.2
203	131.1	144.5	13.36	46.8	142.6	95.76	5.092	1.0012	8.344	42.49	4073.9
204	131.2	144.5	13.34	46.9	142.6	95.74	5.078	1.0012	8.344	42.37	4061.8
205	131.2	144.5	13.35	46.9	142.6	95.72	5.092	1.0012	8.344	42.49	4072.2
206	131.4	144.7	13.33	46.8	142.9	96.02	5.092	1.0012	8.344	42.49	4084.9
207	131.4	144.8	13.36	46.8	142.9	96.02	5.092	1.0012	8.344	42.49	4084.7
208	131.5	144.9	13.40	46.8	143.0	96.20	5.078	1.0012	8.344	42.37	4081.4
209	131.6	144.9	13.34	46.8	143.1	96.23	5.078	1.0012	8.344	42.37	4082.8
210	131.7	145.1	13.42	46.8	143.2	96.33	5.065	1.0012	8.344	42.26	4075.9
211	131.8	145.1	13.38	46.8	143.3	96.45	5.092	1.0012	8.344	42.49	4103.1
212	131.9	145.4	13.47	46.8	143.5	96.68	5.078	1.0012	8.344	42.37	4101.6
213	131.8	145.2	13.45	46.8	143.3	96.49	5.078	1.0012	8.344	42.37	4093.8
214	131.9	145.4	13.48	46.8	143.5	96.67	5.078	1.0012	8.344	42.37	4101.3
215	131.9	145.3	13.48	46.8	143.4	96.64	5.092	1.0012	8.344	42.49	4111.1
216	132.0	145.5	13.51	46.8	143.6	96.82	5.092	1.0012	8.344	42.49	4119.1
217	132.1	145.5	13.40	46.8	143.7	96.90	5.065	1.0012	8.344	42.26	4099.9
218	132.3	145.8	13.49	46.8	143.8	97.06	5.078	1.0012	8.344	42.37	4118.0
219	132.3	145.8	13.50	46.8	143.9	97.07	5.078	1.0012	8.344	42.37	4118.3
220	132.3	145.7	13.46	46.8	143.8	97.03	5.065	1.0012	8.344	42.26	4105.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
221	132.4	145.9	13.47	46.8	144.0	97.23	5.078	1.0012	8.344	42.37	4125.2
222	132.5	146.0	13.47	46.8	144.1	97.33	5.078	1.0012	8.344	42.37	4129.5
223	132.5	146.0	13.49	46.8	144.0	97.26	5.078	1.0012	8.344	42.37	4126.3
224	132.6	146.1	13.53	46.8	144.3	97.47	5.078	1.0012	8.344	42.37	4135.4
225	132.6	146.2	13.53	46.8	144.3	97.50	5.065	1.0012	8.344	42.26	4125.5
226	132.8	146.3	13.56	46.8	144.4	97.63	5.078	1.0012	8.344	42.37	4142.1
227	132.7	146.3	13.59	46.8	144.4	97.65	5.078	1.0012	8.344	42.37	4143.1
228	132.9	146.5	13.62	46.8	144.6	97.76	5.065	1.0012	8.344	42.26	4136.2
229	133.5	146.5	13.08	46.8	144.8	97.97	4.996	1.0012	8.344	41.68	4088.8
230	133.0	146.6	13.64	46.8	144.8	97.95	4.996	1.0012	8.344	41.68	4087.9
231	133.0	146.6	13.64	46.8	144.7	97.88	5.065	1.0012	8.344	42.26	4141.5
232	133.2	146.8	13.59	46.7	145.0	98.21	5.078	1.0012	8.344	42.37	4166.8
233	133.3	146.9	13.62	46.7	145.0	98.29	5.065	1.0012	8.344	42.26	4158.9
234	133.3	147.0	13.66	46.7	145.0	98.29	5.078	1.0012	8.344	42.37	4170.2
235	133.3	147.0	13.65	46.7	145.1	98.35	5.078	1.0012	8.344	42.37	4172.8
236	133.4	147.1	13.71	46.7	145.2	98.52	5.078	1.0012	8.344	42.37	4179.7
237	133.4	147.1	13.71	46.7	145.2	98.47	5.092	1.0012	8.344	42.49	4189.2
238	133.5	147.2	13.69	46.7	145.3	98.60	5.078	1.0012	8.344	42.37	4183.4
239	133.5	147.2	13.66	46.7	145.3	98.56	5.065	1.0012	8.344	42.26	4170.4
240	133.6	147.3	13.72	46.7	145.5	98.74	5.078	1.0012	8.344	42.37	4189.4
241	133.6	147.3	13.66	46.7	145.4	98.69	5.051	1.0012	8.344	42.14	4164.5
242	133.7	147.4	13.69	46.8	145.5	98.76	5.078	1.0012	8.344	42.37	4190.0
243	133.7	147.4	13.69	46.7	145.5	98.74	5.065	1.0012	8.344	42.26	4177.7
244	133.7	147.3	13.64	46.7	145.5	98.76	5.065	1.0012	8.344	42.26	4178.7
245	133.7	147.5	13.73	46.7	145.5	98.81	5.078	1.0012	8.344	42.37	4192.1
246	133.8	147.5	13.70	46.7	145.6	98.92	5.078	1.0012	8.344	42.37	4197.0
247	133.7	147.4	13.70	46.7	145.6	98.86	5.078	1.0012	8.344	42.37	4194.3
248	133.9	147.6	13.69	46.7	145.7	98.97	5.065	1.0012	8.344	42.26	4187.5
249	133.9	147.6	13.75	46.7	145.7	98.99	5.078	1.0012	8.344	42.37	4200.0
250	133.9	147.7	13.80	46.7	145.8	99.02	5.092	1.0012	8.344	42.49	4212.6
251	134.0	147.8	13.76	46.7	145.9	99.16	5.065	1.0012	8.344	42.26	4195.7
252	134.0	147.8	13.74	46.7	145.9	99.15	5.065	1.0012	8.344	42.26	4195.0
253	134.1	147.8	13.78	46.7	145.9	99.18	5.065	1.0012	8.344	42.26	4196.5
254	134.1	147.9	13.80	46.7	146.0	99.24	5.078	1.0012	8.344	42.37	4210.2
255	134.2	148.0	13.79	46.7	146.0	99.29	5.078	1.0012	8.344	42.37	4212.7
256	134.2	148.0	13.81	46.7	146.1	99.39	5.078	1.0012	8.344	42.37	4216.8
257	134.3	148.0	13.79	46.7	146.1	99.38	5.078	1.0012	8.344	42.37	4216.2
258	134.2	147.9	13.73	46.7	146.1	99.33	5.078	1.0012	8.344	42.37	4214.3
259	134.2	148.0	13.84	46.7	146.1	99.33	5.065	1.0012	8.344	42.26	4202.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
260	134.2	148.0	13.76	46.7	146.2	99.44	5.078	1.0012	8.344	42.37	4218.8
261	134.3	148.2	13.88	46.8	146.2	99.43	5.078	1.0012	8.344	42.37	4218.5
262	134.3	148.2	13.85	46.7	146.3	99.57	5.078	1.0012	8.344	42.37	4224.6
263	134.4	148.2	13.84	46.8	146.3	99.54	5.065	1.0012	8.344	42.26	4211.6
264	134.1	147.9	13.87	46.7	146.0	99.25	5.078	1.0012	8.344	42.37	4210.7
265	134.4	148.2	13.83	46.7	146.3	99.60	5.065	1.0012	8.344	42.26	4214.1
266	134.4	148.3	13.86	46.7	146.4	99.62	5.092	1.0012	8.344	42.49	4238.1
267	134.3	148.2	13.87	46.7	146.2	99.51	5.065	1.0012	8.344	42.26	4210.4
268	134.4	148.1	13.79	46.7	146.3	99.56	5.051	1.0012	8.344	42.14	4201.1
269	134.4	148.3	13.87	46.7	146.4	99.62	5.078	1.0012	8.344	42.37	4226.4
270	134.5	148.3	13.82	46.7	146.4	99.70	5.078	1.0012	8.344	42.37	4230.0
271	134.3	148.1	13.72	46.7	146.3	99.56	5.078	1.0012	8.344	42.37	4224.0
272	134.5	148.3	13.80	46.8	146.4	99.67	5.078	1.0012	8.344	42.37	4228.8
273	134.5	148.4	13.84	46.7	146.5	99.72	5.078	1.0012	8.344	42.37	4231.0
274	134.6	148.4	13.78	46.8	146.5	99.76	5.078	1.0012	8.344	42.37	4232.3
275	134.6	148.5	13.86	46.8	146.6	99.80	5.065	1.0012	8.344	42.26	4222.5
276	134.6	148.4	13.85	46.8	146.6	99.81	5.078	1.0012	8.344	42.37	4234.7
277	134.6	148.4	13.80	46.8	146.5	99.77	5.065	1.0012	8.344	42.26	4221.5
278	134.7	148.5	13.83	46.7	146.6	99.84	5.078	1.0012	8.344	42.37	4235.9
279	134.7	148.5	13.85	46.8	146.6	99.85	5.051	1.0012	8.344	42.14	4213.2
280	135.0	148.5	13.47	46.8	146.7	99.99	4.996	1.0012	8.344	41.68	4172.9
281	135.1	148.5	13.42	46.8	146.7	99.95	4.913	1.0012	8.344	40.99	4102.4
282	135.2	148.6	13.45	46.8	146.9	100.07	4.913	1.0012	8.344	40.99	4107.1
283	135.2	148.6	13.49	46.8	146.9	100.09	4.913	1.0012	8.344	40.99	4108.1
284	135.3	148.8	13.49	46.8	147.1	100.28	4.913	1.0012	8.344	40.99	4115.8
285	135.3	148.8	13.49	46.8	147.0	100.25	4.927	1.0012	8.344	41.11	4126.2
286	135.5	149.0	13.48	46.8	147.3	100.47	4.913	1.0012	8.344	40.99	4123.6
287	135.7	149.2	13.48	46.8	147.4	100.63	4.913	1.0012	8.344	40.99	4130.0
288	135.5	149.1	13.59	46.8	147.3	100.54	4.927	1.0012	8.344	41.11	4138.2
289	135.7	149.2	13.58	46.8	147.5	100.70	4.927	1.0012	8.344	41.11	4144.8
290	135.9	149.4	13.52	46.8	147.7	100.91	4.927	1.0012	8.344	41.11	4153.2
291	136.0	149.6	13.62	46.8	147.8	101.03	4.927	1.0012	8.344	41.11	4158.3
292	136.2	149.8	13.61	46.8	148.1	101.25	4.913	1.0012	8.344	40.99	4155.7
293	136.2	149.7	13.57	46.8	148.0	101.26	4.913	1.0012	8.344	40.99	4155.8
294	136.3	150.0	13.66	46.8	148.2	101.39	4.927	1.0012	8.344	41.11	4172.9
295	136.5	150.2	13.70	46.8	148.4	101.62	4.913	1.0012	8.344	40.99	4170.8
296	136.6	150.3	13.65	46.8	148.5	101.72	4.927	1.0012	8.344	41.11	4186.8
297	136.8	150.5	13.68	46.8	148.7	101.89	4.927	1.0012	8.344	41.11	4193.6
298	136.9	150.6	13.65	46.8	148.9	102.04	4.913	1.0012	8.344	40.99	4188.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
299	137.0	150.7	13.73	46.8	149.0	102.12	4.913	1.0012	8.344	40.99	4191.4
300	137.1	150.8	13.76	46.8	149.1	102.26	4.913	1.0012	8.344	40.99	4197.1
301	137.3	151.0	13.71	46.8	149.3	102.44	4.899	1.0012	8.344	40.88	4192.8
302	137.1	150.8	13.69	46.8	149.1	102.28	4.927	1.0012	8.344	41.11	4209.8
303	137.4	151.1	13.77	46.8	149.4	102.56	4.899	1.0012	8.344	40.88	4197.4
304	137.4	151.2	13.84	46.8	149.4	102.63	4.927	1.0012	8.344	41.11	4223.9
305	137.5	151.3	13.85	46.8	149.5	102.73	4.913	1.0012	8.344	40.99	4216.4
306	137.5	151.4	13.86	46.8	149.6	102.79	4.913	1.0012	8.344	40.99	4218.7
307	137.7	151.5	13.84	46.8	149.8	102.97	4.927	1.0012	8.344	41.11	4237.9
308	137.7	151.6	13.86	46.8	149.8	102.99	4.913	1.0012	8.344	40.99	4226.8
309	138.0	151.7	13.63	46.8	149.9	103.10	4.871	1.0012	8.344	40.65	4195.9
310	138.6	152.0	13.31	46.8	150.4	103.55	4.720	1.0012	8.344	39.38	4083.0
311	138.7	152.0	13.32	46.8	150.4	103.56	4.733	1.0012	8.344	39.49	4095.3
312	138.8	152.1	13.32	46.8	150.6	103.82	4.706	1.0012	8.344	39.26	4081.6
313	139.0	152.3	13.37	46.7	150.8	104.07	4.706	1.0012	8.344	39.27	4091.4
314	139.0	152.4	13.35	46.6	150.9	104.25	4.720	1.0012	8.344	39.38	4110.3
315	139.1	152.5	13.38	46.6	151.0	104.41	4.706	1.0012	8.344	39.27	4104.8
316	139.3	152.7	13.42	46.6	151.2	104.62	4.706	1.0012	8.344	39.27	4113.0
317	139.5	152.9	13.41	46.5	151.3	104.78	4.692	1.0012	8.344	39.15	4107.4
318	139.9	152.8	12.88	46.5	151.4	104.83	4.568	1.0012	8.344	38.11	4000.6
319	139.5	152.9	13.40	46.5	151.4	104.87	4.720	1.0012	8.344	39.38	4135.0
320	139.8	153.3	13.55	46.5	151.7	105.21	4.692	1.0012	8.344	39.15	4124.4
321	139.9	153.4	13.54	46.5	151.8	105.38	4.706	1.0012	8.344	39.27	4142.8
322	140.0	153.5	13.54	46.5	152.0	105.52	4.720	1.0012	8.344	39.38	4160.8
323	140.0	153.5	13.49	46.5	152.0	105.52	4.692	1.0012	8.344	39.15	4136.3
324	140.0	153.5	13.53	46.5	152.0	105.50	4.692	1.0012	8.344	39.15	4135.6
325	140.2	153.7	13.53	46.4	152.1	105.68	4.692	1.0012	8.344	39.15	4142.6
326	140.2	153.8	13.60	46.4	152.2	105.80	4.692	1.0012	8.344	39.15	4147.4
327	140.3	153.9	13.56	46.4	152.3	105.87	4.706	1.0012	8.344	39.27	4162.4
328	140.4	154.0	13.62	46.4	152.4	106.00	4.692	1.0012	8.344	39.15	4155.3
329	140.5	154.1	13.62	46.4	152.5	106.11	4.692	1.0012	8.344	39.15	4159.4
330	140.5	154.1	13.60	46.4	152.6	106.19	4.706	1.0012	8.344	39.27	4174.7
331	140.8	154.2	13.43	46.4	152.7	106.30	4.637	1.0012	8.344	38.69	4118.1
332	140.9	154.4	13.47	46.4	152.9	106.47	4.637	1.0012	8.344	38.69	4124.3
333	141.0	154.4	13.43	46.4	152.9	106.50	4.637	1.0012	8.344	38.69	4125.6
334	141.2	154.7	13.50	46.4	153.1	106.71	4.623	1.0012	8.344	38.58	4121.4
335	141.4	154.7	13.37	46.4	153.3	106.94	4.623	1.0012	8.344	38.58	4130.2
336	141.6	155.1	13.51	46.4	153.6	107.21	4.623	1.0012	8.344	38.58	4140.7
337	141.9	155.4	13.46	46.4	153.9	107.49	4.568	1.0012	8.344	38.11	4102.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
338	142.2	155.7	13.50	46.4	154.2	107.81	4.595	1.0012	8.344	38.35	4139.0
339	142.3	155.8	13.50	46.4	154.3	107.88	4.582	1.0012	8.344	38.23	4129.4
340	142.4	155.9	13.52	46.4	154.4	108.06	4.582	1.0012	8.344	38.23	4136.1
341	142.6	156.2	13.52	46.4	154.7	108.36	4.582	1.0012	8.344	38.23	4147.6
342	142.7	156.4	13.66	46.4	154.9	108.52	4.595	1.0012	8.344	38.35	4166.4
343	142.9	156.6	13.70	46.4	155.1	108.75	4.582	1.0012	8.344	38.23	4162.6
344	143.2	156.7	13.59	46.4	155.3	108.96	4.609	1.0012	8.344	38.46	4195.9
345	143.4	157.1	13.73	46.4	155.6	109.27	4.595	1.0012	8.344	38.35	4195.3
346	143.5	157.2	13.80	46.4	155.7	109.37	4.595	1.0012	8.344	38.35	4199.0
347	144.2	157.3	13.18	46.4	156.0	109.64	4.471	1.0012	8.344	37.31	4095.7
348	143.5	157.2	13.72	46.4	155.7	109.33	4.595	1.0012	8.344	38.35	4197.3
349	143.7	157.5	13.80	46.4	156.0	109.66	4.609	1.0012	8.344	38.46	4222.9
350	144.9	157.7	12.75	46.4	156.5	110.12	4.416	1.0012	8.344	36.85	4062.6
351	145.1	157.8	12.70	46.4	156.6	110.24	4.237	1.0012	8.344	35.35	3902.1
352	145.2	158.0	12.74	46.4	156.8	110.40	4.250	1.0012	8.344	35.47	3920.3
353	145.5	158.2	12.71	46.4	157.0	110.58	4.237	1.0012	8.344	35.35	3914.1
354	145.6	158.4	12.81	46.4	157.2	110.81	4.237	1.0012	8.344	35.35	3921.9
355	145.9	158.7	12.82	46.4	157.6	111.16	4.237	1.0012	8.344	35.35	3934.5
356	146.2	159.1	12.84	46.4	157.9	111.47	4.250	1.0012	8.344	35.47	3958.5
357	146.6	159.4	12.87	46.4	158.2	111.78	4.223	1.0012	8.344	35.24	3943.6
358	146.8	159.8	12.92	46.4	158.6	112.12	4.237	1.0012	8.344	35.35	3968.6
359	147.1	160.1	12.97	46.4	158.9	112.46	4.250	1.0012	8.344	35.47	3993.5
360	147.3	160.4	13.03	46.4	159.1	112.71	4.223	1.0012	8.344	35.24	3976.5

Gravimetric Lab Data

ASTM E2515

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Run No.: 1
 Test Date: 2/24/25

OMNI Eq. ID Numbers
 Analytical Scale: 00637
 Audit Weight Set: 00283A/00273
 Thermometer: 00715
 Hygrometer: 00715
 Filters are weighed: In Pairs

Train A

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F507A	245.7	239.5	6.2	6.2
Probe catch*	5/14/24 @ 6:15	Probe	72	115939.2	115939.2	0.0	0.0
filter seals catch*	5/14/24 @ 6:15	Seals	S928	4151.8	4150.9	0.9	0.9
				Total Particulate, mg:		7.1	7.1

Train B

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F508A	246.2	239.9	6.3	6.3
Probe catch*	5/14/24 @ 6:15	Probe	12	114283.8	114283.8	0.0	0.0
filter seals catch*	5/14/24 @ 6:15	Seals	S929	3459.9	3459.2	0.7	0.7
Sub-Total				Total Particulate, mg:		7.0	7.0

Train C - First Hour

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F509A	239.8	238.9	0.9	0.9
Probe catch*	5/14/24 @ 6:15	Probe	30	114326.5	114326.5	0.0	0.0
filter seals catch*	5/14/24 @ 6:15	Seals	S930	3327.3	3327.3	0.0	0.0
				Total Particulate, mg:		0.9	0.9

Train D - Ambient Background

Sample Component Date / Time in Desiccator		Reagent	Filter # or	Weights			
				Final, mg	Tare, mg	Particulate, mg	
Filter catch*	5/14/24 @ 6:15	Filter	F521	121.8	121.7	0.1	
				Total Particulate, mg:		0.1	

$$\text{Final (mg)} - \text{Tare (mg)} = \text{Particulate (mg)}$$

NOTE: The Uncorrected values are those where any negative filter weights are taken as a negative value. This can possibly occur when filter matter adheres the O-ring seals and thereby transfers some mass to the O-ring. The Corrected values reflect where any negative filter weights are taken as ZERO, thus not accounting for any transfer of mass and resultingly over-reporting. Corrected values were added to this analysis to report the "Corrected" results in this report in response to a request by the US EPA. In cases where the Final weight minus the Tare weight of the Ambient filter occurs, it is taken as a ZERO. Any negative probe weights are evaluated pursuant to clause of ASTM E25215 (or appropriately associated test standard as defined in the introduction of this report).

Technician Signature: _____

Reviewed By: _____

Run 1 - Run Notes

Manufacturer: Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 1
Test Date: 2/24/2025

This supplemental section of miscellaneous run notes is comprised of the following:

- Appliance Operation Notes
- Velocity Traverse / Supplemental Run Notes
- Test Fuel Notes
- Gravimetric Analysis Notes
- Supplemental Hand-Written Notes

OMNI-Test Laboratories, Inc.

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 1

Model: 760.1

Tracking Number: 2501

Date: 2/24/2025

Test Crew: RT JTP KM

Primary Air Control Settings

N/A - Automatic

Secondary: N/A - Automatic

Tertiary/Pilot: N/A

Fan: N/A

Preburn Notes

Time	Notes
	SEE SEPARATE HAND-WRITTEN NOTES

Sampling Portion Notes

Sketch test fuel configuration:

See photographs

Start up procedures & Timeline:

Bypass: Not Used

Fuel loaded by: 1 min, 45 sec

Door closed at: 1 min, 55 sec

Primary air: N/A

Notes:

Time	Notes
16:16	STIR Remaining Coals
16:22	START Sampling
2:22	Test down

Technician Signature: 

Date: 2-24-2025

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 1

Model: 760.1

Tracking Number: 2501

Date: 2-24-25

Test Crew: K. Morgan, R. Tison, Joe McShane

Supplemental Data

Test Booth No. E3

Sampling Start Time: 16:22

Sampling End Time: 22:22

Tunnel Cleaned Date 2/19/25

% Smoke Capture 100

Induced Draft 0 in. H₂O

Systems Leak Checks

System	Pre-Test	Post-Test	Sampling Probe Change-out
Pitot	0 @ 3" H ₂ O	0 @ 3" H ₂ O	
Train A	0.003 @ 27" Hg	0.000 @ 59.6	
Train B	0.002 @ 26" Hg	0.000 @ 6.20	
Train C	0.002 @ 19.5 Hg	0.002 @ 10.96	

Velocity Traverse, 6-inch tunnel

Location	Microtector (in. H ₂ O)	Δp (in. H ₂ O)	Tunnel Temp., °F
Center	.055	.11	83.8
1	.051	.102	85
2	.057	.114	84.1
3	.054	.112	85.4
4	.053	.116	86
5	.055	.110	85.9
6	.034	.108	86.6
7			
8			
Tunnel Static (in. H ₂ O)		Pre-Test -0.300	Post-Test -0.340

7.052 .104 86.6
8 .058 .116 86.7
9 .057 .114 87.1
10 .057 .114 86.1
11 .054 .108 85.2
12 .029 .058 86.4

Miscellaneous Parameters

Item	Initial	Final	Equipment No.
Room Air Velocity, ft/min.	8	12	737
Scale Audit, lb. (20-80 % of fuel load)	20 lb.	20.0	274,255
Room Relative Humidity, %	57	53	716
Barometric Pressure, in. Hg	29.70	29.78	716
Room Temperature, °F	64.5	65.3	653

Flue Gas Continuous Analyzer

Analyzer ID		Response Time, sec.	42.64	Leak Check Performed?	✓
Bias Checks	Concentration:	0	Pre-Test Response	0.	Post-Test Response 53.96
Concentration	Bottle No.	Value, %	Pre-Test Response		Post-Test Response
			Zero	Span	0.03 Zero Span
CO ₂ % Span	CC738144	16.88	0	16.88	16.93
CO % Span	CC738144	4.05	0	4.05	4.04
CO ppm Span	CC242987	500	0	499	498
Zero	TC-3AAM183	0	0		

Technician Signature: 

Date: 2-24-2025

Control No. P-SFDT-0002, Effective Date: 11/12/2024

Page 3 of 4

Test Fuel Properties

ASTM E2780

Manufacturer : Central Boiler
 Model : Classic Edge 760.1
 Tracking No. : 2501
 Project No. : 0117WB044E
 Test Date : 2/24/2025
 Run No. : 1

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Firebox Volume : 22.090 ft³
 Manufacturer's Recommended Loading Density : 13
 Ideal Fuel Weight : 287.17 lb.
 Minimum Fuel Weight : 258.45 lb.
 Maximum Fuel Weight : 315.89 lb.
 Fuel Species : Maple

14:45

Fuel Piece Data

PC No.	Weight, Lb. (W _i)	Cross-Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	12.5	7.5	4.25	24	19.8	20.9	19.5	21.3	19.4		
2	13.2	8	4.25	24	19.6	20.1	19.5	19.4	19.4		
3	12.9	6	5	24	19.2	19.1	19.1	19.1	20.6		
4	13.9	8.5	4	24	20.6	20.2	19.8	20.2	20.7		
5	11.6	7.25	3.5	24	19.7	19.5	19.8	19.3	19.0		
6	9.1	6.5	3.25	24	19.8	19.7	19.4	19.5	19.7		
7	10.1	7	3.75	24	20.0	21.3	19.6	19.0	19.3		
8	10.5	5.5	5	24	19.5	19.2	19.5	19.3	19.0		
9	9.4	6.5	3.5	24	20.0	20.2	20.2	21.6	20.5		
10	11.4	6.25	4	24	19.0	19.4	19.5	19.0	19.8		
11	13	7	4	24	20.6	19.7	19.8	19.5	19.6		
12	17.2	8	3.75	24	19.7	22.4	20.0	23.5	23.0		
13	11.7	7.5	4	24	19.2	19.4	19.5	19.0	19.1		
14	9.7	6	4.5	24	19.7	18.9	22.9	20.2	19.7		
15	14.1	7	4.5	24	24.3	23.4	22.3	22.9	24		
16	15.5	6.5	4	24	20.1	22.7	23	19.6	22		
17	9.9	5.5	4	24	22.4	19.4	23.4	19.4	23.4		
18	10.1	6	3	24	20.1	21.5	20.4	19.6	19.2		
19	10.4	6.5	4.5	24	22.9	19.5	19.5	21.2	23.1		
20	10.1	6	4.5	24	19.4	19.6	20.2	20.1	19.6		
21	14.4	7.5	4	24	20.1	23	19.6	19.8	20.8		
22	16.5	8.5	5	24	20.9	19.7	20.4	24.3	19.8		
23											
24											
25											
26											
27											
28											
29											
30											
TOTAL	0.0										0.00
Averages	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

total = 265.6

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 1

Model: 760.1

Tracking Number: 2501

Date: 2-24-2025

Test Crew: KM RT JM

Gravimetric Analysis Sheet

Assembled By:

RT

Date/Time in Desiccator:

1st hour: 2-24-25 @ 17:30
 remainder: 22:30

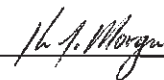
Weighing's				
Date/Time: 2-24-25	Date/Time: 2-27-25	Date/Time: 2-28-25	Date/Time:	Date/Time:
212.5	212.5	17.20		
R/H %:	R/H %:	R/H %:	R/H %:	R/H %:
	12.9	14		
Temp:	Temp:	Temp:	Temp:	Temp:
	65.6	68.7		
100 mg Audit	100 mg Audit	100 mg Audit	100 mg Audit	100 mg Audit
	100.0	100.1		
200 mg Audit	200 mg Audit	200 mg Audit	200 mg Audit	200 mg Audit
	200.0	200.0		
2 g Audit	2 g Audit	2 g Audit	2 g Audit	2 g Audit
	2000.1	2000.2		
100 g Audit	100 g Audit	100 g Audit	100 g Audit	100 g Audit
	99997.8	99998.0		
Initials:	Initials:	Initials:	Initials:	Initials:
	RT	RT		

Train	Element	ID #	Tare (mg)	✓	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A	Filter Pair	F507 F507A	239.5	✓		245.8	245.7		✓
	Probe	72	115939.2	✓		115939.4	115939.2		✓
	O-Ring Set	5928	4150.9	✓		4151.8	4151.8		✓
B	Front Filter	F508 F508A	239.9	✓		246.4	246.2		✓
	Probe	12	114283.8	✓		114283.8	114283.8		✓
	O-Ring Set	5929	3459.2	✓		3460.6	3459.9		✓
C (1 st hr)	Front Filter	F509 F509A	239.9	✓		240.0	239.8		✓
	Probe	30	114326.5	✓		114326.5	114326.5		✓
	O-Ring Set	5930	3327.3	✓		3327.7	3327.3		✓
BG	Filter	F521	121.7	✓		122.8	122.8	(← 121.8)	✓

Technician Signature:



Date:

 2/28/25

Run 1 2-24-25

0117WB044E
Central Boiler 760.1

11:41 Scoop Coals, ZERO scale, 20.0 lb. = 20.0

11:44 7.5 lb. Coals added back

11:48 Scale = 72.5 (+ 65 lb. Raw Fuel)

12:24 Scale = 38.5, added scale = 80 ~~80 lb added~~ 41.5
(total = 72.5 + 41.5 = 114 lb)

12:41

1:41

12:32 1:15.27 53.91 lb. 42.97 lb./min

1:09 Scale = 40.0, scale = 83.5 → added 43.5 lb

total = 114 + 43.5 = 157.5 lb.

206

14:08 Scale = 40.0, scale = 85.5 added 45.5

total = 157.5 + 45.5 = 203

14:10 DRAFT Probe inserted

15:09 Scale 40.5, scale = 106.0 added 65.5 lb

total = 203.0 + 65.5 = 268.5

16:26 Bucket Check 60 sec → 47.62 lb.

~~18:35 Bucket test 60 sec = 47.62 lb.~~

~~90.21 seconds: 66.61 lbs.~~

22:02 Bucket test

90.09 sec : 57.19

Need to switch out span tank for Run 2

Equations and Calculations – ASTM E2618 & ASTM E2515



Manufacturer Central Boiler
 Model: Classic Edge 760.1
 Project Number: 0117WB044E
 Run Number: 1

Summary of INPUT values necessary for calculations

Global Input Parameters for Equations	Value	Source
MC_{Ave} - Average Fuel Load Moisture Content, % dry basis	20.44	Fuel Properties Work Sheet
W_{fuel} - Fuel charge weight (wet), pounds	265.6	Fuel Properties Work Sheet
HHV - Higher Heating Value of Fuel, Btu/lb.	8297	ISO Lab Report ¹
LHV - Lower Heating Value of Fuel, Btu/lb.	7698	CSA B415.1:22 ²
W_{app} - Mass of dry boiler, lb.	2457	Measured
W_{water} - Mass of Water within Boiler, lb.	2711	Measured
V_{SCENT} - Average gas velocity at the center of the dilution tunnel calculated after the Pitot tube traverse, ft/sec	22.40	Traverse Worksheet
V_{STRAV} - Average gas velocity calculated after the multipoint Pitot traverse	22.08	Traverse Worksheet
θ - Duration of test, min	360	Train A Worksheet
P_{bar} - Barometric pressure (average) at the testing site, in. Hg	29.74	Traverse Worksheet
P_g - Tunnel Static Pressure	-0.32	Traverse Worksheet

¹ From an Ultimate Analysis performed on a sample of the fuel lot that was used.

² CSA B415 only accepts input for the HHV and calculates the LHV from that data. This differs from the LHV reported in the ultimate analysis, however the CSA value was used for consistency in comparing SLM and delivered efficiencies.

Sample Train Input Parameters for Equations	Train A	Train B	Train C	Train D
V_m - Volume of gas sample measured at the dry gas meter, dcf	57.372	58.029	9.553	56.354
Y - Dry gas meter calibration factor	1.0122	1.0244	1.0056	1.0074
ΔH - Average pressure differential across the orifice meter, in. H ₂ O	1.21	1.23	1.03	1.11
T_m - Temperature of Dry Gas Meter, °F	89.4	86.9	70.6	76.1

Uncorrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.0	0.0	0.0	n/a
m_f - mass of particulate matter from filters, mg	6.2	6.3	0.9	0.1
m_g - mass of particulate matter from seals, mg	0.9	0.7	0.0	n/a

Corrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.0	0.0	0.0	n/a
m_f - mass of particulate matter from filters, mg	6.2	6.3	0.9	n/a
m_g - mass of particulate matter from seals, mg	0.9	0.7	0.0	n/a

TI_{avg} - Average Temperature of Appliance and Water at Start of Test, °F - ASTM E2618 equation (1)

$$TI_{avg} = (T1 + T2)/2 \quad \text{At beginning of Test}$$

Where,

	Value
$T1$ = Temperature at inlet of supply side of exchanger, °F	138.4
$T2$ = Temperature at outlet of supply side of exchanger, °F	124.0

$$Ti_{avg} = (138.39 + 124) / 2 = 131.2$$

 TF_{avg} - Average Temperature of Appliance and Water at End of Test, °F - ASTM E2618 equation (2)

$$TF_{avg} = (T1 + T2)/2 \quad \text{At end of test}$$

Where,

	Value
$T1$ = Temperature at inlet of load side of heat exchanger, °F	160.4
$T2$ = Temperature at outlet of load side of heat exchanger, °F	147.3

$$TF_{avg} = (160.36 + 147.33) / 2 = 153.8$$

 MC_{Ave} - Average Fuel Load Moisture Content, dry basis, % - ASTM E2618 equation (3)

$$MC_{Ave} = (\sum W_i \cdot MC_i) / \sum W_i$$

Where,

W_i = Weight of individual pieces
 MC_i = Average moisture content of individual fuel pieces, dry basis

$\sum(W_i \cdot MC_i)$	5428.5	Taken from fuel properties sheet
$\sum w_i$	265.6	Taken from fuel properties sheet

$$MC_{Ave} = (5428.5 / 265.6) = 20.44 \quad \%, \text{ dry basis}$$

Q_{in} - Heat Input, Btu (HHV) - ASTM E2618 equation (4)

$$Q_{in} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times HHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	265.6
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	20.44
HHV =	Higher Heating Value of Fuel, Btu/lb.	8297

$$Q_{in} = (265.6 / (1 + (20.44 / 100))) \times 8297 = 1829711.864 \quad \text{Btu}$$

Q_{in LHV} - Heat Input, Btu (LHV) - ASTM E2618 equation (5)

$$Q_{in LHV} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times LHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	265.6
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	20.44
LHV =	Higher Heating Value of Fuel, Btu/lb.	7698

$$Q_{in LHV} = (265.6 / (1 + (20.44 / 100))) \times 7698 = 1697616.238 \quad \text{Btu}$$

BR - Dry Burn-Rate, kg/hr

$$BR = [(W_{fuel} / (1 + (MC_{Ave}/100))) / 2.2046] / \theta$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	265.6
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	20.44
2.2046 =	Conversion kg -> lb.	2.2046
θ =	Duration of Test, hours	6.000

$$BR = [(265.6 / (1 + (20.44 / 100))) / 2.2046] / 6 = 16.67 \quad \text{kg/hr}$$

Q_{out} - Heat Output, Btu - ASTM E2618 equation (7)

$$Q_{out} = \left[\sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) \right] + (W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg})$$

Where,

	<u>Value</u>
C_{pi} = Specific heat of water during interval (i), Btu/lb °F	Varies
ΔT_i = Temperature difference between water entering and exiting heat exchanger (load), °F	Varies
M_i = Mass flow-rate of water through heat exchanger during interval (i), lb./min	Varies
t_i = Data sampling interval, min	<u>Varies</u>
W_{app} = Weight of empty appliance, lb.	2457
C_{steel} = Specific heat of steel, Btu/lb.°F	0.1
C_{pa} = Specific heat of water at average appliance temperature, Btu/lb °F	1.0009
W_{water} = Weight of water in supply side of system, lb.	2711
TF_{avg} = Average temperature of appliance and water at end of test	153.84
TI_{avg} = Average temperature of appliance and water at start of test	131.20

$$\sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) \quad \text{from Water Data sheet} = \quad 1458338.811 \quad 243056.4684$$

$$C_{pa} = 1.0014 + (-0.000003485 \cdot (TI_{avg} + TF_{avg}) / 2) = \quad 1.0009$$

$$(W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg}) = \quad 67007.15$$

$$Q_{OUT} = \quad 1458338.811 + 1.0009 \times 67007.151 = \quad 1525345.96 \quad \text{Btu}$$

Heat Output Rate, Btu/hr - ASTM E2618 equation (15)

$$\text{Heat Output Rate} = Q_{OUT} / \theta$$

Where,	<u>Value</u>
Q_{OUT} = Heat Output	1525346.0
θ = Duration of test, hr	6.0000

$$\text{Heat Output Rate} = \quad 254224.3 \quad \text{Btu/hr}$$

V_S – Average gas velocity in the dilution tunnel, ft/sec - ASTM E2515 equation (9)

$$V_S = F_P \times K_P \times C_P \times (\sqrt{\Delta P})_{avg} \times \sqrt{\frac{T_{S(avg)}}{P_S \times M_S}}$$

Where

 F_P = Adjustment factor for center of tunnel pitot tube placement, where

$$F_P = V_{STRAV} / V_{SCENT}$$

 V_{SCENT} = Dilution tunnel velocity, at the center, ft/sec V_{STRAV} = Dilution tunnel velocity, multi-point pitot traverse, ft/sec K_P = Pitot tube constant, 85.49 C_P = Pitot tube coefficient: 0.99, unitless $\Delta P^{1/2}_{AVG}$ = Velocity pressure in the dilution tunnel, in H_2O $T_{S(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R P_S = Absolute average gas static pressure in tunnel, = $P_{bar} + P_g$, where P_{bar} = Barometric Pressure, in. Hg, P_g = Static pressure in tunnel, Hg (in H_2O / 13.6) M_S = The dilution tunnel wet molecular weight; $M_s = 28.78$ assuming a dry weight of 29 lb/lb-mole

(Duration of Test)

$$F_P = 0.9858$$

$$\Delta P^{1/2}_{AVG} = 0.3323$$

$$T_{S(avg)} = 547.6903$$

$$P_{bar} = 29.7400$$

$$P_g = -0.3200$$

$$P_S = 29.7165$$

$$V_S = 0.986 \times 85.49 \times 0.99 \times 0.332 \times \sqrt{[(548 / (29.72 \times 28.78))]}$$

$$V_S = \mathbf{22.190} \quad \text{ft/sec}$$

(First Hour of Test)

$$F_P = 0.9858$$

$$\Delta P^{1/2}_{AVG} = 0.3328$$

$$T_{S(avg)} = 547.5492$$

$$P_{bar} = 29.7000$$

$$P_g = -0.3200$$

$$P_S = 29.6765$$

$$V_S = 0.986 \times 85.49 \times 0.99 \times 0.333 \times \sqrt{[(548 / (29.68 \times 28.78))]}$$

$$V_S = \mathbf{22.233} \quad \text{ft/sec}$$

Q_{std} – Average gas flow rate in dilution tunnel, dscf/hr - ASTM E2515 equation (3)

$$Q_{std} = 3600 \times (1 - B_{ws}) \times v_s \times A \times \frac{T_{std}}{T_{s(avg)}} \times \frac{P_s}{P_{std}}$$

Where:

3600 = Conversion from seconds to hours (ASTM method uses 60 to convert in minutes)

B_{ws} = Water vapor in gas stream, proportion by volume; assume 2%

A = Cross sectional area of dilution tunnel, ft²

T_{std} = solute temperature, 528 °R

P_s = Absolute average gas static pressure in dilution tunnel, = Pbar + Pg , in Hg

$T_{s(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)

P_{std} = Standard absolute pressure, 29.92 in Hg

(Full Duration of Test):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 29.72 \\ T_{s(avg)} &= 548 \\ V_s &= 22.19 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 22.19 \times 0.7854 \times (528 / 548) \times (29.72 / 29.92)$$

$$Q_{std} = \mathbf{58871.8} \quad \text{dscf/hr}$$

(First Hour):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 29.68 \\ T_{s(avg)} &= 548 \\ V_s &= 22.233 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 22.233 \times 0.7854 \times (528 / 548) \times (29.68 / 29.92)$$

$$Q_{std} = \mathbf{58922.6} \quad \text{dscf/hr}$$

V_{m(std)} – Volume of Gas Sampled (Corrected), dscf - ASTM E2515 equation (6)

$$V_{m(std)} = K_1 V_m Y \frac{P_{bar} + \left(\frac{\Delta H}{13.6} \right)}{T_m}$$

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_{bar}	=	Barometric pressure at the testing site, in. Hg
ΔH	=	Average pressure differential across the orifice meter, in. H ₂ O
T_m	=	Absolute average dry gas meter temperature, °R

Train A

$$V_{m(std)} = 17.64 \times 57.372 \times 1.012 \times \frac{(29.74 + \frac{1.21}{13.6})}{(89.4 + 460)}$$

$$V_{m(std)} = \mathbf{55.616} \text{ dscf}$$

Train B

$$V_{m(std)} = 17.64 \times 58.029 \times 1.024 \times \frac{(29.74 + \frac{1.23}{13.6})}{(87 + 460)}$$

$$V_{m(std)} = \mathbf{57.199} \text{ dscf}$$

Train C (1st Hour)

$$V_{m(std)} = 17.64 \times 9.55 \times 1.006 \times \frac{(29.70 + \frac{1.03}{13.6})}{(70.6 + 460)}$$

$$V_{m(std)} = \mathbf{9.510} \text{ dscf}$$

Train D (Background)

$$V_{m(std)} = 17.64 \times 56.35 \times 1.007 \times \frac{(29.74 + \frac{1.11}{13.6})}{(76.1 + 460)}$$

$$V_{m(std)} = \mathbf{55.710} \text{ dscf}$$

mn – Total Particulate Matter Collected, mg - ASTM E2515 Equation (12)

$$m_n = m_p + m_f + m_g$$

Where:

m_p	=	mass of particulate matter from probe, mg
m_f	=	mass of particulate matter from filters, mg
m_g	=	mass of particulate matter from filter seals, mg

Uncorrected:

Train A	$m_n =$	0.0	+	6.2	+	0.9	
	$m_n =$	7.1					mg

Train B	$m_n =$	0.0	+	6.3	+	0.7	
	$m_n =$	7.0					mg

Train C (1st hour)	$m_n =$	0.0	+	0.9	+	0	
	$m_n =$	0.9					mg

Train D (Background)	$m_n = m_f =$	0.1					
	$m_n =$	0.1					mg

Corrected:

Train A	$m_n =$	0.0	+	6.2	+	0.9	
	$m_n =$	7.1					mg

Train B	$m_n =$	0.0	+	6.3	+	0.7	
	$m_n =$	7.0					mg

Train C (1st hour)	$m_n =$	0.0	+	0.9	+	0	
	$m_n =$	0.9					mg

Train D (Background)	$m_n = m_f =$	0.1					
	$m_n =$	0.1					mg

**C_s - Concentration of particulate matter in tunnel gas, dry basis, corrected to standard conditions
g/dscf - ASTM E2515 equation (13)**

$$C_s = K_2 \times \frac{m_n}{V_{m(std)}}$$

Where:

K₂ = Constant, 0.001 g/mg

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

Uncorrected:

Train A	C _s =	0.001 x	$\frac{7.1}{55.62}$
---------	------------------	---------	---------------------

C_s = **0.000128** g/dscf

Train B	C _s =	0.001 x	$\frac{7.0}{57.20}$
---------	------------------	---------	---------------------

C_s = **0.0001224** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{0.9}{9.51}$
--------------------	------------------	---------	--------------------

C_s = **0.000095** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{0.1}{55.71}$
----------------------	------------------	---------	---------------------

C_r = **0.000002** g/dscf

Corrected:

Train A	C _s =	0.001 x	$\frac{7.1}{55.62}$
---------	------------------	---------	---------------------

C_s = **0.000128** g/dscf

Train B	C _s =	0.001 x	$\frac{7.0}{57.20}$
---------	------------------	---------	---------------------

C_s = **0.0001224** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{0.9}{9.51}$
--------------------	------------------	---------	--------------------

C_s = **0.000095** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{0.1}{55.71}$
----------------------	------------------	---------	---------------------

C_r = **0.000002** g/dscf

ET – Total Particulate Emissions, g - ASTM E2515 equation (15)

$$E_T = (c_s - c_r) \times Q_{std} \times \theta$$

Where:

C_s	=	Concentration of particulate matter in tunnel gas, g/dscf
C_r	=	Concentration particulate matter room air, g/dscf
Q_{std}	=	Average dilution tunnel gas flow rate, dscf/hr
θ	=	Total time of test run, minutes

Uncorrected:

Train A

$$E_T = (0.000128 - 0.000002) \times 58871.8 \times 360 / 60$$

$$E_T = \mathbf{44.46} \text{ g}$$

Train B

$$E_T = (0.000122 - 0.000002) \times 58871.8 \times 360 / 60$$

$$E_T = \mathbf{42.59} \text{ g}$$

First Hour

$$E_T = (0.000095 - 0.000002) \times 58922.6 \times 60 / 60$$

$$E_T = \mathbf{5.47} \text{ g}$$

Trains A and B Average

$$E_T = \mathbf{43.53} \text{ g}$$

Corrected:

Train A

$$E_T = (0.000128 - 0.000002) \times 58871.8 \times 360 / 60$$

$$E_T = \mathbf{44.46} \text{ g}$$

Train B

$$E_T = (0.000122 - 0.000002) \times 58871.8 \times 360 / 60$$

$$E_T = \mathbf{42.59} \text{ g}$$

First Hour

$$E_T = (0.000095 - 0.000002) \times 58922.6 \times 60 / 60$$

$$E_T = \mathbf{5.47} \text{ g}$$

Trains A and B Average

$$E_T = \mathbf{43.53} \text{ g}$$

PM_R – Particulate emissions for test run, g/hr - ASTM E2780 equation (6)

$$PM_R = 60(E_T/\theta)$$

Where,

 E_T = Total particulate emissions, grams θ = Total length of full integrated test run, min**Uncorrected:**

Train A

$$E_T = 44.46 \text{ g}$$

$$\theta = 360 \text{ min}$$

$$PM_R = 60 \times (44.46 / 360)$$

$$PM_R = \mathbf{7.41 \text{ g/hr}}$$

Train B

$$E_T = 42.59 \text{ g}$$

$$\theta = 360 \text{ min}$$

$$PM_R = 60 \times (42.59 / 360)$$

$$PM_R = \mathbf{7.10 \text{ g/hr}}$$

A and B Average

$$PM_R = \mathbf{7.25 \text{ g/hr}}$$

First Hour

$$E_T = 5.47 \text{ g}$$

$$\theta = 60 \text{ min}$$

$$PM_R = 60 \times (5.47 / 60)$$

$$PM_R = \mathbf{5.47 \text{ g/hr}}$$

Corrected:

Train A

$$E_T = 44.46 \text{ g}$$

$$\theta = 360 \text{ min}$$

$$PM_R = 60 \times (44.46 / 360)$$

$$PM_R = \mathbf{7.41 \text{ g/hr}}$$

Train B

$$E_T = 42.59 \text{ g}$$

$$\theta = 360 \text{ min}$$

$$PM_R = 60 \times (42.59 / 360)$$

$$PM_R = \mathbf{7.10 \text{ g/hr}}$$

A and B Average

$$E_T = \mathbf{7.25 \text{ g}}$$

First Hour

$$E_T = 5.47 \text{ g}$$

$$\theta = 60 \text{ min}$$

$$PM_R = 60 \times (5.47 / 60)$$

$$PM_R = \mathbf{5.47 \text{ g/hr}}$$

E_{g/kg} - Particulate emission factor for test run, g/dry kg of fuel burned - ASTM E2618 equation (18)

$$E_{g/kg} = E_T / (W_{fuel} / (1 + MC/100))$$

Uncorrected:

Train A	E _T =	44.46	g
	W _{fuel} =	120.48	kg
	MC =	20.44	
	E _{g/kg} =	0.444	/kg

Train B	E _T =	42.59	g
	W _{fuel} =	120.48	kg
	MC =	20.44	
	E _{g/kg} =	0.426	/kg

Corrected:

Train A	E _T =	44.46	g
	W _{fuel} =	120.48	kg
	MC =	20.44	
	E _{g/kg} =	0.444	/kg

Train B	E _T =	42.59	g
	W _{fuel} =	120.48	kg
	MC =	20.44	
	E _{g/kg} =	0.426	/kg

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:

	Train A	Train B	Train C
θ = Total sampling time, min	360	360	60
θ_i = Length of recording interval, min	1	1	1
V_{mi} = Volume of gas sample measured by the dry gas meter during the "ith" time interval, dcf	0.156	0.161	0.161
V_m = Volume of gas sample as measured by dry gas meter, dcf	57.372	58.029	9.553
V_{si} = Average gas velocity in the dilution tunnel during the "ith" time interval, ft/sec	22.083	22.083	22.083
V_s = Average gas velocity in the dilution tunnel, ft/sec	22.191	22.191	22.220
T_{mi} = Absolute average dry gas meter temperature during the "ith" time interval, °R	526.4	525.4	526.6
T_m = Absolute average dry gas meter temperature, °R	549.4	546.9	530.6
T_{si} = Absolute average gas temperature in the dilution tunnel during the "ith" time interval, °R	542.0	542.0	542.0
T_s = Absolute average gas temperature in the dilution tunnel, °R	547.7	547.7	547.5

NOTE: These calculations are for the Second interval of each train)

$$\text{Train A PR} = \left(\frac{360 \times 0.156 \times 22.191 \times 549 \times 542}{1 \times 57.372 \times 22.083 \times 526 \times 548} \right) \times 100 = 101.6 \%$$

$$\text{Train B PR} = \left(\frac{360 \times 0.161 \times 22.191 \times 547 \times 542}{1 \times 58.029 \times 22.083 \times 525 \times 548} \right) \times 100 = 103.4 \%$$

$$\text{Train C PR} = \left(\frac{60 \times 0.161 \times 22.22 \times 531 \times 542}{1 \times 9.553 \times 22.083 \times 527 \times 548} \right) \times 100 = 101.5 \%$$

Emission Rates and Factors - ASTM E2618 equations 16, 17, 18 and 19

Uncorrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 43.53 / (1525346 \times 0.001055) = 0.0270$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (43.53 / 453.59) / (1525346 \times 10^{-6}) = 0.0629$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 43.53 / ((265.6 / (1 + 20.44 / 100)) / 2.2046) = 0.435$$

Corrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 43.53 / (1525346 \times 0.001055) = 0.0270$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (43.53 / 453.59) / (1525346 \times 10^{-6}) = 0.0629$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 43.53 / ((265.6 / (1 + 20.44 / 100)) / 2.2046) = 0.435$$

Run 2 Test Data

Test Date: 2/25/2025
Manufacturer: Central Boiler
Model Classic Edge 760.1

Contents, in the following order:

- Emissions Test Results
- CSA B415 Results and Data
- Test Fuel Properties
- Velocity Traverse / Supplemental Data Worksheet
- Test Pre-Burn Data
- Sample Train A / Dilution Tunnel Data
- Sample Train B Data
- Sample Train C (First Hour) Data
- Sample Train D (Background) / Flue Gas Data
- Water Flow Data
- Gravimetric Lab Analysis
- Test Lab Notes
 - Appliance Operation Notes
 - Velocity Traverse / Supplemental Data Notes
 - Test Fuel Notes
 - Gravimetric Analysis Notes
 - Supplemental Hand-Written Notes
- Equations and Calculations

Particulate Emissions and Delivered Efficiency Test Results

ASTM E2618 / ASTM E2515



Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Project No.: 0117WB044E
 Tracking No.: 2501
 Run: 2
 Test Date: 02/25/25

Quick View Summary	
lb./MMBtu	0.031
Delivered Efficiency %	79.4
PM 2.5 Emission Rate, g/hr.	1.78
PM 2.5 Emission Factor, g/kg	0.21

Particulate Emissions and Heat Output

Heat Input, Q_{IN} Btu	Heat Output Q_{OUT} Btu	Delivered Efficiency %	Uncorrected ¹		Corrected ²	
			ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)	ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)
1825170	1449467	79.4	1.78	0.031	1.78	0.031

Burn Rate, dry kg/hr	8.63
Emission Rate, E_g /MJ	0.013
Load Heat Output Rate, Btu/hr	119149

	Avg. of Trains A and B		First Hour	
	Uncorrected	Corrected	Uncorrected	Corrected
Total Emissions - E_T , g	20.60	20.60	2.40	2.40
Emission Rate, g/hr	1.78	1.78	2.40	2.40
Emissions Factor, g/kg	0.21	0.21	n/a	n/a

Fuel and Appliance Parameters

Wet Fuel Mass	270.8	lb.
Duration of test	694	min
Higher Heating Value (HHV) of Fuel	8297	Btu
Lower Heating Value (LHV) of Fuel	7698	Btu
TI_{avg} - Average Temperature of Appliance at Start of Test:	143.9	°F
TF_{avg} - Average Temperature of Appliance at End of Test:	168.0	°F
MC_{Ave} - Average Moisture of Fuel, dry-basis:	23.10	%

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Dilution Tunnel Flow Parameters

	First Hour	Duration of Test
Average Tunnel Temperature, °F	83.2	75.8
Average Tunnel Gas Velocity (vs), feet/second	22.232	21.964
Average Tunnel Gas Flow Rate(Qsd)	DSCF/hr	60446.9
	DSCF/min	60632.0
Average Delta p, in. H ₂ O	0.114	0.113
Tunnel Static Pressure, in. H ₂ O	-0.320	-0.320
Total Time of Test, Min	60	694

Particulate Sample Parameters - Uncorrected

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V _m), ft ³	107.229	110.768	111.632	9.498
Average Gas Meter Temperature, °F	75	91	88	70
Total Sample Volume (V _{mstd}), DSCF	108.002	108.974	111.832	9.637
Total Particulates (mn), mg - m _n	0.2	3.2	3.7	0.4
Particulate Concentration (C _s - C _r), g/DSCF	0.00000	0.00003	0.00003	0.00004
Total Particulate Emissions (ET), grams	n/a	19.30	21.90	2.40
Particulate Emission Rate, g/hr	n/a	1.67	1.89	2.40
Emissions Factor, g/kg	n/a	0.19	0.22	n/a
Difference, ET from Average ET, grams	n/a	-1.30	1.30	n/a

Particulate Sample Parameters - Corrected for any negative filter weights

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V _m), ft ³	107.229	110.768	111.632	9.498
Average Gas Meter Temperature, °F	75	91	88	70
Total Sample Volume (V _{mstd}), DSCF	108.002	108.974	111.832	9.637
Total Particulates (mn), mg - m _n	0.2	3.2	3.7	0.4
Particulate Concentration (C _s - C _r), g/DSCF	0.00000	0.00003	0.00003	0.00004
Total Particulate Emissions (ET), grams	n/a	19.30	21.90	2.40
Particulate Emission Rate, g/hr	n/a	1.67	1.89	2.40
Emissions Factor, g/kg	n/a	0.19	0.22	n/a
Difference, ET from Average ET, grams	n/a	-1.30	1.30	n/a

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Test Methodology Specifications Quality Checks

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	Train 1	Train 2	
Filter Temperature, °F	< 90	70	66	66	✓
Filter face velocity, fpm	< 30	8.57	8.73	8.78	✓
Dryer Exit, °F	< 80	60	53	51	✓
Tunnel Velocity, fpm	>800	1,334	1,318		✓
First Hour Leakage Rate	0.006	0.001			✓
Train A Leakage Rate	0.006		0.000		✓
Train B Leakage Rate	0.006			0.000	✓

Leakage Rate Limits (cfm) are < 4% of average sample rate or < 0.01 cfm, which ever is less

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	A	B	
Negative Probe Weight	=> 0	0.2	0.1	0.1	✓
Pro-Rate Variation	< 90 for < 10% of θ	0.00%	0.14%	0.14%	✓
	> 110 for < 10% of θ	0.00%	0.00%	0.00%	✓
	# Readings < 80%	0	0	0	✓
	# Readings > 120%	0	0	0	✓
Room Temp, °F (min)	> 55		62.7		✓
Room Temp, °F (max)	< 90		65.9		✓
Dual Train Precision	(1) < 7.5%		6.33%		✓
1 or 2 must conform	(2) < 0.5 g/kg		0.03		
Room Air Velocity	< 50 fpm		9		✓
Preburn Min. Weight	243.7		266.5		✓
Preburn Max. Weight	297.9				✓
Min. Coal Bed Weight	27.1		44.4		✓
Max. Coal Bed Weight	54.2				✓

CSA B415.1-11 Efficiency Results

Manufacturer Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 2
Test Date: 2/25/2025

Efficiency results reported herein are based on a stack-loss method in accordance with CSA B415.1:22 "Performance testing of solid-biofuel-burning heating appliance". OMNI uses the spreadsheet provided by CSA that is to be used in conjunction with the current version of the test standard. The most recent version of the software is version 2.4, dated April 15, 2010. OMNI received confirmation from CSA on October 18, 2023 that this is the current version of the software.

Stack Loss Efficiency

Manufacturer: Central Boiler
Model: Edge 760.1
Date: 02/25/25
Run: 2
Control #: 2495
Test Duration: 694
Output Category: III

Technicians: R. Tiegs, J. McShane, K. Morgan

Test Results in Accordance with CSA B415.1-10

	HHV Basis	LHV Basis
Overall Efficiency	83.2%	89.2%
Combustion Efficiency	99.4%	99.4%
Heat Transfer Efficiency	84%	89.7%

Output Rate (kJ/h)	138,466	131,350	(Btu/h)
Burn Rate (kg/h)	8.63	19.02	(lb/h)
Input (kJ/h)	166,412	157,860	(Btu/h)

Test Load Weight (dry kg)	99.81	219.97	dry lb
MC wet (%)	18.77		
MC dry (%)	23.11		
Particulate (g)	20.6		
CO (g)	898		
Test Duration (h)	11.57		

Emissions	Particulate	CO
g/MJ Output	0.01	0.56
g/kg Dry Fuel	0.21	9.00
g/h	1.78	77.65
lb/MM Btu Output	0.03	1.30

Air/Fuel Ratio (A/F)	12.70
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VERSION:

2.4

4/15/2010

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Manufacturer: Central Boiler**Model:** Edge 760.1**Date:** 2/25/2025**Run:** 2**Control #:** 2495**Test Duration:** 694**Output Category:** III**Appliance Type:** Non Cat (Cat, Non**Temp. Units** F (F or C)**Weight Units** lb (kg or lb)**Fuel Data****Maple****HHV** 19,286 kJ/kg**%C** 49.85**%H** 6.02**%O** 43.6**%Ash** 0.53**Wood Moisture (% wet):** 18.77**Load Weight (lb wet):** 270.80**Burn Rate (dry kg/h):** 8.63**Total Particulate Emissions:** 20.6 g**Averages**

0.26

9.37

#DIV/0!

234.45

64.24

Temp. (°F)**Elapsed
Time (min)****Fuel Weight
Remaining (lb)****Flue Gas Composition (%)**
CO**CO₂****O₂****Flue
Gas****Room
Temp**

0	270.80	0.05	15.41		260.1	63.2
1	270.20	0.18	4.60		235.2	63.3
2	269.04	0.44	7.25		251.0	63.4
3	268.43	0.19	19.57		274.1	63.3
4	268.04	0.03	15.84		260.8	63.4
5	266.70	0.04	17.25		272.0	63.4
6	266.20	0.03	15.12		268.1	63.6
7	264.87	0.05	17.31		273.2	63.9
8	264.33	0.05	15.89		272.9	63.7
9	263.35	0.05	17.21		276.5	63.9
10	262.57	0.05	15.99		276.1	63.9
11	262.27	0.05	17.05		278.5	64.3
12	260.99	0.05	15.97		277.4	63.7
13	260.74	0.05	17.19		278.9	64.2
14	259.23	0.04	15.31		277.1	64.1
15	258.95	0.05	16.98		281.2	64.4
16	258.18	0.04	15.63		279.1	64.4
17	257.06	0.04	15.95		282.8	64.1
18	256.13	0.04	15.80		279.8	64.0
19	255.31	0.04	15.80		284.2	64.3
20	254.64	0.04	15.85		281.6	64.1
21	254.10	0.03	15.75		287.6	63.9
22	253.08	0.03	16.15		282.0	64.2
23	252.67	0.03	15.38		288.1	64.1
24	251.84	0.03	16.86		283.1	63.9

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
25	251.00	0.03	15.75		287.2	64.3
26	249.41	0.03	16.32		291.1	64.0
27	249.34	0.02	13.89		287.5	64.2
28	248.14	0.03	15.80		291.1	64.0
29	247.70	0.03	16.11		293.2	64.1
30	246.67	0.03	16.02		293.9	64.1
31	245.30	0.03	15.79		294.6	64.2
32	244.55	0.03	15.75		294.8	64.4
33	243.79	0.03	15.55		294.7	64.3
34	243.25	0.03	15.49		295.2	64.0
35	242.32	0.03	15.45		294.9	64.0
36	241.03	0.03	15.43		295.4	63.9
37	240.87	0.03	15.73		296.0	63.3
38	239.91	0.03	15.76		296.8	63.4
39	238.66	0.03	15.71		297.7	63.7
40	238.14	0.03	15.83		298.0	64.1
41	237.48	0.03	15.65		298.2	63.3
42	236.74	0.03	15.35		298.5	63.3
43	235.77	0.03	15.69		300.3	63.8
44	234.83	0.02	15.81		301.4	63.4
45	233.88	0.03	15.83		301.9	63.6
46	232.90	0.03	15.79		302.1	63.7
47	231.92	0.02	15.78		302.7	63.8
48	231.09	0.02	14.73		298.6	63.6
49	230.27	0.017	15.492		301.1	64.5
50	229.60	0.016	15.79		296.7	64.5
51	228.89	0.018	15.143		300.1	64.4
52	228.53	0.018	15.573		302.6	64.3
53	227.94	0.014	15.344		298.5	64.2
54	227.36	0.017	15.076		301.3	64.2
55	226.01	0.013	15.507		302.2	64.3
56	225.00	0.01	13.36		298.1	64.3
57	224.70	0.014	15.07		300.7	64.5
58	224.28	0.012	15.428		303	64.7
59	223.14	0.013	14.565		299.8	64.3
60	223.03	0.014	15.174		302	64
61	221.90	0.013	15.179		303.7	64.2
62	221.04	0.009	14.115		285	64
63	221.26	0.007	9.241		259.8	63.2
64	220.58	0.046	6.832		244.9	63.4
65	220.29	0.047	6.32		234.1	63.8
66	220.93	0.083	4.592		228	63.6

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
67	220.05	0.079	4.462		223.5	63.4
68	220.00	0.076	4.324		218.6	63.6
69	220.03	0.074	2.861		214.4	63.4
70	219.97	0.077	2.574		210.7	63
71	220.78	0.075	2.395		209.5	63.5
72	220.18	0.055	1.767		209.3	63.7
73	220.14	0.036	1.199		207.4	63.5
74	220.50	0.035	0.885		205	63.6
75	220.85	0.025	0.772		201.8	64
76	220.12	0.023	0.737		198.8	64
77	221.03	0.024	0.782		195.7	63.9
78	220.16	0.025	0.776		192.8	64.1
79	220.81	0.024	0.723		189.8	64.2
80	220.24	0.027	0.86		186.8	64.2
81	220.84	0.026	0.873		184.1	64.2
82	220.85	0.031	0.962		181.1	64.4
83	220.42	0.039	1.153		178.1	64.5
84	220.39	0.041	1.255		175.7	64.1
85	220.80	0.042	1.281		173.1	64.4
86	220.83	0.047	1.471		170.3	64.1
87	220.78	0.047	1.463		168.1	64.6
88	220.54	0.053	1.542		165.8	64.6
89	220.46	0.049	1.464		163.7	64.4
90	220.35	0.046	1.514		161.4	64.3
91	220.92	0.05	1.463		159.5	64.7
92	221.40	0.054	1.567		157.5	64.3
93	220.51	0.046	1.378		155.5	64.4
94	221.25	0.053	1.442		153.4	64.7
95	220.56	0.044	1.344		152.1	64.3
96	220.90	0.054	1.358		149.9	64.3
97	221.23	0.048	1.332		148.1	64.5
98	221.36	0.05	1.416		146.6	64.4
99	221.21	0.055	1.395		145.1	64.3
100	221.35	0.047	1.235		144	64.2
101	220.52	0.053	1.384		142.4	64.7
102	221.40	0.049	1.275		140.8	63.8
103	220.63	0.045	1.192		139.4	64.1
104	220.73	0.05	1.286		137.9	64.3
105	221.06	0.048	1.17		136.6	63.9
106	221.07	0.048	1.21		135.6	64.1
107	220.91	0.042	1.24		134.2	64.1
108	220.73	0.047	1.158		132.7	64.5

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
109	221.08	0.045	1.075		131.6	64.2
110	221.53	0.049	1.15		130.8	64.2
111	220.33	1.038	7.434		176.8	64.3
112	220.73	1.202	11.692		214.5	64.5
113	219.80	0.571	12.76		244.9	64.4
114	219.57	0.054	14.521		265.9	64.5
115	218.21	0.032	15.488		280.9	64.4
116	217.63	0.023	15.52		282.7	64.6
117	217.24	0.026	15.201		279.3	64.5
118	216.75	0.026	15.596		284.2	64.4
119	215.80	0.028	15.513		282.6	64.7
120	215.13	0.027	15.426		282.7	64.7
121	213.57	0.031	15.227		283.2	64.8
122	213.15	0.034	15.231		286.7	64.6
123	212.83	0.043	14.943		289.5	64.9
124	211.06	0.051	15.709		299.7	64.5
125	210.39	0.047	15.798		298.9	64.8
126	209.46	0.059	15.243		298.8	65
127	208.37	0.097	15.305		303.6	65
128	207.07	0.092	15.375		308.4	65
129	206.32	0.083	15.544		304.5	65
130	205.44	0.119	15.343		302.7	65
131	204.58	0.137	15.202		305.7	65.1
132	203.48	0.114	14.86		304.4	65.1
133	202.81	0.12	15.517		311.6	65.3
134	202.11	0.095	15.323		303.9	65
135	201.50	0.529	13.636		307.2	65.1
136	200.37	0.114	15.653		311.7	64.8
137	199.15	0.127	14.921		304.1	64.8
138	198.38	0.448	13.854		310.8	64.7
139	197.02	0.095	15.75		311.5	64.8
140	196.52	0.167	14.249		309.4	65
141	195.09	0.157	14.544		314.1	64.9
142	194.45	0.064	16.076		313.7	64.3
143	193.39	0.127	14.26		311.5	64.2
144	192.82	0.123	14.427		316.1	64.5
145	191.08	0.071	15.804		317.5	64.6
146	190.89	0.08	14.529		311.9	64.2
147	189.36	0.107	14.973		318.5	64.3
148	189.00	0.076	16.114		314.2	64
149	188.29	0.288	13.642		315.7	64.2
150	186.55	0.084	15.216		321.6	64.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
151	185.59	0.083	15.04		314	64.1
152	185.16	0.251	14.057		317.7	63.9
153	184.17	0.059	16.282		317.8	64.3
154	183.02	0.153	10.225		283.3	63.7
155	182.85	0.169	9.656		260.6	64
156	182.40	0.206	8.098		246.3	64.6
157	182.27	0.255	5.919		235.7	64.2
158	182.17	0.249	4.173		231.2	64
159	182.74	0.231	4.005		226.3	64.3
160	183.09	0.207	3.059		221.6	64.2
161	182.41	0.193	2.494		217.6	63.9
162	182.97	0.192	2.406		213.7	63.9
163	182.71	0.163	2.102		215	63.9
164	182.90	0.11	1.43		214.8	63.5
165	182.18	0.069	0.937		212.9	63.7
166	182.49	0.053	0.716		210	63.8
167	182.57	0.045	0.641		206.9	64.2
168	182.28	0.041	0.641		203.8	64
169	182.90	0.043	0.68		200.7	63.8
170	183.11	0.044	0.731		197.5	64
171	182.73	0.039	0.698		194.2	63.8
172	182.47	0.042	0.738		191.1	63.5
173	182.89	0.047	0.87		188	63.8
174	182.88	0.052	0.973		185.2	63.2
175	182.41	0.058	1.114		182.3	63.7
176	182.41	0.066	1.235		179.6	63.8
177	182.32	0.069	1.325		176.9	64.1
178	183.18	0.067	1.31		174.4	63.7
179	183.25	0.066	1.333		172.1	63.9
180	182.37	0.07	1.362		169.6	63.9
181	183.25	0.062	1.335		167.3	63.9
182	182.53	0.07	1.464		164.8	63.6
183	183.31	0.07	1.402		162.7	64
184	182.90	0.062	1.31		160.9	63.8
185	182.52	0.063	1.261		158.4	63.7
186	182.56	0.054	1.13		156.5	64
187	182.62	0.058	1.224		154.7	63.8
188	183.05	0.05	1.07		152.8	63.8
189	183.42	0.054	1.104		150.9	63.5
190	182.73	0.052	1.079		149.5	63.7
191	183.64	0.05	1.023		147.9	63.9
192	182.68	0.049	0.976		146	63.8

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
193	182.79	0.049	1.013		144.4	63.8
194	183.26	0.054	1.041		142.6	64.1
195	183.01	0.041	0.841		141.3	63.3
196	183.00	0.046	0.941		140	63.9
197	183.04	0.043	0.839		138.9	63.9
198	183.63	0.046	0.916		137.6	63.8
199	183.27	0.042	0.857		135.7	63.8
200	183.42	0.042	0.822		134.8	63.9
201	182.88	0.045	0.864		133.3	64
202	183.63	0.042	0.817		132.3	64
203	183.45	0.042	0.778		130.6	63.7
204	182.92	1.107	6.664		169.9	64
205	182.34	1.482	10.366		205.9	64.2
206	181.89	0.536	13.109		237.6	64.3
207	181.66	0.196	14.019		261.5	64.2
208	180.93	0.065	14.696		278	64.1
209	179.76	0.044	15.085		288	64.4
210	178.82	0.041	15.907		287.3	64.9
211	178.38	0.029	15.268		289.3	64.9
212	177.64	0.026	16.199		287.8	64.6
213	177.14	0.029	16.306		288	64.8
214	175.82	0.036	16.443		288.8	64.4
215	175.54	0.044	16.567		289.9	65.1
216	174.65	0.026	15.985		278	65.1
217	173.45	0.04	16.512		286.5	64.9
218	172.62	0.021	15.926		278.9	64.8
219	172.08	0.045	16.682		289.9	64.9
220	171.22	0.028	15.359		285.6	65
221	170.49	0.07	16.878		294.8	64.8
222	168.80	0.042	14.851		294.7	64.8
223	167.69	0.072	16.582		299.4	64.8
224	167.45	0.058	16.562		301.6	64.9
225	165.67	0.081	16.187		302.7	65.2
226	164.81	0.092	16.363		304	65.1
227	163.99	0.081	15.496		303.2	65
228	163.75	0.091	14.941		302.1	64.7
229	162.01	0.081	15.752		304.2	64.9
230	161.62	0.086	16.191		302.7	65
231	160.46	0.102	16.177		302.1	64.8
232	158.61	0.107	16.296		301.9	64.9
233	158.33	0.116	16.325		303.6	64.9
234	157.50	0.101	16.349		301.1	65.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
235	155.91	0.16	15.871		304.6	65.1
236	155.17	0.137	15.816		307.4	64.9
237	154.10	0.146	15.818		310	65
238	153.79	0.13	15.844		310.7	65.2
239	152.80	0.124	15.765		311.6	65.1
240	151.21	0.112	15.711		311.6	65
241	149.67	0.125	15.5		312.1	64.9
242	149.44	0.112	15.522		312.5	64.9
243	148.38	0.099	15.646		312.7	64.8
244	147.16	0.101	15.582		312.4	65
245	146.09	0.097	15.528		312.5	64.6
246	145.39	0.095	15.488		313.2	64.7
247	144.89	0.108	15.157		291.6	65.7
248	144.33	0.045	12.281		264.7	65.2
249	143.65	0.235	8.78		248.5	65.9
250	143.51	0.283	7.857		237	65.9
251	143.40	0.395	5.519		230.5	65.1
252	143.52	0.299	5.702		225.9	64.9
253	143.32	0.248	4.401		221.2	64.7
254	143.67	0.207	3.324		216.8	64.8
255	143.54	0.179	2.825		212.9	64.8
256	142.94	0.159	2.405		212.3	64.7
257	143.64	0.119	1.798		212.7	64.9
258	143.16	0.086	1.306		211.5	64.5
259	143.22	0.074	1.059		209	64.6
260	143.26	0.069	0.89		205.9	64.4
261	143.04	0.064	0.824		203	64.8
262	143.64	0.059	0.757		199.8	64.1
263	143.50	0.063	0.726		196.7	63.9
264	143.26	0.059	0.745		193.7	63.7
265	143.74	0.063	0.84		190.5	63.3
266	143.16	0.075	0.906		187.8	63.9
267	143.49	0.085	1.124		185	64.1
268	143.57	0.09	1.261		182.2	64.2
269	143.68	0.084	1.155		179.4	64.6
270	143.42	0.094	1.367		176.7	64.3
271	143.33	0.083	1.202		174.1	64.4
272	143.83	0.087	1.312		171.7	64.4
273	143.90	0.081	1.22		168.9	64.3
274	143.36	0.07	1.138		166.9	64
275	143.42	0.085	1.241		164.6	64
276	143.94	0.079	1.25		162.3	64

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
277	144.13	0.074	1.143		160.2	64.1
278	143.73	0.067	1.07		158.3	64.2
279	143.66	0.068	1.094		156.5	64.2
280	143.71	0.072	1.123		154.6	64.2
281	144.18	0.07	1.095		152.7	64.5
282	143.98	0.06	0.998		150.9	64.4
283	143.75	0.056	0.959		149.2	64.2
284	143.97	0.06	0.978		147.2	64.3
285	143.72	0.062	0.974		146	64.3
286	144.27	0.058	0.889		144.8	64.6
287	143.48	0.057	0.853		143.1	64.3
288	143.60	0.063	0.907		141.8	64
289	143.88	0.061	0.902		140.1	64
290	143.75	0.059	0.967		138.2	64
291	143.91	0.071	0.878		136.9	64.2
292	144.25	0.071	0.936		135.7	64.1
293	144.05	0.069	0.869		134.5	64.1
294	143.75	0.069	0.832		133.2	64.3
295	144.22	0.084	0.951		142.7	64.4
296	143.31	1.37	9.174		189.1	64.3
297	143.48	0.73	11.803		222.5	63.8
298	141.94	0.155	13.425		251.1	63.8
299	141.88	0.039	14.427		273.1	63.8
300	140.81	0.03	15.317		287.7	64.1
301	139.26	0.033	15.945		293.5	63.9
302	138.92	0.028	15.747		290.1	64.1
303	138.22	0.028	16.337		292.5	64.2
304	137.64	0.035	16.769		292.6	63.7
305	136.54	0.033	17.244		293.1	64
306	135.49	0.047	16.666		290.5	63.8
307	134.12	0.033	15.527		291.8	63.9
308	133.06	0.039	15.489		290.8	64
309	132.56	0.033	15.078		291.5	63.7
310	132.12	0.05	16.828		291.2	64.3
311	131.14	0.048	15.635		291.1	64
312	129.67	0.052	16.356		296.3	63.7
313	129.27	0.046	16.675		299.5	63.5
314	128.08	0.065	16.63		299.3	63.9
315	127.24	0.057	16.305		299.3	64
316	126.59	0.07	15.794		301.6	64
317	125.33	0.066	15.764		302.5	65.6
318	125.21	0.053	16.041		303.7	64.8

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
319	123.71	0.047	16.209		304.9	64.7
320	122.99	0.045	16.341		306.3	64.4
321	121.85	0.054	16.383		308	64.5
322	121.25	0.053	16.239		309	64.3
323	120.22	0.056	16.177		309.2	64.4
324	119.05	0.056	16.063		309.4	64.6
325	118.71	0.052	16.054		309.1	64.5
326	116.80	0.056	16.015		309.1	64.6
327	116.50	0.067	15.984		309.2	64.9
328	115.86	0.067	15.894		309.7	64.6
329	114.20	0.072	15.952		309.7	64.6
330	114.01	0.087	15.764		309.8	64.9
331	112.54	0.092	15.611		310	64.8
332	112.54	0.098	15.677		311.6	64.8
333	110.91	0.063	14.68		308.8	64.8
334	110.45	0.086	15.717		305.5	64.7
335	109.96	0.082	15.425		310.1	65
336	108.46	0.076	15.864		306.2	64.8
337	107.44	0.098	15.419		310.6	64.6
338	106.71	0.094	15.671		312.8	64.8
339	106.36	0.082	14.996		297.8	64.9
340	106.00	0.027	12.278		268.3	65.2
341	105.26	0.022	10.963		251.1	65.7
342	104.55	0.024	11.076		239.2	65.8
343	104.58	0.097	8.846		231.3	65.4
344	104.40	0.087	8.825		226.7	64.8
345	104.94	0.092	7.535		221.7	64.5
346	104.85	0.133	5.789		217.3	64.7
347	104.63	0.134	4.872		213.6	64.8
348	104.27	0.152	4.074		211.4	64.8
349	104.03	0.116	2.977		212.4	64.9
350	104.04	0.129	2.454		211.3	65
351	103.97	0.185	2.511		209.2	64.5
352	104.44	0.227	2.627		206.2	64.6
353	104.57	0.247	2.619		202.9	64.8
354	104.44	0.315	3.062		199.8	64.2
355	103.99	0.405	3.554		196.7	64.5
356	103.98	0.416	3.558		193.4	63.5
357	104.83	0.455	3.701		190.4	64.2
358	104.55	0.472	3.81		187.5	63.8
359	103.97	0.479	3.83		184.6	63.6
360	104.84	0.458	3.693		182	63.7

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
361	104.26	0.461	3.681		179.1	63.6
362	104.15	0.486	3.756		176.7	64
363	104.91	0.477	3.658		173.9	65.2
364	104.20	0.463	3.465		171.6	64.4
365	104.68	0.413	3.101		169.3	64.4
366	104.69	0.46	3.334		167	64.4
367	104.22	0.435	3.105		165	64.6
368	104.92	0.436	3.061		162.9	64.4
369	104.14	0.397	2.768		160.6	64.3
370	105.15	0.389	2.675		158.6	64.7
371	104.62	0.404	2.71		156.5	64.5
372	104.53	0.41	2.706		154.6	64.7
373	105.19	0.362	2.36		153	64.5
374	104.53	0.383	2.44		150.9	64.5
375	104.38	0.377	2.362		149.1	64.9
376	105.27	0.421	2.557		147.6	64.6
377	104.59	0.404	2.422		145.7	64.7
378	104.62	0.396	2.32		144.5	64.7
379	105.01	0.42	2.437		142.6	64.5
380	104.30	0.436	2.491		141.3	64.3
381	105.36	0.398	2.244		140.1	64.2
382	104.48	0.435	2.409		138.9	64.4
383	105.17	0.437	2.407		137.8	64.6
384	104.73	0.416	2.278		135.8	64.4
385	104.86	0.421	2.304		134.5	64.4
386	105.24	0.458	2.46		133.4	64.5
387	104.60	0.441	2.361		132.4	64.3
388	104.78	0.436	2.331		131.2	64.4
389	105.20	0.571	2.94		154.6	64.1
390	103.90	1.527	10.815		198.4	64.5
391	104.26	0.654	11.693		232.8	64
392	103.40	0.193	12.234		259	64
393	102.39	0.081	13.629		276.3	64
394	101.58	0.041	14.449		289.9	63.9
395	101.04	0.035	15.154		297.1	64.2
396	100.32	0.031	15.385		291	64.1
397	99.05	0.034	15.655		287.4	64.2
398	98.32	0.034	15.773		286.8	64.3
399	97.49	0.043	16.234		287.9	64
400	96.58	0.052	16.465		289.6	64.1
401	96.38	0.058	16.632		290.8	64.1
402	95.02	0.057	16.467		292.6	63.8

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
403	93.83	0.058	16.634		289.9	64
404	93.19	0.066	17.32		288.3	64.2
405	93.05	0.056	16.892		295.5	64.3
406	91.47	0.059	16.83		292	63.6
407	91.41	0.063	17.351		289.3	64
408	90.54	0.07	16.849		293.6	64.7
409	89.26	0.052	16.393		299.2	63.9
410	88.79	0.06	16.618		295	63.8
411	87.71	0.05	16.123		291.5	64.4
412	87.51	0.047	14.903		291.7	64.4
413	86.12	0.045	14.42		293.6	63.4
414	85.23	0.04	14.139		296.2	63.7
415	85.27	0.047	16.098		295.4	63.7
416	83.59	0.047	16.146		296.1	63.9
417	83.64	0.042	15.653		295.1	64.3
418	82.01	0.036	14.472		296	65
419	81.72	0.032	14.429		296.4	64.3
420	81.42	0.033	14.476		296.5	64.6
421	80.22	0.028	14.478		296.5	64.4
422	79.34	0.027	14.291		298.6	64.6
423	78.23	0.023	14.251		299.4	64.5
424	77.45	0.031	15.553		299.1	64.3
425	76.89	0.035	15.723		296.8	64.5
426	76.36	0.028	15.75		296.9	64.2
427	76.28	0.031	15.846		295.1	64.3
428	74.58	0.033	16.382		296.3	64.4
429	74.33	0.037	15.928		297.2	64.6
430	73.73	0.036	14.522		298.9	64.7
431	72.77	0.034	15.689		299.5	64.6
432	71.86	0.035	15.565		305.7	64.6
433	71.01	0.036	15.675		304.1	64.7
434	70.08	0.036	15.587		309.1	64.6
435	69.57	0.026	13.869		308.4	64.5
436	69.40	0.027	13.725		296.9	65.2
437	68.43	0.011	11.646		267	65.6
438	67.90	0.013	12.74		250	65.3
439	67.49	0.053	14.967		238.3	65.7
440	67.89	0.037	13.492		230.4	65.3
441	67.45	0.141	15.534		225.2	64.6
442	67.46	0.087	14.807		220.4	64.8
443	67.16	0.067	12.739		215.9	64.6
444	66.23	0.071	11.471		212.2	64.2

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
445	67.12	0.051	9.849		209.6	64.6
446	66.97	0.046	7.07		210.1	64.6
447	66.78	0.483	7.391		208.9	64.1
448	66.83	1.231	8.648		206.4	63.8
449	66.98	1.648	8.76		203.5	64.1
450	66.03	2.107	9.516		200.5	64
451	66.79	2.147	8.956		197.2	63.6
452	66.38	2.184	8.769		193.9	63
453	66.25	2.144	8.455		191	63.5
454	66.70	2.254	8.752		188.2	64
455	67.14	2.08	8.101		185.3	64
456	67.03	1.91	7.517		182.3	64.7
457	66.99	1.846	7.308		179.7	64
458	67.11	1.691	6.794		177.2	64.3
459	66.77	1.562	6.239		174.7	64
460	66.30	1.425	5.887		172	64.5
461	66.77	1.377	5.772		169.7	64.6
462	66.15	1.313	5.581		167.3	64.6
463	66.83	1.34	5.716		165.2	64.6
464	67.01	1.112	4.86		163	64.2
465	66.97	1.07	4.739		160.9	64.4
466	66.96	1.025	4.608		158.9	64.4
467	66.92	0.984	4.468		156.8	64.4
468	66.54	0.944	4.348		155.1	64.4
469	66.52	0.848	3.937		153.1	64.4
470	66.43	0.872	4.092		151.4	63.8
471	66.92	0.742	3.552		149.8	64
472	66.85	0.669	3.29		147.9	64.1
473	66.98	0.659	3.245		146.3	64.1
474	66.29	0.648	3.146		144.9	64.1
475	66.54	0.631	3.116		143.2	64.1
476	66.38	0.578	2.9		141.9	64.2
477	67.07	0.531	2.712		140.2	64.3
478	66.55	0.499	2.562		139.3	63.9
479	67.16	0.488	2.486		137.7	63.6
480	67.40	0.509	2.62		136	63.6
481	67.42	0.404	2.117		134.8	63.3
482	67.08	0.447	2.319		133.3	63.3
483	66.78	0.451	2.296		132.8	63.3
484	66.77	0.405	2.064		132	63.6
485	66.85	0.443	2.233		130.3	63.4
486	67.35	0.43	2.158		128.7	63.9

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
487	67.09	1.029	4.372		159	63.7
488	66.28	2.198	9.355		194.3	64.1
489	66.12	1.61	9.787		219.1	64.4
490	65.22	1.144	10.389		239	64.1
491	65.11	0.536	11.563		256.4	64.4
492	63.79	0.093	12.701		270.5	64.1
493	63.27	0.058	13.212		279.9	64
494	62.78	0.053	13.878		288.5	64.2
495	62.05	0.047	14.192		294.4	64.1
496	61.25	0.045	14.702		299.2	64.2
497	61.32	0.045	14.577		296.1	64.1
498	60.24	0.034	15.45		292	64.1
499	59.27	0.047	15.591		290.3	64.3
500	58.50	0.047	16.036		291	64.3
501	57.72	0.057	16.487		292.9	64.5
502	57.01	0.032	14.141		290	64.3
503	56.75	0.071	16.524		294.3	64.2
504	55.94	0.072	16.524		291.7	64.2
505	55.37	0.075	16.631		292.3	64.2
506	54.07	0.07	15.383		292.5	64.1
507	53.38	0.053	14.02		293.1	64.1
508	52.77	0.047	14.403		295.6	63.9
509	52.16	0.071	15.388		296.2	63.9
510	51.48	0.089	16.575		297.9	63.8
511	50.01	0.083	15.536		296.4	63.7
512	49.73	0.106	16.823		294.1	64
513	48.93	0.106	17.216		291.7	63.4
514	48.21	0.083	16.678		294.6	63.2
515	47.66	0.082	16.341		301.7	63.2
516	46.81	0.074	16.058		303.5	63.8
517	45.12	0.065	15.714		303.6	63.8
518	45.01	0.067	15.601		303.5	63.9
519	44.46	0.069	15.618		304	65.3
520	43.33	0.069	15.69		305.3	64
521	42.17	0.069	15.713		305.9	64.3
522	41.94	0.063	15.752		306.7	64.3
523	41.25	0.074	15.656		307.4	64.5
524	40.14	0.069	15.853		307.4	64.1
525	39.45	0.064	15.34		308.1	64.5
526	39.08	0.063	15.06		308	64.4
527	37.78	0.073	15.832		309.5	64.1
528	37.16	0.066	15.508		309.3	64.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
529	37.04	0.071	15.402		308.9	64.2
530	36.07	0.072	8.638		278	65.3
531	35.60	0.014	10.86		256.4	65.5
532	35.49	0.018	12.098		242.7	65
533	35.57	0.014	11.596		232.9	65.6
534	34.48	0.062	10.546		228	64.5
535	34.43	0.077	13.238		223	64.6
536	34.37	0.045	11.656		218.3	64.4
537	34.33	0.022	10.288		214.5	64.4
538	34.41	0.015	9.594		210.8	64
539	34.95	0.011	7.366		211.1	64.3
540	34.15	0.263	6.614		210.4	63.9
541	34.55	1.152	8.573		208.5	63.5
542	34.17	1.805	9.411		205.5	63.5
543	33.99	2.316	10.058		202.7	63.5
544	34.71	2.384	9.645		199.4	63.8
545	34.05	2.467	9.44		196	64.1
546	34.55	2.471	9.233		193.2	64.2
547	34.12	2.282	8.414		190	64.3
548	33.70	2.35	8.552		187.1	64.2
549	33.87	2.1	7.701		184.2	64.3
550	33.93	2.055	7.575		181.5	64
551	33.78	1.843	6.874		178.8	64.4
552	34.08	1.634	6.168		176.3	64.2
553	34.73	1.593	6.061		173.7	64.5
554	34.40	1.642	6.283		171.5	64.1
555	33.81	1.525	5.912		168.7	64.4
556	33.87	1.334	5.263		166.5	64.1
557	34.17	1.313	5.22		164.3	64.3
558	34.29	1.094	4.448		162.2	64.3
559	34.66	1.197	4.865		160.3	64.2
560	34.61	1.022	4.254		158.1	63.9
561	33.92	0.977	4.085		156.3	63.9
562	34.80	0.913	3.867		154.4	64.2
563	34.25	0.847	3.609		152.5	64
564	34.76	0.807	3.46		150.8	63.7
565	34.11	0.762	3.288		149.1	64
566	34.60	0.739	3.206		147.4	63.5
567	34.79	0.68	2.97		145.7	63.2
568	34.17	0.69	3.006		144	63.7
569	35.00	0.646	2.829		142.1	63.8
570	34.08	0.684	2.972		141.1	64

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
571	34.96	0.573	2.562		139.6	63.9
572	34.20	0.583	2.593		138.2	64.3
573	34.57	0.552	2.45		137.1	64.1
574	35.19	0.587	2.575		135.7	64
575	34.98	0.527	2.344		134.6	63.7
576	34.67	0.545	2.392		133.7	64
577	34.80	0.481	2.184		132.4	64.2
578	35.16	0.48	2.127		131.1	64.5
579	34.86	0.531	2.307		151.3	64.4
580	34.12	1.68	11.579		192.7	64.3
581	33.80	1.674	10.619		218.6	64.1
582	33.72	1.231	11.142		237.6	64.1
583	33.08	0.855	11.967		253.2	63.8
584	32.68	0.192	13.186		266.8	63.9
585	31.94	0.103	13.929		278.1	64
586	31.23	0.086	14.186		286.4	63.5
587	30.39	0.051	14.339		292.1	63.6
588	29.90	0.058	14.418		295.8	64.2
589	29.57	0.047	14.512		298.3	64
590	29.38	0.039	14.184		298.6	64.2
591	28.92	0.057	14.552		300	64.2
592	28.36	0.044	14.38		301.6	64.1
593	27.73	0.043	14.353		303.2	64.2
594	26.95	0.04	14.349		305.2	64.1
595	25.92	0.033	15.143		300.5	64
596	25.41	0.026	14.65		295.6	64.2
597	25.84	0.036	14.478		296.7	64.4
598	24.45	0.032	14.783		298.3	64.3
599	23.60	0.027	14.605		301.4	64.3
600	23.81	0.026	14.549		297.1	64
601	23.10	0.045	14.924		301.7	64.1
602	21.87	0.04	15.037		304.3	64.8
603	22.06	0.032	14.864		300.2	64.6
604	20.55	0.044	15.136		305.9	64.6
605	20.73	0.03	15.864		303.4	64.9
606	19.79	0.034	15.486		302.3	64.8
607	18.87	0.037	15.084		301.8	64.8
608	18.13	0.04	14.788		301.1	64.5
609	17.27	0.05	15.127		306.7	64.6
610	16.81	0.03	15.067		303.5	65
611	16.83	0.025	13.328		305.8	64.8
612	16.30	0.024	13.179		303.6	64.2

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
613	15.15	0.022	13.057		310.1	64.6
614	14.66	0.025	13.034		309.3	64.1
615	14.35	0.011	12.876		307.7	64.4
616	13.29	0.024	12.904		312.6	64
617	12.73	0.005	12.614		314.1	64.1
618	12.91	0.092	7.864		284.5	65.2
619	11.99	0.062	5.912		260	65.6
620	12.52	0.044	5.904		245.5	65.1
621	12.15	0.026	5.881		234.9	64.7
622	11.57	0.045	5.464		230	64.5
623	12.30	0.039	6.746		225.2	64.9
624	12.07	0.034	6.023		220.4	64.8
625	11.62	0.038	4.975		216.2	64.5
626	11.27	0.056	4.78		212.4	64.6
627	11.43	0.051	4.066		212.5	64.5
628	11.51	0.047	3.041		212.2	64.9
629	11.43	0.116	2.911		210.2	65
630	11.33	0.21	3.166		207.5	64.6
631	11.39	0.325	3.757		204.6	65.1
632	11.70	0.434	4.384		201.5	64.8
633	11.96	0.532	4.725		198.2	64.8
634	11.12	0.625	5.098		195.1	64.7
635	12.17	0.663	5.048		192.1	64.9
636	11.21	0.685	4.969		189.1	65.2
637	11.60	0.666	4.697		186	65.2
638	12.15	0.596	4.462		183	64.9
639	12.02	0.562	4.472		180.6	64.9
640	12.05	0.551	4.585		177.7	64.3
641	11.78	0.492	4.175		175.3	64.4
642	11.54	0.51	4.333		172.8	64.3
643	11.49	0.466	3.988		170.4	64.5
644	11.88	0.401	3.449		168	64.1
645	12.04	0.393	3.331		165.8	64.1
646	11.39	0.377	3.264		163.8	64.6
647	11.99	0.374	3.237		161.4	64.4
648	11.50	0.308	2.751		159.3	64.4
649	11.66	0.306	2.693		157.8	64.3
650	12.37	0.253	2.345		155.6	64
651	12.27	0.266	2.421		154.2	64
652	12.31	0.239	2.173		151.8	63.5
653	11.85	0.207	1.86		150	63.8
654	11.54	0.223	2.016		148.5	64.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
655	12.26	0.187	1.732		146.7	63.2
656	11.73	0.193	1.787		145.2	62.9
657	11.92	0.178	1.666		143.3	62.9
658	12.29	0.169	1.593		141.6	63.5
659	11.72	0.157	1.459		140.5	63.9
660	12.04	0.148	1.397		139.1	64.1
661	12.42	0.156	1.467		137.5	64.2
662	11.99	0.145	1.343		136.4	63.4
663	11.81	0.126	1.203		134.6	64.1
664	11.96	0.132	1.226		133.6	64.2
665	11.88	0.124	1.139		132.4	63.8
666	11.81	0.109	0.992		130.9	64
667	12.12	0.126	1.105		129.9	64.2
668	12.35	0.125	1.065		135.4	64.3
669	12.16	1.855	8.898		182.5	63.8
670	11.43	1.747	12.54		215.8	64.2
671	11.47	1.187	12.516		242.8	64
672	10.51	0.651	13.452		261.8	64
673	10.16	0.144	14.322		276.2	64
674	9.40	0.118	14.679		285.3	64
675	9.33	0.064	15.13		292	64.1
676	8.14	0.04	15.306		296.9	63.8
677	7.82	0.047	15.063		299.6	63.8
678	7.85	0.045	15.151		295.5	63.7
679	7.54	0.04	14.713		299.4	63.6
680	7.00	0.037	15.078		293.9	64
681	6.44	0.043	14.96		301.2	63.6
682	5.39	0.026	14.725		294.3	63.4
683	4.64	0.043	15.012		302.4	63.5
684	5.09	0.03	14.486		302.3	63.6
685	3.60	0.051	15.043		299.8	63.5
686	4.04	0.054	14.915		301.9	63.3
687	3.13	0.033	14.363		303	63.2
688	2.61	0.03	14.651		299.2	63
689	1.91	0.045	15.188		303.8	63.3
690	1.92	0.028	14.332		303.5	63.1
691	1.22	0.028	14.546		301.3	63.2
692	0.05	0.045	15.105		303.1	63.2
693	0.21	0.028	14.381		306.1	63.1
694	0.00	0.026	14.434		301.5	62.7

Test Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
Model : Classic Edge 760.1
Tracking No. : 2501
Project No. : 0117WB044E
Test Date : 2/25/2025
Run No. : 2

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Firebox Volume : 22.090 ft³
Manufacturer's Recommended Loading Density 13
Ideal Fuel Weight : 287.17 lb.
Minimum Fuel Weight : 258.45 lb.
Maximum Fuel Weight : 315.89 lb.
Fuel Species : Maple

Fuel Piece Data

PC No.	Weight, Lb. (W _i)	Cross- Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	9.6	6.50	5.00	24.00	24.6	26.8	26.5	24.3	23.8	25.2	241.92
2	14.2	7.00	5.50	24.00	22.9	23.4	22.5	24.2	23.7	23.3	331.43
3	13.6	7.50	5.50	24.00	21.3	22.1	22.4	21.8	20.6	21.6	294.30
4	10.2	6.50	4.50	24.00	19.4	19.5	19.5	19.7	18.2	19.3	196.45
5	13.1	6.00	4.00	24.00	22.9	23.0	22.9	22.7	21.9	22.7	297.11
6	14.3	6.50	6.50	24.00	23.8	24.0	23.8	21.3	20.6	22.7	324.61
7	11.7	5.50	5.00	24.00	20.1	19.6	20.2	21.6	22.0	20.7	242.19
8	13.6	6.50	5.00	24.00	24.9	22.9	23.8	22.8	22.3	23.3	317.42
9	13.7	7.75	4.50	24.00	19.1	20.5	19.6	19.4	19.0	19.5	267.42
10	12.7	7.50	5.25	24.00	23.5	23.0	22.0	24.3	24.1	23.4	296.93
11	16.7	8.00	5.50	24.00	23.1	23.4	23.1	23.2	19.8	22.5	376.08
12	15.8	6.25	5.25	24.00	23.0	23.4	23.0	24.9	23.9	23.6	373.51
13	15.4	8.00	6.00	24.00	22.3	23.0	24.9	22.8	21.0	22.8	351.12
14	15.7	7.25	5.00	24.00	24.9	26.3	27.9	24.3	26.0	25.9	406.32
15	14.6	7.00	5.50	24.00	24.1	21.9	25.4	26.4	25.3	24.6	359.45
16	16.4	8.00	5.25	24.00	27.4	26.9	24.9	22.3	26.8	25.7	420.82
17	11.9	6.00	4.50	24.00	26.5	27.9	27.8	26.9	27.3	27.3	324.63
18	10.5	6.00	4.00	24.00	19.4	22.4	19.8	20.5	22.9	21.0	220.50
19	12.5	6.25	4.50	24.00	22.5	22.7	19.6	20.6	20.0	21.1	263.50
20	14.6	7.00	6.50	24.00	24.2	21.2	23.4	25.6	25.6	24.0	350.40
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
TOTAL	270.8										6256.13
Averages	13.54	6.85	5.14	24.00	23.00	23.20	23.15	22.98	22.74	23.01	312.81

Fuel Load Properties

Number of Pieces	Wet Weight, lb.	Dry Weight, lb.	Fuel Loading Density, lb/ft ³ Wet Basis	Fuel Loading Density, lb/ft ³ Dry Basis	Moisture, % dry basis (Σw _i · MC _i) / Σw _i	Moisture, % wet Basis
20	270.8	219.98	12.26	9.96	23.10	18.77

Compliance Checks, Loading Density and Moisture

	Fuel Load, Wet Lb.	Load Density, lb/ft ³ of FB vol	Number of moisture readings > 28%	Number of moisture readings < 18%	Average Fuel Moisture, % DB	
Measured	270.8	12.26	0	0	22.74	
Required	258.5 - 315.9	10 - 15	0	0	19 - 25	
Complies ?	Yes	Yes	Yes	Yes	Yes	

Compliance Checks, Fuel weights and Dimensions

	Cross Section of Individual Pieces		Minimum Piece Weight, Lb.	Maximum Piece Weight, Lb.
	Min	Max		
Measured	4.00	8.00	9.6	16.7
Required	3	12	8.8	26.5
Complies ?	Yes	Yes	Yes	Yes

Pre-Burn Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
Model : Classic Edge 760.1
Tracking No. : 2501
Project No. : 0117WB044E
Test Date : 2/25/2025
Run No. : 2

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Average Moisture Content, % Dry Basis : 21.3
Total Mass, lb. : 266.5

Piece No.	Moisture, db					Weight, lb.
	1	2	3	4	5	
1	26.8	22.5	19.4	23.4	26.5	21.3
2	20.1	18.2	20.2	19.2	19.7	26.6
3	23.0	19.4	19.4	19.1	19.3	29.8
4	19.6	25.2	19.6	19.4	20.9	29.3
5	23.1	23.2	20.2	24.9	20.9	18.0
6	21.5	20.7	19.4	21.2	20.2	30.7
7	21.6	20.5	19.1	19.8	21.3	29.9
8	22.8	25.2	21.8	19.8	21.0	40.7
9	25.7	25.0	19.8	19.4	19.4	25.9
10	21.3	19.2	24.8	20.5	19.3	21.6
Subtotal						273.8
The above pieces were measured for moisture content and weighed and then split into slightly smaller pieces to ensure uniform coal bed charcoallization and consistency.						
Mass of coals that were used as part of the preburn (+)						17.5
Mass of preburn charge ultimately not used (-)						24.8
Net mass of preburn used						266.5

Dilution Tunnel Velocity Traverse and Supplementary Data

ASTM E2515-11

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1

Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/25/2025

Dilution Tunnel Velocity Traverse

Pitot Location								
Traverse Point	% of Diameter	Inches into Tunnel	dP in. H ₂ O	Tunnel Temp, °F	dP ^{1/2}	Tunnel Static Pressure	-0.320	in. H ₂ O
X1	4.4	0.53	0.100	67	0.316	Tunnel Moisture	2.00	%
X2	14.6	1.75	0.120	67	0.346	Tunnel Diameter	12.00	inches
X3	29.6	3.55	0.120	67	0.346	Pitot Tube C _p	0.99	inches
X4	70.4	8.45	0.114	67	0.338	Tunnel Molecular Weight	29	(dry)
X5	85.4	10.25	0.104	67	0.322	Tunnel Molecular Weight	28.78	(M _s , wet)
X6	95.6	11.47	0.070	67	0.265	Tunnel Area	0.78539816	ft ²
Y1	4.4	0.53	0.102	66	0.319	K _p	85.49	constant
Y2	14.6	1.75	0.116	66	0.341	P _s =P _{bar} +Tunnel Static	30.2064706	in HG
Y3	29.6	3.55	0.116	66	0.341	$V_{strav} = K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 21.553$		
Y4	70.4	8.45	0.114	66	0.338			
Y5	85.4	10.25	0.104	66	0.322			
Y6	95.6	11.47	0.072	66	0.268	$V_{scent} = K_p C_p \sqrt{\Delta p_{center}} \sqrt{\frac{T_{s,center}}{P_s M_s}} = 21.855$		
Center	50.0	6.00	0.110	67	0.332			

* Probe location must be no closer than 0.50 in to tunnel wall

$$F_p = V_{strav} / V_{scent} = 0.986$$

$$\text{Initial Tunnel Velocity, } V_s = F_p K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 21.224432 \text{ ft/sec}$$

Supplementary Data and Information

Environment	Test Start	Test End
Time of Day	11:01	22:35
Barometric Pressure, in. Hg	30.23	30.31
Room Air Velocity, fpm	8	9
Room Air Temperature, °F	63	65
Room Relative Humidity, %	54.0	50.0
Platform Scale Audit, lb.	20.0	20.0

Leak Checks

Pitot and associated tubing, (pass/fail) ¹	pass	pass
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See sampling box worksheets for sampling boxes

Dilution Tunnel

Date last cleaned	2/19/2025	
Smoke Capture, % (visual) ²	100	
Draft Inducement, (pass/fail) ³	pass	
Static Pressure, in. H ₂ O	-0.320	-0.320

¹ Both sides (independently) of the pitot system are brought under a minimum vacuum of 3 in. H₂O and then sealed. Any indication of pressure loss is deemed a fail.

² Create a smoking condition during start of pre-burn activities and using adequate lighting pointed upward and around tunnel hood, visually observe if 100% of visible smoke is being captured by the hood. If not, increase flow tunnel flow and / or re-assess chimney proximity to draft hood as required and repeat until 100% capture is observed.

³ With the appliance installed and the dilution tunnel flow turned-off, observe the flue draft gauge while turning the dilution tunnel on. Any detectible response by the draft gauge associated with activation of the tunnel flow indicates that draft inducement is occurring. Determine the cause (i.e. flue chimney too deep into tunnel?) before continuing.

Preburn Data

ASTM E2618

Run: 2

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/25/25

Final Coal Bed Weight: 44.4 lb.
 Average Heat Output Rate Last One Hour, Btu/hr: 120625.3 Btu/hr.

Beginning Clock Time: 6:11
 Logging Intervqal, Min: 1

Coal Bed Range **27.1 54.2**
 (lb): (min) (max)

289		Appliance						Load									
Elapsed Time (Min)	Fuel Remaining (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
0	38.2	179.0	177.4	1.5	308.9	-0.033	113.3	161	47.4	0.662	1.0010	8.252	5.466	259.6	15575.8	64.5	
1	37.3	180.7	169.8	10.9	318.4	-0.039	74.6	180	105.4	3.823	1.0011	8.315	31.78	3354.6	201277	64.4	
2	36.4	181.4	169.6	11.8	319.6	-0.044	65.0	181	115.8	3.809	1.0012	8.326	31.71	3675.2	220514	64.6	
3	35.0	181.9	166.4	15.5	312.4	-0.03	53.0	181	127.7	4.140	1.0012	8.338	34.52	4412.3	264740	64.4	
4	34.3	181.9	165.6	16.3	323	-0.046	51.7	181	128.8	4.554	1.0012	8.340	37.98	4899.5	293971	64.6	
5	33.4	181.8	165.4	16.4	326	-0.039	50.5	180	129.9	4.554	1.0012	8.341	37.98	4941.6	296498	64.5	
6	32.4	181.6	165.0	16.6	326.2	-0.048	49.7	180	130.5	4.568	1.0012	8.341	38.1	4977.6	298653	64.5	
7	31.6	181.6	165.0	16.6	328	-0.044	49.3	180	130.9	4.568	1.0012	8.342	38.1	4993.4	299602	64.6	
8	30.6	181.5	164.9	16.6	328.5	-0.034	49.1	180	131.0	4.568	1.0012	8.342	38.1	4998.8	299928	64.6	
9	29.8	181.3	164.7	16.6	327.9	-0.036	48.9	180	131.0	4.582	1.0012	8.342	38.22	5013.2	300791	64.5	
10	29.0	181.1	164.5	16.6	327.9	-0.038	48.8	180	131.0	4.568	1.0012	8.342	38.11	4996.8	299807	64.4	
11	28.2	181.0	164.3	16.6	327.7	-0.046	48.7	180	130.8	4.568	1.0012	8.342	38.11	4991.1	299464	64.4	
12	27.5	180.8	164.2	16.6	327.7	-0.039	48.7	179	130.8	4.582	1.0012	8.342	38.22	5003.6	300219	64.6	
13	26.7	180.5	164.0	16.6	326.6	-0.037	48.6	179	130.5	4.582	1.0012	8.342	38.22	4995.2	299711	64.5	
14	26.0	180.4	163.9	16.5	325.7	-0.038	48.6	179	130.4	4.582	1.0012	8.342	38.22	4991.4	299484	64.6	
15	25.3	180.0	163.5	16.5	325	-0.038	48.5	179	130.1	4.582	1.0012	8.342	38.22	4978.6	298714	64.7	
16	40.1	179.9	163.3	16.6	325.3	-0.035	48.5	178	130.0	4.568	1.0012	8.343	38.11	4959.5	297570	64.6	
17	61.4	179.5	163.0	16.5	324.5	-0.043	48.4	178	129.7	4.582	1.0012	8.343	38.22	4964.1	297845	64.7	
18	60.2	178.6	162.2	16.4	322.1	-0.036	48.1	177	129.0	4.568	1.0012	8.343	38.11	4923.1	295385	64.8	
19	59.3	178.4	161.9	16.5	320.8	-0.043	47.9	177	129.0	4.595	1.0012	8.343	38.34	4951.8	297108	64.6	
20	58.3	178.0	161.6	16.4	320.1	-0.04	47.7	177	128.8	4.609	1.0012	8.343	38.46	4960.1	297604	64.7	
21	57.3	177.9	161.4	16.5	320.6	-0.041	47.6	176	128.8	4.595	1.0012	8.343	38.34	4944.9	296692	64.4	
22	56.2	177.8	161.3	16.4	322.6	-0.043	47.5	176	128.8	4.623	1.0012	8.343	38.57	4975.6	298533	64.5	
23	55.1	177.7	161.2	16.5	322.1	-0.044	47.4	176	128.8	4.609	1.0012	8.343	38.46	4958.5	297510	64.5	
24	54.2	177.7	161.2	16.5	301.3	-0.054	47.4	176	128.9	4.595	1.0012	8.343	38.34	4947.3	296840	64.5	
25	52.9	177.5	161.1	16.4	322.7	-0.036	47.3	176	128.7	4.609	1.0012	8.343	38.46	4956.9	297416	64.5	
26	52.1	177.4	160.9	16.5	314.3	-0.034	47.3	176	128.6	4.609	1.0012	8.343	38.46	4952.1	297124	64.6	
27	51.1	177.2	160.8	16.4	310	-0.04	47.3	176	128.5	4.623	1.0012	8.343	38.57	4961.9	297712	64.3	
28	50.3	177.1	160.7	16.4	316.8	-0.054	47.3	176	128.3	4.609	1.0012	8.344	38.46	4940.7	296440	64.6	
29	49.2	177.0	160.6	16.5	321.5	-0.047	47.3	176	128.3	4.609	1.0012	8.344	38.46	4939.2	296355	64.5	
30	48.2	176.9	160.4	16.4	320.4	-0.053	47.2	175	128.1	4.637	1.0012	8.344	38.69	4962.0	297718	64.5	
31	47.5	176.6	160.2	16.4	315.2	-0.039	47.2	175	127.9	4.609	1.0012	8.344	38.46	4926.0	295561	64.5	
32	46.6	176.6	160.1	16.4	315.3	-0.041	47.2	175	127.8	4.623	1.0012	8.344	38.57	4935.2	296113	64.4	
33	45.7	176.2	159.9	16.4	321	-0.048	47.2	175	127.5	4.623	1.0012	8.344	38.57	4924.6	295474	64.4	
34	44.7	176.3	159.8	16.4	319.4	-0.038	47.2	175	127.5	4.623	1.0012	8.344	38.57	4922.9	295375	64.3	
35	44.0	176.1	159.8	16.4	318.2	-0.057	47.2	175	127.4	4.595	1.0012	8.344	38.34	4890.5	293429	64.5	
36	43.0	176.1	159.8	16.3	317.8	-0.016	47.2	175	127.4	4.623	1.0012	8.344	38.57	4919.1	295149	64.2	
37	42.2	175.8	159.5	16.3	324.3	-0.041	47.2	174	127.1	4.623	1.0012	8.344	38.57	4908.9	294533	64.4	
38	41.3	175.7	159.4	16.3	322	-0.044	47.2	174	127.0	4.609	1.0012	8.344	38.46	4888.6	293315	64.4	
39	40.4	175.4	159.1	16.3	325.4	-0.056	47.2	174	126.6	4.637	1.0012	8.344	38.69	4905.8	294347	64.4	
40	82.9	175.4	159.2	16.3	321.9	-0.046	47.2	174	126.7	4.609	1.0012	8.344	38.46	4879.1	292746	64.6	
41	81.7	175.1	158.8	16.2	324.4	-0.043	47.3	174	126.3	4.623	1.0012	8.344	38.57	4878.5	292710	64.3	
42	80.7	174.5	158.4	16.1	325.7	-0.038	47.2	173	125.8	4.637	1.0012	8.344	38.69	4874.7	292483	64.5	

289		Appliance						Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
43	79.8	174.3	158.2	16.1	326.4	-0.036	47.2	173	125.6	4.623	1.0012	8.344	38.57	4851.9	291113	64.4	
44	78.5	174.2	158.0	16.1	325.9	-0.037	47.2	173	125.5	4.623	1.0012	8.344	38.57	4845.4	290722	64.4	
45	77.8	174.1	158.0	16.1	325.8	-0.043	47.2	173	125.4	4.637	1.0012	8.344	38.69	4857.3	291440	64.1	
46	76.7	173.9	157.9	16.0	328	-0.041	47.1	172	125.3	4.623	1.0012	8.344	38.57	4839.0	290337	64.3	
47	75.7	173.7	157.7	16.1	328	-0.034	47.1	172	125.1	4.623	1.0012	8.344	38.57	4830.2	289811	64.2	
48	74.8	173.6	157.6	16.1	326.6	-0.049	47.1	172	125.0	4.637	1.0012	8.344	38.69	4841.7	290504	64.3	
49	73.8	173.4	157.4	16.1	327.3	-0.035	47.1	172	124.8	4.637	1.0012	8.344	38.69	4833.0	289982	64.4	
50	72.7	173.4	157.4	16.0	326.8	-0.037	47.1	172	124.8	4.637	1.0012	8.344	38.69	4833.4	290004	64.2	
51	71.8	173.1	157.1	16.0	329.7	-0.04	47.1	172	124.5	4.623	1.0012	8.344	38.57	4809.1	288548	64.3	
52	70.6	173.1	157.1	16.0	320.8	-0.049	47.1	172	124.4	4.609	1.0012	8.344	38.46	4791.7	287505	64.3	
53	69.6	173.0	157.0	16.0	325.4	-0.035	47.1	171	124.3	4.637	1.0012	8.344	38.69	4815.6	288937	64.2	
54	68.8	173.0	157.0	16.0	325.2	-0.041	47.1	171	124.3	4.637	1.0012	8.344	38.69	4813.1	288784	64.3	
55	67.8	173.0	157.0	16.0	325.6	-0.039	47.1	171	124.3	4.623	1.0012	8.344	38.57	4802.3	288136	64.4	
56	66.8	172.9	156.9	16.0	323.9	-0.036	47.1	171	124.2	4.637	1.0012	8.344	38.69	4811.9	288714	64.4	
57	66.0	172.9	156.9	15.9	328	-0.034	47.1	171	124.3	4.637	1.0012	8.344	38.69	4813.9	288834	64.4	
58	64.8	172.9	156.9	16.0	325.9	-0.048	47.1	171	124.3	4.623	1.0012	8.344	38.57	4799.4	287962	64.3	
59	63.9	172.8	156.8	16.0	327.7	-0.039	47.1	171	124.1	4.651	1.0012	8.344	38.8	4823.1	289385	64.4	
60	63.0	172.7	156.7	16.0	326	-0.042	47.1	171	124.2	4.637	1.0012	8.344	38.69	4809.3	288556	64.3	
61	61.9	172.9	157.0	15.9	326	-0.041	47.1	171	124.4	4.637	1.0012	8.344	38.69	4817.0	289023	64.4	
62	60.9	172.9	156.9	16.0	326.4	-0.036	47.1	171	124.3	4.637	1.0012	8.344	38.69	4814.4	288862	64.2	
63	60.2	173.0	156.9	16.0	326	-0.042	47.0	171	124.3	4.637	1.0012	8.344	38.69	4816.7	289000	64	
64	59.2	172.8	156.9	15.9	324.7	-0.038	47.0	171	124.3	4.637	1.0012	8.344	38.69	4814.2	288853	64.1	
65	58.3	172.9	157.0	16.0	324.6	-0.046	47.0	171	124.4	4.637	1.0012	8.344	38.69	4817.3	289040	63.9	
66	57.6	172.9	156.9	16.0	323.4	-0.042	47.0	171	124.3	4.623	1.0012	8.344	38.57	4800.1	288008	63.9	
67	56.6	172.8	156.8	16.0	322.5	-0.038	47.0	171	124.2	4.651	1.0012	8.344	38.8	4825.8	289548	63.7	
68	55.8	172.8	156.8	16.0	322.7	-0.035	47.0	171	124.2	4.623	1.0012	8.344	38.57	4797.1	287827	63.9	
69	54.7	172.5	156.5	16.0	322.2	-0.047	47.0	171	123.9	4.637	1.0012	8.344	38.69	4800.0	288002	63.6	
70	53.7	172.5	156.5	16.0	312.8	-0.035	47.0	171	123.9	4.637	1.0012	8.344	38.69	4801.0	288059	63.5	
71	52.7	172.7	156.7	16.0	314.9	-0.066	47.0	171	124.1	4.623	1.0012	8.344	38.57	4792.7	287559	63.7	
72	52.0	172.7	156.7	16.0	318.5	-0.032	47.0	171	124.2	4.637	1.0012	8.344	38.69	4810.3	288616	64.1	
73	51.0	172.7	156.7	16.0	313.6	-0.042	47.0	171	124.2	4.623	1.0012	8.344	38.57	4795.5	287730	64.2	
74	50.1	172.7	156.6	16.0	311.9	-0.043	47.0	171	124.1	4.651	1.0012	8.344	38.8	4821.9	289311	63.9	
75	49.2	172.6	156.6	16.0	318.6	-0.04	47.0	171	124.0	4.623	1.0012	8.344	38.57	4789.8	287387	63.9	
76	48.3	172.7	157.3	15.4	316.2	-0.037	47.0	171	124.3	4.582	1.0012	8.344	38.23	4758.3	285500	63.8	
77	47.5	172.7	156.7	16.0	312.1	-0.034	46.9	171	124.2	4.540	1.0012	8.344	37.88	4710.7	282644	63.9	
78	46.6	172.8	156.7	16.1	319.7	-0.033	46.9	171	124.3	4.637	1.0012	8.344	38.69	4814.3	288856	64.1	
79	45.6	172.7	156.6	16.1	313.2	-0.049	46.9	171	124.2	4.651	1.0012	8.344	38.8	4827.3	289640	63.9	
80	44.9	172.8	156.7	16.1	309.6	-0.036	46.9	171	124.3	4.651	1.0012	8.344	38.8	4829.8	289790	64.1	
81	44.0	172.7	156.7	16.1	316.8	-0.059	46.9	171	124.3	4.651	1.0012	8.344	38.8	4829.4	289765	64.3	
82	43.2	172.7	156.6	16.1	310.9	-0.039	46.9	171	124.3	4.651	1.0012	8.344	38.8	4828.5	289712	64	
83	42.6	172.7	157.3	15.4	307.7	-0.021	46.8	171	124.5	4.485	1.0012	8.344	37.42	4665.3	279918	64	
84	41.6	172.4	156.5	16.0	310.6	-0.04	46.8	171	124.1	4.623	1.0012	8.344	38.57	4791.5	287487	64.1	
85	40.7	172.6	156.4	16.2	307.9	-0.032	46.8	171	124.2	4.651	1.0012	8.344	38.8	4824.1	289447	64.1	
86	50.5	172.6	156.4	16.2	308.5	-0.033	46.8	171	124.2	4.692	1.0012	8.344	39.15	4870.0	292197	64.2	
87	87.5	172.6	156.4	16.2	310	-0.03	46.9	171	124.2	4.664	1.0012	8.344	38.92	4839.9	290396	64.2	
88	86.4	171.8	155.8	16.1	308.7	-0.026	46.8	170	123.5	4.664	1.0012	8.344	38.92	4810.7	288640	64.1	
89	85.4	171.7	155.7	16.0	313.2	-0.041	46.8	170	123.3	4.678	1.0012	8.344	39.03	4820.6	289237	64	
90	84.4	171.7	155.6	16.1	306.6	-0.044	46.8	170	123.2	4.664	1.0012	8.344	38.92	4802.1	288127	64.2	
91	83.4	171.5	155.5	16.0	316.1	-0.059	46.8	170	123.1	4.678	1.0012	8.344	39.03	4812.8	288766	64.3	
92	82.3	171.3	155.3	16.0	309.6	-0.05	46.8	170	122.9	4.678	1.0012	8.344	39.03	4803.2	288192	64.1	
93	81.5	171.2	155.3	16.0	317.2	-0.044	46.7	170	122.9	4.664	1.0012	8.344	38.92	4788.3	287295	64.1	
94	80.2	171.0	155.1	16.0	309.9	-0.039	46.7	169	122.7	4.678	1.0012	8.344	39.03	4795.7	287743	64.2	
95	79.3	170.9	155.0	15.9	317.3	-0.039	46.7	169	122.6	4.664	1.0012	8.344	38.92	4776.0	286563	64.3	
96	78.5	170.9	155.0	15.9	308.2	-0.03	46.7	169	122.6	4.692	1.0012	8.344	39.15	4804.8	288287	64	
97	77.3	170.6	154.7	15.9	318.1	-0.047	46.7	169	122.3	4.664	1.0012	8.344	38.92	4764.8	285886	64.1	
98	76.3	170.5	154.6	16.0	309.5	-0.059	46.7	169	122.2	4.692	1.0012	8.344	39.15	4788.6	287317	64	
99	75.5	170.4	154.5	15.9	316.5	-0.042	46.7	169	122.1	4.692	1.0012	8.344	39.15	4785.5	287130	64.1	
100	74.5	170.3	154.4	15.9	309.6	-0.041	46.7	169	122.0	4.678	1.0012	8.344	39.03	4766.8	286006	63.7	
101	73.6	170.1	154.2	15.9	315.8	-0.034	46.7	168	121.8	4.678	1.0012	8.344	39.03	4759.6	285576	63.7	

289	Appliance						Load										Room Temp °F
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H ₂ O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr		
102	72.8	170.0	154.2	15.9	313.1	-0.045	46.7	168	121.7	4.678	1.0012	8.344	39.03	4756.4	285384	63.7	
103	71.8	169.8	153.9	15.8	313.2	-0.038	46.7	168	121.4	4.678	1.0012	8.344	39.03	4746.2	284770	64.2	
104	70.8	169.8	154.0	15.8	320.5	-0.037	46.7	168	121.5	4.678	1.0012	8.344	39.03	4748.3	284899	64	
105	70.0	169.5	153.7	15.8	310.9	-0.029	46.7	168	121.2	4.678	1.0012	8.344	39.03	4736.0	284161	63.8	
106	68.9	169.5	153.7	15.8	319.3	-0.041	46.7	168	121.2	4.678	1.0012	8.344	39.03	4738.2	284289	64.2	
107	68.2	169.3	153.6	15.8	312.5	-0.036	46.7	168	121.0	4.692	1.0012	8.344	39.15	4744.3	284660	64.1	
108	67.2	169.2	153.4	15.8	319.9	-0.041	46.7	168	120.9	4.678	1.0012	8.344	39.03	4723.5	283410	63.9	
109	66.5	169.1	153.4	15.7	314.1	-0.034	46.7	168	120.8	4.692	1.0012	8.344	39.15	4736.7	284204	64.1	
110	65.4	169.0	153.4	15.7	318.1	-0.04	46.7	167	120.7	4.678	1.0012	8.344	39.03	4718.5	283112	63.8	
111	64.4	169.1	153.3	15.7	317.6	-0.039	46.7	167	120.7	4.692	1.0012	8.344	39.15	4732.1	283926	64	
112	63.6	168.9	153.2	15.7	319.6	-0.033	46.7	167	120.6	4.678	1.0012	8.344	39.03	4711.9	282714	64	
113	62.7	168.8	153.0	15.7	320.1	-0.041	46.7	167	120.4	4.692	1.0012	8.344	39.15	4720.7	283243	64.1	
114	61.9	168.8	153.2	15.6	321.2	-0.039	46.7	167	120.5	4.678	1.0012	8.344	39.03	4708.3	282499	63.9	
115	60.8	168.9	153.3	15.6	317.8	-0.04	46.7	167	120.6	4.678	1.0012	8.344	39.03	4714.1	282844	63.9	
116	60.0	168.7	153.0	15.7	314.9	-0.039	46.7	167	120.4	4.692	1.0012	8.344	39.15	4719.2	283153	63.8	
117	59.1	168.7	152.4	16.3	316.6	-0.041	46.7	167	120.4	4.678	1.0012	8.344	39.03	4706.4	282386	63.7	
118	58.2	168.7	150.9	17.7	318.9	-0.034	46.6	166	119.6	5.258	1.0012	8.344	43.87	5254.6	315274	63.8	
119	57.5	168.7	151.0	17.7	318	-0.033	46.6	166	119.8	5.258	1.0012	8.344	43.87	5262.5	315752	63.7	
120	56.4	168.4	150.8	17.6	319.4	-0.047	46.6	166	119.5	5.285	1.0012	8.344	44.1	5278.1	316688	63.5	
121	55.6	168.4	150.7	17.6	315.4	-0.05	46.6	166	119.5	5.258	1.0012	8.344	43.87	5251.3	315079	63.8	
122	54.8	168.0	150.5	17.6	314.5	-0.044	46.6	166	119.2	5.285	1.0012	8.344	44.1	5263.1	315785	63.8	
123	54.1	168.0	150.4	17.6	317.1	-0.04	46.6	166	119.1	5.272	1.0012	8.344	43.99	5246.1	314763	63.8	
124	53.0	167.7	150.2	17.5	312	-0.038	46.5	165	118.9	5.272	1.0012	8.344	43.99	5237.1	314228	63.6	
125	52.1	167.4	150.0	17.5	317.1	-0.034	46.5	165	118.6	5.258	1.0012	8.344	43.87	5210.5	312628	63.3	
126	51.3	167.4	149.9	17.5	318.2	-0.04	46.5	165	118.6	5.285	1.0012	8.344	44.1	5235.4	314122	63.3	
127	50.5	167.2	149.8	17.4	310.2	-0.04	46.5	165	118.4	5.272	1.0012	8.344	43.99	5215.4	312926	63.1	
128	49.8	167.0	149.6	17.4	301.7	-0.033	46.5	165	118.1	5.244	1.0012	8.344	43.76	5174.5	310468	62.6	
129	49.0	166.8	149.4	17.4	300.7	-0.037	46.5	165	118.0	5.272	1.0012	8.344	43.99	5198.3	311895	63.1	
130	48.1	166.6	149.2	17.4	292.9	-0.038	46.5	164	117.8	5.258	1.0012	8.344	43.87	5175.4	310522	62.8	
131	47.4	166.6	149.2	17.4	295.6	-0.034	46.5	164	117.8	5.258	1.0012	8.344	43.87	5174.3	310458	63.2	
132	46.6	166.4	149.7	16.7	296.8	-0.043	46.5	164	117.9	5.065	1.0012	8.344	42.26	4988.7	299322	63.1	
133	45.5	166.4	148.9	17.5	296.5	-0.033	46.5	164	117.5	5.203	1.0012	8.344	43.41	5107.0	306419	63.4	
134	44.8	166.4	148.8	17.6	294.5	-0.048	46.5	164	117.5	5.313	1.0012	8.344	44.33	5216.2	312973	63.5	
135	44.1	166.5	148.9	17.5	300.8	-0.043	46.5	164	117.6	5.299	1.0012	8.344	44.22	5207.7	312465	63.6	
136	43.4	166.2	148.7	17.5	298.2	-0.04	46.4	164	117.4	5.299	1.0012	8.344	44.22	5197.5	311849	63.6	
137	42.6	165.9	148.5	17.4	297.2	-0.043	46.5	164	117.1	5.313	1.0012	8.344	44.33	5198.7	311922	63.9	
138	41.9	165.9	148.4	17.5	299.9	-0.041	46.4	164	117.1	5.299	1.0012	8.344	44.22	5182.5	310953	63.9	
139	41.1	165.8	148.3	17.5	300.8	-0.029	46.4	163	117.0	5.313	1.0012	8.344	44.33	5191.2	311474	63.7	
140	40.2	165.5	148.1	17.4	306.9	-0.027	46.4	163	116.7	5.313	1.0012	8.344	44.33	5179.6	310774	63.7	
141	39.4	165.3	147.9	17.4	306.6	-0.04	46.4	163	116.4	5.299	1.0012	8.344	44.22	5155.0	309297	63.7	
142	38.8	165.2	148.4	16.8	306.3	-0.039	46.5	163	116.5	5.106	1.0012	8.344	42.61	4970.0	298203	63.3	
143	38.0	165.4	147.9	17.5	313.7	-0.038	46.6	163	116.3	5.341	1.0012	8.344	44.56	5191.1	311467	63.6	
144	39.7	165.1	147.8	17.3	312.1	-0.053	46.6	163	116.1	5.327	1.0012	8.344	44.45	5168.0	310080	63.8	
145	85.4	164.9	147.6	17.3	315.4	-0.04	46.6	163	116.0	5.341	1.0012	8.344	44.56	5173.9	310433	63.6	
146	84.6	164.4	147.1	17.3	315.7	-0.034	46.6	162	115.4	5.354	1.0012	8.344	44.68	5162.0	309720	63.4	
147	84.0	163.8	146.7	17.2	312.2	-0.055	46.6	161	114.9	5.327	1.0012	8.344	44.45	5111.7	306700	63.6	
148	83.0	163.6	146.4	17.2	311.2	-0.038	46.6	161	114.5	5.341	1.0012	8.344	44.56	5108.9	306532	63.4	
149	82.1	163.4	146.4	17.1	316.8	-0.042	46.6	161	114.5	5.327	1.0012	8.344	44.45	5093.4	305602	63.5	
150	81.5	162.8	145.9	16.9	311.6	-0.039	46.6	161	113.9	5.341	1.0012	8.344	44.56	5083.6	305016	63.6	
151	80.9	162.8	145.8	17.0	312.5	-0.036	46.7	160	113.8	5.327	1.0012	8.344	44.45	5064.0	303841	63.9	
152	80.0	162.5	145.6	17.0	314	-0.046	46.6	160	113.5	5.327	1.0012	8.344	44.45	5050.9	303052	63.5	
153	79.0	162.3	145.4	16.9	316.7	-0.036	46.6	160	113.4	5.354	1.0012	8.344	44.68	5074.6	304477	63.4	
154	78.6	162.0	145.1	16.9	317.3	-0.045	46.5	160	113.2	5.327	1.0012	8.344	44.45	5037.3	302237	63.2	
155	77.4	161.7	144.9	16.8	318.9	-0.048	46.4	159	112.9	5.341	1.0012	8.344	44.56	5038.8	302328	63.3	
156	77.5	161.4	144.6	16.9	319.5	-0.034	46.4	159	112.6	5.341	1.0012	8.344	44.56	5023.9	301436	63.4	
157	76.6	161.2	144.3	16.8	320.1	-0.04	46.4	159	112.4	5.327	1.0012	8.344	44.45	5000.5	300030	63.1	
158	75.8	160.9	144.1	16.8	316.3	-0.037	46.4	159	112.1	5.341	1.0012	8.344	44.56	5003.6	300214	63.2	
159	74.7	160.9	144.2	16.7	318.5	-0.051	46.4	158	112.1	5.341	1.0012	8.344	44.56	5002.0	300118	63.6	
160	74.2	160.7	143.9	16.8	320.6	-0.044	46.4	158	111.9	5.327	1.0012	8.344	44.45	4979.7	298783	63.4	

289		Appliance					Load										
Elapsed Time (Min)	Fuel Remaining (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
161	73.1	160.5	143.9	16.7	319.4	-0.047	46.4	158	111.8	5.341	1.0012	8.344	44.56	4987.4	299245	63.7	
162	71.7	160.4	143.7	16.7	320.3	-0.038	46.4	158	111.6	5.327	1.0012	8.344	44.45	4967.9	298076	63.7	
163	70.9	160.3	143.6	16.7	321.9	-0.045	46.4	158	111.5	5.341	1.0012	8.344	44.56	4977.2	298632	63.2	
164	69.9	160.0	143.4	16.6	322	-0.036	46.3	158	111.3	5.327	1.0012	8.344	44.45	4955.0	297303	63.7	
165	69.6	159.8	143.2	16.6	321.2	-0.039	46.3	157	111.1	5.327	1.0012	8.344	44.45	4944.8	296690	63.9	
166	68.8	159.5	143.0	16.5	322	-0.043	46.4	157	110.9	5.354	1.0012	8.344	44.68	4962.1	297725	63.8	
167	68.5	159.4	142.9	16.5	322.6	-0.041	46.3	157	110.7	5.327	1.0012	8.344	44.45	4927.4	295647	63.9	
168	67.3	159.2	142.6	16.6	323.3	-0.04	46.3	157	110.5	5.313	1.0012	8.344	44.33	4903.1	294186	64.8	
169	66.3	159.1	142.6	16.5	317.7	-0.04	46.5	157	110.2	5.285	1.0012	8.344	44.1	4866.7	292005	63.8	
170	65.2	159.0	142.5	16.5	318.1	-0.036	46.5	157	110.2	5.327	1.0012	8.344	44.45	4902.7	294164	64.1	
171	64.9	159.0	142.5	16.5	317	-0.039	46.5	157	110.1	5.354	1.0012	8.344	44.68	4924.3	295460	64	
172	64.4	158.9	143.7	15.2	314.1	-0.034	46.5	157	110.4	5.161	1.0012	8.344	43.07	4760.0	285599	64.1	
173	63.4	158.9	143.9	15.0	312.5	-0.044	46.6	157	110.5	4.844	1.0012	8.344	40.42	4470.0	268198	64.1	
174	62.2	158.8	143.8	15.0	313.8	-0.038	46.6	157	110.3	4.830	1.0012	8.344	40.3	4451.6	267095	63.8	
175	61.9	158.8	146.6	12.2	319	-0.041	46.7	158	111.1	4.016	1.0012	8.344	33.51	3728.3	223700	64	
176	60.9	159.1	147.2	11.9	315.5	-0.035	46.8	158	111.3	3.947	1.0012	8.344	32.93	3668.3	220098	64.1	
177	59.7	159.2	146.9	12.3	319.9	-0.038	46.8	158	111.2	3.974	1.0012	8.344	33.16	3693.6	221618	64.2	
178	59.3	159.7	147.4	12.3	322.8	-0.041	46.9	159	111.7	4.016	1.0012	8.344	33.51	3748.9	224935	63.7	
179	57.9	159.9	147.6	12.3	318.1	-0.038	46.9	159	111.9	4.016	1.0012	8.344	33.51	3755.3	225318	63.8	
180	57.9	160.2	146.4	13.8	321.6	-0.038	46.9	159	111.9	4.223	1.0012	8.344	35.23	3948.5	236908	63.8	
181	56.4	160.5	146.5	14.0	290.2	-0.041	46.8	159	112.2	4.499	1.0012	8.344	37.54	4216.6	252994	63.9	
182	55.9	160.7	146.7	14.0	315	-0.034	46.8	159	112.4	4.513	1.0012	8.344	37.65	4236.5	254192	63.9	
183	55.3	161.0	146.9	14.1	303.3	-0.035	46.8	160	112.7	4.513	1.0012	8.344	37.65	4248.0	254882	63.6	
184	54.0	161.2	147.5	13.7	304.5	-0.04	46.8	160	113.0	4.430	1.0012	8.344	36.96	4181.4	250882	63.3	
185	53.6	161.3	147.5	13.7	303.5	-0.037	46.7	160	113.2	4.375	1.0012	8.344	36.5	4137.1	248223	63.5	
186	52.3	161.3	147.1	14.2	307.4	-0.047	46.6	160	113.2	4.540	1.0012	8.344	37.88	4293.3	257600	63.3	
187	52.0	161.3	147.1	14.2	305.9	-0.043	46.6	160	113.2	4.526	1.0012	8.344	37.77	4282.1	256929	63.6	
188	51.2	161.4	147.2	14.3	304	-0.029	46.6	160	113.3	4.540	1.0012	8.344	37.88	4298.5	257907	63.6	
189	49.8	161.5	147.2	14.3	308.7	-0.04	46.6	160	113.4	4.526	1.0012	8.344	37.77	4289.4	257362	63.6	
190	49.6	161.6	147.3	14.3	307.3	-0.037	46.6	160	113.5	4.540	1.0012	8.344	37.88	4306.3	258381	63.6	
191	48.6	161.8	147.5	14.3	305.1	-0.033	46.5	160	113.7	4.540	1.0012	8.344	37.88	4312.2	258731	64.1	
192	47.3	161.8	147.5	14.3	304.2	-0.029	46.5	160	113.7	4.540	1.0012	8.344	37.88	4314.1	258846	63.9	
193	46.3	161.9	147.6	14.3	303.8	-0.043	46.5	160	113.9	4.526	1.0012	8.344	37.77	4307.2	258432	63.6	
194	46.0	162.0	148.3	13.7	303.8	-0.034	46.5	161	114.2	4.430	1.0012	8.344	36.96	4225.8	253547	63.8	
195	45.1	162.1	147.8	14.3	303	-0.046	46.5	161	114.1	4.540	1.0012	8.344	37.88	4329.5	259770	64	
196	44.9	162.4	148.0	14.4	301.4	-0.03	46.5	161	114.4	4.540	1.0012	8.344	37.88	4338.0	260279	64	
197	59.7	162.6	148.3	14.4	309.1	-0.045	46.5	161	114.6	4.540	1.0012	8.344	37.88	4345.3	260720	64.1	
198	61.4	163.3	148.9	14.4	299	-0.04	46.6	162	115.2	4.526	1.0012	8.344	37.77	4356.4	261384	64.1	
199	59.9	162.6	148.3	14.4	302.9	-0.046	46.6	161	114.6	4.540	1.0012	8.344	37.88	4345.3	260718	64	
200	59.7	162.6	148.3	14.3	303.5	-0.051	46.7	161	114.5	4.526	1.0012	8.344	37.77	4329.2	259753	64.2	
201	59.1	162.5	148.2	14.3	303.8	-0.038	46.7	161	114.3	4.526	1.0012	8.344	37.77	4322.5	259350	64.5	
202	58.3	162.6	148.2	14.4	303.9	-0.041	46.7	161	114.4	4.540	1.0012	8.344	37.88	4337.5	260247	64.5	
203	57.1	162.5	148.2	14.3	303.8	-0.035	46.7	161	114.3	4.526	1.0012	8.344	37.77	4320.4	259227	64.7	
204	56.1	162.6	148.2	14.4	303.8	-0.034	46.8	161	114.3	4.526	1.0012	8.344	37.77	4323.8	259428	64.2	
205	55.7	162.5	148.6	13.9	303.9	-0.044	46.8	161	114.4	4.347	1.0012	8.344	36.27	4153.5	249213	63.8	
206	55.3	162.7	148.4	14.3	303.7	-0.05	46.8	161	114.4	4.416	1.0012	8.344	36.85	4220.7	253241	63.4	
207	54.3	162.8	148.4	14.4	304.9	-0.035	46.8	161	114.5	4.540	1.0012	8.344	37.88	4342.2	260531	63.5	
208	52.8	162.7	148.3	14.4	305.3	-0.038	46.8	161	114.4	4.554	1.0012	8.344	38	4351.5	261092	63.3	
209	52.5	162.8	148.4	14.4	305.6	-0.047	46.8	161	114.5	4.540	1.0012	8.344	37.88	4343.8	260628	62.9	
210	51.4	162.7	148.3	14.4	305.9	-0.03	46.8	161	114.4	4.540	1.0012	8.344	37.88	4340.2	260410	62.7	
211	50.8	162.7	148.3	14.4	306.4	-0.048	46.8	161	114.4	4.554	1.0012	8.344	38	4351.5	261092	62.8	
212	50.0	162.7	148.3	14.4	306	-0.031	46.8	161	114.4	4.554	1.0012	8.344	38	4351.6	261099	63.2	
213	77.9	162.6	148.2	14.4	305.7	-0.038	46.8	161	114.3	4.540	1.0012	8.344	37.88	4335.0	260097	63.3	
214	77.2	162.6	148.1	14.4	305.8	-0.049	46.8	161	114.2	4.554	1.0012	8.344	38	4344.8	260687	63.6	
215	75.9	162.4	148.0	14.3	306.2	-0.036	46.8	161	114.0	4.554	1.0012	8.344	38	4337.5	260249	63.5	
216	75.4	162.5	148.1	14.4	306.3	-0.033	46.8	161	114.1	4.526	1.0012	8.344	37.77	4316.2	258972	63.5	
217	74.3	162.6	148.6	14.0	306.3	-0.052	46.7	161	114.4	4.471	1.0012	8.344	37.31	4274.3	256458	63.5	
218	73.2	162.7	148.8	13.9	306.1	-0.037	46.7	161	114.6	4.388	1.0012	8.344	36.62	4202.9	252174	63.8	
219	72.5	162.5	148.1	14.4	302.2	-0.059	46.6	161	114.4	4.444	1.0012	8.344	37.08	4246.4	254782	63.9	

289		Appliance						Load									
Elapsed Time (Min)	Fuel Remaining g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H ₂ O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
220	71.9	162.5	148.2	14.4	304.3	-0.051	46.6	161	114.5	4.526	1.0012	8.344	37.77	4328.2	259692	63.5	
221	71.2	162.6	148.2	14.4	305.4	-0.036	46.6	161	114.5	4.540	1.0012	8.344	37.88	4343.7	260621	63.4	
222	70.3	162.5	148.1	14.4	305.8	-0.044	46.5	161	114.5	4.526	1.0012	8.344	37.77	4328.7	259722	63.4	
223	69.2	162.5	148.1	14.4	303	-0.037	46.5	161	114.5	4.540	1.0012	8.344	37.88	4343.3	260598	63.6	
224	68.3	162.5	148.1	14.4	307	-0.035	46.5	161	114.5	4.554	1.0012	8.344	38	4355.6	261339	63.3	
225	67.9	162.5	148.1	14.4	305.9	-0.041	46.5	161	114.5	4.540	1.0012	8.344	37.88	4341.6	260498	63.7	
226	67.0	162.5	148.1	14.4	314.3	-0.038	46.5	161	114.5	4.513	1.0012	8.344	37.65	4316.2	258975	63.8	
227	65.5	162.5	148.1	14.4	318.9	-0.049	46.5	161	114.5	4.540	1.0012	8.344	37.88	4342.4	260546	63.8	
228	64.3	162.6	148.1	14.4	285.3	-0.035	46.5	161	114.6	4.540	1.0012	8.344	37.88	4345.9	260751	63.4	
229	51.0	166.8	160.1	6.7	258.7	-0.031	47.7	167	118.9	2.180	1.0012	8.343	18.19	2165.6	129937	63.6	
230	51.2	166.5	159.9	6.7	243.2	-0.035	47.8	166	118.6	2.180	1.0012	8.343	18.19	2159.7	129582	64.9	
231	50.5	166.3	160.0	6.3	232.2	-0.028	47.8	166	118.4	2.125	1.0012	8.343	17.73	2101.6	126096	64.8	
232	51.3	166.1	160.1	6.1	226.6	-0.033	47.9	166	118.1	2.042	1.0012	8.343	17.04	2015.0	120902	63.7	
233	50.7	165.9	159.9	6.0	221.4	-0.03	47.9	166	117.8	2.015	1.0012	8.343	16.81	1983.0	118978	63.7	
234	50.6	165.7	159.7	6.0	216.5	-0.03	48.0	166	117.6	1.973	1.0012	8.343	16.46	1938.2	116292	63.6	
235	51.1	165.5	159.1	6.4	212.3	-0.023	48.0	165	117.3	2.098	1.0012	8.343	17.5	2055.2	123314	64.1	
236	51.0	165.3	158.9	6.4	208.4	-0.027	48.0	165	117.1	2.111	1.0012	8.343	17.62	2064.6	123873	63.8	
237	50.6	164.9	158.7	6.2	209.8	-0.026	48.0	165	116.8	2.098	1.0012	8.343	17.5	2045.7	122739	63.8	
238	50.5	164.5	158.3	6.2	210.5	-0.024	48.0	164	116.4	2.098	1.0012	8.343	17.5	2038.9	122331	64.1	
239	50.5	164.0	157.9	6.1	209	-0.023	48.1	164	115.8	2.084	1.0012	8.343	17.38	2016.2	120971	63.8	
240	50.5	163.8	157.6	6.2	206.6	-0.024	48.1	164	115.6	2.084	1.0012	8.343	17.38	2011.5	120689	64	
241	50.6	163.3	157.2	6.2	203.7	-0.019	48.1	163	115.1	2.111	1.0012	8.343	17.62	2030.1	121806	64.1	
242	51.2	163.0	156.9	6.2	200.8	-0.021	48.1	163	114.8	2.111	1.0012	8.343	17.62	2024.7	121481	64.1	
243	50.5	162.6	156.5	6.1	197.7	-0.019	48.1	162	114.3	2.111	1.0012	8.343	17.61	2016.0	120958	64.1	
244	51.4	162.2	156.0	6.2	194.7	-0.023	48.1	162	113.9	2.125	1.0012	8.343	17.73	2021.8	121310	64.1	
245	51.4	161.7	155.5	6.2	191.6	-0.017	48.2	162	113.4	2.139	1.0012	8.343	17.85	2026.3	121579	64.1	
246	51.2	161.3	155.1	6.1	188.9	-0.022	48.2	161	113.0	2.139	1.0012	8.343	17.85	2018.3	121097	64.4	
247	52.0	160.8	154.7	6.1	185.8	-0.02	48.2	161	112.5	2.139	1.0012	8.343	17.85	2010.1	120609	64.4	
248	51.1	160.3	154.2	6.1	182.9	-0.018	48.2	160	111.9	2.139	1.0012	8.343	17.85	2000.1	120006	64.2	
249	50.7	160.0	153.9	6.1	180.3	-0.017	48.2	160	111.6	2.139	1.0012	8.343	17.85	1993.2	119591	64.1	
250	51.0	159.5	153.4	6.1	177.4	-0.021	48.2	159	111.1	2.125	1.0012	8.343	17.73	1972.0	118320	64.1	
251	51.5	159.0	153.0	6.0	174.9	-0.019	48.1	159	110.7	2.139	1.0012	8.343	17.85	1978.6	118719	64.9	
252	51.1	158.5	152.4	6.0	172.3	-0.02	48.0	158	110.3	2.139	1.0012	8.343	17.85	1971.5	118291	64.5	
253	51.2	158.0	152.0	6.0	169.8	-0.017	47.9	158	110.0	2.125	1.0012	8.343	17.73	1952.9	117173	64.6	
254	51.2	157.6	151.6	5.9	167.5	-0.02	47.8	157	109.6	2.139	1.0012	8.343	17.85	1958.3	117496	64.3	
255	51.6	157.1	151.1	6.0	165.2	-0.018	47.8	157	109.2	2.153	1.0012	8.343	17.96	1963.3	117799	64.5	
256	50.8	156.5	150.4	6.1	163.1	-0.016	47.8	156	108.6	2.194	1.0012	8.343	18.31	1990.6	119435	64.4	
257	51.3	156.2	150.0	6.2	160.7	-0.015	47.8	156	108.2	2.236	1.0012	8.343	18.65	2019.9	121194	64.3	
258	51.0	155.6	149.5	6.1	158.8	-0.017	47.7	155	107.7	2.236	1.0012	8.343	18.65	2011.3	120675	64.4	
259	51.6	155.1	149.0	6.1	156.4	-0.013	47.7	155	107.2	2.236	1.0012	8.343	18.65	2002.6	120157	64.3	
260	51.0	154.5	148.5	6.1	154.5	-0.016	47.7	154	106.7	2.249	1.0012	8.343	18.77	2004.6	120276	64.1	
261	50.8	154.1	148.0	6.0	152.4	-0.019	47.7	154	106.3	2.236	1.0012	8.343	18.65	1984.4	119062	64.2	
262	50.8	153.6	147.6	6.0	150.6	-0.017	47.6	153	105.7	2.236	1.0012	8.343	18.65	1974.4	118466	64.2	
263	51.1	153.0	147.1	5.9	149.2	-0.013	47.6	153	105.3	2.249	1.0012	8.343	18.77	1978.0	118677	64	
264	51.7	152.6	146.7	5.9	147.4	-0.015	47.6	152	104.8	2.236	1.0012	8.343	18.65	1957.6	117456	64.2	
265	51.4	152.0	146.0	6.0	145.8	-0.018	47.6	152	104.1	2.236	1.0012	8.343	18.65	1944.2	116651	64.1	
266	51.1	151.5	145.6	5.9	144.1	-0.016	47.6	151	103.7	2.236	1.0012	8.343	18.65	1936.9	116217	64.1	
267	51.1	151.1	145.2	5.8	142.6	-0.013	47.6	151	103.3	2.236	1.0012	8.343	18.65	1929.2	115753	63.9	
268	51.8	150.4	144.6	5.8	140.8	-0.018	47.6	150	102.6	2.236	1.0012	8.343	18.65	1916.0	114961	64.1	
269	51.5	150.1	144.3	5.8	139.1	-0.014	47.6	150	102.2	2.236	1.0012	8.343	18.65	1909.5	114569	63.8	
270	51.6	149.4	143.7	5.8	137.8	-0.018	47.6	149	101.7	2.236	1.0012	8.343	18.65	1898.7	113923	64.1	
271	51.6	148.8	143.1	5.7	136.4	-0.015	47.6	149	101.1	2.236	1.0012	8.343	18.65	1888.0	113278	63.9	
272	51.8	148.5	142.9	5.6	134.9	-0.012	47.6	148	100.7	2.208	1.0012	8.343	18.42	1856.8	111408	63.8	
273	51.3	147.9	142.3	5.5	133.3	-0.016	47.6	148	100.1	2.194	1.0012	8.343	18.31	1834.7	110084	63.6	
274	51.0	147.2	140.6	6.6	132.6	-0.014	47.6	147	99.5	2.387	1.0012	8.343	19.92	1983.4	119004	63.8	
275	51.2	146.9	139.8	7.1	131.2	-0.016	47.6	147	99.0	2.788	1.0012	8.343	23.26	2304.5	138270	64	
276	51.3	146.4	139.5	6.9	130	-0.017	47.5	146	98.6	2.705	1.0012	8.343	22.57	2227.4	133645	63.8	
277	51.6	145.9	139.0	6.9	128.4	-0.014	47.5	146	98.0	2.719	1.0012	8.343	22.68	2226.7	133603	63.7	
278	51.5	145.2	138.8	6.4	127.5	-0.012	47.4	145	97.6	2.594	1.0012	8.343	21.65	2115.0	126902	63.8	

[illegible]

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
Tot / Avg		-270.8	110.768	0.160	1.23	91.0	2.13	66.11	52.67	64.24	100.0	75.8	0.113	0.335	21.96
Minimum	0.0	-1.9	0.000	0.137	0.00	67	0.05	63	38	63	87.8	65	0.105	0.324	21.31
Max	270.2	1.1	110.768	0.163	1.29	95	2.29	69	56	66	104.9	93	0.119	0.345	22.64
0	270.8		0.000		0.00	67	0.05	63.2	42.6	63		77	0.116	0.341	22.64
1	270.2	-0.6	0.137	0.137	1.29	67	2.18	63.6	38.6	63	87.8	75	0.115	0.339	22.25
2	269.0	-1.2	0.298	0.161	1.26	67	2.29	64.3	37.9	63	104.9	82	0.112	0.335	22.11
3	268.4	-0.6	0.456	0.158	1.26	67	2.26	64.7	38	63	103.8	83	0.116	0.341	22.24
4	268.0	-0.4	0.615	0.159	1.24	67	2.21	64.5	38.2	63	103.5	80	0.116	0.341	22.42
5	266.7	-1.3	0.774	0.159	1.25	67	2.21	64.8	38.5	63	103.4	84	0.114	0.338	22.33
6	266.2	-0.5	0.931	0.157	1.24	68	2.22	64.9	38.8	64	102.6	83	0.115	0.339	22.32
7	264.9	-1.3	1.089	0.158	1.24	67	2.21	65.1	39.1	64	103.0	83	0.116	0.341	22.41
8	264.3	-0.5	1.247	0.158	1.25	67	2.21	65.3	39.4	64	102.5	84	0.119	0.345	22.61
9	263.3	-1.0	1.404	0.157	1.22	68	2.21	65.4	39.7	64	102.3	84	0.107	0.327	22.18
10	262.6	-0.8	1.562	0.158	1.23	68	2.24	65.6	40	64	104.4	87	0.116	0.341	22.06
11	262.3	-0.3	1.719	0.157	1.23	68	2.18	65.8	40.3	64	103.2	85	0.115	0.339	22.46
12	261.0	-1.3	1.876	0.157	1.21	68	2.23	65.8	40.6	64	102.1	85	0.116	0.341	22.44
13	260.7	-0.2	2.034	0.158	1.24	68	2.26	66	40.8	64	103.0	83	0.112	0.335	22.27
14	259.2	-1.5	2.191	0.157	1.23	69	2.17	66	41.1	64	102.8	84	0.114	0.338	22.17
15	258.9	-0.3	2.350	0.159	1.23	68	2.18	66.1	41.4	64	104.4	83	0.112	0.335	22.16
16	258.2	-0.8	2.507	0.157	1.23	69	2.27	66.2	41.6	64	103.1	83	0.113	0.336	22.11
17	257.1	-1.1	2.663	0.156	1.23	69	2.28	66.3	41.9	64	101.9	83	0.118	0.344	22.41
18	256.1	-0.9	2.822	0.159	1.24	69	2.15	66.4	42.1	64	103.0	82	0.113	0.336	22.40
19	255.3	-0.8	2.979	0.157	1.22	70	2.16	66.5	42.4	64	102.6	83	0.109	0.330	21.95
20	254.6	-0.7	3.136	0.157	1.25	70	2.27	66.6	42.6	64	103.1	82	0.117	0.342	22.15
21	254.1	-0.5	3.294	0.158	1.22	70	2.28	66.6	42.8	64	102.5	83	0.116	0.341	22.49
22	253.1	-1.0	3.451	0.157	1.23	70	2.14	66.6	43.1	64	101.2	81	0.115	0.339	22.38
23	252.7	-0.4	3.609	0.158	1.23	71	2.14	66.8	43.2	64	102.3	83	0.114	0.338	22.29
24	251.8	-0.8	3.766	0.157	1.23	71	2.16	66.7	43.5	64	102.5	80	0.108	0.329	21.94
25	251.0	-0.8	3.922	0.156	1.23	71	2.13	66.9	43.6	64	102.3	83	0.116	0.341	22.03
26	249.4	-1.6	4.080	0.158	1.21	72	2.14	67	43.8	64	103.0	83	0.113	0.336	22.30
27	249.3	-0.1	4.236	0.156	1.22	72	2.26	66.9	44	64	101.6	82	0.111	0.333	22.05
28	248.1	-1.2	4.394	0.158	1.21	73	2.13	67.1	44.2	64	103.2	83	0.114	0.338	22.10
29	247.7	-0.4	4.551	0.157	1.22	73	2.23	67.1	44.5	64	102.0	83	0.115	0.339	22.30
30	246.7	-1.0	4.707	0.156	1.22	73	2.25	67.1	44.7	64	100.9	83	0.114	0.338	22.30
31	245.3	-1.4	4.865	0.158	1.22	74	2.16	67.1	44.9	64	102.8	83	0.109	0.330	22.01
32	244.6	-0.7	5.021	0.156	1.21	73	2.11	67.2	45.1	64	101.7	83	0.117	0.342	22.16
33	243.8	-0.8	5.180	0.159	1.25	74	2.26	67.2	45.2	64	102.6	83	0.115	0.339	22.45
34	243.2	-0.5	5.338	0.158	1.23	74	2.15	67.1	45.4	64	101.9	83	0.111	0.333	22.15
35	242.3	-0.9	5.494	0.156	1.22	75	2.14	67.2	45.6	64	101.7	83	0.111	0.333	21.95
36	241.0	-1.3	5.654	0.160	1.24	74	2.23	67.2	45.8	64	104.2	83	0.115	0.339	22.15
37	240.9	-0.2	5.812	0.158	1.24	75	2.19	67.2	46	63	102.7	84	0.110	0.332	22.12
38	239.9	-1.0	5.969	0.157	1.24	75	2.27	67.3	46.1	63	102.6	85	0.111	0.333	21.94
39	238.7	-1.2	6.129	0.160	1.24	76	2.23	67.3	46.3	64	104.1	84	0.117	0.342	22.28
40	238.1	-0.5	6.286	0.157	1.23	76	2.29	67.3	46.4	64	101.1	84	0.112	0.335	22.32

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
41	237.5	-0.7	6.444	0.158	1.24	76	2.11	67.3	46.6	63	102.1	83	0.113	0.336	22.12
42	236.7	-0.7	6.603	0.159	1.23	76	2.13	67.3	46.7	63	103.1	84	0.112	0.335	22.12
43	235.8	-1.0	6.761	0.158	1.23	77	2.14	67.4	46.9	64	102.4	84	0.114	0.338	22.18
44	234.8	-0.9	6.919	0.158	1.22	77	2.16	67.5	47	63	101.8	85	0.116	0.341	22.38
45	233.9	-0.9	7.078	0.159	1.22	78	2.20	67.4	47.2	64	102.1	85	0.113	0.336	22.34
46	232.9	-1.0	7.235	0.157	1.23	78	2.27	67.5	47.3	64	101.0	85	0.114	0.338	22.25
47	231.9	-1.0	7.394	0.159	1.22	78	2.26	67.5	47.5	64	101.9	85	0.118	0.344	22.50
48	231.1	-0.8	7.553	0.159	1.22	78	2.26	67.6	47.7	64	101.8	88	0.112	0.335	22.43
49	230.3	-0.8	7.710	0.157	1.23	79	2.28	67.7	47.8	65	101.3	86	0.112	0.335	22.14
50	229.6	-0.7	7.870	0.160	1.24	79	2.13	67.6	48	65	103.4	83	0.113	0.336	22.14
51	228.9	-0.7	8.028	0.158	1.22	79	2.23	67.7	48.1	64	102.0	85	0.112	0.335	22.13
52	228.5	-0.4	8.185	0.157	1.24	80	2.28	67.7	48.3	64	101.7	85	0.111	0.333	22.05
53	227.9	-0.6	8.345	0.160	1.23	79	2.13	67.8	48.5	64	103.7	84	0.112	0.335	22.04
54	227.4	-0.6	8.503	0.158	1.22	80	2.12	67.8	48.7	64	102.0	84	0.114	0.338	22.18
55	226.0	-1.4	8.660	0.157	1.23	80	2.23	67.9	48.8	64	101.2	84	0.110	0.332	22.09
56	225.0	-1.0	8.820	0.160	1.24	80	2.27	67.8	49	64	103.5	83	0.112	0.335	21.98
57	224.7	-0.3	8.979	0.159	1.21	80	2.16	67.9	49.3	65	102.4	84	0.115	0.339	22.22
58	224.3	-0.4	9.136	0.157	1.23	81	2.15	67.8	49.4	65	100.6	84	0.112	0.335	22.23
59	223.1	-1.1	9.296	0.160	1.21	81	2.12	67.9	49.6	64	102.6	84	0.113	0.336	22.12
60	223.0	-0.1	9.455	0.159	1.24	81	2.13	67.9	49.8	64	102.0	84	0.114	0.338	22.22
61	221.9	-1.1	9.612	0.157	1.23	82	2.19	67.9	50.1	64	100.2	84	0.115	0.339	22.32
62	221.0	-0.9	9.772	0.160	1.25	82	2.22	67.7	50.2	64	101.2	74	0.113	0.336	22.17
63	221.3	0.2	9.931	0.159	1.24	82	2.24	67.4	50.4	63	100.1	71	0.114	0.338	21.99
64	220.6	-0.7	10.091	0.160	1.23	83	2.12	67.2	50.5	63	101.0	70	0.111	0.333	21.85
65	220.3	-0.3	10.251	0.160	1.25	83	2.11	66.9	50.7	64	101.1	69	0.114	0.338	21.83
66	220.9	0.6	10.411	0.160	1.26	83	2.23	66.8	50.9	64	100.7	68	0.114	0.338	21.95
67	220.0	-0.9	10.571	0.160	1.25	83	2.11	66.6	51	63	100.7	71	0.112	0.335	21.88
68	220.0	0.0	10.731	0.160	1.24	83	2.20	66.5	51	64	100.4	69	0.119	0.345	22.13
69	220.0	0.0	10.892	0.161	1.24	83	2.12	66.3	51.1	63	99.9	68	0.115	0.339	22.24
70	220.0	-0.1	11.053	0.161	1.25	83	2.16	66.1	51.1	63	99.9	68	0.116	0.341	22.09
71	220.8	0.8	11.214	0.161	1.26	83	2.11	66	51.1	64	100.8	67	0.109	0.330	21.79
72	220.2	-0.6	11.373	0.159	1.24	84	2.12	65.9	51.2	64	99.8	67	0.119	0.345	21.92
73	220.1	0.0	11.535	0.162	1.24	84	2.22	65.8	51.1	64	100.8	67	0.114	0.338	22.17
74	220.5	0.4	11.696	0.161	1.25	84	2.12	65.7	51.2	64	100.0	68	0.115	0.339	21.98
75	220.8	0.3	11.857	0.161	1.24	85	2.10	65.7	51.3	64	100.6	68	0.113	0.336	21.94
76	220.1	-0.7	12.017	0.160	1.25	85	2.21	65.6	51.2	64	99.9	68	0.116	0.341	22.00
77	221.0	0.9	12.178	0.161	1.25	85	2.23	65.6	51.2	64	100.3	69	0.115	0.339	22.10
78	220.2	-0.9	12.340	0.162	1.25	85	2.22	65.6	51.2	64	100.8	69	0.115	0.339	22.06
79	220.8	0.7	12.500	0.160	1.25	85	2.11	65.5	51.3	64	100.0	69	0.112	0.335	21.92
80	220.2	-0.6	12.660	0.160	1.25	86	2.09	65.5	51.3	64	100.1	70	0.117	0.342	22.02
81	220.8	0.6	12.821	0.161	1.25	86	2.09	65.6	51.3	64	100.4	73	0.114	0.338	22.16
82	220.8	0.0	12.983	0.162	1.25	86	2.10	65.6	51.3	64	101.1	70	0.114	0.338	22.01
83	220.4	-0.4	13.144	0.161	1.24	86	2.24	65.5	51.4	65	101.1	69	0.109	0.330	21.74
84	220.4	0.0	13.304	0.160	1.24	86	2.18	65.4	51.4	64	101.2	69	0.112	0.335	21.63

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
85	220.8	0.4	13.464	0.160	1.26	86	2.10	65.4	51.4	64	100.9	68	0.113	0.336	21.81
86	220.8	0.0	13.626	0.162	1.24	86	2.17	65.4	51.4	64	101.4	68	0.115	0.339	21.95
87	220.8	-0.1	13.786	0.160	1.21	86	2.07	65.4	51.4	65	100.3	68	0.108	0.329	21.70
88	220.5	-0.2	13.945	0.159	1.23	86	2.11	65.3	51.4	65	100.5	67	0.112	0.335	21.55
89	220.5	-0.1	14.106	0.161	1.24	87	2.20	65.2	51.5	64	101.4	67	0.113	0.336	21.79
90	220.4	-0.1	14.267	0.161	1.23	87	2.19	65.2	51.5	64	100.7	67	0.113	0.336	21.83
91	220.9	0.6	14.427	0.160	1.24	87	2.14	65.1	51.5	65	99.8	67	0.115	0.339	21.92
92	221.4	0.5	14.586	0.159	1.24	87	2.20	65.1	51.4	64	99.1	67	0.111	0.333	21.82
93	220.5	-0.9	14.747	0.161	1.25	88	2.07	65.1	51.4	64	100.5	67	0.115	0.339	21.82
94	221.2	0.7	14.908	0.161	1.24	87	2.21	65	51.5	65	100.2	66	0.113	0.336	21.92
95	220.6	-0.7	15.068	0.160	1.24	87	2.21	65	51.5	64	99.0	66	0.119	0.345	22.10
96	220.9	0.3	15.228	0.160	1.24	88	2.10	64.9	51.5	64	98.5	66	0.113	0.336	22.10
97	221.2	0.3	15.389	0.161	1.27	88	2.12	64.9	51.5	65	99.4	66	0.116	0.341	21.96
98	221.4	0.1	15.550	0.161	1.24	88	2.21	64.8	51.5	64	99.8	66	0.112	0.335	21.91
99	221.2	-0.2	15.710	0.160	1.23	88	2.19	64.8	51.4	64	99.7	66	0.112	0.335	21.71
100	221.3	0.1	15.869	0.159	1.25	88	2.14	64.7	51.4	64	99.3	66	0.113	0.336	21.76
101	220.5	-0.8	16.031	0.162	1.25	88	2.08	64.8	51.5	65	100.9	68	0.115	0.339	21.92
102	221.4	0.9	16.193	0.162	1.25	88	2.22	64.9	51.5	64	100.8	69	0.112	0.335	21.90
103	220.6	-0.8	16.353	0.160	1.24	88	2.14	64.8	51.5	64	99.5	67	0.115	0.339	21.89
104	220.7	0.1	16.514	0.161	1.24	89	2.21	64.7	51.5	64	99.6	66	0.115	0.339	22.01
105	221.1	0.3	16.675	0.161	1.24	89	2.19	64.6	51.6	64	99.2	66	0.116	0.341	22.05
106	221.1	0.0	16.837	0.162	1.25	88	2.12	64.6	51.5	64	100.2	67	0.111	0.333	21.87
107	220.9	-0.2	16.998	0.161	1.22	89	2.21	64.6	51.5	64	100.4	67	0.113	0.336	21.73
108	220.7	-0.2	17.159	0.161	1.25	89	2.09	64.6	51.4	65	99.8	68	0.119	0.345	22.13
109	221.1	0.4	17.319	0.160	1.25	90	2.09	64.6	51.4	64	98.3	68	0.113	0.336	22.14
110	221.5	0.5	17.482	0.163	1.25	90	2.10	64.6	51.4	64	100.9	68	0.112	0.335	21.81
111	220.3	-1.2	17.643	0.161	1.23	89	2.21	64.9	51.5	64	101.1	77	0.113	0.336	21.89
112	220.7	0.4	17.803	0.160	1.24	89	2.10	65	51.7	65	100.9	79	0.113	0.336	22.05
113	219.8	-0.9	17.963	0.160	1.25	90	2.18	65.3	51.7	64	100.4	82	0.117	0.342	22.30
114	219.6	-0.2	18.125	0.162	1.25	89	2.15	65.6	51.9	65	101.3	84	0.115	0.339	22.45
115	218.2	-1.4	18.286	0.161	1.24	90	2.15	65.8	52	64	101.0	86	0.113	0.336	22.29
116	217.6	-0.6	18.446	0.160	1.25	90	2.18	66	52.2	65	100.7	85	0.115	0.339	22.30
117	217.2	-0.4	18.606	0.160	1.24	90	2.09	66.1	52.3	65	100.6	85	0.113	0.336	22.29
118	216.7	-0.5	18.768	0.162	1.25	90	2.21	66.2	52.4	64	102.4	85	0.111	0.333	22.10
119	215.8	-0.9	18.928	0.160	1.25	90	2.22	66.4	52.5	65	101.6	86	0.113	0.336	22.11
120	215.1	-0.7	19.088	0.160	1.22	90	2.10	66.5	52.6	65	101.7	86	0.110	0.332	22.07
121	213.6	-1.6	19.248	0.160	1.24	90	2.09	66.7	52.7	65	102.1	86	0.111	0.333	21.97
122	213.1	-0.4	19.410	0.162	1.26	90	2.21	66.8	52.7	65	103.2	87	0.114	0.338	22.18
123	212.8	-0.3	19.570	0.160	1.24	91	2.21	67	52.9	65	101.2	88	0.114	0.338	22.35
124	211.1	-1.8	19.730	0.160	1.23	91	2.19	67.2	53	65	101.6	89	0.108	0.329	22.08
125	210.4	-0.7	19.889	0.159	1.24	91	2.18	67.4	53.1	65	101.4	89	0.116	0.341	22.18
126	209.5	-0.9	20.051	0.162	1.23	90	2.16	67.5	53.2	65	103.1	90	0.108	0.329	22.19
127	208.4	-1.1	20.211	0.160	1.24	90	2.20	67.7	53.3	65	103.1	91	0.107	0.327	21.76
128	207.1	-1.3	20.370	0.159	1.24	90	2.08	67.8	53.3	65	103.1	92	0.112	0.335	21.98

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
129	206.3	-0.8	20.530	0.160	1.25	90	2.23	67.9	53.5	65	102.8	90	0.110	0.332	22.13
130	205.4	-0.9	20.691	0.161	1.24	91	2.09	68.1	53.6	65	103.0	90	0.111	0.333	22.05
131	204.6	-0.9	20.851	0.160	1.22	91	2.23	68.3	53.7	65	102.9	91	0.107	0.327	21.90
132	203.5	-1.1	21.010	0.159	1.23	91	2.24	68.5	53.8	65	103.2	92	0.107	0.327	21.72
133	202.8	-0.7	21.171	0.161	1.23	91	2.09	68.6	53.8	65	104.0	92	0.115	0.339	22.14
134	202.1	-0.7	21.331	0.160	1.23	91	2.23	68.6	54	65	101.6	90	0.114	0.338	22.47
135	201.5	-0.6	21.490	0.159	1.23	91	2.09	68.8	54	65	100.7	93	0.111	0.333	22.28
136	200.4	-1.1	21.649	0.159	1.21	91	2.09	68.9	54.1	65	100.8	92	0.118	0.344	22.50
137	199.2	-1.2	21.810	0.161	1.24	91	2.11	69	54.2	65	101.2	91	0.112	0.335	22.52
138	198.4	-0.8	21.969	0.159	1.23	91	2.11	69	54.3	65	100.2	93	0.116	0.341	22.44
139	197.0	-1.4	22.128	0.159	1.22	92	2.21	69.1	54.3	65	100.5	93	0.113	0.336	22.51
140	196.5	-0.5	22.289	0.161	1.24	92	2.07	69.2	54.4	65	102.0	93	0.111	0.333	22.26
141	195.1	-1.4	22.448	0.159	1.23	91	2.08	69.1	54.5	65	101.2	92	0.114	0.338	22.30
142	194.4	-0.6	22.607	0.159	1.22	92	2.20	69.2	54.6	64	101.3	91	0.108	0.329	22.13
143	193.4	-1.1	22.766	0.159	1.22	92	2.24	69.2	54.5	64	102.1	91	0.109	0.330	21.87
144	192.8	-0.6	22.927	0.161	1.23	91	2.26	69.1	54.7	65	102.8	91	0.119	0.345	22.43
145	191.1	-1.7	23.086	0.159	1.23	92	2.19	69.2	54.8	65	99.8	90	0.113	0.336	22.61
146	190.9	-0.2	23.244	0.158	1.23	92	2.10	69.2	54.7	64	99.0	90	0.116	0.341	22.45
147	189.4	-1.5	23.405	0.161	1.24	92	2.16	69.2	54.9	64	101.5	91	0.110	0.332	22.30
148	189.0	-0.4	23.564	0.159	1.22	92	2.16	69.2	54.9	64	100.7	88	0.114	0.338	22.19
149	188.3	-0.7	23.723	0.159	1.22	92	2.11	69.1	54.9	64	100.1	90	0.118	0.344	22.58
150	186.5	-1.7	23.883	0.160	1.25	92	2.15	69.2	54.9	64	100.4	90	0.110	0.332	22.40
151	185.6	-1.0	24.043	0.160	1.23	92	2.21	69.1	55	64	101.1	87	0.113	0.336	22.13
152	185.2	-0.4	24.201	0.158	1.22	93	2.24	69.1	55.1	64	99.8	90	0.115	0.339	22.37
153	184.2	-1.0	24.361	0.160	1.23	93	2.16	69.2	55.1	64	100.8	88	0.110	0.332	22.22
154	183.0	-1.2	24.521	0.160	1.23	92	2.15	68.5	55.1	64	100.6	75	0.111	0.333	21.88
155	182.9	-0.2	24.681	0.160	1.23	92	2.08	68.3	55.1	64	100.4	73	0.111	0.333	21.78
156	182.4	-0.5	24.840	0.159	1.24	92	2.20	68	55.1	65	99.6	71	0.112	0.335	21.79
157	182.3	-0.1	25.001	0.161	1.24	92	2.09	67.7	55.2	64	100.4	70	0.113	0.336	21.86
158	182.2	-0.1	25.162	0.161	1.24	93	2.13	67.5	55.1	64	100.3	69	0.110	0.332	21.74
159	182.7	0.6	25.322	0.160	1.24	92	2.12	67.4	55.2	64	99.7	69	0.114	0.338	21.77
160	183.1	0.4	25.481	0.159	1.24	93	2.08	67.2	55.3	64	98.7	69	0.112	0.335	21.86
161	182.4	-0.7	25.644	0.163	1.24	92	2.23	67.1	55.2	64	101.2	68	0.111	0.333	21.71
162	183.0	0.6	25.805	0.161	1.24	92	2.07	66.9	55.2	64	99.7	68	0.118	0.344	21.99
163	182.7	-0.3	25.966	0.161	1.24	92	2.13	66.7	55.2	64	98.4	67	0.116	0.341	22.22
164	182.9	0.2	26.126	0.160	1.25	92	2.07	66.6	55.2	64	97.5	67	0.115	0.339	22.06
165	182.2	-0.7	26.288	0.162	1.25	93	2.19	66.4	55.2	64	99.3	67	0.114	0.338	21.97
166	182.5	0.3	26.450	0.162	1.26	92	2.07	66.2	55.2	64	99.9	67	0.111	0.333	21.77
167	182.6	0.1	26.611	0.161	1.24	93	2.05	66.1	55	64	100.0	66	0.112	0.335	21.67
168	182.3	-0.3	26.772	0.161	1.23	92	2.19	66	54.9	64	100.4	66	0.109	0.330	21.57
169	182.9	0.6	26.932	0.160	1.25	92	2.06	65.9	54.8	64	99.2	66	0.119	0.345	21.91
170	183.1	0.2	27.095	0.163	1.24	93	2.11	65.7	54.7	64	99.8	66	0.113	0.336	22.10
171	182.7	-0.4	27.256	0.161	1.24	93	2.06	65.7	54.5	64	98.8	70	0.115	0.339	21.95
172	182.5	-0.3	27.417	0.161	1.24	93	2.15	65.6	54.4	64	98.9	68	0.117	0.342	22.16

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
173	182.9	0.4	27.578	0.161	1.24	93	2.11	65.5	54.4	64	98.4	67	0.113	0.336	22.04
174	182.9	0.0	27.739	0.161	1.27	93	2.06	65.3	54.3	63	98.8	67	0.115	0.339	21.93
175	182.4	-0.5	27.901	0.162	1.23	93	2.03	65.2	54.2	64	99.6	67	0.114	0.338	21.98
176	182.4	0.0	28.061	0.160	1.21	93	2.20	65.1	54.1	64	98.1	68	0.117	0.342	22.08
177	182.3	-0.1	28.220	0.159	1.22	92	2.19	65.2	54.1	64	97.6	68	0.112	0.335	22.00
178	183.2	0.9	28.381	0.161	1.25	93	2.05	65.1	54	64	99.5	69	0.113	0.336	21.81
179	183.2	0.1	28.542	0.161	1.23	93	2.05	65	54	64	99.5	69	0.116	0.341	22.01
180	182.4	-0.9	28.702	0.160	1.23	93	2.03	65	53.9	64	98.3	69	0.114	0.338	22.07
181	183.3	0.9	28.861	0.159	1.23	93	2.06	65	53.8	64	97.4	70	0.118	0.344	22.17
182	182.5	-0.7	29.022	0.161	1.23	93	2.07	65	53.7	64	98.1	70	0.118	0.344	22.36
183	183.3	0.8	29.183	0.161	1.23	92	2.06	65	53.6	64	98.0	70	0.116	0.341	22.28
184	182.9	-0.4	29.342	0.159	1.22	92	2.11	65	53.6	64	97.0	70	0.118	0.344	22.28
185	182.5	-0.4	29.502	0.160	1.23	93	2.15	65	53.5	64	97.9	71	0.113	0.336	22.14
186	182.6	0.0	29.663	0.161	1.23	93	2.16	64.9	53.4	64	98.8	71	0.118	0.344	22.15
187	182.6	0.1	29.823	0.160	1.23	93	2.18	65	53.3	64	97.9	71	0.116	0.341	22.30
188	183.0	0.4	29.983	0.160	1.23	93	2.14	64.9	53.2	64	97.7	71	0.117	0.342	22.25
189	183.4	0.4	30.143	0.160	1.23	92	2.16	64.9	53.2	64	98.0	71	0.114	0.338	22.15
190	182.7	-0.7	30.304	0.161	1.23	93	2.18	64.9	53.1	64	98.9	71	0.117	0.342	22.15
191	183.6	0.9	30.464	0.160	1.21	93	2.11	64.9	53.1	64	98.2	71	0.115	0.339	22.21
192	182.7	-1.0	30.623	0.159	1.23	93	2.19	64.9	53	64	97.9	72	0.113	0.336	22.02
193	182.8	0.1	30.784	0.161	1.25	92	2.15	64.9	52.9	64	99.4	71	0.116	0.341	22.07
194	183.3	0.5	30.945	0.161	1.22	92	2.02	64.8	52.8	64	99.4	72	0.113	0.336	22.07
195	183.0	-0.2	31.105	0.160	1.24	93	2.20	64.9	52.7	63	98.6	72	0.117	0.342	22.12
196	183.0	0.0	31.264	0.159	1.23	93	2.13	64.9	52.6	64	97.7	72	0.114	0.338	22.17
197	183.0	0.0	31.425	0.161	1.25	92	2.02	64.9	52.6	64	99.4	72	0.112	0.335	21.93
198	183.6	0.6	31.585	0.160	1.24	93	2.06	64.9	52.6	64	99.6	72	0.112	0.335	21.84
199	183.3	-0.4	31.745	0.160	1.20	93	2.07	64.9	52.6	64	99.6	72	0.114	0.338	21.94
200	183.4	0.2	31.904	0.159	1.23	93	2.02	64.9	52.5	64	98.2	72	0.117	0.342	22.17
201	182.9	-0.5	32.066	0.162	1.23	92	2.18	64.9	52.4	64	99.8	72	0.112	0.335	22.08
202	183.6	0.8	32.226	0.160	1.23	93	2.21	64.9	52.3	64	99.3	72	0.112	0.335	21.84
203	183.5	-0.2	32.385	0.159	1.23	92	2.12	64.9	52.2	64	99.4	73	0.111	0.333	21.80
204	182.9	-0.5	32.545	0.160	1.23	93	2.03	65.3	52.3	64	100.5	80	0.113	0.336	21.92
205	182.3	-0.6	32.706	0.161	1.23	93	2.05	65.4	52.4	64	101.3	82	0.112	0.335	22.06
206	181.9	-0.4	32.865	0.159	1.22	93	2.03	65.6	52.6	64	100.0	85	0.114	0.338	22.17
207	181.7	-0.2	33.023	0.158	1.23	93	2.20	65.8	52.6	64	99.5	88	0.113	0.336	22.27
208	180.9	-0.7	33.184	0.161	1.23	93	2.17	66.1	52.7	64	101.8	90	0.111	0.333	22.17
209	179.8	-1.2	33.343	0.159	1.21	93	2.18	66.4	52.8	64	101.4	90	0.109	0.330	22.00
210	178.8	-0.9	33.502	0.159	1.21	93	2.09	66.5	52.9	65	101.7	88	0.110	0.332	21.93
211	178.4	-0.4	33.662	0.160	1.21	93	2.07	66.7	53	65	102.7	89	0.106	0.326	21.76
212	177.6	-0.7	33.821	0.159	1.22	93	2.18	66.8	53.1	65	101.8	87	0.115	0.339	22.01
213	177.1	-0.5	33.980	0.159	1.21	93	2.05	66.9	53.3	65	100.9	86	0.108	0.329	22.08
214	175.8	-1.3	34.139	0.159	1.16	93	2.06	67	53.3	64	101.3	86	0.110	0.332	21.83
215	175.5	-0.3	34.298	0.159	1.23	93	2.22	67.1	53.4	65	101.5	86	0.111	0.333	21.97
216	174.7	-0.9	34.457	0.159	1.23	93	2.21	67	53.4	65	100.5	82	0.113	0.336	22.07

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
217	173.4	-1.2	34.617	0.160	1.23	93	2.07	67.2	53.5	65	100.8	85	0.111	0.333	22.07
218	172.6	-0.8	34.777	0.160	1.24	93	2.20	67.2	53.6	65	101.2	82	0.110	0.332	21.92
219	172.1	-0.5	34.937	0.160	1.23	93	2.24	67.4	53.7	65	101.4	85	0.112	0.335	21.97
220	171.2	-0.9	35.095	0.158	1.22	93	2.18	67.3	53.7	65	99.4	84	0.117	0.342	22.33
221	170.5	-0.7	35.256	0.161	1.25	93	2.18	67.5	53.7	65	100.1	85	0.115	0.339	22.48
222	168.8	-1.7	35.415	0.159	1.24	93	2.21	67.6	53.8	65	99.2	85	0.112	0.335	22.25
223	167.7	-1.1	35.574	0.159	1.21	93	2.14	67.7	53.9	65	99.9	86	0.113	0.336	22.16
224	167.4	-0.2	35.733	0.159	1.23	93	2.23	67.8	54	65	99.7	86	0.116	0.341	22.36
225	165.7	-1.8	35.893	0.160	1.22	93	2.14	67.8	54.1	65	100.5	86	0.108	0.329	22.11
226	164.8	-0.9	36.051	0.158	1.22	93	2.22	67.9	54.1	65	100.3	86	0.112	0.335	21.92
227	164.0	-0.8	36.210	0.159	1.21	93	2.10	67.9	54.2	65	101.3	86	0.109	0.330	21.97
228	163.8	-0.2	36.370	0.160	1.23	93	2.16	67.9	54.2	65	101.9	86	0.111	0.333	21.92
229	162.0	-1.7	36.529	0.159	1.22	93	2.08	68.1	54.3	65	101.0	86	0.112	0.335	22.07
230	161.6	-0.4	36.687	0.158	1.22	93	2.23	68.1	54.4	65	99.9	85	0.112	0.335	22.11
231	160.5	-1.2	36.847	0.160	1.24	93	2.16	68.2	54.4	65	100.8	85	0.113	0.336	22.15
232	158.6	-1.8	37.006	0.159	1.20	93	2.08	68.2	54.5	65	100.1	85	0.112	0.335	22.15
233	158.3	-0.3	37.163	0.157	1.21	93	2.21	68.3	54.6	65	99.0	85	0.112	0.335	22.11
234	157.5	-0.8	37.323	0.160	1.21	93	2.08	68.3	54.6	65	100.6	85	0.115	0.339	22.25
235	155.9	-1.6	37.482	0.159	1.21	93	2.18	68.3	54.6	65	99.4	86	0.115	0.339	22.40
236	155.2	-0.7	37.642	0.160	1.23	93	2.09	68.4	54.7	65	99.6	86	0.117	0.342	22.51
237	154.1	-1.1	37.803	0.161	1.23	93	2.17	68.5	54.7	65	100.4	86	0.111	0.333	22.32
238	153.8	-0.3	37.962	0.159	1.23	94	2.22	68.5	54.8	65	100.3	86	0.110	0.332	21.98
239	152.8	-1.0	38.121	0.159	1.23	93	2.23	68.5	54.8	65	100.9	86	0.112	0.335	22.03
240	151.2	-1.6	38.280	0.159	1.22	93	2.09	68.5	54.9	65	100.0	86	0.118	0.344	22.42
241	149.7	-1.5	38.441	0.161	1.22	93	2.23	68.6	55	65	100.4	86	0.112	0.335	22.42
242	149.4	-0.2	38.600	0.159	1.22	93	2.18	68.6	55.1	65	99.2	86	0.117	0.342	22.37
243	148.4	-1.1	38.758	0.158	1.22	93	2.08	68.6	55.1	65	98.7	86	0.112	0.335	22.37
244	147.2	-1.2	38.919	0.161	1.22	93	2.27	68.6	55.2	65	101.0	86	0.113	0.336	22.17
245	146.1	-1.1	39.078	0.159	1.21	93	2.18	68.6	55.2	65	99.9	86	0.115	0.339	22.32
246	145.4	-0.7	39.237	0.159	1.23	93	2.10	68.6	55.3	65	99.1	86	0.117	0.342	22.51
247	144.9	-0.5	39.397	0.160	1.24	94	2.07	68.1	55.4	66	98.7	75	0.113	0.336	22.30
248	144.3	-0.6	39.557	0.160	1.22	93	2.10	67.7	55.4	65	98.2	72	0.117	0.342	22.16
249	143.7	-0.7	39.716	0.159	1.24	93	2.22	67.5	55.4	66	97.8	71	0.112	0.335	22.07
250	143.5	-0.1	39.876	0.160	1.24	94	2.08	67.3	55.5	66	98.7	70	0.114	0.338	21.90
251	143.4	-0.1	40.037	0.161	1.24	94	2.10	67.1	55.4	65	99.1	69	0.116	0.341	22.07
252	143.5	0.1	40.198	0.161	1.26	94	2.24	67.1	55.5	65	99.0	68	0.110	0.332	21.86
253	143.3	-0.2	40.358	0.160	1.23	93	2.11	66.9	55.6	65	99.3	68	0.112	0.335	21.66
254	143.7	0.4	40.518	0.160	1.24	94	2.16	66.9	55.6	65	99.7	68	0.110	0.332	21.66
255	143.5	-0.1	40.680	0.162	1.24	94	2.07	66.7	55.6	65	100.5	68	0.116	0.341	21.85
256	142.9	-0.6	40.841	0.161	1.25	93	2.14	66.6	55.7	65	98.9	67	0.115	0.339	22.08
257	143.6	0.7	41.002	0.161	1.26	94	2.07	66.5	55.6	65	98.6	67	0.113	0.336	21.92
258	143.2	-0.5	41.162	0.160	1.21	94	2.03	66.3	55.6	65	98.4	67	0.114	0.338	21.87
259	143.2	0.1	41.323	0.161	1.23	94	2.20	66.2	55.4	65	99.0	67	0.114	0.338	21.92
260	143.3	0.0	41.483	0.160	1.22	94	2.15	66.1	55.3	64	97.7	66	0.119	0.345	22.16

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
261	143.0	-0.2	41.643	0.160	1.23	94	2.14	66.1	55.3	65	97.4	66	0.112	0.335	22.06
262	143.6	0.6	41.802	0.159	1.25	94	2.15	66	55.2	64	97.4	66	0.115	0.339	21.86
263	143.5	-0.1	41.964	0.162	1.24	94	2.10	65.9	55.1	64	99.3	66	0.115	0.339	22.01
264	143.3	-0.2	42.124	0.160	1.22	94	2.09	65.8	54.9	64	98.4	66	0.109	0.330	21.71
265	143.7	0.5	42.283	0.159	1.23	94	2.08	65.7	54.9	63	98.7	66	0.113	0.336	21.62
266	143.2	-0.6	42.444	0.161	1.24	94	2.20	65.6	54.8	64	99.7	66	0.113	0.336	21.81
267	143.5	0.3	42.605	0.161	1.23	94	2.13	65.4	54.7	64	99.6	66	0.110	0.332	21.66
268	143.6	0.1	42.765	0.160	1.24	94	2.04	65.4	54.5	64	99.3	66	0.113	0.336	21.66
269	143.7	0.1	42.924	0.159	1.23	93	2.09	65.3	54.4	65	98.4	66	0.113	0.336	21.81
270	143.4	-0.3	43.085	0.161	1.25	93	2.18	65.2	54.3	64	99.4	66	0.112	0.335	21.76
271	143.3	-0.1	43.246	0.161	1.23	94	2.03	65.2	54.3	64	99.5	66	0.113	0.336	21.76
272	143.8	0.5	43.406	0.160	1.22	94	2.04	65.1	54.2	64	98.9	66	0.111	0.333	21.71
273	143.9	0.1	43.565	0.159	1.23	93	2.17	65	54	64	98.3	66	0.114	0.338	21.76
274	143.4	-0.5	43.727	0.162	1.25	94	2.19	64.9	54	64	100.1	66	0.111	0.333	21.76
275	143.4	0.1	43.887	0.160	1.24	94	2.11	64.9	53.9	64	99.0	66	0.113	0.336	21.71
276	143.9	0.5	44.046	0.159	1.25	93	2.19	64.9	53.9	64	98.1	66	0.114	0.338	21.85
277	144.1	0.2	44.206	0.160	1.23	93	2.09	64.8	53.8	64	98.4	66	0.114	0.338	21.90
278	143.7	-0.4	44.368	0.162	1.22	93	2.19	64.7	53.7	64	99.4	66	0.115	0.339	21.95
279	143.7	-0.1	44.528	0.160	1.24	94	2.09	64.6	53.6	64	98.6	66	0.109	0.330	21.70
280	143.7	0.0	44.687	0.159	1.22	94	2.08	64.6	53.5	64	99.3	66	0.107	0.327	21.31
281	144.2	0.5	44.847	0.160	1.24	94	2.05	64.6	53.5	65	100.4	66	0.113	0.336	21.51
282	144.0	-0.2	45.009	0.162	1.24	94	2.19	64.5	53.5	64	101.1	66	0.108	0.329	21.56
283	143.8	-0.2	45.169	0.160	1.24	94	2.07	64.5	53.4	64	100.2	66	0.109	0.330	21.36
284	144.0	0.2	45.329	0.160	1.24	94	2.15	64.4	53.3	64	100.4	66	0.110	0.332	21.46
285	143.7	-0.3	45.489	0.160	1.23	94	2.16	64.4	53.3	64	99.9	65	0.111	0.333	21.56
286	144.3	0.6	45.650	0.161	1.23	94	2.20	64.4	53.2	65	100.0	65	0.112	0.335	21.65
287	143.5	-0.8	45.811	0.161	1.25	94	2.04	64.3	53.2	64	100.0	65	0.110	0.332	21.60
288	143.6	0.1	45.970	0.159	1.24	94	2.09	64.3	53.1	64	98.4	65	0.116	0.341	21.80
289	143.9	0.3	46.131	0.161	1.24	93	2.14	64.3	53.1	64	98.9	65	0.113	0.336	21.94
290	143.7	-0.1	46.292	0.161	1.23	94	2.08	64.2	53	64	99.2	65	0.110	0.332	21.65
291	143.9	0.2	46.452	0.160	1.24	94	2.13	64.2	53	64	99.2	65	0.113	0.336	21.65
292	144.3	0.3	46.612	0.160	1.23	93	2.06	64.2	52.9	64	99.3	65	0.110	0.332	21.65
293	144.0	-0.2	46.773	0.161	1.23	94	2.19	64.2	52.9	64	100.0	66	0.112	0.335	21.60
294	143.8	-0.3	46.934	0.161	1.23	94	2.04	64.1	52.8	64	99.9	65	0.111	0.333	21.65
295	144.2	0.5	47.094	0.160	1.24	93	2.06	64.2	52.8	64	99.7	68	0.110	0.332	21.58
296	143.3	-0.9	47.252	0.158	1.22	94	2.06	64.5	52.9	64	98.9	74	0.114	0.338	21.81
297	143.5	0.2	47.414	0.162	1.22	94	2.05	64.5	53	64	101.1	77	0.113	0.336	22.05
298	141.9	-1.5	47.573	0.159	1.23	94	2.16	64.8	53.1	64	99.5	79	0.110	0.332	21.91
299	141.9	-0.1	47.732	0.159	1.24	94	2.07	65	53.2	64	99.7	81	0.116	0.341	22.10
300	140.8	-1.1	47.892	0.160	1.23	93	2.11	65.2	53.3	64	100.2	83	0.110	0.332	22.14
301	139.3	-1.6	48.053	0.161	1.24	94	2.19	65.4	53.5	64	101.2	82	0.113	0.336	22.00
302	138.9	-0.3	48.212	0.159	1.22	94	2.08	65.5	53.5	64	99.4	82	0.117	0.342	22.34
303	138.2	-0.7	48.370	0.158	1.24	94	2.08	65.6	53.7	64	98.5	82	0.108	0.329	22.09
304	137.6	-0.6	48.531	0.161	1.23	93	2.10	65.7	53.8	64	101.4	82	0.113	0.336	21.89

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
305	136.5	-1.1	48.691	0.160	1.23	94	2.20	65.8	53.9	64	100.9	81	0.111	0.333	22.03
306	135.5	-1.1	48.849	0.158	1.23	94	2.20	65.9	53.9	64	99.5	82	0.111	0.333	21.93
307	134.1	-1.4	49.010	0.161	1.22	94	2.10	65.9	53.9	64	101.7	82	0.111	0.333	21.94
308	133.1	-1.1	49.169	0.159	1.23	94	2.09	66	54	64	100.0	86	0.117	0.342	22.27
309	132.6	-0.5	49.327	0.158	1.22	94	2.06	66.1	54.1	64	99.2	83	0.107	0.327	22.09
310	132.1	-0.4	49.487	0.160	1.22	94	2.07	66.1	54.1	64	101.1	83	0.113	0.336	21.86
311	131.1	-1.0	49.647	0.160	1.23	93	2.20	66.1	54.1	64	100.9	82	0.113	0.336	22.15
312	129.7	-1.5	49.806	0.159	1.22	93	2.09	66.3	54.2	64	99.9	84	0.111	0.333	22.06
313	129.3	-0.4	49.964	0.158	1.23	93	2.12	66.4	54.2	64	100.1	84	0.109	0.330	21.88
314	128.1	-1.2	50.125	0.161	1.22	93	2.16	66.4	54.2	64	102.2	84	0.113	0.336	21.98
315	127.2	-0.8	50.284	0.159	1.22	94	2.21	66.5	54.3	64	100.4	84	0.111	0.333	22.08
316	126.6	-0.7	50.442	0.158	1.21	93	2.08	66.6	54.4	64	99.9	85	0.111	0.333	22.00
317	125.3	-1.3	50.602	0.160	1.22	94	2.11	66.8	54.5	66	101.3	88	0.114	0.338	22.19
318	125.2	-0.1	50.761	0.159	1.22	93	2.18	66.9	54.5	65	100.4	86	0.110	0.332	22.15
319	123.7	-1.5	50.919	0.158	1.22	94	2.10	67	54.6	65	99.8	86	0.113	0.336	22.08
320	123.0	-0.7	51.079	0.160	1.22	94	2.10	67.1	54.6	64	101.4	86	0.108	0.329	21.97
321	121.8	-1.1	51.238	0.159	1.22	93	2.20	67.2	54.7	65	100.9	86	0.114	0.338	22.02
322	121.3	-0.6	51.396	0.158	1.21	93	2.09	67.3	54.7	64	99.8	86	0.112	0.335	22.22
323	120.2	-1.0	51.556	0.160	1.23	93	2.21	67.3	54.7	64	101.0	86	0.110	0.332	22.02
324	119.0	-1.2	51.715	0.159	1.21	93	2.14	67.4	54.8	65	100.5	86	0.115	0.339	22.17
325	118.7	-0.3	51.873	0.158	1.21	94	2.11	67.4	54.8	65	99.1	85	0.113	0.336	22.31
326	116.8	-1.9	52.032	0.159	1.22	94	2.15	67.5	54.9	65	100.1	85	0.108	0.329	21.96
327	116.5	-0.3	52.191	0.159	1.21	94	2.15	67.5	54.9	65	100.9	85	0.113	0.336	21.96
328	115.9	-0.6	52.349	0.158	1.24	93	2.21	67.5	54.9	65	99.6	85	0.114	0.338	22.26
329	114.2	-1.7	52.508	0.159	1.22	94	2.10	67.6	55	65	99.8	85	0.111	0.333	22.15
330	114.0	-0.2	52.668	0.160	1.22	93	2.10	67.6	55.1	65	101.1	85	0.110	0.332	21.96
331	112.5	-1.5	52.825	0.157	1.21	94	2.11	67.7	55.1	65	99.8	85	0.110	0.332	21.91
332	112.5	0.0	52.984	0.159	1.21	94	2.19	67.7	55.1	65	100.6	86	0.115	0.339	22.16
333	110.9	-1.6	53.144	0.160	1.23	94	2.09	67.8	55.2	65	100.3	85	0.113	0.336	22.31
334	110.5	-0.5	53.302	0.158	1.21	93	2.09	67.7	55.3	65	99.1	84	0.111	0.333	22.09
335	110.0	-0.5	53.460	0.158	1.22	94	2.14	67.8	55.3	65	100.2	85	0.107	0.327	21.79
336	108.5	-1.5	53.620	0.160	1.22	94	2.22	67.8	55.4	65	102.3	84	0.110	0.332	21.74
337	107.4	-1.0	53.777	0.157	1.20	94	2.15	67.8	55.3	65	99.5	85	0.115	0.339	22.14
338	106.7	-0.7	53.936	0.159	1.21	94	2.11	67.9	55.4	65	99.6	85	0.114	0.338	22.35
339	106.4	-0.3	54.096	0.160	1.21	94	2.21	67.6	55.4	65	99.6	76	0.111	0.333	22.07
340	106.0	-0.4	54.254	0.158	1.22	94	2.15	67.4	55.5	65	98.2	72	0.113	0.336	21.88
341	105.3	-0.7	54.413	0.159	1.23	94	2.07	67.2	55.5	66	99.0	71	0.109	0.330	21.73
342	104.5	-0.7	54.573	0.160	1.22	94	2.20	67	55.6	66	99.8	70	0.113	0.336	21.70
343	104.6	0.0	54.732	0.159	1.22	94	2.18	66.8	55.5	65	98.9	69	0.111	0.333	21.78
344	104.4	-0.2	54.890	0.158	1.21	94	2.07	66.7	55.6	65	98.1	68	0.112	0.335	21.72
345	104.9	0.5	55.052	0.162	1.23	94	2.17	66.6	55.6	65	100.7	68	0.111	0.333	21.71
346	104.9	-0.1	55.211	0.159	1.22	94	2.10	66.4	55.6	65	99.0	68	0.110	0.332	21.60
347	104.6	-0.2	55.371	0.160	1.22	93	2.05	66.3	55.5	65	99.8	68	0.112	0.335	21.65
348	104.3	-0.4	55.531	0.160	1.21	94	2.06	66.2	55.5	65	99.2	67	0.113	0.336	21.78

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
349	104.0	-0.2	55.692	0.161	1.23	94	2.17	66	55.3	65	99.4	67	0.112	0.335	21.77
350	104.0	0.0	55.852	0.160	1.22	94	2.12	65.9	55.2	65	99.2	66	0.110	0.332	21.62
351	104.0	-0.1	56.011	0.159	1.22	94	2.19	65.8	55	65	98.1	66	0.119	0.345	21.96
352	104.4	0.5	56.172	0.161	1.24	94	2.17	65.7	54.8	65	98.2	66	0.113	0.336	22.10
353	104.6	0.1	56.333	0.161	1.22	94	2.14	65.6	54.7	65	98.4	66	0.114	0.338	21.86
354	104.4	-0.1	56.493	0.160	1.24	94	2.16	65.6	54.7	64	98.7	68	0.111	0.333	21.78
355	104.0	-0.4	56.652	0.159	1.24	94	2.09	65.6	54.5	65	99.3	70	0.107	0.327	21.48
356	104.0	0.0	56.813	0.161	1.22	94	2.17	65.6	54.4	64	101.1	67	0.112	0.335	21.52
357	104.8	0.8	56.973	0.160	1.23	94	2.07	65.4	54.3	64	99.2	67	0.116	0.341	21.93
358	104.5	-0.3	57.133	0.160	1.25	94	2.12	65.3	54.3	64	98.0	67	0.114	0.338	22.01
359	104.0	-0.6	57.292	0.159	1.24	94	2.08	65.2	54.2	64	97.6	66	0.112	0.335	21.82
360	104.8	0.9	57.454	0.162	1.24	93	2.12	65.1	54	64	100.4	67	0.110	0.332	21.63
361	104.3	-0.6	57.614	0.160	1.24	94	2.12	65.1	54	64	100.0	67	0.109	0.330	21.49
362	104.1	-0.1	57.774	0.160	1.21	94	2.08	65.1	53.9	64	99.7	68	0.115	0.339	21.74
363	104.9	0.8	57.934	0.160	1.23	94	2.17	65.1	53.9	65	99.1	71	0.112	0.335	21.93
364	104.2	-0.7	58.095	0.161	1.23	94	2.08	65.2	53.8	64	99.5	68	0.113	0.336	21.84
365	104.7	0.5	58.255	0.160	1.24	94	2.07	65.1	53.7	64	99.1	68	0.110	0.332	21.71
366	104.7	0.0	58.414	0.159	1.23	94	2.18	65	53.7	64	99.4	68	0.107	0.327	21.41
367	104.2	-0.5	58.575	0.161	1.24	94	2.16	65	53.6	65	101.4	67	0.110	0.332	21.40
368	104.9	0.7	58.736	0.161	1.23	94	2.09	65	53.6	64	100.8	67	0.112	0.335	21.64
369	104.1	-0.8	58.896	0.160	1.23	94	2.17	64.9	53.6	64	99.2	67	0.114	0.338	21.83
370	105.2	1.0	59.055	0.159	1.23	94	2.18	64.9	53.5	65	98.3	67	0.110	0.332	21.73
371	104.6	-0.5	59.217	0.162	1.25	94	2.12	64.9	53.5	65	100.9	67	0.109	0.330	21.48
372	104.5	-0.1	59.377	0.160	1.24	94	2.19	64.9	53.4	65	100.1	67	0.111	0.333	21.53
373	105.2	0.7	59.536	0.159	1.24	94	2.08	64.8	53.4	65	99.4	66	0.109	0.330	21.53
374	104.5	-0.7	59.695	0.159	1.22	94	2.08	64.8	53.3	65	99.3	66	0.112	0.335	21.57
375	104.4	-0.2	59.857	0.162	1.20	94	2.05	64.8	53.3	65	100.5	66	0.113	0.336	21.77
376	105.3	0.9	60.017	0.160	1.23	94	2.11	64.7	53.3	65	98.6	66	0.114	0.338	21.86
377	104.6	-0.7	60.176	0.159	1.21	94	2.08	64.7	53.2	65	98.2	66	0.109	0.330	21.67
378	104.6	0.0	60.337	0.161	1.23	94	2.06	64.7	53.1	65	99.5	66	0.117	0.342	21.81
379	105.0	0.4	60.498	0.161	1.22	94	2.05	64.7	53.1	65	98.9	66	0.112	0.335	21.95
380	104.3	-0.7	60.658	0.160	1.23	94	2.18	64.6	53	64	98.2	66	0.115	0.339	21.86
381	105.4	1.1	60.817	0.159	1.24	94	2.06	64.6	53	64	97.7	66	0.112	0.335	21.85
382	104.5	-0.9	60.978	0.161	1.23	94	2.07	64.6	53	64	99.4	66	0.111	0.333	21.66
383	105.2	0.7	61.139	0.161	1.23	94	2.18	64.5	53	65	99.6	66	0.114	0.338	21.75
384	104.7	-0.4	61.299	0.160	1.23	94	2.07	64.5	52.9	64	98.5	66	0.114	0.338	21.90
385	104.9	0.1	61.458	0.159	1.23	94	2.06	64.5	52.9	64	97.6	66	0.113	0.336	21.85
386	105.2	0.4	61.620	0.162	1.23	94	2.19	64.4	52.8	65	99.9	65	0.111	0.333	21.70
387	104.6	-0.6	61.780	0.160	1.24	94	2.05	64.4	52.8	64	99.0	65	0.113	0.336	21.70
388	104.8	0.2	61.939	0.159	1.23	94	2.18	64.4	52.7	64	98.2	65	0.112	0.335	21.75
389	105.2	0.4	62.099	0.160	1.23	94	2.14	64.6	52.6	64	99.5	71	0.109	0.330	21.61
390	103.9	-1.3	62.260	0.161	1.23	94	2.08	64.7	52.8	65	100.8	75	0.115	0.339	21.85
391	104.3	0.4	62.419	0.159	1.22	94	2.20	64.8	52.9	64	99.5	78	0.109	0.330	21.92
392	103.4	-0.9	62.578	0.159	1.22	94	2.06	65.1	53	64	100.0	80	0.113	0.336	21.89

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
393	102.4	-1.0	62.739	0.161	1.23	93	2.19	65.2	53.1	64	101.1	82	0.114	0.338	22.17
394	101.6	-0.8	62.899	0.160	1.23	94	2.09	65.5	53.2	64	99.9	83	0.114	0.338	22.25
395	101.0	-0.5	63.058	0.159	1.21	94	2.18	65.7	53.4	64	99.4	84	0.112	0.335	22.17
396	100.3	-0.7	63.217	0.159	1.22	94	2.19	65.7	53.5	64	100.0	81	0.109	0.330	21.90
397	99.0	-1.3	63.377	0.160	1.22	93	2.20	65.8	53.5	64	101.2	81	0.111	0.333	21.82
398	98.3	-0.7	63.536	0.159	1.21	94	2.16	65.8	53.5	64	100.1	81	0.114	0.338	22.06
399	97.5	-0.8	63.695	0.159	1.22	94	2.09	65.9	53.5	64	99.3	81	0.113	0.336	22.16
400	96.6	-0.9	63.856	0.161	1.22	94	2.19	66	53.6	64	101.1	81	0.108	0.329	21.87
401	96.4	-0.2	64.015	0.159	1.22	94	2.07	66	53.7	64	100.2	81	0.115	0.339	21.97
402	95.0	-1.4	64.174	0.159	1.24	94	2.16	66.1	53.8	64	100.1	82	0.107	0.327	21.93
403	93.8	-1.2	64.333	0.159	1.24	94	2.05	66.1	53.8	64	100.6	80	0.111	0.333	21.72
404	93.2	-0.6	64.493	0.160	1.23	94	2.09	66	53.8	64	100.6	80	0.117	0.342	22.20
405	93.1	-0.1	64.652	0.159	1.23	94	2.06	66.2	53.9	64	99.2	82	0.109	0.330	22.12
406	91.5	-1.6	64.811	0.159	1.21	94	2.20	66.2	54	64	99.8	80	0.113	0.336	21.92
407	91.4	-0.1	64.971	0.160	1.22	93	2.07	66.2	54	64	100.3	79	0.113	0.336	22.08
408	90.5	-0.9	65.130	0.159	1.23	94	2.21	66.4	54.1	65	99.1	81	0.115	0.339	22.20
409	89.3	-1.3	65.288	0.158	1.22	94	2.12	66.6	54.1	64	98.9	86	0.111	0.333	22.17
410	88.8	-0.5	65.449	0.161	1.22	94	2.08	66.5	54.2	64	101.0	82	0.114	0.338	22.13
411	87.7	-1.1	65.608	0.159	1.23	94	2.09	66.6	54.3	64	99.5	81	0.111	0.333	22.08
412	87.5	-0.2	65.767	0.159	1.23	94	2.09	66.6	54.3	64	100.1	82	0.109	0.330	21.83
413	86.1	-1.4	65.927	0.160	1.22	94	2.20	66.6	54.3	63	101.2	82	0.113	0.336	21.94
414	85.2	-0.9	66.086	0.159	1.23	93	2.06	66.7	54.3	64	100.4	83	0.110	0.332	22.01
415	85.3	0.0	66.245	0.159	1.23	93	2.17	66.7	54.4	64	100.5	82	0.111	0.333	21.91
416	83.6	-1.7	66.404	0.159	1.22	94	2.19	66.8	54.4	64	100.1	83	0.115	0.339	22.15
417	83.6	0.0	66.564	0.160	1.22	94	2.20	66.8	54.5	64	100.4	84	0.110	0.332	22.11
418	82.0	-1.6	66.723	0.159	1.21	94	2.15	67	54.5	65	100.7	87	0.109	0.330	21.85
419	81.7	-0.3	66.881	0.158	1.23	94	2.17	67.1	54.6	64	100.2	84	0.115	0.339	22.11
420	81.4	-0.3	67.042	0.161	1.22	94	2.17	67.1	54.6	65	101.0	84	0.112	0.335	22.23
421	80.2	-1.2	67.201	0.159	1.22	94	2.08	67.2	54.6	64	99.7	84	0.112	0.335	22.08
422	79.3	-0.9	67.359	0.158	1.23	94	2.07	67.3	54.7	65	98.9	84	0.117	0.342	22.32
423	78.2	-1.1	67.519	0.160	1.22	93	2.08	67.3	54.7	65	100.0	84	0.109	0.330	22.17
424	77.4	-0.8	67.678	0.159	1.23	94	2.07	67.3	54.8	64	100.4	83	0.110	0.332	21.82
425	76.9	-0.6	67.837	0.159	1.21	94	2.11	67.3	54.8	65	101.0	82	0.110	0.332	21.85
426	76.4	-0.5	67.997	0.160	1.22	94	2.21	67.3	54.9	64	101.2	82	0.112	0.335	21.94
427	76.3	-0.1	68.157	0.160	1.24	94	2.16	67.3	54.9	64	101.1	81	0.108	0.329	21.83
428	74.6	-1.7	68.315	0.158	1.22	93	2.18	67.3	54.9	64	100.2	81	0.111	0.333	21.77
429	74.3	-0.2	68.474	0.159	1.23	94	2.23	67.4	54.9	65	100.5	82	0.113	0.336	22.03
430	73.7	-0.6	68.634	0.160	1.23	94	2.15	67.4	55	65	101.0	83	0.107	0.327	21.85
431	72.8	-1.0	68.793	0.159	1.21	94	2.06	67.4	55	65	100.8	82	0.113	0.336	21.85
432	71.9	-0.9	68.951	0.158	1.23	94	2.21	67.5	55.1	65	100.1	83	0.109	0.330	21.95
433	71.0	-0.8	69.112	0.161	1.20	93	2.05	67.5	55.1	65	102.5	82	0.107	0.327	21.66
434	70.1	-0.9	69.271	0.159	1.20	93	2.20	67.6	55.1	65	101.7	84	0.111	0.333	21.77
435	69.6	-0.5	69.429	0.158	1.21	93	2.20	67.6	55.1	65	100.4	84	0.112	0.335	22.04
436	69.4	-0.2	69.589	0.160	1.22	94	2.06	67.4	55.2	65	100.9	77	0.107	0.327	21.76

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
437	68.4	-1.0	69.749	0.160	1.23	94	2.20	67.2	55.2	66	100.8	72	0.111	0.333	21.59
438	67.9	-0.5	69.908	0.159	1.23	94	2.06	67	55.1	65	99.6	71	0.112	0.335	21.77
439	67.5	-0.4	70.068	0.160	1.23	94	2.05	66.8	55.1	66	99.4	70	0.112	0.335	21.80
440	67.9	0.4	70.228	0.160	1.22	94	2.16	66.6	54.9	65	99.3	69	0.112	0.335	21.78
441	67.4	-0.4	70.388	0.160	1.23	94	2.19	66.5	55	65	99.2	68	0.112	0.335	21.77
442	67.5	0.0	70.546	0.158	1.24	94	2.05	66.4	54.8	65	98.1	68	0.111	0.333	21.71
443	67.2	-0.3	70.708	0.162	1.25	95	2.16	66.3	54.8	65	100.8	68	0.110	0.332	21.60
444	66.2	-0.9	70.868	0.160	1.24	94	2.06	66.2	54.6	64	99.9	67	0.110	0.332	21.55
445	67.1	0.9	71.027	0.159	1.23	94	2.04	66	54.5	65	98.6	66	0.117	0.342	21.87
446	67.0	-0.2	71.187	0.160	1.22	94	2.05	65.9	54.4	65	97.9	66	0.114	0.338	22.05
447	66.8	-0.2	71.348	0.161	1.24	94	2.04	65.8	54.2	64	98.5	69	0.116	0.341	22.04
448	66.8	0.0	71.508	0.160	1.23	94	2.11	65.8	54.1	64	98.4	67	0.110	0.332	21.85
449	67.0	0.2	71.667	0.159	1.22	94	2.20	65.7	54.1	64	97.9	67	0.116	0.341	21.82
450	66.0	-0.9	71.828	0.161	1.22	94	2.20	65.6	54	64	99.2	66	0.110	0.332	21.82
451	66.8	0.8	71.988	0.160	1.25	94	2.05	65.5	53.9	64	98.9	67	0.114	0.338	21.72
452	66.4	-0.4	72.147	0.159	1.23	94	2.15	65.3	53.7	63	98.4	66	0.111	0.333	21.77
453	66.2	-0.1	72.307	0.160	1.23	93	2.19	65.2	53.7	64	99.2	67	0.112	0.335	21.68
454	66.7	0.5	72.468	0.161	1.25	93	2.16	65.2	53.7	64	100.0	67	0.112	0.335	21.73
455	67.1	0.4	72.628	0.160	1.25	94	2.18	65.2	53.6	64	99.3	69	0.112	0.335	21.76
456	67.0	-0.1	72.788	0.160	1.23	94	2.05	65.2	53.5	65	99.5	71	0.112	0.335	21.79
457	67.0	0.0	72.948	0.160	1.23	94	2.13	65.2	53.4	64	99.6	68	0.109	0.330	21.63
458	67.1	0.1	73.109	0.161	1.23	94	2.13	65.1	53.5	64	100.5	67	0.111	0.333	21.55
459	66.8	-0.3	73.269	0.160	1.23	94	2.05	65.1	53.4	64	99.8	67	0.111	0.333	21.64
460	66.3	-0.5	73.428	0.159	1.22	94	2.21	65	53.3	65	98.5	67	0.115	0.339	21.83
461	66.8	0.5	73.589	0.161	1.24	94	2.05	64.9	53.3	65	99.2	67	0.112	0.335	21.87
462	66.1	-0.6	73.750	0.161	1.24	93	2.20	64.9	53.2	65	99.4	66	0.113	0.336	21.77
463	66.8	0.7	73.909	0.159	1.22	94	2.05	64.9	53.3	65	98.8	66	0.108	0.329	21.57
464	67.0	0.2	74.068	0.159	1.23	94	2.05	64.8	53.2	64	99.1	66	0.113	0.336	21.57
465	67.0	0.0	74.230	0.162	1.23	94	2.04	64.7	53.2	64	99.9	66	0.118	0.344	22.05
466	67.0	0.0	74.390	0.160	1.23	94	2.20	64.7	53.1	64	97.3	66	0.115	0.339	22.14
467	66.9	0.0	74.550	0.160	1.23	93	2.19	64.6	53.1	64	98.2	66	0.108	0.329	21.66
468	66.5	-0.4	74.709	0.159	1.23	93	2.12	64.6	53	64	99.0	66	0.113	0.336	21.56
469	66.5	0.0	74.871	0.162	1.23	94	2.06	64.6	53	64	100.4	66	0.113	0.336	21.80
470	66.4	-0.1	75.031	0.160	1.24	94	2.08	64.6	53.1	64	98.7	66	0.112	0.335	21.75
471	66.9	0.5	75.190	0.159	1.22	94	2.05	64.6	53.1	64	98.1	66	0.113	0.336	21.75
472	66.8	-0.1	75.351	0.161	1.23	94	2.05	64.5	53.1	64	99.3	66	0.112	0.335	21.75
473	67.0	0.1	75.511	0.160	1.23	94	2.14	64.5	52.9	64	99.6	66	0.106	0.326	21.41
474	66.3	-0.7	75.671	0.160	1.23	94	2.20	64.5	52.8	64	100.5	65	0.111	0.333	21.36
475	66.5	0.3	75.831	0.160	1.22	94	2.08	64.5	52.8	64	99.7	65	0.114	0.338	21.75
476	66.4	-0.2	75.992	0.161	1.23	94	2.17	64.4	52.8	64	98.7	65	0.117	0.342	22.04
477	67.1	0.7	76.152	0.160	1.23	94	2.20	64.3	52.8	64	98.0	65	0.109	0.330	21.79
478	66.6	-0.5	76.312	0.160	1.23	94	2.09	64.3	52.8	64	99.7	68	0.108	0.329	21.38
479	67.2	0.6	76.471	0.159	1.21	94	2.13	64.3	52.7	64	99.9	66	0.110	0.332	21.44
480	67.4	0.2	76.632	0.161	1.23	94	2.06	64.2	52.6	64	100.3	65	0.113	0.336	21.66

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Test Start Time: 11:01
Test Length: 694 min
Recording Interval: 1 min

Test Date: 2/25/25
Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
481	67.4	0.0	76.792	0.160	1.22	94	2.04	64.3	52.7	63	98.7	66	0.114	0.338	21.85
482	67.1	-0.3	76.952	0.160	1.22	94	2.18	64.2	52.5	63	98.6	66	0.111	0.333	21.75
483	66.8	-0.3	77.112	0.160	1.24	94	2.05	64.1	52.5	63	99.1	66	0.112	0.335	21.66
484	66.8	0.0	77.273	0.161	1.23	93	2.19	64.1	52.4	64	99.8	66	0.113	0.336	21.77
485	66.8	0.1	77.433	0.160	1.23	94	2.19	64.1	52.4	63	98.4	67	0.117	0.342	22.01
486	67.3	0.5	77.593	0.160	1.24	93	2.06	64.1	52.3	64	98.0	67	0.112	0.335	21.97
487	67.1	-0.3	77.753	0.160	1.23	94	2.20	64.4	52.4	64	99.2	75	0.112	0.335	21.81
488	66.3	-0.8	77.913	0.160	1.22	94	2.06	64.6	52.5	64	100.4	78	0.111	0.333	21.87
489	66.1	-0.2	78.072	0.159	1.23	94	2.20	64.7	52.6	64	99.6	78	0.115	0.339	22.06
490	65.2	-0.9	78.231	0.159	1.22	94	2.17	64.8	52.7	64	98.7	80	0.117	0.342	22.37
491	65.1	-0.1	78.392	0.161	1.23	94	2.08	65.1	52.8	64	100.3	81	0.107	0.327	22.01
492	63.8	-1.3	78.552	0.160	1.24	94	2.19	65.2	52.7	64	101.7	82	0.107	0.327	21.54
493	63.3	-0.5	78.711	0.159	1.23	93	2.12	65.4	52.8	64	101.7	83	0.113	0.336	21.86
494	62.8	-0.5	78.871	0.160	1.23	94	2.07	65.6	52.8	64	101.3	84	0.110	0.332	22.02
495	62.0	-0.7	79.031	0.160	1.23	93	2.07	65.7	53	64	101.2	84	0.112	0.335	21.98
496	61.2	-0.8	79.189	0.158	1.22	93	2.21	65.9	53	64	99.5	84	0.115	0.339	22.23
497	61.3	0.1	79.349	0.160	1.23	93	2.09	65.9	53	64	100.3	82	0.110	0.332	22.11
498	60.2	-1.1	79.509	0.160	1.23	94	2.07	66	53.1	64	100.7	82	0.112	0.335	21.94
499	59.3	-1.0	79.668	0.159	1.22	94	2.06	66	53.1	64	100.5	81	0.109	0.330	21.88
500	58.5	-0.8	79.826	0.158	1.22	94	2.14	66.1	53.2	64	100.0	82	0.112	0.335	21.88
501	57.7	-0.8	79.987	0.161	1.21	94	2.20	66.2	53.3	65	101.8	82	0.110	0.332	21.94
502	57.0	-0.7	80.146	0.159	1.22	94	2.09	66.3	53.4	64	100.0	81	0.115	0.339	22.08
503	56.7	-0.3	80.305	0.159	1.22	94	2.07	66.4	53.4	64	99.2	82	0.114	0.338	22.28
504	55.9	-0.8	80.465	0.160	1.23	94	2.09	66.4	53.5	64	99.8	81	0.111	0.333	22.08
505	55.4	-0.6	80.624	0.159	1.23	94	2.08	66.4	53.6	64	99.8	81	0.112	0.335	21.98
506	54.1	-1.3	80.782	0.158	1.21	94	2.17	66.5	53.7	64	99.3	82	0.113	0.336	22.08
507	53.4	-0.7	80.942	0.160	1.22	93	2.20	66.5	53.6	64	100.2	82	0.113	0.336	22.13
508	52.8	-0.6	81.102	0.160	1.22	94	2.07	66.6	53.6	64	99.9	82	0.115	0.339	22.23
509	52.2	-0.6	81.261	0.159	1.23	94	2.06	66.6	53.7	64	99.0	85	0.115	0.339	22.37
510	51.5	-0.7	81.419	0.158	1.21	94	2.20	66.7	53.7	64	98.2	85	0.116	0.341	22.44
511	50.0	-1.5	81.579	0.160	1.23	94	2.21	66.8	53.8	64	98.9	83	0.117	0.342	22.52
512	49.7	-0.3	81.738	0.159	1.23	94	2.18	66.8	53.9	64	98.5	81	0.110	0.332	22.19
513	48.9	-0.8	81.896	0.158	1.22	94	2.14	66.7	54	63	99.3	80	0.109	0.330	21.77
514	48.2	-0.7	82.057	0.161	1.23	94	2.21	66.7	54	63	102.2	82	0.111	0.333	21.82
515	47.7	-0.6	82.216	0.159	1.22	93	2.07	66.9	54	63	100.0	84	0.118	0.344	22.30
516	46.8	-0.8	82.374	0.158	1.21	93	2.10	66.9	54.1	64	98.9	84	0.108	0.329	22.18
517	45.1	-1.7	82.535	0.161	1.22	93	2.19	66.9	54.1	64	101.7	84	0.112	0.335	21.89
518	45.0	-0.1	82.694	0.159	1.22	94	2.08	67	54.2	64	101.1	86	0.109	0.330	21.95
519	44.5	-0.6	82.852	0.158	1.23	93	2.15	67.2	54.3	65	100.5	88	0.112	0.335	21.99
520	43.3	-1.1	83.012	0.160	1.22	93	2.21	67.2	54.3	64	101.5	86	0.111	0.333	22.09
521	42.2	-1.2	83.171	0.159	1.22	94	2.06	67.3	54.3	64	100.6	85	0.111	0.333	22.01
522	41.9	-0.2	83.330	0.159	1.21	94	2.07	67.3	54.4	64	100.2	85	0.115	0.339	22.20
523	41.3	-0.7	83.488	0.158	1.22	94	2.19	67.4	54.4	65	99.0	85	0.112	0.335	22.24
524	40.1	-1.1	83.649	0.161	1.23	93	2.07	67.4	54.4	64	101.5	84	0.109	0.330	21.94

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
525	39.5	-0.7	83.807	0.158	1.20	94	2.15	67.4	54.4	65	100.1	84	0.113	0.336	21.99
526	39.1	-0.4	83.965	0.158	1.21	94	2.07	67.4	54.5	64	100.0	84	0.109	0.330	21.99
527	37.8	-1.3	84.126	0.161	1.22	93	2.18	67.5	54.5	64	102.4	84	0.109	0.330	21.79
528	37.2	-0.6	84.285	0.159	1.22	93	2.08	67.5	54.5	64	101.3	84	0.112	0.335	21.93
529	37.0	-0.1	84.443	0.158	1.21	93	2.21	67.5	54.6	64	99.8	84	0.113	0.336	22.13
530	36.1	-1.0	84.604	0.161	1.23	93	2.13	67.2	54.6	65	100.6	73	0.111	0.333	21.96
531	35.6	-0.5	84.763	0.159	1.23	93	2.19	67	54.5	66	98.8	71	0.113	0.336	21.83
532	35.5	-0.1	84.922	0.159	1.22	94	2.06	66.9	54.5	65	99.0	70	0.110	0.332	21.76
533	35.6	0.1	85.082	0.160	1.22	94	2.06	66.7	54.4	66	99.6	70	0.113	0.336	21.74
534	34.5	-1.1	85.242	0.160	1.24	94	2.12	66.6	54.3	65	99.3	68	0.111	0.333	21.77
535	34.4	0.0	85.402	0.160	1.23	94	2.19	66.5	54.3	65	99.1	68	0.114	0.338	21.80
536	34.4	-0.1	85.560	0.158	1.22	94	2.08	66.3	54.1	64	97.5	68	0.113	0.336	21.89
537	34.3	0.0	85.722	0.162	1.21	94	2.08	66.2	54	64	100.1	68	0.111	0.333	21.75
538	34.4	0.1	85.881	0.159	1.22	93	2.12	66	53.9	64	98.8	68	0.112	0.335	21.71
539	35.0	0.5	86.040	0.159	1.23	93	2.07	65.9	53.8	64	98.7	66	0.112	0.335	21.74
540	34.2	-0.8	86.200	0.160	1.22	94	2.06	65.8	53.6	64	98.8	66	0.114	0.338	21.82
541	34.6	0.4	86.361	0.161	1.23	93	2.18	65.7	53.5	64	99.2	66	0.113	0.336	21.86
542	34.2	-0.4	86.521	0.160	1.22	94	2.07	65.6	53.4	64	98.6	67	0.113	0.336	21.82
543	34.0	-0.2	86.679	0.158	1.22	94	2.20	65.5	53.4	64	96.9	66	0.118	0.344	22.06
544	34.7	0.7	86.841	0.162	1.23	93	2.17	65.4	53.4	64	99.1	67	0.111	0.333	21.97
545	34.1	-0.7	87.001	0.160	1.22	93	2.19	65.3	53.2	64	98.9	67	0.111	0.333	21.63
546	34.5	0.5	87.160	0.159	1.22	94	2.13	65.3	53.2	64	98.6	68	0.115	0.339	21.84
547	34.1	-0.4	87.319	0.159	1.23	93	2.20	65.4	53.2	64	98.3	71	0.112	0.335	21.93
548	33.7	-0.4	87.480	0.161	1.24	93	2.08	65.3	53.2	64	99.9	68	0.111	0.333	21.74
549	33.9	0.2	87.640	0.160	1.23	93	2.07	65.2	53.1	64	98.9	68	0.117	0.342	21.94
550	33.9	0.1	87.799	0.159	1.24	94	2.08	65.2	53.1	64	97.6	67	0.112	0.335	21.98
551	33.8	-0.1	87.960	0.161	1.23	94	2.08	65.1	53.1	64	99.2	67	0.112	0.335	21.73
552	34.1	0.3	88.120	0.160	1.22	93	2.07	65	53.1	64	99.5	67	0.109	0.330	21.58
553	34.7	0.6	88.279	0.159	1.22	94	2.19	65	53.1	65	99.2	67	0.112	0.335	21.58
554	34.4	-0.3	88.439	0.160	1.23	94	2.07	64.9	53	64	99.6	66	0.111	0.333	21.67
555	33.8	-0.6	88.600	0.161	1.24	93	2.17	64.9	53	64	100.0	66	0.112	0.335	21.67
556	33.9	0.1	88.760	0.160	1.23	93	2.07	64.8	53	64	99.4	66	0.111	0.333	21.66
557	34.2	0.3	88.919	0.159	1.22	94	2.12	64.8	53	64	98.7	66	0.112	0.335	21.66
558	34.3	0.1	89.079	0.160	1.23	94	2.13	64.7	53	64	98.8	66	0.115	0.339	21.85
559	34.7	0.4	89.240	0.161	1.21	94	2.12	64.7	53	64	99.4	66	0.108	0.329	21.66
560	34.6	-0.1	89.400	0.160	1.23	94	2.11	64.7	53	64	99.1	66	0.116	0.341	21.71
561	33.9	-0.7	89.558	0.158	1.23	94	2.06	64.6	52.9	64	97.6	66	0.110	0.332	21.80
562	34.8	0.9	89.720	0.162	1.24	93	2.14	64.7	53	64	100.5	68	0.112	0.335	21.63
563	34.2	-0.6	89.879	0.159	1.23	94	2.05	64.6	53	64	98.7	67	0.114	0.338	21.84
564	34.8	0.5	90.039	0.160	1.23	94	2.09	64.6	52.9	64	98.8	67	0.111	0.333	21.78
565	34.1	-0.6	90.198	0.159	1.24	94	2.06	64.5	52.9	64	98.8	66	0.109	0.330	21.53
566	34.6	0.5	90.359	0.161	1.22	94	2.20	64.4	52.8	64	100.6	66	0.110	0.332	21.47
567	34.8	0.2	90.519	0.160	1.24	93	2.21	64.4	52.7	63	100.1	66	0.110	0.332	21.52
568	34.2	-0.6	90.678	0.159	1.23	93	2.20	64.4	52.7	64	99.3	66	0.111	0.333	21.57

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Test Start Time: 11:01
Test Length: 694 min
Recording Interval: 1 min

Test Date: 2/25/25
Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
Pre-test 0 cfm @ 15.7 in. Hg
Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
569	35.0	0.8	90.839	0.161	1.23	93	2.06	64.3	52.6	64	100.2	67	0.113	0.336	21.72
570	34.1	-0.9	90.999	0.160	1.21	93	2.16	64.3	52.6	64	98.4	67	0.119	0.345	22.11
571	35.0	0.9	91.159	0.160	1.23	94	2.15	64.4	52.6	64	97.5	69	0.114	0.338	22.18
572	34.2	-0.8	91.318	0.159	1.22	93	2.20	64.4	52.6	64	97.8	70	0.111	0.333	21.83
573	34.6	0.4	91.479	0.161	1.23	93	2.20	64.4	52.6	64	99.9	68	0.113	0.336	21.77
574	35.2	0.6	91.639	0.160	1.24	93	2.08	64.4	52.6	64	98.5	67	0.117	0.342	22.03
575	35.0	-0.2	91.798	0.159	1.22	93	2.11	64.3	52.5	64	97.4	67	0.112	0.335	21.97
576	34.7	-0.3	91.958	0.160	1.25	93	2.07	64.3	52.5	64	98.6	66	0.112	0.335	21.72
577	34.8	0.1	92.119	0.161	1.22	93	2.05	64.3	52.4	64	100.0	66	0.110	0.332	21.62
578	35.2	0.4	92.278	0.159	1.23	94	2.21	64.2	52.4	65	99.6	66	0.106	0.326	21.32
579	34.9	-0.3	92.437	0.159	1.22	93	2.21	64.5	52.4	64	100.3	71	0.113	0.336	21.51
580	34.1	-0.7	92.598	0.161	1.23	94	2.18	64.5	52.5	64	100.8	74	0.114	0.338	21.99
581	33.8	-0.3	92.757	0.159	1.25	93	2.13	64.7	52.6	64	99.3	76	0.109	0.330	21.85
582	33.7	-0.1	92.916	0.159	1.22	94	2.07	64.8	52.6	64	100.5	80	0.110	0.332	21.72
583	33.1	-0.6	93.076	0.160	1.23	94	2.15	65.1	52.6	64	100.8	80	0.116	0.341	22.10
584	32.7	-0.4	93.237	0.161	1.23	94	2.20	65.2	52.6	64	100.2	81	0.114	0.338	22.31
585	31.9	-0.7	93.396	0.159	1.23	94	2.18	65.4	52.6	64	99.1	82	0.112	0.335	22.13
586	31.2	-0.7	93.554	0.158	1.22	93	2.15	65.5	52.6	64	98.5	83	0.119	0.345	22.40
587	30.4	-0.8	93.715	0.161	1.22	94	2.08	65.7	52.6	64	99.9	84	0.112	0.335	22.42
588	29.9	-0.5	93.875	0.160	1.23	94	2.10	65.8	52.6	64	100.4	85	0.109	0.330	21.94
589	29.6	-0.3	94.033	0.158	1.23	93	2.08	65.9	52.6	64	100.2	85	0.113	0.336	21.99
590	29.4	-0.2	94.194	0.161	1.23	94	2.18	66.1	52.7	64	101.4	85	0.114	0.338	22.24
591	28.9	-0.5	94.353	0.159	1.23	93	2.07	66.1	52.6	64	99.3	85	0.116	0.341	22.39
592	28.4	-0.6	94.511	0.158	1.20	93	2.22	66.2	52.6	64	99.0	86	0.109	0.330	22.16
593	27.7	-0.6	94.671	0.160	1.22	93	2.07	66.4	52.7	64	101.4	86	0.111	0.333	21.92
594	26.9	-0.8	94.831	0.160	1.22	94	2.07	66.5	52.8	64	101.9	87	0.110	0.332	21.98
595	25.9	-1.0	94.990	0.159	1.24	93	2.19	66.6	52.8	64	101.2	84	0.109	0.330	21.86
596	25.4	-0.5	95.148	0.158	1.23	94	2.17	66.7	52.9	64	100.1	84	0.115	0.339	22.09
597	25.8	0.4	95.309	0.161	1.20	93	2.13	66.8	52.9	64	101.1	86	0.113	0.336	22.30
598	24.5	-1.4	95.468	0.159	1.22	94	2.07	66.9	52.9	64	100.5	85	0.105	0.324	21.81
599	23.6	-0.9	95.626	0.158	1.22	93	2.24	66.9	52.9	64	101.4	87	0.110	0.332	21.67
600	23.8	0.2	95.786	0.160	1.22	94	2.15	67	53	64	102.7	88	0.110	0.332	21.95
601	23.1	-0.7	95.945	0.159	1.23	94	2.08	67.3	53	64	101.3	87	0.110	0.332	21.95
602	21.9	-1.2	96.103	0.158	1.22	93	2.08	67.3	53.1	65	100.5	87	0.111	0.333	21.99
603	22.1	0.2	96.263	0.160	1.22	94	2.21	67.4	53.1	65	100.8	85	0.117	0.342	22.32
604	20.6	-1.5	96.422	0.159	1.22	93	2.07	67.4	53.1	65	100.1	86	0.105	0.324	22.01
605	20.7	0.2	96.580	0.158	1.23	93	2.12	67.5	53.2	65	101.5	84	0.105	0.324	21.40
606	19.8	-0.9	96.740	0.160	1.22	93	2.07	67.5	53.3	65	103.3	84	0.112	0.335	21.74
607	18.9	-0.9	96.899	0.159	1.21	93	2.07	67.5	53.2	65	100.7	84	0.114	0.338	22.18
608	18.1	-0.7	97.058	0.159	1.20	94	2.11	67.6	53.3	65	100.0	84	0.109	0.330	22.03
609	17.3	-0.9	97.217	0.159	1.22	93	2.15	67.6	53.4	65	100.4	84	0.114	0.338	22.03
610	16.8	-0.5	97.377	0.160	1.22	93	2.10	67.6	53.4	65	100.7	84	0.112	0.335	22.18
611	16.8	0.0	97.535	0.158	1.22	94	2.22	67.7	53.5	65	99.2	84	0.113	0.336	22.12
612	16.3	-0.5	97.693	0.158	1.22	94	2.10	67.7	53.5	64	99.2	86	0.114	0.338	22.24

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:01
 Test Length: 694 min
 Recording Interval: 1 min

Test Date: 2/25/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 15.7 in. Hg
 Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
613	15.1	-1.2	97.853	0.160	1.21	94	2.21	67.9	53.5	65	100.5	87	0.112	0.335	22.23
614	14.7	-0.5	98.012	0.159	1.21	93	2.08	67.9	53.5	64	100.3	86	0.111	0.333	22.08
615	14.3	-0.3	98.170	0.158	1.22	94	2.11	67.9	53.6	64	99.9	84	0.111	0.333	22.00
616	13.3	-1.1	98.330	0.160	1.23	94	2.18	67.9	53.5	64	101.1	86	0.113	0.336	22.10
617	12.7	-0.6	98.489	0.159	1.22	94	2.08	67.9	53.5	64	100.3	87	0.112	0.335	22.17
618	12.9	0.2	98.647	0.158	1.21	94	2.18	67.7	53.5	65	99.5	74	0.106	0.326	21.71
619	12.0	-0.9	98.808	0.161	1.20	94	2.05	67.4	53.3	66	101.4	73	0.112	0.335	21.56
620	12.5	0.5	98.967	0.159	1.22	94	2.20	67.2	53.1	65	99.6	71	0.112	0.335	21.83
621	12.2	-0.4	99.126	0.159	1.22	94	2.16	67.2	53.1	65	99.3	71	0.108	0.329	21.63
622	11.6	-0.6	99.286	0.160	1.22	93	2.12	67	53.1	65	100.6	70	0.111	0.333	21.57
623	12.3	0.7	99.446	0.160	1.21	94	2.06	66.9	53.1	65	100.5	70	0.109	0.330	21.60
624	12.1	-0.2	99.604	0.158	1.22	94	2.06	66.9	53	65	99.1	70	0.111	0.333	21.60
625	11.6	-0.5	99.763	0.159	1.21	94	2.21	66.8	53	65	99.3	70	0.113	0.336	21.80
626	11.3	-0.3	99.924	0.161	1.23	93	2.04	66.7	53	65	100.5	70	0.108	0.329	21.65
627	11.4	0.2	100.083	0.159	1.23	93	2.08	66.6	53	65	99.4	70	0.115	0.339	21.75
628	11.5	0.1	100.242	0.159	1.22	93	2.06	66.5	53	65	98.8	70	0.111	0.333	21.89
629	11.4	-0.1	100.403	0.161	1.22	93	2.16	66.6	53	65	99.9	72	0.115	0.339	21.91
630	11.3	-0.1	100.562	0.159	1.21	94	2.11	66.5	52.9	65	98.3	70	0.113	0.336	22.01
631	11.4	0.1	100.721	0.159	1.22	93	2.21	66.4	53	65	98.0	69	0.114	0.338	21.93
632	11.7	0.3	100.881	0.160	1.23	93	2.06	66.2	53.1	65	98.9	68	0.111	0.333	21.82
633	12.0	0.3	101.041	0.160	1.23	94	2.06	66.2	53	65	99.4	68	0.111	0.333	21.66
634	11.1	-0.8	101.199	0.158	1.23	94	2.15	66.1	52.9	65	98.3	68	0.112	0.335	21.70
635	12.2	1.0	101.358	0.159	1.22	93	2.21	66	52.9	65	98.5	67	0.114	0.338	21.84
636	11.2	-1.0	101.519	0.161	1.23	93	2.15	65.9	53	65	99.1	67	0.115	0.339	21.98
637	11.6	0.4	101.679	0.160	1.23	93	2.17	65.8	53	65	98.6	67	0.110	0.332	21.78
638	12.2	0.6	101.837	0.158	1.22	94	2.07	65.7	52.9	65	97.9	67	0.113	0.336	21.68
639	12.0	-0.1	101.998	0.161	1.24	93	2.20	65.7	52.9	65	99.8	66	0.112	0.335	21.77
640	12.0	0.0	102.157	0.159	1.22	93	2.22	65.6	52.9	64	98.3	66	0.113	0.336	21.77
641	11.8	-0.3	102.316	0.159	1.22	94	2.13	65.5	52.9	64	98.3	66	0.112	0.335	21.77
642	11.5	-0.2	102.476	0.160	1.23	94	2.12	65.4	52.9	64	98.6	66	0.115	0.339	21.86
643	11.5	-0.1	102.636	0.160	1.22	95	2.16	65.4	52.9	65	98.4	66	0.111	0.333	21.81
644	11.9	0.4	102.796	0.160	1.22	94	2.20	65.3	52.8	64	98.9	66	0.112	0.335	21.67
645	12.0	0.2	102.954	0.158	1.22	94	2.17	65.3	52.8	64	97.7	66	0.113	0.336	21.76
646	11.4	-0.6	103.115	0.161	1.21	94	2.06	65.3	52.8	65	99.3	66	0.113	0.336	21.81
647	12.0	0.6	103.274	0.159	1.22	94	2.13	65.2	52.9	64	98.2	66	0.111	0.333	21.71
648	11.5	-0.5	103.433	0.159	1.22	95	2.12	65.1	52.8	64	97.8	66	0.118	0.344	21.95
649	11.7	0.2	103.593	0.160	1.21	94	2.15	65.1	52.8	64	97.8	66	0.112	0.335	22.00
650	12.4	0.7	103.753	0.160	1.22	95	2.06	65	52.7	64	98.0	66	0.115	0.339	21.85
651	12.3	-0.1	103.913	0.160	1.23	94	2.20	64.9	52.7	64	98.0	69	0.117	0.342	22.12
652	12.3	0.0	104.071	0.158	1.22	94	2.09	64.9	52.7	64	96.5	67	0.113	0.336	22.05
653	11.8	-0.5	104.232	0.161	1.23	94	2.05	64.9	52.7	64	99.1	66	0.110	0.332	21.68
654	11.5	-0.3	104.392	0.160	1.22	94	2.13	64.8	52.6	64	99.5	66	0.110	0.332	21.51
655	12.3	0.7	104.551	0.159	1.23	94	2.13	64.7	52.6	63	98.9	66	0.113	0.336	21.66
656	11.7	-0.5	104.711	0.160	1.23	94	2.19	64.6	52.5	63	98.8	66	0.114	0.338	21.86

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 2
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Test Start Time: 11:01
Test Length: 694 min
Recording Interval: 1 min

Test Date: 2/25/25
Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
Pre-test 0 cfm @ 15.7 in. Hg
Post-Test 0 cfm @ 5.52 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
657	11.9	0.2	104.871	0.160	1.23	94	2.21	64.5	52.4	63	98.3	66	0.114	0.338	21.91
658	12.3	0.4	105.030	0.159	1.22	94	2.06	64.5	52.5	64	97.3	67	0.118	0.344	22.11
659	11.7	-0.6	105.189	0.159	1.22	94	2.15	64.5	52.4	64	97.1	67	0.112	0.335	22.02
660	12.0	0.3	105.350	0.161	1.23	93	2.21	64.5	52.4	64	98.7	67	0.116	0.341	21.93
661	12.4	0.4	105.510	0.160	1.22	94	2.21	64.5	52.4	64	98.3	68	0.113	0.336	21.98
662	12.0	-0.4	105.669	0.159	1.21	94	2.05	64.5	52.4	63	98.7	70	0.107	0.327	21.58
663	11.8	-0.2	105.829	0.160	1.22	93	2.09	64.5	52.4	64	100.0	68	0.115	0.339	21.68
664	12.0	0.1	105.989	0.160	1.22	93	2.21	64.5	52.3	64	99.1	67	0.112	0.335	21.89
665	11.9	-0.1	106.148	0.159	1.22	93	2.22	64.4	52.3	64	98.0	67	0.114	0.338	21.83
666	11.8	-0.1	106.307	0.159	1.23	94	2.04	64.3	52.2	64	98.0	66	0.113	0.336	21.87
667	12.1	0.3	106.468	0.161	1.21	94	2.22	64.4	52.2	64	99.4	66	0.111	0.333	21.72
668	12.4	0.2	106.628	0.160	1.22	93	2.18	64.4	52.3	64	98.5	68	0.119	0.345	22.02
669	12.2	-0.2	106.786	0.158	1.21	93	2.04	64.6	52.3	64	97.4	73	0.109	0.330	22.00
670	11.4	-0.7	106.947	0.161	1.22	94	2.15	64.7	52.4	64	100.2	76	0.116	0.341	21.94
671	11.5	0.0	107.106	0.159	1.23	93	2.16	64.9	52.4	64	98.9	79	0.114	0.338	22.24
672	10.5	-1.0	107.264	0.158	1.22	93	2.13	65.1	52.4	64	98.3	80	0.113	0.336	22.14
673	10.2	-0.4	107.424	0.160	1.22	94	2.04	65.3	52.4	64	100.0	81	0.113	0.336	22.11
674	9.4	-0.8	107.584	0.160	1.22	94	2.09	65.5	52.4	64	100.6	82	0.109	0.330	21.94
675	9.3	-0.1	107.743	0.159	1.23	94	2.13	65.6	52.5	64	100.9	83	0.109	0.330	21.75
676	8.1	-1.2	107.901	0.158	1.21	94	2.14	65.7	52.5	64	100.5	83	0.111	0.333	21.86
677	7.8	-0.3	108.062	0.161	1.20	94	2.07	65.8	52.5	64	102.3	83	0.108	0.329	21.81
678	7.8	0.0	108.221	0.159	1.22	94	2.22	65.8	52.6	64	100.8	81	0.113	0.336	21.89
679	7.5	-0.3	108.379	0.158	1.23	94	2.07	65.9	52.5	64	99.4	83	0.113	0.336	22.13
680	7.0	-0.5	108.540	0.161	1.22	94	2.20	65.9	52.7	64	100.5	80	0.114	0.338	22.18
681	6.4	-0.6	108.699	0.159	1.22	94	2.22	66.1	52.6	64	99.6	83	0.110	0.332	22.03
682	5.4	-1.0	108.858	0.159	1.24	94	2.20	66.1	52.7	63	100.6	80	0.108	0.329	21.74
683	4.6	-0.8	109.018	0.160	1.22	93	2.11	66.1	52.6	64	101.8	83	0.111	0.333	21.78
684	5.1	0.5	109.177	0.159	1.23	93	2.07	66.1	52.7	64	100.4	83	0.116	0.341	22.21
685	3.6	-1.5	109.335	0.158	1.24	93	2.07	66.2	52.7	64	98.0	81	0.117	0.342	22.48
686	4.0	0.4	109.495	0.160	1.23	94	2.09	66.3	52.7	63	98.9	82	0.112	0.335	22.27
687	3.1	-0.9	109.655	0.160	1.22	94	2.08	66.4	52.8	63	99.8	83	0.114	0.338	22.15
688	2.6	-0.5	109.813	0.158	1.22	94	2.13	66.3	52.7	63	99.1	81	0.110	0.332	22.04
689	1.9	-0.7	109.972	0.159	1.24	94	2.11	66.3	52.8	63	100.0	82	0.112	0.335	21.93
690	1.9	0.0	110.132	0.160	1.23	94	2.13	66.4	52.8	63	100.6	83	0.114	0.338	22.14
691	1.2	-0.7	110.291	0.159	1.22	94	2.10	66.4	52.8	63	99.9	81	0.108	0.329	21.94
692	0.1	-1.2	110.449	0.158	1.23	94	2.20	66.4	52.9	63	99.6	81	0.114	0.338	21.92
693	0.2	0.2	110.610	0.161	1.21	93	2.14	66.4	52.9	63	100.8	83	0.116	0.341	22.33
694	0.0	-0.2	110.768	0.158	1.20	93	2.21	66.4	52.9	63	98.1	81	0.114	0.338	22.33

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	111.632	0.161	1.24	87.7	2.25	65.59	50.62	100.0
Minimum	0.000	0.139	0.05	66	0.02	63	41	88.0
Max	111.632	0.164	1.28	91	2.41	69	53	104.6
0	0.000		0.05	66	0.02	62.8	44.9	
1	0.139	0.139	1.28	66	2.31	63.1	40.9	88.0
2	0.301	0.162	1.28	66	2.33	63.9	40.6	104.3
3	0.461	0.160	1.25	66	2.43	64.3	40.7	103.9
4	0.621	0.160	1.25	66	2.38	63.8	40.9	103.0
5	0.782	0.161	1.25	66	2.40	64.3	41	103.5
6	0.943	0.161	1.24	66	2.29	64.4	41.1	104.0
7	1.102	0.159	1.24	66	2.38	64.5	41.2	102.5
8	1.261	0.159	1.23	66	2.36	64.7	41.3	101.9
9	1.422	0.161	1.25	66	2.36	64.8	41.5	103.7
10	1.581	0.159	1.23	66	2.34	65	41.6	103.9
11	1.739	0.158	1.22	67	2.33	65.1	41.8	102.7
12	1.898	0.159	1.24	67	2.32	65.2	41.9	102.2
13	2.058	0.160	1.26	67	2.35	65.3	42.1	103.1
14	2.218	0.160	1.25	67	2.35	65.5	42.3	103.6
15	2.377	0.159	1.24	68	2.36	65.6	42.5	103.1
16	2.538	0.161	1.25	68	2.32	65.7	42.8	104.5
17	2.698	0.160	1.25	68	2.36	65.7	43	103.3
18	2.857	0.159	1.24	68	2.36	65.8	43.1	101.8
19	3.016	0.159	1.24	68	2.36	65.9	43.4	102.8
20	3.177	0.161	1.24	69	2.31	66	43.6	104.6
21	3.335	0.158	1.24	69	2.35	66.1	43.8	101.4
22	3.494	0.159	1.24	69	2.30	66.1	44	101.3
23	3.654	0.160	1.26	70	2.35	66.3	44.3	102.4
24	3.814	0.160	1.24	70	2.29	66.1	44.5	103.3
25	3.972	0.158	1.25	70	2.38	66.3	44.7	102.5
26	4.131	0.159	1.24	70	2.29	66.4	44.9	102.5
27	4.292	0.161	1.24	71	2.34	66.5	45.2	103.6
28	4.450	0.158	1.23	71	2.28	66.5	45.3	102.1
29	4.608	0.158	1.24	71	2.28	66.5	45.5	101.5
30	4.769	0.161	1.23	72	2.29	66.6	45.7	102.9
31	4.927	0.158	1.24	72	2.35	66.5	45.8	101.6
32	5.086	0.159	1.22	72	2.36	66.5	46	102.6
33	5.246	0.160	1.23	73	2.27	66.5	46.2	102.1
34	5.405	0.159	1.23	73	2.29	66.6	46.4	101.4
35	5.562	0.157	1.24	73	2.31	66.6	46.6	101.2
36	5.722	0.160	1.23	73	2.39	66.6	46.7	103.1
37	5.882	0.160	1.24	74	2.38	66.6	46.9	102.8
38	6.039	0.157	1.24	74	2.33	66.6	47	101.5
39	6.198	0.159	1.22	74	2.27	66.7	47.1	102.3
40	6.358	0.160	1.22	75	2.31	66.7	47.3	101.9

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
41	6.516	0.158	1.22	75	2.29	66.7	47.5	100.9
42	6.675	0.159	1.24	75	2.26	66.7	47.6	102.0
43	6.835	0.160	1.23	75	2.40	66.8	47.7	102.5
44	6.993	0.158	1.24	76	2.36	66.8	47.8	100.6
45	7.151	0.158	1.24	76	2.33	66.8	47.9	100.3
46	7.311	0.160	1.24	76	2.27	66.9	48	101.9
47	7.471	0.160	1.23	76	2.40	66.9	48.1	101.5
48	7.628	0.157	1.23	77	2.39	67	48.2	99.4
49	7.788	0.160	1.23	77	2.26	67.1	48.4	102.1
50	7.949	0.161	1.24	77	2.35	67.1	48.4	102.9
51	8.108	0.159	1.23	77	2.26	67.1	48.5	101.6
52	8.267	0.159	1.24	78	2.26	67.2	48.6	101.9
53	8.428	0.161	1.24	78	2.32	67.2	48.7	103.2
54	8.587	0.159	1.24	78	2.25	67.2	48.8	101.5
55	8.746	0.159	1.23	78	2.38	67.3	48.9	101.4
56	8.905	0.159	1.24	79	2.37	67.3	49	101.7
57	9.067	0.162	1.24	79	2.28	67.4	49.2	103.2
58	9.226	0.159	1.24	79	2.25	67.4	49.2	100.8
59	9.385	0.159	1.25	79	2.25	67.4	49.3	100.9
60	9.545	0.160	1.26	79	2.37	67.3	49.4	101.5
61	9.707	0.162	1.25	80	2.37	67.4	49.5	102.3
62	9.866	0.159	1.22	80	2.35	67.2	49.6	99.6
63	10.026	0.160	1.25	80	2.31	67	49.6	99.8
64	10.187	0.161	1.25	80	2.36	66.8	49.8	100.6
65	10.350	0.163	1.25	81	2.34	66.6	49.8	102.0
66	10.511	0.161	1.26	81	2.23	66.4	49.9	100.3
67	10.672	0.161	1.27	81	2.32	66.3	50	100.3
68	10.833	0.161	1.27	81	2.23	66.1	50	100.0
69	10.995	0.162	1.26	81	2.28	66	50.1	99.5
70	11.158	0.163	1.27	82	2.23	65.8	50.1	100.1
71	11.321	0.163	1.26	82	2.22	65.7	50.2	101.0
72	11.482	0.161	1.27	82	2.24	65.6	50.2	100.0
73	11.644	0.162	1.26	82	2.31	65.5	50.2	99.8
74	11.806	0.162	1.26	82	2.26	65.4	50.2	99.7
75	11.968	0.162	1.27	82	2.22	65.4	50.2	100.2
76	12.132	0.164	1.25	82	2.32	65.3	50.2	101.5
77	12.294	0.162	1.25	83	2.20	65.3	50.2	99.9
78	12.456	0.162	1.27	83	2.32	65.2	50.2	99.8
79	12.618	0.162	1.26	83	2.19	65.2	50.2	100.2
80	12.779	0.161	1.25	83	2.32	65.2	50.1	99.7
81	12.942	0.163	1.27	83	2.31	65.2	50.2	100.7
82	13.106	0.164	1.27	83	2.28	65.1	50.1	101.3
83	13.268	0.162	1.25	84	2.28	65.1	50.1	100.7
84	13.430	0.162	1.27	84	2.34	65.1	50.1	101.5

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
85	13.592	0.162	1.26	84	2.21	65	50.1	101.2
86	13.754	0.162	1.26	84	2.21	65	50	100.4
87	13.915	0.161	1.23	84	2.15	64.9	50.1	99.9
88	14.076	0.161	1.25	84	2.20	64.9	50	100.8
89	14.236	0.160	1.24	84	2.17	64.9	50.1	99.9
90	14.396	0.160	1.25	84	2.16	64.9	50	99.1
91	14.557	0.161	1.25	85	2.19	64.8	50	99.4
92	14.719	0.162	1.24	85	2.17	64.7	50	100.0
93	14.879	0.160	1.24	85	2.21	64.7	50	98.9
94	15.039	0.160	1.25	85	2.26	64.7	49.9	98.7
95	15.199	0.160	1.23	85	2.19	64.6	49.9	98.0
96	15.362	0.163	1.24	85	2.30	64.6	49.9	99.4
97	15.522	0.160	1.23	85	2.29	64.5	49.8	97.8
98	15.682	0.160	1.26	85	2.29	64.5	49.8	98.2
99	15.842	0.160	1.24	86	2.29	64.4	49.8	98.8
100	16.004	0.162	1.25	86	2.21	64.4	49.8	100.3
101	16.165	0.161	1.24	86	2.23	64.4	49.8	99.4
102	16.325	0.160	1.25	86	2.31	64.5	49.8	98.6
103	16.485	0.160	1.24	86	2.29	64.4	49.8	98.6
104	16.646	0.161	1.25	86	2.28	64.3	49.7	98.7
105	16.808	0.162	1.26	86	2.21	64.3	49.7	98.9
106	16.969	0.161	1.25	86	2.15	64.2	49.7	98.7
107	17.128	0.159	1.25	86	2.20	64.2	49.7	98.2
108	17.289	0.161	1.24	86	2.16	64.2	49.6	98.9
109	17.451	0.162	1.25	86	2.26	64.2	49.6	98.7
110	17.612	0.161	1.24	87	2.15	64.2	49.6	98.9
111	17.772	0.160	1.23	87	2.26	64.5	49.6	99.6
112	17.932	0.160	1.23	87	2.18	64.6	49.6	100.0
113	18.093	0.161	1.24	87	2.19	64.8	49.7	100.2
114	18.254	0.161	1.24	87	2.17	65	49.7	99.8
115	18.413	0.159	1.23	87	2.18	65.2	49.8	98.9
116	18.573	0.160	1.24	87	2.25	65.4	49.8	99.8
117	18.734	0.161	1.24	87	2.26	65.5	49.9	100.4
118	18.894	0.160	1.22	87	2.21	65.7	50	100.2
119	19.054	0.160	1.24	87	2.30	65.8	50	100.7
120	19.213	0.159	1.22	87	2.19	66	50	100.2
121	19.375	0.162	1.24	87	2.28	66.1	50.1	102.4
122	19.535	0.160	1.23	87	2.26	66.3	50.1	101.0
123	19.694	0.159	1.23	88	2.27	66.4	50.2	99.7
124	19.853	0.159	1.23	88	2.17	66.5	50.2	100.1
125	20.015	0.162	1.23	88	2.18	66.7	50.3	102.4
126	20.174	0.159	1.24	88	2.24	66.9	50.4	100.3
127	20.332	0.158	1.22	88	2.31	67	50.4	100.9
128	20.493	0.161	1.22	88	2.30	67.2	50.5	103.5

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
129	20.653	0.160	1.23	88	2.32	67.3	50.6	101.9
130	20.811	0.158	1.23	88	2.18	67.3	50.7	100.2
131	20.970	0.159	1.22	88	2.20	67.5	50.8	101.4
132	21.130	0.160	1.23	88	2.22	67.7	50.8	102.9
133	21.288	0.158	1.20	88	2.22	67.9	50.9	101.3
134	21.447	0.159	1.22	88	2.27	67.9	51	100.0
135	21.607	0.160	1.22	88	2.18	68	51.1	100.4
136	21.765	0.158	1.21	88	2.19	68.2	51.2	99.2
137	21.922	0.157	1.21	88	2.18	68.2	51.3	97.9
138	22.082	0.160	1.16	89	2.29	68.3	51.4	100.0
139	22.242	0.160	1.24	89	2.27	68.5	51.5	100.2
140	22.402	0.160	1.24	89	2.29	68.6	51.6	100.6
141	22.562	0.160	1.24	89	2.29	68.5	51.7	100.9
142	22.723	0.161	1.26	89	2.32	68.6	51.7	101.7
143	22.884	0.161	1.23	89	2.38	68.6	51.8	102.5
144	23.043	0.159	1.24	89	2.38	68.5	51.9	100.7
145	23.202	0.159	1.23	89	2.38	68.7	52	98.9
146	23.364	0.162	1.22	89	2.39	68.6	52.1	100.6
147	23.523	0.159	1.23	89	2.35	68.6	52.1	99.4
148	23.682	0.159	1.22	89	2.39	68.5	52.2	99.8
149	23.842	0.160	1.23	89	2.36	68.5	52.2	99.8
150	24.003	0.161	1.22	89	2.29	68.6	52.2	100.1
151	24.161	0.158	1.23	89	2.38	68.5	52.3	99.0
152	24.320	0.159	1.23	89	2.39	68.5	52.3	99.6
153	24.481	0.161	1.23	89	2.37	68.5	52.3	100.7
154	24.641	0.160	1.24	89	2.23	68	52.3	99.8
155	24.800	0.159	1.23	89	2.32	67.8	52.4	98.9
156	24.960	0.160	1.23	89	2.24	67.6	52.4	99.3
157	25.122	0.162	1.23	89	2.37	67.4	52.5	100.1
158	25.283	0.161	1.23	89	2.33	67.3	52.6	99.4
159	25.444	0.161	1.25	89	2.33	67.1	52.6	99.5
160	25.605	0.161	1.26	89	2.28	66.9	52.5	99.1
161	25.766	0.161	1.24	89	2.25	66.7	52.5	99.2
162	25.930	0.164	1.26	89	2.28	66.6	52.6	100.7
163	26.092	0.162	1.26	90	2.32	66.4	52.6	98.2
164	26.255	0.163	1.26	90	2.33	66.3	52.6	98.5
165	26.417	0.162	1.26	89	2.25	66.1	52.6	98.4
166	26.579	0.162	1.25	90	2.17	65.9	52.6	99.1
167	26.741	0.162	1.24	89	2.27	65.8	52.6	99.7
168	26.904	0.163	1.23	90	2.15	65.7	52.5	100.8
169	27.065	0.161	1.24	90	2.24	65.6	52.4	99.0
170	27.226	0.161	1.24	90	2.23	65.4	52.4	97.8
171	27.387	0.161	1.25	90	2.25	65.3	52.3	98.0
172	27.548	0.161	1.25	90	2.24	65.3	52.3	98.1

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
173	27.711	0.163	1.24	90	2.28	65.2	52.2	98.9
174	27.873	0.162	1.23	90	2.12	65	52.2	98.6
175	28.033	0.160	1.25	90	2.13	64.9	52	97.6
176	28.194	0.161	1.23	90	2.19	64.8	51.9	97.9
177	28.355	0.161	1.25	89	2.27	64.7	51.9	98.0
178	28.518	0.163	1.25	90	2.15	64.7	51.8	99.9
179	28.680	0.162	1.24	90	2.25	64.8	51.8	99.3
180	28.841	0.161	1.26	90	2.23	64.7	51.6	98.2
181	29.002	0.161	1.24	90	2.17	64.7	51.6	97.9
182	29.163	0.161	1.22	90	2.19	64.6	51.6	97.3
183	29.326	0.163	1.24	90	2.25	64.6	51.5	98.3
184	29.487	0.161	1.25	90	2.22	64.6	51.4	97.3
185	29.648	0.161	1.25	90	2.15	64.6	51.3	97.7
186	29.809	0.161	1.25	90	2.28	64.5	51.2	98.0
187	29.971	0.162	1.24	90	2.25	64.5	51.1	98.3
188	30.133	0.162	1.24	90	2.31	64.5	51	98.1
189	30.295	0.162	1.25	90	2.16	64.5	50.9	98.4
190	30.455	0.160	1.24	90	2.30	64.4	50.9	97.4
191	30.616	0.161	1.24	90	2.28	64.5	50.9	97.9
192	30.778	0.162	1.23	90	2.13	64.5	50.9	98.9
193	30.941	0.163	1.23	90	2.25	64.5	50.8	99.8
194	31.102	0.161	1.23	90	2.18	64.5	50.7	98.5
195	31.263	0.161	1.24	90	2.12	64.5	50.7	98.4
196	31.423	0.160	1.23	90	2.20	64.5	50.6	97.6
197	31.585	0.162	1.25	90	2.19	64.5	50.5	99.2
198	31.748	0.163	1.24	90	2.30	64.5	50.5	100.6
199	31.909	0.161	1.24	90	2.20	64.5	50.4	99.4
200	32.070	0.161	1.25	90	2.18	64.5	50.3	98.6
201	32.230	0.160	1.25	90	2.11	64.5	50.3	97.7
202	32.392	0.162	1.24	90	2.29	64.5	50.2	99.7
203	32.555	0.163	1.25	90	2.12	64.5	50.2	101.0
204	32.716	0.161	1.24	90	2.13	64.7	50.1	100.3
205	32.876	0.160	1.23	89	2.19	64.7	50	99.9
206	33.036	0.160	1.24	90	2.14	64.9	50	99.9
207	33.198	0.162	1.25	89	2.14	65.1	50	101.2
208	33.359	0.161	1.24	89	2.16	65.4	50	101.0
209	33.518	0.159	1.24	89	2.21	65.6	50.1	100.6
210	33.678	0.160	1.24	90	2.17	65.7	50.1	101.6
211	33.839	0.161	1.23	90	2.14	65.9	50.1	102.6
212	34.001	0.162	1.23	90	2.13	66	50.2	103.0
213	34.160	0.159	1.22	90	2.30	66.2	50.2	100.1
214	34.320	0.160	1.22	90	2.16	66.3	50.3	101.1
215	34.480	0.160	1.23	90	2.20	66.5	50.3	101.3
216	34.642	0.162	1.23	90	2.28	66.3	50.4	101.6

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
217	34.801	0.159	1.24	90	2.26	66.6	50.4	99.4
218	34.960	0.159	1.23	90	2.26	66.5	50.5	99.7
219	35.121	0.161	1.22	90	2.17	66.8	50.6	101.3
220	35.282	0.161	1.23	90	2.29	66.8	50.6	100.5
221	35.441	0.159	1.23	90	2.22	66.9	50.7	98.1
222	35.600	0.159	1.21	90	2.21	67	50.8	98.4
223	35.761	0.161	1.23	90	2.30	67.1	50.8	100.4
224	35.921	0.160	1.23	90	2.24	67.1	51	99.6
225	36.079	0.158	1.21	90	2.28	67.2	51	98.5
226	36.238	0.159	1.23	90	2.18	67.3	51.1	100.1
227	36.399	0.161	1.22	90	2.19	67.3	51.2	101.7
228	36.558	0.159	1.22	90	2.23	67.3	51.2	100.4
229	36.716	0.158	1.22	90	2.33	67.6	51.3	99.5
230	36.877	0.161	1.22	90	2.33	67.6	51.4	100.9
231	37.035	0.158	1.22	90	2.32	67.7	51.5	98.8
232	37.193	0.158	1.21	90	2.19	67.8	51.6	98.7
233	37.353	0.160	1.22	90	2.28	67.8	51.6	100.1
234	37.512	0.159	1.21	90	2.29	67.9	51.7	99.2
235	37.670	0.158	1.21	90	2.34	67.9	51.7	97.9
236	37.829	0.159	1.24	90	2.25	68	51.8	98.1
237	37.992	0.163	1.25	90	2.25	68	51.8	100.8
238	38.152	0.160	1.25	90	2.39	68	52	100.1
239	38.312	0.160	1.24	90	2.38	68	52	100.8
240	38.472	0.160	1.24	90	2.30	68	52	99.8
241	38.635	0.163	1.24	90	2.31	68	52.1	100.8
242	38.795	0.160	1.24	90	2.22	68	52.2	99.0
243	38.955	0.160	1.25	90	2.37	68	52.2	99.1
244	39.115	0.160	1.23	90	2.41	68	52.3	99.5
245	39.276	0.161	1.23	90	2.40	68.1	52.3	100.3
246	39.436	0.160	1.24	90	2.32	68.1	52.4	98.9
247	39.596	0.160	1.23	90	2.24	67.5	52.5	97.9
248	39.757	0.161	1.24	90	2.40	67.3	52.5	98.1
249	39.919	0.162	1.24	90	2.37	67.2	52.6	98.8
250	40.081	0.162	1.23	90	2.21	67.1	52.6	99.1
251	40.242	0.161	1.26	90	2.31	66.9	52.6	98.3
252	40.404	0.162	1.25	90	2.35	66.8	52.7	98.9
253	40.565	0.161	1.26	90	2.20	66.8	52.8	99.1
254	40.728	0.163	1.28	90	2.28	66.6	52.8	100.8
255	40.892	0.164	1.26	90	2.24	66.5	52.8	101.0
256	41.056	0.164	1.27	90	2.35	66.4	52.8	99.9
257	41.220	0.164	1.25	90	2.33	66.3	52.8	99.6
258	41.383	0.163	1.28	90	2.18	66.2	52.8	99.4
259	41.545	0.162	1.24	90	2.25	66.1	52.8	98.8
260	41.706	0.161	1.25	90	2.29	66	52.7	97.6

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
261	41.868	0.162	1.26	90	2.27	65.9	52.7	97.8
262	42.031	0.163	1.27	90	2.18	65.8	52.6	99.1
263	42.193	0.162	1.25	90	2.21	65.7	52.5	98.6
264	42.354	0.161	1.26	90	2.30	65.6	52.5	98.3
265	42.515	0.161	1.25	90	2.30	65.4	52.5	99.2
266	42.677	0.162	1.26	90	2.29	65.3	52.4	99.6
267	42.840	0.163	1.25	90	2.18	65.2	52.4	100.0
268	43.002	0.162	1.25	90	2.14	65.1	52.3	99.8
269	43.164	0.162	1.23	90	2.15	65.1	52.3	99.4
270	43.325	0.161	1.25	91	2.27	65	52.2	98.6
271	43.486	0.161	1.26	90	2.20	64.9	52.2	98.7
272	43.648	0.162	1.25	90	2.19	64.8	52.1	99.4
273	43.812	0.164	1.26	90	2.16	64.8	52	100.6
274	43.973	0.161	1.24	90	2.27	64.7	51.9	98.7
275	44.134	0.161	1.25	90	2.21	64.6	51.8	98.8
276	44.296	0.162	1.26	90	2.30	64.6	51.7	99.2
277	44.458	0.162	1.26	90	2.18	64.5	51.6	98.7
278	44.620	0.162	1.24	90	2.22	64.5	51.6	98.5
279	44.783	0.163	1.25	90	2.20	64.4	51.5	99.6
280	44.945	0.162	1.27	90	2.22	64.4	51.4	100.4
281	45.106	0.161	1.24	90	2.29	64.4	51.3	100.3
282	45.267	0.161	1.26	90	2.16	64.3	51.3	99.7
283	45.429	0.162	1.25	90	2.15	64.3	51.2	100.6
284	45.593	0.164	1.25	90	2.25	64.2	51.1	102.1
285	45.755	0.162	1.25	90	2.26	64.2	51.1	100.4
286	45.916	0.161	1.25	90	2.29	64.2	51.1	99.3
287	46.077	0.161	1.26	90	2.23	64.2	51.1	99.2
288	46.239	0.162	1.26	90	2.15	64.1	51	99.5
289	46.402	0.163	1.26	90	2.23	64.1	50.9	99.3
290	46.564	0.162	1.24	90	2.12	64.1	50.9	99.0
291	46.726	0.162	1.25	90	2.19	64	50.8	99.7
292	46.887	0.161	1.26	90	2.19	64	50.8	99.1
293	47.049	0.162	1.25	90	2.17	63.9	50.7	99.8
294	47.211	0.162	1.25	90	2.15	63.9	50.6	99.8
295	47.374	0.163	1.25	90	2.26	63.9	50.6	100.7
296	47.535	0.161	1.25	90	2.26	64.2	50.6	99.9
297	47.696	0.161	1.25	90	2.31	64.2	50.6	99.7
298	47.856	0.160	1.25	90	2.24	64.4	50.6	99.3
299	48.018	0.162	1.25	90	2.24	64.6	50.7	100.9
300	48.180	0.162	1.24	90	2.19	64.8	50.7	100.7
301	48.341	0.161	1.25	90	2.20	65	50.7	100.4
302	48.501	0.160	1.25	90	2.25	65.1	50.8	99.3
303	48.662	0.161	1.23	90	2.30	65.1	50.8	99.7
304	48.824	0.162	1.24	90	2.18	65.2	50.8	101.3

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
305	48.985	0.161	1.24	90	2.21	65.3	50.9	100.7
306	49.145	0.160	1.24	90	2.26	65.4	50.9	100.0
307	49.305	0.160	1.24	90	2.31	65.5	51	100.3
308	49.466	0.161	1.23	90	2.26	65.6	51.1	100.5
309	49.627	0.161	1.25	90	2.18	65.6	51.1	100.3
310	49.787	0.160	1.22	90	2.30	65.5	51.1	100.3
311	49.947	0.160	1.24	90	2.27	65.6	51.2	100.1
312	50.107	0.160	1.23	90	2.19	65.7	51.2	99.7
313	50.269	0.162	1.23	90	2.30	65.8	51.3	101.8
314	50.429	0.160	1.23	90	2.29	66	51.4	100.7
315	50.588	0.159	1.23	90	2.30	66	51.4	99.6
316	50.749	0.161	1.22	90	2.31	66.1	51.5	101.0
317	50.910	0.161	1.23	90	2.19	66.3	51.6	101.1
318	51.070	0.160	1.22	90	2.30	66.4	51.6	100.2
319	51.229	0.159	1.23	90	2.19	66.5	51.7	99.7
320	51.389	0.160	1.23	90	2.31	66.6	51.7	100.6
321	51.550	0.161	1.23	90	2.30	66.6	51.8	101.4
322	51.709	0.159	1.23	90	2.26	66.7	51.8	99.6
323	51.869	0.160	1.23	90	2.24	66.8	51.9	100.2
324	52.029	0.160	1.24	90	2.31	66.9	52	100.3
325	52.189	0.160	1.23	90	2.22	66.9	52	99.6
326	52.348	0.159	1.22	90	2.33	67	52.1	99.4
327	52.507	0.159	1.22	90	2.22	67	52.1	100.2
328	52.669	0.162	1.22	90	2.22	67	52.2	101.4
329	52.827	0.158	1.22	90	2.21	67.1	52.2	98.4
330	52.986	0.159	1.22	90	2.23	67.2	52.3	99.7
331	53.146	0.160	1.23	90	2.21	67.2	52.3	100.9
332	53.307	0.161	1.23	90	2.26	67.3	52.3	101.1
333	53.465	0.158	1.22	90	2.32	67.4	52.4	98.3
334	53.625	0.160	1.21	90	2.30	67.2	52.4	99.6
335	53.786	0.161	1.22	90	2.31	67.3	52.4	101.4
336	53.945	0.159	1.23	90	2.28	67.2	52.5	100.9
337	54.103	0.158	1.22	90	2.24	67.3	52.5	99.5
338	54.263	0.160	1.22	90	2.22	67.4	52.6	99.5
339	54.423	0.160	1.23	90	2.19	67.1	52.7	98.8
340	54.583	0.160	1.23	90	2.20	67.1	52.7	98.7
341	54.742	0.159	1.25	90	2.27	66.8	52.7	98.3
342	54.903	0.161	1.23	90	2.22	66.7	52.7	99.7
343	55.065	0.162	1.25	90	2.29	66.5	52.7	100.1
344	55.225	0.160	1.25	90	2.18	66.5	52.8	98.6
345	55.386	0.161	1.25	90	2.18	66.3	52.8	99.3
346	55.547	0.161	1.24	90	2.18	66.2	52.8	99.5
347	55.710	0.163	1.25	90	2.21	66.1	52.7	100.9
348	55.872	0.162	1.24	90	2.20	65.9	52.7	99.7

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
349	56.033	0.161	1.25	90	2.27	65.8	52.6	98.7
350	56.194	0.161	1.23	90	2.26	65.7	52.5	99.1
351	56.356	0.162	1.25	90	2.15	65.6	52.5	99.2
352	56.518	0.162	1.24	90	2.24	65.5	52.4	98.2
353	56.681	0.163	1.25	90	2.18	65.4	52.4	99.0
354	56.842	0.161	1.27	90	2.28	65.3	52.3	98.6
355	57.003	0.161	1.24	90	2.24	65.3	52.3	99.8
356	57.164	0.161	1.26	90	2.29	65.2	52.2	100.4
357	57.327	0.163	1.26	90	2.19	65	52.1	100.3
358	57.490	0.163	1.25	90	2.19	65	52	99.1
359	57.651	0.161	1.24	90	2.25	64.9	52	98.1
360	57.812	0.161	1.25	90	2.19	64.9	51.9	99.0
361	57.973	0.161	1.24	90	2.16	64.8	51.9	99.8
362	58.135	0.162	1.25	90	2.21	64.8	51.8	100.3
363	58.298	0.163	1.25	90	2.27	64.9	51.7	100.2
364	58.460	0.162	1.25	90	2.18	64.8	51.7	99.5
365	58.621	0.161	1.27	90	2.28	64.8	51.6	99.1
366	58.782	0.161	1.25	90	2.27	64.7	51.5	100.0
367	58.944	0.162	1.24	90	2.28	64.7	51.4	101.2
368	59.107	0.163	1.25	90	2.28	64.7	51.4	101.3
369	59.269	0.162	1.24	91	2.19	64.6	51.3	99.6
370	59.431	0.162	1.25	90	2.19	64.7	51.2	99.4
371	59.592	0.161	1.24	90	2.17	64.6	51.2	99.5
372	59.753	0.161	1.25	90	2.27	64.6	51.1	100.0
373	59.915	0.162	1.25	90	2.16	64.5	51.1	100.5
374	60.078	0.163	1.25	90	2.16	64.5	51	101.0
375	60.239	0.161	1.26	90	2.25	64.5	50.9	99.2
376	60.400	0.161	1.25	90	2.16	64.5	50.9	98.5
377	60.561	0.161	1.24	90	2.18	64.4	50.8	98.7
378	60.723	0.162	1.25	90	2.27	64.4	50.7	99.4
379	60.887	0.164	1.25	90	2.27	64.3	50.7	100.0
380	61.048	0.161	1.26	90	2.24	64.3	50.6	98.0
381	61.209	0.161	1.27	90	2.25	64.3	50.6	98.2
382	61.370	0.161	1.25	90	2.25	64.2	50.6	98.7
383	61.532	0.162	1.26	91	2.20	64.2	50.6	99.5
384	61.695	0.163	1.25	90	2.25	64.2	50.5	99.6
385	61.857	0.162	1.25	90	2.26	64.1	50.4	98.7
386	62.019	0.162	1.24	90	2.18	64.1	50.4	99.1
387	62.180	0.161	1.25	90	2.27	64.1	50.3	98.9
388	62.341	0.161	1.26	90	2.21	64	50.3	98.8
389	62.503	0.162	1.24	90	2.28	64.3	50.2	100.1
390	62.665	0.162	1.26	90	2.20	64.3	50.3	100.7
391	62.826	0.161	1.25	90	2.29	64.4	50.4	100.1
392	62.987	0.161	1.23	90	2.23	64.6	50.5	100.5

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
393	63.148	0.161	1.24	90	2.30	64.7	50.5	100.3
394	63.310	0.162	1.24	90	2.20	64.9	50.5	100.4
395	63.471	0.161	1.24	90	2.20	65	50.6	99.9
396	63.631	0.160	1.22	90	2.31	65.1	50.6	99.9
397	63.791	0.160	1.24	90	2.27	65.1	50.6	100.4
398	63.953	0.162	1.24	90	2.28	65.1	50.6	101.3
399	64.115	0.162	1.24	90	2.29	65.2	50.7	100.5
400	64.275	0.160	1.24	90	2.29	65.2	50.8	99.7
401	64.435	0.160	1.24	90	2.31	65.2	50.8	100.2
402	64.596	0.161	1.24	90	2.20	65.3	50.8	100.7
403	64.758	0.162	1.25	90	2.17	65.2	50.9	101.9
404	64.919	0.161	1.25	90	2.23	65.2	50.9	100.5
405	65.079	0.160	1.25	90	2.23	65.5	51	99.1
406	65.239	0.160	1.25	90	2.19	65.4	51.1	99.7
407	65.400	0.161	1.23	90	2.18	65.5	51.2	100.1
408	65.562	0.162	1.24	90	2.31	65.5	51.2	100.3
409	65.722	0.160	1.24	90	2.28	65.7	51.3	99.5
410	65.882	0.160	1.24	90	2.19	65.7	51.3	99.7
411	66.043	0.161	1.23	90	2.28	65.7	51.4	100.1
412	66.205	0.162	1.24	90	2.18	65.8	51.4	101.3
413	66.365	0.160	1.24	90	2.29	65.9	51.5	100.5
414	66.525	0.160	1.23	90	2.28	66	51.5	100.3
415	66.685	0.160	1.24	90	2.19	65.9	51.6	100.4
416	66.848	0.163	1.24	90	2.20	66	51.7	101.9
417	67.008	0.160	1.24	90	2.21	66.1	51.8	99.7
418	67.168	0.160	1.24	90	2.30	66.3	51.9	100.7
419	67.328	0.160	1.26	90	2.19	66.4	51.9	100.7
420	67.490	0.162	1.24	90	2.32	66.4	51.9	100.9
421	67.651	0.161	1.22	90	2.19	66.5	52	100.3
422	67.811	0.160	1.24	90	2.26	66.5	52	99.5
423	67.971	0.160	1.24	90	2.18	66.6	52.1	99.3
424	68.132	0.161	1.22	90	2.30	66.7	52.1	100.9
425	68.294	0.162	1.23	90	2.20	66.6	52.2	102.2
426	68.454	0.160	1.24	90	2.30	66.7	52.2	100.5
427	68.614	0.160	1.25	90	2.25	66.7	52.3	100.5
428	68.774	0.160	1.22	90	2.19	66.7	52.3	100.8
429	68.937	0.163	1.25	90	2.31	66.8	52.3	102.3
430	69.097	0.160	1.24	90	2.17	66.8	52.3	100.4
431	69.257	0.160	1.23	90	2.24	66.8	52.4	100.8
432	69.417	0.160	1.24	90	2.28	66.8	52.4	100.6
433	69.579	0.162	1.22	90	2.31	66.8	52.5	102.3
434	69.740	0.161	1.23	90	2.32	66.9	52.5	102.3
435	69.900	0.160	1.24	90	2.28	66.9	52.4	100.9
436	70.060	0.160	1.24	90	2.29	66.7	52.5	100.2

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
437	70.222	0.162	1.26	90	2.30	66.5	52.5	101.4
438	70.384	0.162	1.25	90	2.21	66.3	52.4	100.8
439	70.545	0.161	1.25	90	2.30	66.1	52.4	99.5
440	70.705	0.160	1.24	90	2.15	65.9	52.3	98.7
441	70.866	0.161	1.25	90	2.18	65.8	52.3	99.2
442	71.028	0.162	1.22	90	2.20	65.7	52.3	99.9
443	71.190	0.162	1.24	90	2.22	65.6	52.2	100.2
444	71.351	0.161	1.25	90	2.24	65.5	52.2	99.9
445	71.512	0.161	1.25	90	2.29	65.4	52.2	99.2
446	71.673	0.161	1.24	90	2.14	65.3	52.1	97.9
447	71.836	0.163	1.25	90	2.30	65.2	52	99.0
448	71.998	0.162	1.24	90	2.14	65.1	51.9	99.0
449	72.159	0.161	1.24	90	2.28	65	51.9	98.6
450	72.320	0.161	1.25	90	2.15	64.9	51.8	98.6
451	72.481	0.161	1.26	90	2.22	64.8	51.7	98.9
452	72.644	0.163	1.24	90	2.24	64.7	51.7	100.2
453	72.806	0.162	1.24	90	2.16	64.6	51.6	99.7
454	72.967	0.161	1.23	90	2.27	64.6	51.6	99.3
455	73.128	0.161	1.24	90	2.15	64.6	51.6	99.3
456	73.289	0.161	1.25	90	2.15	64.7	51.5	99.5
457	73.451	0.162	1.24	90	2.17	64.6	51.4	100.3
458	73.614	0.163	1.22	90	2.27	64.6	51.4	101.1
459	73.775	0.161	1.24	90	2.28	64.6	51.3	99.8
460	73.936	0.161	1.25	90	2.26	64.5	51.2	99.1
461	74.097	0.161	1.26	90	2.30	64.4	51.2	98.6
462	74.259	0.162	1.24	90	2.27	64.5	51.2	99.3
463	74.422	0.163	1.26	90	2.30	64.4	51.1	100.5
464	74.583	0.161	1.25	90	2.16	64.3	51.1	99.7
465	74.744	0.161	1.25	90	2.27	64.3	51	98.6
466	74.905	0.161	1.25	90	2.27	64.3	51	97.3
467	75.067	0.162	1.27	90	2.26	64.3	50.9	98.8
468	75.230	0.163	1.25	90	2.29	64.2	50.9	100.7
469	75.391	0.161	1.26	90	2.23	64.2	50.8	99.1
470	75.552	0.161	1.25	90	2.25	64.1	50.7	98.7
471	75.713	0.161	1.25	90	2.19	64	50.6	98.8
472	75.875	0.162	1.25	90	2.17	64	50.6	99.4
473	76.038	0.163	1.24	90	2.31	63.9	50.5	100.8
474	76.199	0.161	1.23	90	2.27	63.9	50.4	100.5
475	76.360	0.161	1.25	90	2.13	63.8	50.4	99.7
476	76.521	0.161	1.25	90	2.22	63.7	50.3	98.1
477	76.683	0.162	1.23	90	2.27	63.7	50.3	98.6
478	76.846	0.163	1.24	90	2.17	63.7	50.2	101.0
479	77.007	0.161	1.24	90	2.23	63.7	50.2	100.7
480	77.168	0.161	1.25	90	2.28	63.6	50.2	99.8

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
481	77.329	0.161	1.24	90	2.18	63.7	50.2	98.8
482	77.491	0.162	1.26	90	2.16	63.6	50.1	99.2
483	77.654	0.163	1.25	90	2.16	63.6	50.1	100.3
484	77.815	0.161	1.24	90	2.16	63.6	50.1	99.1
485	77.976	0.161	1.25	90	2.27	63.6	50.1	98.3
486	78.137	0.161	1.26	89	2.19	63.6	50.1	98.0
487	78.299	0.162	1.22	90	2.27	64	50.1	99.8
488	78.461	0.162	1.25	90	2.17	64	50.2	101.0
489	78.622	0.161	1.26	90	2.20	64.2	50.3	100.2
490	78.783	0.161	1.24	90	2.21	64.3	50.3	99.3
491	78.943	0.160	1.24	90	2.27	64.5	50.3	99.0
492	79.104	0.161	1.24	89	2.25	64.6	50.3	101.8
493	79.267	0.163	1.24	89	2.28	64.8	50.3	103.6
494	79.428	0.161	1.26	90	2.24	64.9	50.4	101.3
495	79.588	0.160	1.24	90	2.29	65.1	50.4	100.5
496	79.748	0.160	1.24	90	2.30	65.2	50.4	100.0
497	79.910	0.162	1.24	89	2.24	65.2	50.4	100.8
498	80.072	0.162	1.25	90	2.21	65.3	50.5	101.2
499	80.231	0.159	1.24	90	2.28	65.4	50.5	99.8
500	80.392	0.161	1.23	89	2.28	65.4	50.5	101.2
501	80.553	0.161	1.23	89	2.24	65.5	50.6	101.1
502	80.715	0.162	1.26	89	2.19	65.5	50.6	101.3
503	80.875	0.160	1.25	90	2.30	65.5	50.6	99.3
504	81.035	0.160	1.24	89	2.18	65.6	50.6	99.3
505	81.195	0.160	1.24	89	2.22	65.6	50.7	99.9
506	81.358	0.163	1.24	89	2.16	65.7	50.8	101.8
507	81.518	0.160	1.25	89	2.23	65.7	50.8	99.6
508	81.678	0.160	1.23	90	2.19	65.7	50.9	99.3
509	81.838	0.160	1.24	89	2.29	65.8	50.9	99.1
510	82.000	0.162	1.23	90	2.32	65.9	51	100.1
511	82.161	0.161	1.25	89	2.25	65.9	51	98.9
512	82.321	0.160	1.23	89	2.27	65.8	51.1	98.6
513	82.480	0.159	1.23	89	2.21	65.8	51.2	99.4
514	82.642	0.162	1.25	89	2.28	65.8	51.2	102.2
515	82.803	0.161	1.24	89	2.20	66	51.3	100.6
516	82.962	0.159	1.24	89	2.30	66.1	51.4	98.8
517	83.122	0.160	1.24	89	2.27	66.2	51.5	100.4
518	83.283	0.161	1.24	89	2.31	66.3	51.6	101.7
519	83.445	0.162	1.25	89	2.21	66.4	51.6	102.4
520	83.605	0.160	1.24	89	2.21	66.5	51.7	100.9
521	83.765	0.160	1.23	89	2.27	66.6	51.7	100.6
522	83.925	0.160	1.24	89	2.20	66.6	51.8	100.2
523	84.087	0.162	1.23	89	2.21	66.7	51.8	100.9
524	84.247	0.160	1.23	89	2.19	66.7	51.9	100.2

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
525	84.407	0.160	1.23	89	2.18	66.7	51.9	100.7
526	84.567	0.160	1.25	89	2.24	66.8	52	100.6
527	84.730	0.163	1.23	89	2.18	66.8	52	103.0
528	84.890	0.160	1.24	89	2.29	66.8	52.1	101.2
529	85.049	0.159	1.24	89	2.29	66.8	52.1	99.8
530	85.210	0.161	1.23	89	2.30	66.6	52.1	99.9
531	85.372	0.162	1.24	90	2.29	66.4	52.1	100.0
532	85.534	0.162	1.22	89	2.18	66.2	52	100.2
533	85.694	0.160	1.25	89	2.27	66	51.9	99.0
534	85.855	0.161	1.24	89	2.18	65.8	51.9	99.4
535	86.016	0.161	1.23	89	2.18	65.7	51.8	99.1
536	86.179	0.163	1.23	90	2.18	65.6	51.8	100.0
537	86.340	0.161	1.24	89	2.19	65.4	51.7	98.9
538	86.500	0.160	1.25	89	2.28	65.3	51.7	98.8
539	86.661	0.161	1.25	90	2.28	65.2	51.7	99.3
540	86.823	0.162	1.24	89	2.23	65.1	51.7	99.5
541	86.986	0.163	1.25	89	2.21	65	51.6	99.8
542	87.147	0.161	1.24	89	2.17	64.9	51.6	98.6
543	87.308	0.161	1.22	89	2.23	64.9	51.5	98.2
544	87.468	0.160	1.25	89	2.17	64.8	51.5	97.2
545	87.630	0.162	1.24	89	2.26	64.8	51.5	99.5
546	87.793	0.163	1.24	90	2.29	64.8	51.4	100.5
547	87.954	0.161	1.24	89	2.21	64.7	51.3	99.0
548	88.115	0.161	1.24	89	2.26	64.7	51.3	99.2
549	88.275	0.160	1.23	89	2.18	64.7	51.3	98.3
550	88.437	0.162	1.23	89	2.18	64.7	51.3	98.8
551	88.600	0.163	1.24	89	2.19	64.6	51.2	99.8
552	88.761	0.161	1.25	89	2.29	64.6	51.2	99.5
553	88.922	0.161	1.25	90	2.22	64.5	51.2	99.8
554	89.083	0.161	1.24	89	2.16	64.4	51.1	99.6
555	89.244	0.161	1.24	89	2.29	64.4	51.1	99.3
556	89.407	0.163	1.24	89	2.28	64.3	51	100.5
557	89.568	0.161	1.25	89	2.28	64.4	51	99.3
558	89.729	0.161	1.24	90	2.19	64.3	51	98.8
559	89.890	0.161	1.25	89	2.28	64.2	50.9	98.8
560	90.052	0.162	1.23	90	2.17	64.2	50.8	99.8
561	90.214	0.162	1.26	90	2.26	64.1	50.7	99.4
562	90.375	0.161	1.25	90	2.27	64.1	50.7	99.2
563	90.536	0.161	1.25	89	2.16	64	50.6	99.3
564	90.697	0.161	1.25	89	2.30	63.9	50.6	98.8
565	90.859	0.162	1.24	89	2.26	63.9	50.6	100.1
566	91.021	0.162	1.24	90	2.26	63.9	50.5	100.7
567	91.182	0.161	1.26	89	2.26	63.8	50.5	100.1
568	91.343	0.161	1.25	89	2.21	63.8	50.5	99.9

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
569	91.504	0.161	1.24	89	2.20	63.8	50.5	99.5
570	91.666	0.162	1.23	89	2.18	63.9	50.5	98.9
571	91.828	0.162	1.27	89	2.21	63.9	50.5	98.1
572	91.989	0.161	1.25	89	2.19	63.9	50.5	98.4
573	92.150	0.161	1.24	89	2.22	63.9	50.4	99.2
574	92.311	0.161	1.24	90	2.20	63.9	50.4	98.5
575	92.473	0.162	1.26	90	2.31	63.9	50.4	98.6
576	92.635	0.162	1.24	89	2.16	63.9	50.4	99.2
577	92.796	0.161	1.26	89	2.29	63.9	50.4	99.3
578	92.957	0.161	1.25	89	2.27	63.9	50.4	100.2
579	93.118	0.161	1.24	89	2.29	64.1	50.3	100.9
580	93.280	0.162	1.24	89	2.30	64.1	50.4	100.7
581	93.441	0.161	1.24	89	2.30	64.2	50.4	99.8
582	93.601	0.160	1.24	90	2.16	64.3	50.5	100.4
583	93.762	0.161	1.24	90	2.16	64.5	50.4	100.8
584	93.923	0.161	1.24	90	2.29	64.6	50.4	99.6
585	94.086	0.163	1.26	89	2.22	64.7	50.4	101.0
586	94.246	0.160	1.21	89	2.17	64.8	50.3	99.1
587	94.407	0.161	1.25	89	2.29	64.9	50.3	99.2
588	94.567	0.160	1.25	90	2.20	65	50.3	99.8
589	94.729	0.162	1.25	89	2.30	65.2	50.4	102.0
590	94.890	0.161	1.26	89	2.21	65.3	50.4	100.7
591	95.050	0.160	1.24	90	2.21	65.4	50.4	99.2
592	95.211	0.161	1.25	89	2.28	65.5	50.4	100.1
593	95.372	0.161	1.24	89	2.17	65.7	50.5	101.3
594	95.534	0.162	1.24	90	2.32	65.8	50.5	102.4
595	95.694	0.160	1.23	90	2.29	65.9	50.5	101.1
596	95.854	0.160	1.25	89	2.18	66	50.6	100.7
597	96.014	0.160	1.24	90	2.31	66.1	50.6	99.8
598	96.177	0.163	1.24	90	2.21	66.2	50.6	102.4
599	96.337	0.160	1.24	90	2.26	66.3	50.7	102.0
600	96.497	0.160	1.24	90	2.32	66.4	50.7	102.0
601	96.657	0.160	1.25	90	2.28	66.5	50.7	101.4
602	96.819	0.162	1.23	90	2.32	66.6	50.7	102.4
603	96.980	0.161	1.24	89	2.30	66.7	50.7	100.8
604	97.139	0.159	1.25	90	2.28	66.7	50.8	99.4
605	97.299	0.160	1.21	89	2.17	66.8	50.9	102.1
606	97.461	0.162	1.22	90	2.21	66.8	50.9	103.8
607	97.622	0.161	1.24	90	2.32	66.9	51	101.3
608	97.782	0.160	1.24	90	2.27	66.9	51	100.0
609	97.942	0.160	1.24	90	2.31	67	51.1	100.4
610	98.103	0.161	1.25	90	2.21	67	51.1	100.6
611	98.264	0.161	1.24	90	2.21	67.1	51.1	100.3
612	98.424	0.160	1.24	90	2.28	67.1	51.2	99.8

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
613	98.584	0.160	1.25	90	2.19	67.2	51.2	99.8
614	98.744	0.160	1.24	90	2.28	67.2	51.2	100.2
615	98.907	0.163	1.23	90	2.21	67.2	51.2	102.3
616	99.067	0.160	1.24	90	2.18	67.2	51.2	100.4
617	99.227	0.160	1.24	90	2.28	67.1	51.2	100.2
618	99.387	0.160	1.25	90	2.29	67	51.2	100.0
619	99.550	0.163	1.25	90	2.26	66.9	51.2	102.0
620	99.711	0.161	1.24	90	2.31	66.7	51.2	100.2
621	99.871	0.160	1.24	90	2.31	66.6	51.2	99.3
622	100.031	0.160	1.24	90	2.27	66.6	51.2	99.9
623	100.193	0.162	1.23	90	2.17	66.5	51.3	101.0
624	100.355	0.162	1.25	90	2.31	66.5	51.3	100.9
625	100.516	0.161	1.24	90	2.30	66.3	51.2	99.9
626	100.676	0.160	1.23	90	2.30	66.3	51.3	99.2
627	100.837	0.161	1.24	90	2.21	66.2	51.3	99.8
628	100.999	0.162	1.23	90	2.29	66.2	51.3	99.9
629	101.160	0.161	1.23	90	2.23	66.1	51.3	99.1
630	101.321	0.161	1.25	90	2.29	66.1	51.3	98.8
631	101.481	0.160	1.24	90	2.18	66	51.2	97.9
632	101.642	0.161	1.26	90	2.18	65.9	51.2	98.8
633	101.805	0.163	1.24	90	2.26	65.8	51.2	100.6
634	101.966	0.161	1.24	90	2.30	65.7	51.2	99.5
635	102.127	0.161	1.25	90	2.24	65.6	51.1	99.0
636	102.287	0.160	1.25	90	2.28	65.6	51.1	97.8
637	102.449	0.162	1.24	90	2.16	65.5	51.1	99.1
638	102.611	0.162	1.23	90	2.17	65.4	51.1	99.7
639	102.772	0.161	1.25	90	2.17	65.4	51	99.0
640	102.933	0.161	1.25	90	2.28	65.2	51	98.8
641	103.093	0.160	1.24	90	2.30	65.2	51	98.2
642	103.255	0.162	1.24	90	2.15	65.1	50.9	99.2
643	103.417	0.162	1.23	90	2.22	65	50.8	99.1
644	103.578	0.161	1.24	90	2.29	64.9	50.8	98.9
645	103.738	0.160	1.24	90	2.30	64.8	50.6	98.4
646	103.900	0.162	1.25	90	2.28	64.7	50.6	99.3
647	104.062	0.162	1.25	90	2.27	64.6	50.6	99.4
648	104.223	0.161	1.25	90	2.29	64.5	50.6	98.4
649	104.384	0.161	1.24	90	2.29	64.4	50.5	97.8
650	104.545	0.161	1.25	90	2.28	64.3	50.5	98.0
651	104.706	0.161	1.24	90	2.29	64.3	50.4	98.0
652	104.869	0.163	1.24	90	2.20	64.2	50.5	99.0
653	105.030	0.161	1.24	90	2.17	64.2	50.4	98.5
654	105.190	0.160	1.24	90	2.31	64.2	50.4	98.9
655	105.351	0.161	1.26	90	2.22	64	50.4	99.6
656	105.512	0.161	1.25	90	2.21	63.9	50.4	98.8

Train B - Particulate Sampling

ASTM E2515

Run: 2

Test Date: 2/25/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.67 in. Hg

Post-Test 0 cfm @ 5.89 in. Hg

Test Start Time: 11:01

Total Sampling Time: 694 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
657	105.675	0.163	1.25	90	2.27	63.9	50.4	99.5
658	105.836	0.161	1.26	90	2.29	64	50.4	97.8
659	105.997	0.161	1.25	90	2.29	63.9	50.4	97.6
660	106.157	0.160	1.25	90	2.17	63.9	50.4	97.4
661	106.319	0.162	1.24	90	2.28	64	50.4	98.8
662	106.482	0.163	1.25	90	2.19	64	50.4	100.5
663	106.643	0.161	1.25	90	2.19	64	50.4	100.0
664	106.803	0.160	1.25	90	2.29	64	50.4	98.4
665	106.964	0.161	1.24	90	2.19	64.1	50.4	98.6
666	107.126	0.162	1.23	90	2.21	64	50.3	99.1
667	107.288	0.162	1.24	90	2.15	64	50.3	99.3
668	107.448	0.160	1.25	90	2.19	64	50.3	97.9
669	107.608	0.160	1.24	90	2.27	64.2	50.3	97.9
670	107.769	0.161	1.22	90	2.16	64.3	50.3	99.5
671	107.932	0.163	1.25	90	2.22	64.4	50.4	100.7
672	108.093	0.161	1.24	90	2.17	64.6	50.4	99.4
673	108.253	0.160	1.23	90	2.21	64.7	50.4	99.3
674	108.413	0.160	1.27	90	2.22	64.8	50.3	99.9
675	108.575	0.162	1.25	90	2.16	64.9	50.3	102.2
676	108.737	0.162	1.24	90	2.19	65	50.3	102.4
677	108.897	0.160	1.25	90	2.19	65.1	50.3	101.0
678	109.057	0.160	1.22	90	2.31	65.1	50.3	100.7
679	109.218	0.161	1.25	90	2.30	65.1	50.3	100.6
680	109.381	0.163	1.24	90	2.31	65.2	50.4	101.2
681	109.541	0.160	1.22	90	2.18	65.2	50.4	99.6
682	109.701	0.160	1.26	90	2.21	65.3	50.4	100.6
683	109.861	0.160	1.23	90	2.32	65.3	50.4	101.1
684	110.023	0.162	1.24	90	2.28	65.3	50.4	101.6
685	110.185	0.162	1.24	90	2.19	65.4	50.5	99.8
686	110.344	0.159	1.26	90	2.18	65.4	50.5	97.7
687	110.505	0.161	1.26	90	2.19	65.5	50.5	99.9
688	110.666	0.161	1.26	90	2.25	65.5	50.5	100.3
689	110.828	0.162	1.25	90	2.31	65.5	50.6	101.3
690	110.989	0.161	1.24	90	2.18	65.5	50.6	100.6
691	111.148	0.159	1.24	90	2.16	65.5	50.6	99.3
692	111.309	0.161	1.24	90	2.18	65.5	50.6	100.9
693	111.471	0.162	1.24	89	2.19	65.5	50.7	100.8
694	111.632	0.161	1.26	90	2.29	65.4	50.7	99.2

Train C - First Hour Particulate Sampling

Run:	2	Test Date:	2/25/25
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0056
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.006
Project No.:	0117WB044E	Sample Box ID:	336
Start Time:	11:01	Sample Train Leak Checks	
Total Sampling Time:	60 min	Pre-test	0.002 cfm @ 19.15 in. Hg
Recording Interval:	1 min	Post-Test	0.001 cfm @ 11.78 in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	9.498	0.158	1.04	69.9	2.78	68.4	59.9	100.6
Minimum	0.000	0.146	1.03	67	2.71	65	57	90.6
Max	9.498	0.160	1.07	73	2.85	70	63	102.7
0	0.000		0.00	67	0.04	64.5	58.8	
1	0.146	0.146	1.07	67	2.78	64.8	58.2	90.6
2	0.306	0.160	1.06	67	2.81	65.5	58	100.9
3	0.465	0.159	1.06	67	2.78	66.1	57.8	101.0
4	0.624	0.159	1.05	67	2.80	65.9	57.6	100.2
5	0.782	0.158	1.05	67	2.80	66.2	57.4	99.5
6	0.942	0.160	1.05	67	2.77	66.4	57.4	101.2
7	1.099	0.157	1.04	67	2.81	66.6	57.3	99.1
8	1.258	0.159	1.04	67	2.80	66.8	57.3	99.8
9	1.416	0.158	1.04	67	2.76	67	57.3	99.8
10	1.573	0.157	1.04	67	2.82	67.2	57.4	100.6
11	1.732	0.159	1.04	67	2.71	67.4	57.4	101.4
12	1.889	0.157	1.04	67	2.78	67.6	57.5	99.1
13	2.048	0.159	1.04	67	2.81	67.6	57.5	100.6
14	2.206	0.158	1.04	67	2.76	67.8	57.6	100.5
15	2.365	0.159	1.04	68	2.83	67.9	57.7	101.4
16	2.522	0.157	1.04	68	2.74	68	57.8	100.2
17	2.681	0.159	1.04	68	2.78	68.1	57.9	100.9
18	2.839	0.158	1.04	68	2.79	68.1	58	99.6
19	2.997	0.158	1.04	68	2.79	68.3	58.2	100.6
20	3.156	0.159	1.04	68	2.71	68.3	58.3	101.7
21	3.314	0.158	1.04	69	2.82	68.5	58.4	99.9
22	3.473	0.159	1.04	69	2.71	68.4	58.5	99.9
23	3.631	0.158	1.04	69	2.73	68.6	58.7	99.7
24	3.790	0.159	1.05	69	2.76	68.5	58.8	101.3
25	3.948	0.158	1.04	69	2.72	68.6	59	101.1
26	4.106	0.158	1.04	69	2.77	68.7	59.2	100.5
27	4.264	0.158	1.03	70	2.74	68.7	59.3	100.4
28	4.422	0.158	1.04	70	2.79	68.8	59.4	100.8
29	4.581	0.159	1.04	70	2.84	68.9	59.5	101.0
30	4.739	0.158	1.04	70	2.74	68.9	59.7	99.9
31	4.898	0.159	1.04	70	2.84	68.9	59.9	101.2
32	5.055	0.157	1.04	70	2.73	68.9	60	100.2

Train C - First Hour Particulate Sampling

Run:	<u>2</u>	Test Date:	<u>2/25/25</u>
Manufacturer:	<u>Central Boiler</u>	Meter Box Y Regression Offset:	<u>1.0056</u>
Model:	<u>Classic Edge 760.1</u>	Meter Box Y Regression Factor:	<u>0</u>
Tracking No.:	<u>2501</u>	Meter Box Dynamic Y:	<u>1.006</u>
Project No.:	<u>0117WB044E</u>	Sample Box ID:	<u>336</u>
Start Time:	<u>11:01</u>	Sample Train Leak Checks	
Total Sampling Time:	<u>60</u> min	Pre-test	<u>0.002</u> cfm @ <u>19.15</u> in. Hg
Recording Interval:	<u>1</u> min	Post-Test	<u>0.001</u> cfm @ <u>11.78</u> in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
33	5.215	0.160	1.04	70	2.82	68.9	60.2	101.1
34	5.373	0.158	1.04	71	2.79	68.9	60.3	99.9
35	5.531	0.158	1.04	71	2.84	68.9	60.5	100.9
36	5.689	0.158	1.03	71	2.85	68.8	60.6	100.9
37	5.847	0.158	1.04	71	2.84	68.9	60.7	100.8
38	6.007	0.160	1.04	71	2.77	68.9	60.9	102.7
39	6.165	0.158	1.04	71	2.73	68.9	61	101.0
40	6.324	0.159	1.04	71	2.77	69	61.2	100.7
41	6.482	0.158	1.04	72	2.75	68.9	61.3	100.4
42	6.641	0.159	1.04	72	2.84	68.9	61.4	101.5
43	6.799	0.158	1.04	72	2.79	69	61.5	100.8
44	6.957	0.158	1.04	72	2.77	69	61.6	100.3
45	7.116	0.159	1.04	72	2.76	69.1	61.8	100.7
46	7.275	0.159	1.04	72	2.83	69.1	61.9	101.1
47	7.434	0.159	1.04	72	2.83	69.2	62	100.7
48	7.592	0.158	1.04	72	2.79	69.2	62.1	100.0
49	7.752	0.160	1.04	72	2.73	69.3	62.2	102.1
50	7.910	0.158	1.04	72	2.82	69.3	62.4	101.1
51	8.068	0.158	1.04	72	2.72	69.3	62.4	101.0
52	8.227	0.159	1.04	72	2.80	69.4	62.5	102.0
53	8.386	0.159	1.04	73	2.76	69.5	62.7	102.1
54	8.545	0.159	1.04	73	2.85	69.4	62.7	101.8
55	8.703	0.158	1.04	73	2.79	69.5	62.9	101.1
56	8.863	0.160	1.04	73	2.83	69.5	63	102.7
57	9.021	0.158	1.04	73	2.74	69.5	63.1	101.1
58	9.180	0.159	1.04	73	2.72	69.5	63.2	101.2
59	9.339	0.159	1.04	73	2.82	69.5	63.3	101.4
60	9.498	0.159	1.04	73	2.76	69.5	63.3	101.4

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time 694 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
Tot / Avg	107.229	0.155	1.10	75.5	1.95	234.41	-0.029	498.0	0.26	9.37
Minimum	0.000	0.110	0.00	68	0.03	128.70	-0.072	111.0	0.01	0.64
Max	107.229	0.161	1.22	76	2.04	321.60	-0.008	547.0	2.47	19.57
0	0.000		0.00	68	0.03	260.1	-0.033	396.0	0.05	15.41
1	0.155	0.155	1.22	68	2.02	235.2	-0.030	547.0	0.18	4.60
2	0.316	0.161	1.21	68	2.04	251	-0.026	547.0	0.44	7.25
3	0.475	0.159	1.18	68	2.01	274.1	-0.051	547.0	0.19	19.57
4	0.628	0.153	1.08	68	1.92	260.8	-0.041	377.0	0.03	15.84
5	0.781	0.153	1.09	68	1.93	272	-0.034	524.0	0.04	17.25
6	0.933	0.152	1.08	68	1.91	268.1	-0.032	329.0	0.03	15.12
7	1.084	0.151	1.08	68	1.92	273.2	-0.040	547.0	0.05	17.31
8	1.235	0.151	1.07	68	1.91	272.9	-0.048	443.0	0.05	15.89
9	1.386	0.151	1.07	68	1.92	276.5	-0.023	547.0	0.05	17.21
10	1.537	0.151	1.06	68	1.92	276.1	-0.039	522.0	0.05	15.99
11	1.688	0.151	1.07	68	1.90	278.5	-0.035	547.0	0.05	17.05
12	1.839	0.151	1.06	68	1.92	277.4	-0.036	524.0	0.05	15.97
13	1.990	0.151	1.09	69	1.94	278.9	-0.047	544.0	0.05	17.19
14	2.142	0.152	1.09	69	1.93	277.1	-0.024	442.0	0.04	15.31
15	2.295	0.153	1.09	69	1.95	281.2	-0.038	543.0	0.05	16.98
16	2.448	0.153	1.09	69	1.94	279.1	-0.044	416.0	0.04	15.63
17	2.601	0.153	1.09	69	1.94	282.8	-0.040	467.0	0.04	15.95
18	2.753	0.152	1.09	69	1.93	279.8	-0.030	502.0	0.04	15.80
19	2.905	0.152	1.09	69	1.92	284.2	-0.030	460.0	0.04	15.80
20	3.058	0.153	1.09	69	1.92	281.6	-0.024	422.0	0.04	15.85
21	3.211	0.153	1.09	70	1.93	287.6	-0.041	358.0	0.03	15.75
22	3.364	0.153	1.09	70	1.94	282	-0.040	382.0	0.03	16.15
23	3.515	0.151	1.09	70	1.94	288.1	-0.048	341.0	0.03	15.38
24	3.668	0.153	1.09	70	1.94	283.1	-0.030	353.0	0.03	16.86
25	3.821	0.153	1.09	70	1.92	287.2	-0.046	354.0	0.03	15.75
26	3.974	0.153	1.09	70	1.94	291.1	-0.038	382.0	0.03	16.32
27	4.126	0.152	1.09	70	1.92	287.5	-0.039	262.0	0.02	13.89
28	4.279	0.153	1.08	71	1.92	291.1	-0.041	357.0	0.03	15.80
29	4.432	0.153	1.08	71	1.92	293.2	-0.033	360.0	0.03	16.11
30	4.585	0.153	1.09	71	1.93	293.9	-0.032	371.0	0.03	16.02
31	4.738	0.153	1.09	71	1.91	294.6	-0.044	369.0	0.03	15.79
32	4.890	0.152	1.09	71	1.94	294.8	-0.022	390.0	0.03	15.75

Train D - Ambient Background and Flue Gas Data

Run:	2	Test Date:	2/25/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:01		
Total Sampling Time	694 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
33	5.043	0.153	1.09	71	1.91	294.7	-0.029	396.0	0.03	15.55
34	5.196	0.153	1.09	71	1.92	295.2	-0.034	380.0	0.03	15.49
35	5.349	0.153	1.09	71	1.91	294.9	-0.027	353.0	0.03	15.45
36	5.501	0.152	1.09	71	1.93	295.4	-0.039	361.0	0.03	15.43
37	5.654	0.153	1.09	72	1.92	296	-0.033	372.0	0.03	15.73
38	5.808	0.154	1.09	72	1.92	296.8	-0.041	378.0	0.03	15.76
39	5.961	0.153	1.09	72	1.92	297.7	-0.025	361.0	0.03	15.71
40	6.113	0.152	1.09	72	1.95	298	-0.035	358.0	0.03	15.83
41	6.266	0.153	1.08	72	1.94	298.2	-0.041	361.0	0.03	15.65
42	6.420	0.154	1.08	72	1.92	298.5	-0.034	354.0	0.03	15.35
43	6.573	0.153	1.09	72	1.90	300.3	-0.036	323.0	0.03	15.69
44	6.726	0.153	1.09	72	1.93	301.4	-0.033	325.0	0.02	15.81
45	6.879	0.153	1.09	72	1.96	301.9	-0.040	338.0	0.03	15.83
46	7.033	0.154	1.09	73	1.93	302.1	-0.035	328.0	0.03	15.79
47	7.187	0.154	1.09	73	1.92	302.7	-0.035	297.0	0.02	15.78
48	7.340	0.153	1.09	73	1.94	298.6	-0.034	244.0	0.02	14.73
49	7.493	0.153	1.09	73	1.93	301.1	-0.039	263.0	0.02	15.49
50	7.647	0.154	1.09	73	1.92	296.7	-0.035	241.0	0.02	15.79
51	7.801	0.154	1.09	73	1.95	300.1	-0.042	252.0	0.02	15.14
52	7.953	0.152	1.10	73	1.92	302.6	-0.037	219.0	0.02	15.57
53	8.107	0.154	1.09	73	1.92	298.5	-0.037	197.0	0.01	15.34
54	8.261	0.154	1.09	73	1.95	301.3	-0.029	221.0	0.02	15.08
55	8.415	0.154	1.10	73	1.95	302.2	-0.037	191.0	0.01	15.51
56	8.568	0.153	1.09	73	1.95	298.1	-0.044	175.0	0.01	13.36
57	8.722	0.154	1.09	73	1.92	300.7	-0.031	220.0	0.01	15.07
58	8.876	0.154	1.10	74	1.92	303	-0.027	186.0	0.01	15.43
59	9.030	0.154	1.10	74	1.94	299.8	-0.036	172.0	0.01	14.57
60	9.183	0.153	1.09	74	1.96	302	-0.045	202.0	0.01	15.17
61	9.337	0.154	1.09	74	1.94	303.7	-0.042	170.0	0.01	15.18
62	9.491	0.154	1.10	74	1.93	285	-0.035	163.0	0.01	14.12
63	9.601	0.110	1.10	74	1.95	259.8	-0.034	111.0	0.01	9.24
64	9.754	0.153	1.09	74	1.93	244.9	-0.035	405.0	0.05	6.83
65	9.908	0.154	1.09	74	1.95	234.1	-0.034	484.0	0.05	6.32
66	10.062	0.154	1.10	74	1.93	228	-0.028	547.0	0.08	4.59
67	10.216	0.154	1.10	74	1.93	223.5	-0.030	547.0	0.08	4.46
68	10.369	0.153	1.10	74	1.95	218.6	-0.028	544.0	0.08	4.32

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
69	10.524	0.155	1.10	74	1.94	214.4	-0.027	547.0	0.07	2.86
70	10.678	0.154	1.10	74	1.95	210.7	-0.028	547.0	0.08	2.57
71	10.831	0.153	1.10	74	1.95	209.5	-0.025	547.0	0.08	2.40
72	10.986	0.155	1.09	74	1.93	209.3	-0.024	547.0	0.06	1.77
73	11.140	0.154	1.09	74	1.93	207.4	-0.021	404.0	0.04	1.20
74	11.294	0.154	1.10	74	1.93	205	-0.022	304.0	0.04	0.89
75	11.447	0.153	1.09	75	1.93	201.8	-0.024	265.0	0.03	0.77
76	11.601	0.154	1.09	75	1.92	198.8	-0.022	259.0	0.02	0.74
77	11.756	0.155	1.10	75	1.91	195.7	-0.020	264.0	0.02	0.78
78	11.909	0.153	1.09	75	1.93	192.8	-0.022	275.0	0.03	0.78
79	12.063	0.154	1.09	75	1.94	189.8	-0.022	252.0	0.02	0.72
80	12.217	0.154	1.09	75	1.94	186.8	-0.021	293.0	0.03	0.86
81	12.372	0.155	1.10	75	1.95	184.1	-0.024	310.0	0.03	0.87
82	12.525	0.153	1.10	75	1.93	181.1	-0.022	337.0	0.03	0.96
83	12.679	0.154	1.09	75	1.95	178.1	-0.018	395.0	0.04	1.15
84	12.833	0.154	1.09	75	1.93	175.7	-0.017	436.0	0.04	1.26
85	12.987	0.154	1.10	75	1.96	173.1	-0.016	434.0	0.04	1.28
86	13.140	0.153	1.09	75	1.92	170.3	-0.018	481.0	0.05	1.47
87	13.295	0.155	1.09	75	1.93	168.1	-0.016	488.0	0.05	1.46
88	13.449	0.154	1.10	75	1.94	165.8	-0.021	547.0	0.05	1.54
89	13.602	0.153	1.10	75	1.93	163.7	-0.016	529.0	0.05	1.46
90	13.757	0.155	1.09	75	1.94	161.4	-0.012	526.0	0.05	1.51
91	13.911	0.154	1.10	75	1.94	159.5	-0.016	513.0	0.05	1.46
92	14.065	0.154	1.09	75	1.94	157.5	-0.016	547.0	0.05	1.57
93	14.219	0.154	1.09	75	1.95	155.5	-0.017	522.0	0.05	1.38
94	14.373	0.154	1.09	75	1.95	153.4	-0.015	519.0	0.05	1.44
95	14.528	0.155	1.09	75	1.95	152.1	-0.015	494.0	0.04	1.34
96	14.681	0.153	1.10	75	1.94	149.9	-0.017	513.0	0.05	1.36
97	14.835	0.154	1.09	75	1.96	148.1	-0.016	518.0	0.05	1.33
98	14.990	0.155	1.10	75	1.93	146.6	-0.019	547.0	0.05	1.42
99	15.144	0.154	1.09	75	1.95	145.1	-0.015	544.0	0.06	1.40
100	15.298	0.154	1.09	75	1.95	144	-0.014	476.0	0.05	1.24
101	15.452	0.154	1.09	75	1.95	142.4	-0.015	547.0	0.05	1.38
102	15.607	0.155	1.10	75	1.92	140.8	-0.015	516.0	0.05	1.28
103	15.760	0.153	1.10	75	1.93	139.4	-0.010	477.0	0.05	1.19
104	15.914	0.154	1.10	75	1.96	137.9	-0.014	546.0	0.05	1.29

Train D - Ambient Background and Flue Gas Data

Run:	2	Test Date:	2/25/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:01		
Total Sampling Time	694 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
105	16.069	0.155	1.10	75	1.95	136.6	-0.012	466.0	0.05	1.17
106	16.223	0.154	1.09	75	1.95	135.6	-0.016	505.0	0.05	1.21
107	16.377	0.154	1.09	75	1.93	134.2	-0.011	513.0	0.04	1.24
108	16.531	0.154	1.09	75	1.95	132.7	-0.010	508.0	0.05	1.16
109	16.686	0.155	1.10	75	1.94	131.6	-0.012	495.0	0.05	1.08
110	16.839	0.153	1.10	75	1.95	130.8	-0.013	522.0	0.05	1.15
111	16.994	0.155	1.10	76	1.95	176.8	-0.025	547.0	1.04	7.43
112	17.149	0.155	1.10	75	1.94	214.5	-0.025	547.0	1.20	11.69
113	17.303	0.154	1.10	76	1.94	244.9	-0.031	547.0	0.57	12.76
114	17.456	0.153	1.10	76	1.95	265.9	-0.031	547.0	0.05	14.52
115	17.611	0.155	1.09	76	1.93	280.9	-0.040	459.0	0.03	15.49
116	17.765	0.154	1.09	76	1.94	282.7	-0.030	380.0	0.02	15.52
117	17.919	0.154	1.10	76	1.96	279.3	-0.038	280.0	0.03	15.20
118	18.073	0.154	1.09	76	1.95	284.2	-0.030	396.0	0.03	15.60
119	18.228	0.155	1.10	76	1.97	282.6	-0.033	333.0	0.03	15.51
120	18.382	0.154	1.09	76	1.95	282.7	-0.030	355.0	0.03	15.43
121	18.535	0.153	1.09	76	1.96	283.2	-0.032	385.0	0.03	15.23
122	18.690	0.155	1.09	76	1.94	286.7	-0.029	413.0	0.03	15.23
123	18.844	0.154	1.09	76	1.93	289.5	-0.029	489.0	0.04	14.94
124	18.998	0.154	1.10	76	1.93	299.7	-0.052	547.0	0.05	15.71
125	19.152	0.154	1.09	76	1.94	298.9	-0.038	523.0	0.05	15.80
126	19.307	0.155	1.10	76	1.95	298.8	-0.040	547.0	0.06	15.24
127	19.461	0.154	1.10	76	1.93	303.6	-0.041	547.0	0.10	15.31
128	19.614	0.153	1.09	76	1.96	308.4	-0.037	547.0	0.09	15.38
129	19.769	0.155	1.09	76	1.95	304.5	-0.048	547.0	0.08	15.54
130	19.923	0.154	1.09	76	1.97	302.7	-0.032	547.0	0.12	15.34
131	20.077	0.154	1.09	76	1.92	305.7	-0.035	547.0	0.14	15.20
132	20.230	0.153	1.09	76	1.97	304.4	-0.043	547.0	0.11	14.86
133	20.385	0.155	1.09	76	1.97	311.6	-0.045	547.0	0.12	15.52
134	20.540	0.155	1.10	76	1.97	303.9	-0.037	547.0	0.10	15.32
135	20.693	0.153	1.09	76	1.93	307.2	-0.038	547.0	0.53	13.64
136	20.847	0.154	1.09	76	1.94	311.7	-0.029	547.0	0.11	15.65
137	21.002	0.155	1.09	76	1.99	304.1	-0.033	547.0	0.13	14.92
138	21.155	0.153	1.09	76	1.92	310.8	-0.045	547.0	0.45	13.85
139	21.309	0.154	1.09	76	1.94	311.5	-0.040	547.0	0.10	15.75
140	21.463	0.154	1.09	76	1.92	309.4	-0.043	547.0	0.17	14.25

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time 694 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
141	21.618	0.155	1.10	76	1.93	314.1	-0.050	547.0	0.16	14.54
142	21.771	0.153	1.09	76	1.95	313.7	-0.032	547.0	0.06	16.08
143	21.926	0.155	1.09	76	1.94	311.5	-0.045	547.0	0.13	14.26
144	22.080	0.154	1.09	76	1.93	316.1	-0.040	547.0	0.12	14.43
145	22.234	0.154	1.09	76	1.97	317.5	-0.049	547.0	0.07	15.80
146	22.388	0.154	1.09	76	1.95	311.9	-0.041	547.0	0.08	14.53
147	22.542	0.154	1.09	76	1.97	318.5	-0.063	547.0	0.11	14.97
148	22.697	0.155	1.10	76	1.95	314.2	-0.050	547.0	0.08	16.11
149	22.850	0.153	1.10	76	1.97	315.7	-0.043	547.0	0.29	13.64
150	23.005	0.155	1.10	76	1.93	321.6	-0.051	547.0	0.08	15.22
151	23.160	0.155	1.10	76	1.95	314	-0.042	547.0	0.08	15.04
152	23.314	0.154	1.10	76	1.93	317.7	-0.043	547.0	0.25	14.06
153	23.468	0.154	1.09	76	1.97	317.8	-0.046	547.0	0.06	16.28
154	23.623	0.155	1.10	76	1.93	283.3	-0.038	547.0	0.15	10.23
155	23.778	0.155	1.10	76	1.92	260.6	-0.033	547.0	0.17	9.66
156	23.931	0.153	1.10	76	1.98	246.3	-0.033	547.0	0.21	8.10
157	24.086	0.155	1.09	76	1.94	235.7	-0.032	547.0	0.26	5.92
158	24.241	0.155	1.09	76	1.93	231.2	-0.029	547.0	0.25	4.17
159	24.395	0.154	1.10	76	1.95	226.3	-0.030	547.0	0.23	4.01
160	24.549	0.154	1.10	76	1.93	221.6	-0.031	547.0	0.21	3.06
161	24.704	0.155	1.10	76	1.95	217.6	-0.028	547.0	0.19	2.49
162	24.859	0.155	1.10	76	1.94	213.7	-0.029	547.0	0.19	2.41
163	25.013	0.154	1.10	76	1.95	215	-0.032	547.0	0.16	2.10
164	25.168	0.155	1.10	76	1.95	214.8	-0.026	547.0	0.11	1.43
165	25.323	0.155	1.10	76	1.95	212.9	-0.025	547.0	0.07	0.94
166	25.476	0.153	1.10	76	1.95	210	-0.023	547.0	0.05	0.72
167	25.631	0.155	1.10	76	1.93	206.9	-0.024	460.0	0.05	0.64
168	25.786	0.155	1.10	76	1.94	203.8	-0.025	442.0	0.04	0.64
169	25.940	0.154	1.10	76	1.96	200.7	-0.023	431.0	0.04	0.68
170	26.095	0.155	1.10	76	1.93	197.5	-0.024	440.0	0.04	0.73
171	26.250	0.155	1.11	76	1.96	194.2	-0.021	424.0	0.04	0.70
172	26.405	0.155	1.10	76	1.94	191.1	-0.021	426.0	0.04	0.74
173	26.559	0.154	1.10	76	1.97	188	-0.017	491.0	0.05	0.87
174	26.714	0.155	1.10	76	1.95	185.2	-0.018	547.0	0.05	0.97
175	26.869	0.155	1.10	76	1.94	182.3	-0.018	547.0	0.06	1.11
176	27.023	0.154	1.10	76	1.96	179.6	-0.020	547.0	0.07	1.24

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
177	27.177	0.154	1.10	76	1.93	176.9	-0.022	547.0	0.07	1.33
178	27.333	0.156	1.10	76	1.92	174.4	-0.020	547.0	0.07	1.31
179	27.486	0.153	1.10	76	1.97	172.1	-0.017	547.0	0.07	1.33
180	27.641	0.155	1.10	76	1.92	169.6	-0.014	547.0	0.07	1.36
181	27.796	0.155	1.10	76	1.95	167.3	-0.023	547.0	0.06	1.34
182	27.950	0.154	1.10	76	1.93	164.8	-0.022	547.0	0.07	1.46
183	28.104	0.154	1.10	76	1.94	162.7	-0.021	547.0	0.07	1.40
184	28.260	0.156	1.10	76	1.94	160.9	-0.016	547.0	0.06	1.31
185	28.415	0.155	1.11	76	1.95	158.4	-0.018	547.0	0.06	1.26
186	28.568	0.153	1.10	76	1.96	156.5	-0.022	547.0	0.05	1.13
187	28.723	0.155	1.09	76	1.93	154.7	-0.019	547.0	0.06	1.22
188	28.878	0.155	1.10	76	1.94	152.8	-0.019	547.0	0.05	1.07
189	29.032	0.154	1.10	76	1.97	150.9	-0.016	547.0	0.05	1.10
190	29.186	0.154	1.10	75	1.97	149.5	-0.020	547.0	0.05	1.08
191	29.341	0.155	1.10	75	1.93	147.9	-0.014	526.0	0.05	1.02
192	29.496	0.155	1.10	76	1.97	146	-0.014	531.0	0.05	0.98
193	29.649	0.153	1.10	75	1.96	144.4	-0.016	522.0	0.05	1.01
194	29.804	0.155	1.10	75	1.92	142.6	-0.012	529.0	0.05	1.04
195	29.959	0.155	1.10	75	1.95	141.3	-0.012	451.0	0.04	0.84
196	30.113	0.154	1.10	75	1.96	140	-0.014	481.0	0.05	0.94
197	30.268	0.155	1.10	75	1.94	138.9	-0.014	432.0	0.04	0.84
198	30.422	0.154	1.10	75	1.95	137.6	-0.013	482.0	0.05	0.92
199	30.576	0.154	1.10	75	1.93	135.7	-0.010	473.0	0.04	0.86
200	30.730	0.154	1.10	75	1.93	134.8	-0.012	433.0	0.04	0.82
201	30.886	0.156	1.10	75	1.96	133.3	-0.013	484.0	0.05	0.86
202	31.040	0.154	1.10	75	1.94	132.3	-0.016	436.0	0.04	0.82
203	31.194	0.154	1.10	75	1.97	130.6	-0.019	430.0	0.04	0.78
204	31.348	0.154	1.09	75	1.92	169.9	-0.026	547.0	1.11	6.66
205	31.503	0.155	1.10	75	1.93	205.9	-0.026	547.0	1.48	10.37
206	31.657	0.154	1.10	75	1.95	237.6	-0.028	547.0	0.54	13.11
207	31.811	0.154	1.10	75	1.98	261.5	-0.029	547.0	0.20	14.02
208	31.966	0.155	1.10	75	1.94	278	-0.033	547.0	0.07	14.70
209	32.120	0.154	1.10	75	1.94	288	-0.040	487.0	0.04	15.09
210	32.274	0.154	1.10	75	1.93	287.3	-0.036	479.0	0.04	15.91
211	32.428	0.154	1.09	75	1.94	289.3	-0.030	352.0	0.03	15.27
212	32.583	0.155	1.09	75	1.97	287.8	-0.031	319.0	0.03	16.20

Train D - Ambient Background and Flue Gas Data

Run:	2	Test Date:	2/25/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:01		
Total Sampling Time	694 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
213	32.736	0.153	1.10	75	1.95	288	-0.037	351.0	0.03	16.31
214	32.891	0.155	1.09	76	1.94	288.8	-0.028	428.0	0.04	16.44
215	33.046	0.155	1.09	76	1.94	289.9	-0.018	493.0	0.04	16.57
216	33.200	0.154	1.10	76	1.95	278	-0.041	341.0	0.03	15.99
217	33.354	0.154	1.10	76	1.97	286.5	-0.034	462.0	0.04	16.51
218	33.508	0.154	1.10	76	1.93	278.9	-0.032	360.0	0.02	15.93
219	33.663	0.155	1.10	76	1.97	289.9	-0.037	529.0	0.05	16.68
220	33.817	0.154	1.10	76	1.93	285.6	-0.039	372.0	0.03	15.36
221	33.971	0.154	1.10	76	1.95	294.8	-0.032	547.0	0.07	16.88
222	34.126	0.155	1.10	76	1.95	294.7	-0.041	547.0	0.04	14.85
223	34.280	0.154	1.10	76	1.98	299.4	-0.039	547.0	0.07	16.58
224	34.434	0.154	1.10	76	1.95	301.6	-0.046	547.0	0.06	16.56
225	34.589	0.155	1.10	76	1.96	302.7	-0.047	547.0	0.08	16.19
226	34.744	0.155	1.10	76	1.96	304	-0.024	547.0	0.09	16.36
227	34.897	0.153	1.10	76	1.95	303.2	-0.026	547.0	0.08	15.50
228	35.052	0.155	1.10	76	1.96	302.1	-0.039	547.0	0.09	14.94
229	35.207	0.155	1.10	76	1.97	304.2	-0.054	547.0	0.08	15.75
230	35.361	0.154	1.10	76	1.95	302.7	-0.055	547.0	0.09	16.19
231	35.516	0.155	1.10	76	1.94	302.1	-0.050	547.0	0.10	16.18
232	35.671	0.155	1.10	76	1.94	301.9	-0.044	547.0	0.11	16.30
233	35.825	0.154	1.10	76	1.94	303.6	-0.052	547.0	0.12	16.33
234	35.979	0.154	1.10	76	1.95	301.1	-0.030	547.0	0.10	16.35
235	36.134	0.155	1.10	76	1.96	304.6	-0.046	547.0	0.16	15.87
236	36.289	0.155	1.11	76	1.97	307.4	-0.032	547.0	0.14	15.82
237	36.442	0.153	1.10	76	1.95	310	-0.051	547.0	0.15	15.82
238	36.597	0.155	1.09	76	1.95	310.7	-0.041	547.0	0.13	15.84
239	36.752	0.155	1.10	76	1.94	311.6	-0.040	547.0	0.12	15.77
240	36.906	0.154	1.10	76	1.94	311.6	-0.038	547.0	0.11	15.71
241	37.060	0.154	1.10	76	1.96	312.1	-0.034	547.0	0.13	15.50
242	37.216	0.156	1.10	76	1.93	312.5	-0.044	547.0	0.11	15.52
243	37.370	0.154	1.10	76	1.93	312.7	-0.038	547.0	0.10	15.65
244	37.524	0.154	1.10	76	1.95	312.4	-0.035	547.0	0.10	15.58
245	37.679	0.155	1.09	76	1.96	312.5	-0.036	547.0	0.10	15.53
246	37.834	0.155	1.10	76	1.96	313.2	-0.038	547.0	0.10	15.49
247	37.987	0.153	1.10	76	1.95	291.6	-0.027	547.0	0.11	15.16
248	38.142	0.155	1.10	76	1.97	264.7	-0.037	540.0	0.05	12.28

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
249	38.297	0.155	1.10	76	1.98	248.5	-0.035	547.0	0.24	8.78
250	38.451	0.154	1.10	76	1.92	237	-0.030	547.0	0.28	7.86
251	38.606	0.155	1.10	76	1.96	230.5	-0.037	547.0	0.40	5.52
252	38.761	0.155	1.10	76	1.97	225.9	-0.033	547.0	0.30	5.70
253	38.916	0.155	1.10	76	1.95	221.2	-0.031	547.0	0.25	4.40
254	39.069	0.153	1.10	76	1.92	216.8	-0.030	547.0	0.21	3.32
255	39.225	0.156	1.10	76	1.97	212.9	-0.029	547.0	0.18	2.83
256	39.380	0.155	1.11	76	1.93	212.3	-0.032	547.0	0.16	2.41
257	39.534	0.154	1.10	76	1.95	212.7	-0.030	547.0	0.12	1.80
258	39.688	0.154	1.09	76	1.95	211.5	-0.020	547.0	0.09	1.31
259	39.844	0.156	1.10	76	1.95	209	-0.023	547.0	0.07	1.06
260	39.997	0.153	1.10	76	1.93	205.9	-0.026	547.0	0.07	0.89
261	40.152	0.155	1.10	76	1.97	203	-0.027	547.0	0.06	0.82
262	40.308	0.156	1.10	76	1.93	199.8	-0.020	547.0	0.06	0.76
263	40.462	0.154	1.10	76	1.95	196.7	-0.024	547.0	0.06	0.73
264	40.616	0.154	1.10	76	1.94	193.7	-0.019	547.0	0.06	0.75
265	40.772	0.156	1.11	76	1.97	190.5	-0.021	547.0	0.06	0.84
266	40.927	0.155	1.11	76	1.96	187.8	-0.021	547.0	0.08	0.91
267	41.081	0.154	1.10	76	1.93	185	-0.019	547.0	0.09	1.12
268	41.236	0.155	1.10	76	1.97	182.2	-0.020	547.0	0.09	1.26
269	41.391	0.155	1.11	76	1.92	179.4	-0.021	547.0	0.08	1.16
270	41.545	0.154	1.11	76	1.94	176.7	-0.020	547.0	0.09	1.37
271	41.700	0.155	1.10	76	1.96	174.1	-0.021	547.0	0.08	1.20
272	41.855	0.155	1.10	76	1.93	171.7	-0.019	547.0	0.09	1.31
273	42.009	0.154	1.11	76	1.93	168.9	-0.017	547.0	0.08	1.22
274	42.164	0.155	1.10	76	1.96	166.9	-0.018	547.0	0.07	1.14
275	42.320	0.156	1.10	76	1.97	164.6	-0.019	547.0	0.09	1.24
276	42.474	0.154	1.10	76	1.95	162.3	-0.019	547.0	0.08	1.25
277	42.628	0.154	1.10	76	1.94	160.2	-0.015	547.0	0.07	1.14
278	42.784	0.156	1.10	76	1.93	158.3	-0.017	547.0	0.07	1.07
279	42.939	0.155	1.10	76	1.95	156.5	-0.015	547.0	0.07	1.09
280	43.093	0.154	1.10	76	1.96	154.6	-0.014	547.0	0.07	1.12
281	43.248	0.155	1.10	76	1.96	152.7	-0.019	547.0	0.07	1.10
282	43.403	0.155	1.11	76	1.95	150.9	-0.013	547.0	0.06	1.00
283	43.557	0.154	1.11	76	1.96	149.2	-0.015	547.0	0.06	0.96
284	43.712	0.155	1.10	76	1.94	147.2	-0.018	547.0	0.06	0.98

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
285	43.868	0.156	1.10	76	1.93	146	-0.015	547.0	0.06	0.97
286	44.021	0.153	1.10	76	1.93	144.8	-0.015	547.0	0.06	0.89
287	44.177	0.156	1.10	76	1.95	143.1	-0.016	547.0	0.06	0.85
288	44.332	0.155	1.10	76	1.96	141.8	-0.013	547.0	0.06	0.91
289	44.486	0.154	1.11	76	1.95	140.1	-0.014	547.0	0.06	0.90
290	44.641	0.155	1.10	76	1.92	138.2	-0.017	547.0	0.06	0.97
291	44.796	0.155	1.10	76	1.96	136.9	-0.011	547.0	0.07	0.88
292	44.951	0.155	1.11	76	1.94	135.7	-0.013	547.0	0.07	0.94
293	45.105	0.154	1.10	76	1.95	134.5	-0.011	547.0	0.07	0.87
294	45.261	0.156	1.10	76	1.93	133.2	-0.013	547.0	0.07	0.83
295	45.416	0.155	1.11	76	1.96	142.7	-0.025	547.0	0.08	0.95
296	45.570	0.154	1.11	76	1.96	189.1	-0.028	547.0	1.37	9.17
297	45.725	0.155	1.10	76	1.96	222.5	-0.028	547.0	0.73	11.80
298	45.881	0.156	1.11	76	1.96	251.1	-0.037	547.0	0.16	13.43
299	46.034	0.153	1.11	76	1.95	273.1	-0.035	464.0	0.04	14.43
300	46.190	0.156	1.10	76	1.95	287.7	-0.041	376.0	0.03	15.32
301	46.345	0.155	1.10	76	1.94	293.5	-0.037	428.0	0.03	15.95
302	46.499	0.154	1.11	76	1.95	290.1	-0.045	349.0	0.03	15.75
303	46.654	0.155	1.10	76	1.95	292.5	-0.043	399.0	0.03	16.34
304	46.809	0.155	1.10	76	1.94	292.6	-0.053	430.0	0.04	16.77
305	46.963	0.154	1.10	76	1.96	293.1	-0.045	425.0	0.03	17.24
306	47.118	0.155	1.10	76	1.96	290.5	-0.054	424.0	0.05	16.67
307	47.274	0.156	1.11	76	1.92	291.8	-0.045	408.0	0.03	15.53
308	47.428	0.154	1.10	76	1.94	290.8	-0.053	407.0	0.04	15.49
309	47.582	0.154	1.10	76	1.95	291.5	-0.050	500.0	0.03	15.08
310	47.738	0.156	1.10	76	1.92	291.2	-0.047	547.0	0.05	16.83
311	47.893	0.155	1.11	76	1.94	291.1	-0.029	547.0	0.05	15.64
312	48.047	0.154	1.11	76	1.96	296.3	-0.028	547.0	0.05	16.36
313	48.202	0.155	1.10	76	1.97	299.5	-0.028	547.0	0.05	16.68
314	48.357	0.155	1.10	76	1.96	299.3	-0.041	547.0	0.07	16.63
315	48.511	0.154	1.10	76	1.95	299.3	-0.040	547.0	0.06	16.31
316	48.666	0.155	1.10	76	1.96	301.6	-0.040	547.0	0.07	15.79
317	48.821	0.155	1.10	76	1.95	302.5	-0.022	547.0	0.07	15.76
318	48.975	0.154	1.10	76	1.95	303.7	-0.046	547.0	0.05	16.04
319	49.130	0.155	1.10	76	1.94	304.9	-0.038	547.0	0.05	16.21
320	49.285	0.155	1.10	76	1.97	306.3	-0.042	533.0	0.05	16.34

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
321	49.440	0.155	1.10	76	1.97	308	-0.048	547.0	0.05	16.38
322	49.594	0.154	1.10	76	1.97	309	-0.030	547.0	0.05	16.24
323	49.749	0.155	1.10	76	1.94	309.2	-0.057	547.0	0.06	16.18
324	49.904	0.155	1.10	76	1.96	309.4	-0.028	547.0	0.06	16.06
325	50.058	0.154	1.10	76	1.97	309.1	-0.029	547.0	0.05	16.05
326	50.212	0.154	1.10	76	1.93	309.1	-0.047	547.0	0.06	16.02
327	50.368	0.156	1.10	76	1.96	309.2	-0.031	547.0	0.07	15.98
328	50.521	0.153	1.10	76	1.95	309.7	-0.027	547.0	0.07	15.89
329	50.676	0.155	1.10	76	1.95	309.7	-0.040	547.0	0.07	15.95
330	50.832	0.156	1.10	76	1.96	309.8	-0.048	547.0	0.09	15.76
331	50.986	0.154	1.10	76	1.94	310	-0.041	547.0	0.09	15.61
332	51.140	0.154	1.10	76	1.94	311.6	-0.038	547.0	0.10	15.68
333	51.295	0.155	1.10	76	1.97	308.8	-0.038	547.0	0.06	14.68
334	51.450	0.155	1.11	76	1.96	305.5	-0.037	547.0	0.09	15.72
335	51.604	0.154	1.10	76	1.96	310.1	-0.038	547.0	0.08	15.43
336	51.759	0.155	1.09	76	1.93	306.2	-0.052	547.0	0.08	15.86
337	51.914	0.155	1.10	76	1.96	310.6	-0.031	547.0	0.10	15.42
338	52.068	0.154	1.10	76	1.96	312.8	-0.034	547.0	0.09	15.67
339	52.223	0.155	1.10	76	1.93	297.8	-0.033	547.0	0.08	15.00
340	52.378	0.155	1.10	76	1.93	268.3	-0.035	351.0	0.03	12.28
341	52.532	0.154	1.10	76	1.93	251.1	-0.033	299.0	0.02	10.96
342	52.686	0.154	1.10	76	1.94	239.2	-0.032	291.0	0.02	11.08
343	52.842	0.156	1.10	76	1.96	231.3	-0.032	547.0	0.10	8.85
344	52.996	0.154	1.10	76	1.95	226.7	-0.027	547.0	0.09	8.83
345	53.150	0.154	1.10	76	1.92	221.7	-0.030	547.0	0.09	7.54
346	53.305	0.155	1.10	76	1.93	217.3	-0.029	547.0	0.13	5.79
347	53.461	0.156	1.11	76	1.96	213.6	-0.028	547.0	0.13	4.87
348	53.614	0.153	1.10	76	1.94	211.4	-0.027	547.0	0.15	4.07
349	53.769	0.155	1.09	76	1.94	212.4	-0.033	547.0	0.12	2.98
350	53.925	0.156	1.10	76	1.96	211.3	-0.028	547.0	0.13	2.45
351	54.078	0.153	1.10	76	1.97	209.2	-0.020	547.0	0.19	2.51
352	54.233	0.155	1.10	76	1.97	206.2	-0.028	547.0	0.23	2.63
353	54.389	0.156	1.10	76	1.95	202.9	-0.024	547.0	0.25	2.62
354	54.543	0.154	1.10	76	1.95	199.8	-0.028	547.0	0.32	3.06
355	54.697	0.154	1.10	76	1.96	196.7	-0.020	547.0	0.41	3.55
356	54.853	0.156	1.11	76	1.97	193.4	-0.020	547.0	0.42	3.56

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time 694 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
357	55.008	0.155	1.10	76	1.97	190.4	-0.021	547.0	0.46	3.70
358	55.162	0.154	1.10	76	1.98	187.5	-0.019	547.0	0.47	3.81
359	55.317	0.155	1.10	76	1.95	184.6	-0.021	547.0	0.48	3.83
360	55.473	0.156	1.11	76	1.96	182	-0.016	547.0	0.46	3.69
361	55.626	0.153	1.11	76	1.96	179.1	-0.020	547.0	0.46	3.68
362	55.781	0.155	1.10	76	1.96	176.7	-0.021	547.0	0.49	3.76
363	55.937	0.156	1.10	76	1.93	173.9	-0.017	547.0	0.48	3.66
364	56.091	0.154	1.11	76	1.96	171.6	-0.020	547.0	0.46	3.47
365	56.246	0.155	1.10	76	1.95	169.3	-0.019	547.0	0.41	3.10
366	56.401	0.155	1.10	76	1.94	167	-0.018	547.0	0.46	3.33
367	56.555	0.154	1.10	76	1.95	165	-0.021	547.0	0.44	3.11
368	56.710	0.155	1.10	76	1.94	162.9	-0.020	547.0	0.44	3.06
369	56.865	0.155	1.10	76	1.93	160.6	-0.018	547.0	0.40	2.77
370	57.020	0.155	1.10	76	1.95	158.6	-0.015	547.0	0.39	2.68
371	57.174	0.154	1.10	76	1.96	156.5	-0.016	547.0	0.40	2.71
372	57.329	0.155	1.10	76	1.96	154.6	-0.017	547.0	0.41	2.71
373	57.485	0.156	1.11	76	1.97	153	-0.017	547.0	0.36	2.36
374	57.638	0.153	1.10	76	1.97	150.9	-0.015	547.0	0.38	2.44
375	57.793	0.155	1.10	76	1.98	149.1	-0.018	547.0	0.38	2.36
376	57.949	0.156	1.10	76	1.94	147.6	-0.019	547.0	0.42	2.56
377	58.102	0.153	1.10	76	1.95	145.7	-0.015	547.0	0.40	2.42
378	58.258	0.156	1.10	76	1.95	144.5	-0.020	547.0	0.40	2.32
379	58.413	0.155	1.10	76	1.93	142.6	-0.014	547.0	0.42	2.44
380	58.567	0.154	1.11	76	1.96	141.3	-0.019	547.0	0.44	2.49
381	58.722	0.155	1.10	76	1.94	140.1	-0.020	547.0	0.40	2.24
382	58.877	0.155	1.10	76	1.97	138.9	-0.015	547.0	0.44	2.41
383	59.032	0.155	1.10	76	1.95	137.8	-0.015	547.0	0.44	2.41
384	59.186	0.154	1.10	76	1.96	135.8	-0.013	547.0	0.42	2.28
385	59.342	0.156	1.10	76	1.95	134.5	-0.018	547.0	0.42	2.30
386	59.497	0.155	1.11	76	1.96	133.4	-0.012	547.0	0.46	2.46
387	59.651	0.154	1.10	76	1.93	132.4	-0.019	547.0	0.44	2.36
388	59.806	0.155	1.10	76	1.96	131.2	-0.016	547.0	0.44	2.33
389	59.961	0.155	1.11	76	1.96	154.6	-0.029	547.0	0.57	2.94
390	60.115	0.154	1.11	76	1.96	198.4	-0.026	547.0	1.53	10.82
391	60.270	0.155	1.10	76	1.94	232.8	-0.031	547.0	0.65	11.69
392	60.426	0.156	1.10	76	1.96	259	-0.033	547.0	0.19	12.23

Train D - Ambient Background and Flue Gas Data

Run: 2 **Test Date:** 2/25/2025
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Meter Box Y Regression Offset: 1.0074
Meter Box Y Regression Factor: 0
Meter Box Dynamic Y: 1.007
Sample Box ID: 335

Test Start Time: 11:01
Total Sampling Time: 694 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
393	60.580	0.154	1.11	76	1.96	276.3	-0.031	547.0	0.08	13.63
394	60.735	0.155	1.10	76	1.94	289.9	-0.035	524.0	0.04	14.45
395	60.891	0.156	1.10	76	1.96	297.1	-0.035	447.0	0.04	15.15
396	61.045	0.154	1.10	76	1.95	291	-0.035	442.0	0.03	15.39
397	61.200	0.155	1.11	76	1.93	287.4	-0.036	446.0	0.03	15.66
398	61.355	0.155	1.10	76	1.94	286.8	-0.040	453.0	0.03	15.77
399	61.510	0.155	1.11	76	1.96	287.9	-0.033	521.0	0.04	16.23
400	61.664	0.154	1.10	76	1.93	289.6	-0.041	547.0	0.05	16.47
401	61.819	0.155	1.10	76	1.93	290.8	-0.042	547.0	0.06	16.63
402	61.974	0.155	1.11	76	1.94	292.6	-0.031	534.0	0.06	16.47
403	62.128	0.154	1.10	76	1.94	289.9	-0.049	547.0	0.06	16.63
404	62.283	0.155	1.10	76	1.94	288.3	-0.058	547.0	0.07	17.32
405	62.439	0.156	1.11	76	1.97	295.5	-0.039	547.0	0.06	16.89
406	62.593	0.154	1.10	76	1.97	292	-0.033	547.0	0.06	16.83
407	62.748	0.155	1.10	76	1.94	289.3	-0.040	547.0	0.06	17.35
408	62.903	0.155	1.10	76	1.96	293.6	-0.039	547.0	0.07	16.85
409	63.057	0.154	1.11	76	1.94	299.2	-0.041	547.0	0.05	16.39
410	63.213	0.156	1.10	76	1.95	295	-0.055	547.0	0.06	16.62
411	63.368	0.155	1.11	76	1.94	291.5	-0.022	547.0	0.05	16.12
412	63.522	0.154	1.11	76	1.95	291.7	-0.043	547.0	0.05	14.90
413	63.677	0.155	1.11	76	1.96	293.6	-0.054	547.0	0.05	14.42
414	63.833	0.156	1.10	76	1.96	296.2	-0.014	547.0	0.04	14.14
415	63.987	0.154	1.11	76	1.95	295.4	-0.053	547.0	0.05	16.10
416	64.141	0.154	1.10	76	1.97	296.1	-0.045	547.0	0.05	16.15
417	64.297	0.156	1.10	76	1.96	295.1	-0.045	546.0	0.04	15.65
418	64.452	0.155	1.11	76	1.96	296	-0.037	518.0	0.04	14.47
419	64.606	0.154	1.10	76	1.97	296.4	-0.037	466.0	0.03	14.43
420	64.761	0.155	1.10	76	1.94	296.5	-0.020	464.0	0.03	14.48
421	64.916	0.155	1.11	76	1.95	296.5	-0.017	415.0	0.03	14.48
422	65.070	0.154	1.11	76	1.93	298.6	-0.058	418.0	0.03	14.29
423	65.225	0.155	1.10	76	1.97	299.4	-0.049	380.0	0.02	14.25
424	65.380	0.155	1.10	76	1.94	299.1	-0.063	425.0	0.03	15.55
425	65.535	0.155	1.11	76	1.97	296.8	-0.046	452.0	0.04	15.72
426	65.690	0.155	1.10	76	1.97	296.9	-0.056	410.0	0.03	15.75
427	65.845	0.155	1.10	76	1.98	295.1	-0.055	416.0	0.03	15.85
428	65.999	0.154	1.11	76	1.96	296.3	-0.015	439.0	0.03	16.38

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
429	66.154	0.155	1.11	76	1.95	297.2	-0.072	448.0	0.04	15.93
430	66.310	0.156	1.11	76	1.96	298.9	-0.031	450.0	0.04	14.52
431	66.464	0.154	1.11	76	1.96	299.5	-0.044	464.0	0.03	15.69
432	66.619	0.155	1.10	76	1.96	305.7	-0.032	469.0	0.04	15.57
433	66.774	0.155	1.10	76	1.97	304.1	-0.034	460.0	0.04	15.68
434	66.929	0.155	1.11	76	1.98	309.1	-0.041	458.0	0.04	15.59
435	67.083	0.154	1.10	76	1.97	308.4	-0.047	337.0	0.03	13.87
436	67.238	0.155	1.10	76	1.94	296.9	-0.034	350.0	0.03	13.73
437	67.393	0.155	1.11	76	1.96	267	-0.031	178.0	0.01	11.65
438	67.547	0.154	1.11	76	1.94	250	-0.036	201.0	0.01	12.74
439	67.702	0.155	1.10	76	1.94	238.3	-0.032	547.0	0.05	14.97
440	67.858	0.156	1.10	76	1.95	230.4	-0.029	465.0	0.04	13.49
441	68.012	0.154	1.11	76	1.96	225.2	-0.034	547.0	0.14	15.53
442	68.167	0.155	1.10	76	1.93	220.4	-0.030	547.0	0.09	14.81
443	68.322	0.155	1.11	76	1.97	215.9	-0.031	547.0	0.07	12.74
444	68.477	0.155	1.11	76	1.93	212.2	-0.032	547.0	0.07	11.47
445	68.631	0.154	1.10	76	1.97	209.6	-0.029	547.0	0.05	9.85
446	68.787	0.156	1.11	76	1.96	210.1	-0.024	482.0	0.05	7.07
447	68.942	0.155	1.11	76	1.95	208.9	-0.026	547.0	0.48	7.39
448	69.096	0.154	1.10	76	1.95	206.4	-0.025	547.0	1.23	8.65
449	69.251	0.155	1.10	76	1.95	203.5	-0.027	547.0	1.65	8.76
450	69.407	0.156	1.11	76	1.95	200.5	-0.023	547.0	2.11	9.52
451	69.561	0.154	1.11	76	1.96	197.2	-0.022	547.0	2.15	8.96
452	69.716	0.155	1.10	76	1.96	193.9	-0.027	547.0	2.18	8.77
453	69.871	0.155	1.11	76	1.95	191	-0.022	547.0	2.14	8.46
454	70.025	0.154	1.11	76	1.93	188.2	-0.024	547.0	2.25	8.75
455	70.181	0.156	1.10	76	1.96	185.3	-0.024	547.0	2.08	8.10
456	70.336	0.155	1.11	76	1.97	182.3	-0.022	547.0	1.91	7.52
457	70.490	0.154	1.11	76	1.97	179.7	-0.020	547.0	1.85	7.31
458	70.645	0.155	1.11	76	1.97	177.2	-0.023	547.0	1.69	6.79
459	70.801	0.156	1.10	76	1.93	174.7	-0.022	547.0	1.56	6.24
460	70.955	0.154	1.11	76	1.97	172	-0.016	547.0	1.43	5.89
461	71.110	0.155	1.11	76	1.97	169.7	-0.022	547.0	1.38	5.77
462	71.266	0.156	1.11	76	1.94	167.3	-0.019	547.0	1.31	5.58
463	71.420	0.154	1.10	76	1.97	165.2	-0.021	547.0	1.34	5.72
464	71.574	0.154	1.11	76	1.95	163	-0.018	547.0	1.11	4.86

Train D - Ambient Background and Flue Gas Data

Run: 2
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Date: 2/25/2025
Meter Box Y Regression Offset: 1.0074
Meter Box Y Regression Factor: 0
Meter Box Dynamic Y: 1.007
Sample Box ID: 335

Test Start Time: 11:01
Total Sampling Time: 694 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
465	71.730	0.156	1.11	76	1.94	160.9	-0.019	547.0	1.07	4.74
466	71.885	0.155	1.11	76	1.95	158.9	-0.018	547.0	1.03	4.61
467	72.039	0.154	1.11	76	1.97	156.8	-0.016	547.0	0.98	4.47
468	72.194	0.155	1.10	76	1.94	155.1	-0.015	547.0	0.94	4.35
469	72.350	0.156	1.11	76	1.96	153.1	-0.018	547.0	0.85	3.94
470	72.504	0.154	1.11	76	1.93	151.4	-0.017	547.0	0.87	4.09
471	72.659	0.155	1.10	76	1.97	149.8	-0.012	547.0	0.74	3.55
472	72.815	0.156	1.11	76	1.96	147.9	-0.012	547.0	0.67	3.29
473	72.969	0.154	1.11	76	1.96	146.3	-0.017	547.0	0.66	3.25
474	73.124	0.155	1.10	76	1.95	144.9	-0.020	547.0	0.65	3.15
475	73.279	0.155	1.10	76	1.94	143.2	-0.017	547.0	0.63	3.12
476	73.433	0.154	1.11	76	1.95	141.9	-0.014	547.0	0.58	2.90
477	73.589	0.156	1.11	76	1.97	140.2	-0.012	547.0	0.53	2.71
478	73.744	0.155	1.11	76	1.96	139.3	-0.014	547.0	0.50	2.56
479	73.898	0.154	1.11	76	1.93	137.7	-0.008	547.0	0.49	2.49
480	74.053	0.155	1.11	76	1.96	136	-0.017	547.0	0.51	2.62
481	74.209	0.156	1.11	76	1.95	134.8	-0.012	547.0	0.40	2.12
482	74.364	0.155	1.11	76	1.94	133.3	-0.013	547.0	0.45	2.32
483	74.518	0.154	1.11	76	1.97	132.8	-0.012	547.0	0.45	2.30
484	74.674	0.156	1.11	76	1.94	132	-0.010	547.0	0.41	2.06
485	74.829	0.155	1.11	76	1.93	130.3	-0.014	547.0	0.44	2.23
486	74.983	0.154	1.11	76	1.97	128.7	-0.014	547.0	0.43	2.16
487	75.139	0.156	1.10	76	1.94	159	-0.029	547.0	1.03	4.37
488	75.294	0.155	1.11	76	1.93	194.3	-0.024	547.0	2.20	9.36
489	75.448	0.154	1.11	76	1.96	219.1	-0.031	547.0	1.61	9.79
490	75.603	0.155	1.10	76	1.96	239	-0.031	547.0	1.14	10.39
491	75.759	0.156	1.11	76	1.94	256.4	-0.029	547.0	0.54	11.56
492	75.913	0.154	1.11	76	1.96	270.5	-0.035	547.0	0.09	12.70
493	76.068	0.155	1.10	76	1.93	279.9	-0.036	547.0	0.06	13.21
494	76.223	0.155	1.10	76	1.93	288.5	-0.038	547.0	0.05	13.88
495	76.377	0.154	1.11	76	1.96	294.4	-0.034	547.0	0.05	14.19
496	76.533	0.156	1.11	76	1.97	299.2	-0.044	547.0	0.05	14.70
497	76.688	0.155	1.10	76	1.95	296.1	-0.033	544.0	0.05	14.58
498	76.842	0.154	1.11	76	1.94	292	-0.032	496.0	0.03	15.45
499	76.997	0.155	1.11	76	1.95	290.3	-0.028	547.0	0.05	15.59
500	77.153	0.156	1.11	76	1.96	291	-0.045	547.0	0.05	16.04

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time 694 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
501	77.308	0.155	1.11	76	1.98	292.9	-0.033	547.0	0.06	16.49
502	77.462	0.154	1.10	76	1.93	290	-0.037	547.0	0.03	14.14
503	77.617	0.155	1.11	76	1.96	294.3	-0.033	547.0	0.07	16.52
504	77.773	0.156	1.11	76	1.97	291.7	-0.046	547.0	0.07	16.52
505	77.926	0.153	1.11	76	1.97	292.3	-0.037	547.0	0.08	16.63
506	78.082	0.156	1.10	76	1.97	292.5	-0.016	547.0	0.07	15.38
507	78.237	0.155	1.11	76	1.93	293.1	-0.029	547.0	0.05	14.02
508	78.391	0.154	1.10	76	1.97	295.6	-0.053	547.0	0.05	14.40
509	78.546	0.155	1.10	76	1.94	296.2	-0.039	547.0	0.07	15.39
510	78.702	0.156	1.11	76	1.93	297.9	-0.045	547.0	0.09	16.58
511	78.856	0.154	1.11	76	1.94	296.4	-0.039	547.0	0.08	15.54
512	79.011	0.155	1.10	76	1.96	294.1	-0.035	547.0	0.11	16.82
513	79.167	0.156	1.11	76	1.96	291.7	-0.035	547.0	0.11	17.22
514	79.321	0.154	1.11	76	1.94	294.6	-0.030	547.0	0.08	16.68
515	79.476	0.155	1.11	76	1.97	301.7	-0.048	547.0	0.08	16.34
516	79.632	0.156	1.11	76	1.97	303.5	-0.034	547.0	0.07	16.06
517	79.786	0.154	1.11	76	1.96	303.6	-0.035	547.0	0.07	15.71
518	79.941	0.155	1.11	76	1.97	303.5	-0.047	547.0	0.07	15.60
519	80.097	0.156	1.11	76	1.96	304	-0.035	547.0	0.07	15.62
520	80.252	0.155	1.11	76	1.98	305.3	-0.050	547.0	0.07	15.69
521	80.406	0.154	1.10	76	1.97	305.9	-0.047	547.0	0.07	15.71
522	80.562	0.156	1.11	76	1.95	306.7	-0.025	547.0	0.06	15.75
523	80.717	0.155	1.11	76	1.94	307.4	-0.039	547.0	0.07	15.66
524	80.871	0.154	1.10	76	1.93	307.4	-0.042	547.0	0.07	15.85
525	81.026	0.155	1.11	76	1.97	308.1	-0.033	547.0	0.06	15.34
526	81.182	0.156	1.11	76	1.94	308	-0.035	547.0	0.06	15.06
527	81.336	0.154	1.11	76	1.97	309.5	-0.041	547.0	0.07	15.83
528	81.491	0.155	1.10	76	1.95	309.3	-0.036	547.0	0.07	15.51
529	81.647	0.156	1.11	76	1.95	308.9	-0.045	547.0	0.07	15.40
530	81.801	0.154	1.11	76	1.96	278	-0.032	547.0	0.07	8.64
531	81.956	0.155	1.10	76	1.96	256.4	-0.033	221.0	0.01	10.86
532	82.111	0.155	1.11	76	1.93	242.7	-0.028	230.0	0.02	12.10
533	82.265	0.154	1.11	76	1.96	232.9	-0.027	221.0	0.01	11.60
534	82.421	0.156	1.11	76	1.95	228	-0.023	507.0	0.06	10.55
535	82.576	0.155	1.10	76	1.96	223	-0.028	547.0	0.08	13.24
536	82.731	0.155	1.11	76	1.95	218.3	-0.029	544.0	0.05	11.66

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
537	82.886	0.155	1.10	76	1.96	214.5	-0.028	296.0	0.02	10.29
538	83.041	0.155	1.11	76	1.96	210.8	-0.024	243.0	0.02	9.59
539	83.196	0.155	1.11	76	1.97	211.1	-0.029	179.0	0.01	7.37
540	83.350	0.154	1.11	76	1.95	210.4	-0.023	547.0	0.26	6.61
541	83.506	0.156	1.11	76	1.98	208.5	-0.026	547.0	1.15	8.57
542	83.661	0.155	1.11	76	1.94	205.5	-0.026	547.0	1.81	9.41
543	83.815	0.154	1.10	76	1.94	202.7	-0.027	547.0	2.32	10.06
544	83.971	0.156	1.11	76	1.98	199.4	-0.021	547.0	2.38	9.65
545	84.126	0.155	1.11	76	1.98	196	-0.026	547.0	2.47	9.44
546	84.280	0.154	1.11	76	1.96	193.2	-0.027	547.0	2.47	9.23
547	84.436	0.156	1.10	76	1.97	190	-0.023	547.0	2.28	8.41
548	84.591	0.155	1.11	76	1.95	187.1	-0.025	547.0	2.35	8.55
549	84.745	0.154	1.11	76	1.94	184.2	-0.021	547.0	2.10	7.70
550	84.900	0.155	1.10	76	1.95	181.5	-0.023	547.0	2.06	7.58
551	85.056	0.156	1.11	76	1.94	178.8	-0.024	547.0	1.84	6.87
552	85.210	0.154	1.11	76	1.96	176.3	-0.021	547.0	1.63	6.17
553	85.365	0.155	1.10	76	1.97	173.7	-0.020	547.0	1.59	6.06
554	85.521	0.156	1.11	76	1.97	171.5	-0.018	547.0	1.64	6.28
555	85.675	0.154	1.11	76	1.94	168.7	-0.019	547.0	1.53	5.91
556	85.830	0.155	1.11	76	1.96	166.5	-0.021	547.0	1.33	5.26
557	85.986	0.156	1.11	76	1.94	164.3	-0.019	547.0	1.31	5.22
558	86.140	0.154	1.11	76	1.94	162.2	-0.019	547.0	1.09	4.45
559	86.295	0.155	1.10	76	1.94	160.3	-0.018	547.0	1.20	4.87
560	86.451	0.156	1.11	76	1.95	158.1	-0.019	547.0	1.02	4.25
561	86.605	0.154	1.11	76	1.94	156.3	-0.014	547.0	0.98	4.09
562	86.760	0.155	1.10	76	1.98	154.4	-0.019	547.0	0.91	3.87
563	86.916	0.156	1.10	76	1.97	152.5	-0.015	547.0	0.85	3.61
564	87.071	0.155	1.11	76	1.98	150.8	-0.017	547.0	0.81	3.46
565	87.225	0.154	1.11	76	1.94	149.1	-0.019	547.0	0.76	3.29
566	87.380	0.155	1.11	76	1.96	147.4	-0.018	547.0	0.74	3.21
567	87.536	0.156	1.11	76	1.95	145.7	-0.020	547.0	0.68	2.97
568	87.690	0.154	1.11	76	1.95	144	-0.012	547.0	0.69	3.01
569	87.845	0.155	1.10	76	1.97	142.1	-0.014	547.0	0.65	2.83
570	88.001	0.156	1.11	76	1.95	141.1	-0.015	547.0	0.68	2.97
571	88.155	0.154	1.11	76	1.97	139.6	-0.013	547.0	0.57	2.56
572	88.310	0.155	1.10	76	1.93	138.2	-0.010	547.0	0.58	2.59

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
573	88.466	0.156	1.11	76	1.95	137.1	-0.019	547.0	0.55	2.45
574	88.620	0.154	1.11	76	1.98	135.7	-0.015	547.0	0.59	2.58
575	88.775	0.155	1.10	76	1.96	134.6	-0.012	547.0	0.53	2.34
576	88.931	0.156	1.10	76	1.93	133.7	-0.013	547.0	0.55	2.39
577	89.085	0.154	1.11	76	1.94	132.4	-0.010	547.0	0.48	2.18
578	89.240	0.155	1.11	76	1.98	131.1	-0.013	547.0	0.48	2.13
579	89.395	0.155	1.11	76	1.94	151.3	-0.024	547.0	0.53	2.31
580	89.550	0.155	1.11	76	1.97	192.7	-0.027	547.0	1.68	11.58
581	89.705	0.155	1.11	76	1.97	218.6	-0.028	547.0	1.67	10.62
582	89.860	0.155	1.11	76	1.94	237.6	-0.028	547.0	1.23	11.14
583	90.015	0.155	1.11	76	1.97	253.2	-0.030	547.0	0.86	11.97
584	90.169	0.154	1.11	76	1.96	266.8	-0.028	547.0	0.19	13.19
585	90.325	0.156	1.11	76	1.98	278.1	-0.033	547.0	0.10	13.93
586	90.480	0.155	1.11	76	1.95	286.4	-0.031	547.0	0.09	14.19
587	90.635	0.155	1.11	76	1.94	292.1	-0.037	547.0	0.05	14.34
588	90.790	0.155	1.11	76	1.93	295.8	-0.033	547.0	0.06	14.42
589	90.946	0.156	1.11	76	1.96	298.3	-0.038	547.0	0.05	14.51
590	91.100	0.154	1.11	76	1.95	298.6	-0.033	503.0	0.04	14.18
591	91.255	0.155	1.11	76	1.92	300	-0.035	547.0	0.06	14.55
592	91.411	0.156	1.11	76	1.97	301.6	-0.035	547.0	0.04	14.38
593	91.565	0.154	1.11	76	1.93	303.2	-0.040	526.0	0.04	14.35
594	91.720	0.155	1.10	76	1.95	305.2	-0.042	478.0	0.04	14.35
595	91.875	0.155	1.11	76	1.97	300.5	-0.036	477.0	0.03	15.14
596	92.029	0.154	1.11	76	1.96	295.6	-0.039	344.0	0.03	14.65
597	92.185	0.156	1.10	76	1.93	296.7	-0.040	403.0	0.04	14.48
598	92.340	0.155	1.11	76	1.96	298.3	-0.029	466.0	0.03	14.78
599	92.494	0.154	1.11	76	1.95	301.4	-0.043	377.0	0.03	14.61
600	92.650	0.156	1.11	76	1.95	297.1	-0.040	353.0	0.03	14.55
601	92.805	0.155	1.11	76	1.96	301.7	-0.034	474.0	0.05	14.92
602	92.960	0.155	1.11	76	1.94	304.3	-0.021	497.0	0.04	15.04
603	93.114	0.154	1.11	76	1.94	300.2	-0.029	409.0	0.03	14.86
604	93.270	0.156	1.11	76	1.95	305.9	-0.050	526.0	0.04	15.14
605	93.425	0.155	1.11	76	1.96	303.4	-0.032	403.0	0.03	15.86
606	93.579	0.154	1.11	76	1.97	302.3	-0.038	428.0	0.03	15.49
607	93.735	0.156	1.11	76	1.97	301.8	-0.028	464.0	0.04	15.08
608	93.890	0.155	1.11	76	1.97	301.1	-0.028	528.0	0.04	14.79

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
609	94.044	0.154	1.11	76	1.97	306.7	-0.035	547.0	0.05	15.13
610	94.200	0.156	1.11	76	1.98	303.5	-0.030	304.0	0.03	15.07
611	94.355	0.155	1.11	76	1.98	305.8	-0.036	362.0	0.03	13.33
612	94.509	0.154	1.11	76	1.96	303.6	-0.041	322.0	0.02	13.18
613	94.665	0.156	1.11	76	1.95	310.1	-0.028	292.0	0.02	13.06
614	94.820	0.155	1.11	76	1.96	309.3	-0.037	350.0	0.03	13.03
615	94.975	0.155	1.11	76	1.94	307.7	-0.040	266.0	0.01	12.88
616	95.130	0.155	1.10	76	1.96	312.6	-0.034	272.0	0.02	12.90
617	95.285	0.155	1.11	76	1.97	314.1	-0.036	210.0	0.01	12.61
618	95.440	0.155	1.11	76	1.96	284.5	-0.033	505.0	0.09	7.86
619	95.595	0.155	1.11	76	1.97	260	-0.031	547.0	0.06	5.91
620	95.750	0.155	1.11	76	1.93	245.5	-0.031	547.0	0.04	5.90
621	95.905	0.155	1.11	76	1.96	234.9	-0.031	332.0	0.03	5.88
622	96.060	0.155	1.11	76	1.97	230	-0.030	420.0	0.05	5.46
623	96.215	0.155	1.11	76	1.97	225.2	-0.027	442.0	0.04	6.75
624	96.370	0.155	1.11	76	1.94	220.4	-0.027	399.0	0.03	6.02
625	96.525	0.155	1.11	76	1.94	216.2	-0.029	376.0	0.04	4.98
626	96.680	0.155	1.11	76	1.98	212.4	-0.029	547.0	0.06	4.78
627	96.835	0.155	1.11	76	1.97	212.5	-0.031	547.0	0.05	4.07
628	96.989	0.154	1.11	76	1.94	212.2	-0.026	495.0	0.05	3.04
629	97.145	0.156	1.11	76	1.96	210.2	-0.023	547.0	0.12	2.91
630	97.300	0.155	1.11	76	1.97	207.5	-0.024	547.0	0.21	3.17
631	97.454	0.154	1.11	76	1.95	204.6	-0.022	547.0	0.33	3.76
632	97.610	0.156	1.10	76	1.93	201.5	-0.020	547.0	0.43	4.38
633	97.766	0.156	1.11	76	1.95	198.2	-0.019	547.0	0.53	4.73
634	97.920	0.154	1.11	76	1.97	195.1	-0.025	547.0	0.63	5.10
635	98.075	0.155	1.10	76	1.96	192.1	-0.021	547.0	0.66	5.05
636	98.231	0.156	1.11	76	1.96	189.1	-0.025	547.0	0.69	4.97
637	98.385	0.154	1.11	76	1.98	186	-0.019	547.0	0.67	4.70
638	98.540	0.155	1.10	76	1.95	183	-0.021	547.0	0.60	4.46
639	98.695	0.155	1.11	76	1.98	180.6	-0.024	547.0	0.56	4.47
640	98.849	0.154	1.11	76	1.93	177.7	-0.021	547.0	0.55	4.59
641	99.005	0.156	1.10	76	1.94	175.3	-0.022	547.0	0.49	4.18
642	99.160	0.155	1.11	76	1.98	172.8	-0.022	547.0	0.51	4.33
643	99.315	0.155	1.11	76	1.94	170.4	-0.016	547.0	0.47	3.99
644	99.470	0.155	1.10	76	1.98	168	-0.016	547.0	0.40	3.45

Train D - Ambient Background and Flue Gas Data

Run: 2
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/25/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:01
 Total Sampling Time: 694 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
645	99.626	0.156	1.11	76	1.98	165.8	-0.019	547.0	0.39	3.33
646	99.780	0.154	1.11	76	1.96	163.8	-0.019	547.0	0.38	3.26
647	99.935	0.155	1.11	76	1.95	161.4	-0.021	547.0	0.37	3.24
648	100.091	0.156	1.11	76	1.97	159.3	-0.018	547.0	0.31	2.75
649	100.245	0.154	1.11	76	1.97	157.8	-0.018	547.0	0.31	2.69
650	100.400	0.155	1.11	76	1.95	155.6	-0.019	547.0	0.25	2.35
651	100.556	0.156	1.11	76	1.95	154.2	-0.017	547.0	0.27	2.42
652	100.711	0.155	1.11	76	1.94	151.8	-0.016	547.0	0.24	2.17
653	100.866	0.155	1.11	76	1.96	150	-0.016	547.0	0.21	1.86
654	101.022	0.156	1.11	76	1.97	148.5	-0.017	547.0	0.22	2.02
655	101.177	0.155	1.11	76	1.97	146.7	-0.016	547.0	0.19	1.73
656	101.331	0.154	1.11	76	1.93	145.2	-0.016	547.0	0.19	1.79
657	101.487	0.156	1.11	76	1.98	143.3	-0.017	547.0	0.18	1.67
658	101.642	0.155	1.11	76	1.94	141.6	-0.017	547.0	0.17	1.59
659	101.797	0.155	1.11	76	1.96	140.5	-0.017	547.0	0.16	1.46
660	101.952	0.155	1.11	76	1.95	139.1	-0.016	547.0	0.15	1.40
661	102.108	0.156	1.11	76	1.95	137.5	-0.010	547.0	0.16	1.47
662	102.262	0.154	1.11	76	1.94	136.4	-0.011	547.0	0.15	1.34
663	102.418	0.156	1.11	76	1.96	134.6	-0.015	547.0	0.13	1.20
664	102.574	0.156	1.11	76	1.97	133.6	-0.019	547.0	0.13	1.23
665	102.727	0.153	1.11	76	1.97	132.4	-0.012	547.0	0.12	1.14
666	102.883	0.156	1.10	76	1.95	130.9	-0.013	547.0	0.11	0.99
667	103.039	0.156	1.11	76	1.96	129.9	-0.013	547.0	0.13	1.11
668	103.193	0.154	1.11	76	1.97	135.4	-0.022	547.0	0.13	1.07
669	103.348	0.155	1.10	76	1.98	182.5	-0.029	547.0	1.86	8.90
670	103.504	0.156	1.11	76	1.94	215.8	-0.029	547.0	1.75	12.54
671	103.658	0.154	1.11	76	1.97	242.8	-0.033	547.0	1.19	12.52
672	103.813	0.155	1.11	76	1.93	261.8	-0.035	547.0	0.65	13.45
673	103.969	0.156	1.11	76	1.94	276.2	-0.032	547.0	0.14	14.32
674	104.123	0.154	1.11	76	1.96	285.3	-0.035	547.0	0.12	14.68
675	104.279	0.156	1.11	76	1.95	292	-0.035	547.0	0.06	15.13
676	104.434	0.155	1.11	76	1.93	296.9	-0.031	540.0	0.04	15.31
677	104.589	0.155	1.11	76	1.97	299.6	-0.034	547.0	0.05	15.06
678	104.744	0.155	1.11	76	1.94	295.5	-0.038	547.0	0.05	15.15
679	104.900	0.156	1.11	76	1.97	299.4	-0.035	424.0	0.04	14.71
680	105.054	0.154	1.12	76	1.94	293.9	-0.037	512.0	0.04	15.08

Train D - Ambient Background and Flue Gas Data**Run:** 2**Test Date:** 2/25/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:01

Total Sampling Time 694 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
681	105.210	0.156	1.11	76	1.94	301.2	-0.033	501.0	0.04	14.96
682	105.366	0.156	1.11	76	1.98	294.3	-0.033	379.0	0.03	14.73
683	105.520	0.154	1.11	76	1.98	302.4	-0.038	495.0	0.04	15.01
684	105.675	0.155	1.11	76	1.98	302.3	-0.040	352.0	0.03	14.49
685	105.831	0.156	1.11	76	1.96	299.8	-0.034	547.0	0.05	15.04
686	105.986	0.155	1.11	76	1.95	301.9	-0.033	547.0	0.05	14.92
687	106.141	0.155	1.11	76	1.95	303	-0.039	450.0	0.03	14.36
688	106.297	0.156	1.11	76	1.98	299.2	-0.042	429.0	0.03	14.65
689	106.452	0.155	1.11	76	1.96	303.8	-0.032	547.0	0.05	15.19
690	106.607	0.155	1.12	76	1.96	303.5	-0.033	388.0	0.03	14.33
691	106.763	0.156	1.12	76	1.94	301.3	-0.030	463.0	0.03	14.55
692	106.918	0.155	1.11	76	1.97	303.1	-0.034	520.0	0.05	15.11
693	107.073	0.155	1.11	76	1.95	306.1	-0.034	387.0	0.03	14.38
694	107.229	0.156	1.11	76	1.94	301.5	-0.023	386.0	0.03	14.43

Water Flow Data

ASTM E2618-13

Run: 2Test Date: 2/25/2025Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044EBoiler Dry Weight, Lb. 2457Boiler Water Weight, Lb. 2711Test Start Time: 11:01 TI_{avg} - Initial Average Boiler Temp, °F 143.92Total Sampling Time 694 min TF_{avg} - Final Average Boiler Temp, °F 168.02Recording Interval 1 min

Elapsed Time (min)	Appliance			Load							
	T_2 Return Temp °F	T_1 Supply Temp °F	ΔT across Appliance	T_3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
Tot / Avg	162.7	168.8	6.08	48.1	168.6	120.49	1.977	1.0012	8.343	16.495	1378158.6
Minimum	140.7	147.1	5.46	47.4	146.7	98.80	1.753	1.0012	8.342	14.622	1802.783
Max	174.9	181.0	6.99	49.1	180.9	132.59	2.539	1.0012	8.343	21.185	2222.514
0	140.7	147.1	6.39	47.9	146.7	98.80	2.539	1.0012	8.343	21.18	2095.6
1	141.7	148.2	6.51	47.9	147.9	99.94	2.539	1.0012	8.343	21.18	2119.7
2	142.6	149.2	6.58	48.0	148.8	100.88	2.539	1.0012	8.343	21.18	2139.6
3	142.4	148.9	6.53	48.0	148.6	100.66	2.539	1.0012	8.343	21.18	2135.1
4	142.5	148.7	6.21	48.0	148.3	100.39	2.443	1.0012	8.343	20.38	2048.3
5	142.8	149.1	6.21	48.0	148.7	100.72	2.401	1.0012	8.343	20.03	2020.2
6	143.2	149.4	6.23	48.0	149.1	101.02	2.415	1.0012	8.343	20.15	2037.8
7	143.7	149.9	6.16	48.1	149.6	101.50	2.401	1.0012	8.343	20.03	2035.9
8	144.1	150.3	6.27	48.1	150.0	101.89	2.374	1.0012	8.343	19.80	2020.1
9	144.4	150.7	6.34	48.1	150.4	102.29	2.415	1.0012	8.343	20.15	2063.4
10	145.2	151.4	6.11	48.1	151.0	102.98	2.360	1.0012	8.343	19.69	2029.9
11	145.4	151.8	6.37	48.0	151.5	103.48	2.360	1.0012	8.343	19.69	2039.8
12	145.9	152.3	6.43	47.8	152.0	104.21	2.401	1.0012	8.343	20.03	2090.3
13	146.4	152.7	6.33	47.7	152.4	104.66	2.346	1.0012	8.343	19.57	2050.9
14	147.2	153.2	6.02	47.7	152.9	105.26	2.236	1.0012	8.343	18.65	1965.7
15	147.2	153.6	6.41	47.6	153.3	105.66	2.277	1.0012	8.343	19.00	2009.7
16	147.6	154.2	6.57	47.6	153.7	106.16	2.346	1.0012	8.343	19.57	2080.4
17	148.0	154.4	6.45	47.5	154.3	106.74	2.346	1.0012	8.343	19.57	2091.8
18	148.6	155.2	6.57	47.5	154.8	107.33	2.346	1.0012	8.343	19.57	2103.5
19	149.0	155.6	6.60	47.5	155.2	107.74	2.346	1.0012	8.343	19.57	2111.4
20	149.4	156.0	6.59	47.5	155.8	108.31	2.360	1.0012	8.343	19.69	2135.1
21	149.9	156.6	6.66	47.4	156.3	108.83	2.346	1.0012	8.343	19.57	2132.8
22	150.5	157.1	6.68	47.4	156.8	109.36	2.346	1.0012	8.343	19.57	2143.3
23	151.2	157.6	6.40	47.4	157.3	109.88	2.263	1.0012	8.343	18.88	2077.3
24	151.6	158.0	6.39	47.4	157.7	110.28	2.263	1.0012	8.343	18.88	2084.9
25	152.4	158.7	6.30	47.4	158.4	110.93	2.222	1.0012	8.343	18.54	2058.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
26	152.9	159.1	6.16	47.5	158.8	111.31	2.167	1.0012	8.343	18.08	2014.6
27	153.3	159.7	6.33	47.5	159.4	111.91	2.194	1.0012	8.343	18.31	2051.2
28	154.0	160.1	6.08	47.5	159.9	112.39	2.084	1.0012	8.343	17.39	1956.4
29	154.4	160.7	6.33	47.5	160.5	112.97	2.167	1.0012	8.343	18.08	2044.7
30	155.1	161.4	6.36	47.5	161.1	113.67	2.180	1.0012	8.343	18.19	2070.4
31	155.7	162.1	6.40	47.5	161.7	114.27	2.167	1.0012	8.343	18.08	2068.2
32	156.5	162.7	6.25	47.5	162.4	114.95	2.125	1.0012	8.343	17.73	2040.7
33	157.0	163.3	6.30	47.5	163.0	115.52	2.111	1.0012	8.343	17.62	2037.6
34	157.6	163.9	6.29	47.5	163.6	116.15	2.098	1.0012	8.343	17.50	2035.3
35	158.5	164.4	5.94	47.5	164.2	116.67	2.015	1.0012	8.343	16.81	1963.7
36	158.8	164.8	5.96	47.5	164.5	117.03	2.001	1.0012	8.343	16.69	1956.2
37	159.6	165.6	5.99	47.5	165.4	117.84	1.987	1.0012	8.343	16.58	1956.2
38	160.1	166.2	6.02	47.6	165.9	118.31	1.987	1.0012	8.343	16.58	1964.0
39	160.7	166.7	6.05	47.8	166.5	118.69	1.987	1.0012	8.343	16.58	1970.3
40	161.2	167.2	6.04	47.9	167.0	119.15	1.987	1.0012	8.343	16.58	1977.9
41	161.8	167.9	6.11	48.0	167.6	119.62	1.946	1.0012	8.343	16.23	1944.3
42	162.7	168.7	5.91	48.0	168.4	120.38	1.932	1.0012	8.343	16.12	1942.8
43	163.1	169.3	6.18	48.1	169.0	120.90	1.987	1.0012	8.343	16.58	2006.8
44	163.6	169.8	6.19	48.1	169.5	121.35	1.987	1.0012	8.343	16.58	2014.4
45	164.3	170.5	6.20	48.2	170.2	122.07	1.987	1.0012	8.343	16.58	2026.2
46	164.8	171.1	6.25	48.2	170.8	122.57	1.973	1.0012	8.343	16.46	2020.4
47	165.3	171.6	6.27	48.2	171.3	123.08	2.001	1.0012	8.343	16.69	2057.2
48	165.9	172.1	6.26	48.3	171.9	123.60	1.973	1.0012	8.343	16.46	2037.4
49	166.7	172.7	6.03	48.1	172.5	124.37	1.946	1.0012	8.343	16.23	2021.4
50	167.0	173.3	6.33	48.0	173.0	125.03	1.973	1.0012	8.343	16.46	2061.0
51	167.4	173.7	6.33	47.9	173.5	125.62	1.973	1.0012	8.343	16.46	2070.8
52	168.2	174.4	6.23	47.9	174.1	126.28	1.946	1.0012	8.343	16.23	2052.5
53	168.8	174.9	6.19	47.8	174.6	126.79	1.918	1.0012	8.343	16.00	2031.6
54	169.4	175.5	6.02	47.8	175.2	127.40	1.863	1.0012	8.343	15.54	1982.6
55	170.0	176.1	6.07	47.8	175.9	128.03	1.877	1.0012	8.343	15.66	2007.2
56	170.6	176.7	6.06	47.8	176.4	128.59	1.835	1.0012	8.343	15.31	1971.5
57	171.1	177.2	6.06	47.8	177.0	129.15	1.849	1.0012	8.343	15.43	1994.9
58	171.6	177.7	6.08	47.8	177.5	129.68	1.849	1.0012	8.343	15.43	2003.2
59	172.2	178.3	6.05	47.8	178.0	130.20	1.835	1.0012	8.343	15.31	1996.2
60	172.8	178.8	6.03	47.8	178.6	130.77	1.822	1.0012	8.343	15.20	1989.8
61	173.3	179.3	6.05	47.8	179.1	131.31	1.808	1.0012	8.343	15.08	1983.0
62	173.8	179.9	6.09	47.8	179.7	131.82	1.822	1.0012	8.343	15.20	2005.8
63	174.2	180.3	6.11	47.8	180.1	132.25	1.822	1.0012	8.343	15.20	2012.4
64	174.2	180.3	6.09	47.8	180.1	132.29	1.808	1.0012	8.343	15.08	1997.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
65	174.4	180.2	5.82	47.8	180.1	132.30	1.780	1.0012	8.343	14.85	1967.4
66	173.9	180.1	6.12	47.8	179.9	132.10	1.808	1.0012	8.343	15.08	1994.9
67	173.8	179.9	6.08	47.8	179.8	131.97	1.822	1.0012	8.343	15.20	2008.0
68	173.9	179.6	5.65	48.0	179.6	131.53	1.766	1.0012	8.343	14.74	1940.7
69	173.2	179.3	6.13	48.2	179.1	130.97	1.835	1.0012	8.343	15.31	2007.9
70	173.0	179.1	6.08	48.3	179.0	130.67	1.849	1.0012	8.343	15.43	2018.4
71	172.7	178.7	6.03	48.3	178.7	130.34	1.849	1.0012	8.343	15.43	2013.2
72	172.3	178.4	6.01	48.4	178.4	129.99	1.849	1.0012	8.343	15.43	2007.8
73	172.0	178.0	5.99	48.4	177.9	129.51	1.849	1.0012	8.343	15.43	2000.4
74	171.6	177.6	5.99	48.4	177.5	129.10	1.835	1.0012	8.343	15.31	1979.2
75	171.2	177.2	5.97	48.5	177.1	128.66	1.849	1.0012	8.343	15.43	1987.3
76	170.9	176.8	5.95	48.5	176.7	128.26	1.849	1.0012	8.342	15.43	1981.1
77	170.5	176.4	5.94	48.5	176.3	127.76	1.849	1.0012	8.342	15.43	1973.4
78	170.1	176.0	5.92	48.6	175.9	127.33	1.849	1.0012	8.342	15.43	1966.7
79	169.7	175.6	5.89	48.6	175.5	126.86	1.849	1.0012	8.342	15.43	1959.4
80	169.2	175.1	5.84	48.6	175.0	126.37	1.863	1.0012	8.342	15.54	1966.4
81	168.8	174.7	5.83	48.6	174.6	125.91	1.835	1.0012	8.342	15.31	1930.3
82	168.3	174.2	5.83	48.5	174.1	125.56	1.863	1.0012	8.342	15.54	1953.9
83	167.9	173.8	5.84	48.3	173.6	125.30	1.835	1.0012	8.343	15.31	1921.0
84	167.5	173.3	5.80	48.2	173.2	124.99	1.849	1.0012	8.343	15.43	1930.7
85	166.9	172.8	5.86	48.2	172.7	124.56	1.863	1.0012	8.343	15.54	1938.4
86	166.4	172.4	6.00	48.1	172.3	124.14	1.891	1.0012	8.343	15.77	1960.5
87	165.9	171.9	5.93	48.1	171.8	123.73	1.904	1.0012	8.343	15.89	1968.3
88	165.7	171.5	5.78	48.0	171.3	123.28	1.835	1.0012	8.343	15.31	1890.0
89	164.7	170.9	6.19	48.0	170.8	122.80	1.973	1.0012	8.343	16.46	2024.2
90	164.2	170.4	6.18	48.0	170.3	122.29	2.001	1.0012	8.343	16.69	2044.0
91	163.8	170.0	6.15	48.0	169.8	121.86	1.987	1.0012	8.343	16.58	2022.9
92	163.3	169.4	6.10	47.9	169.3	121.42	1.987	1.0012	8.343	16.58	2015.5
93	162.8	168.9	6.07	47.9	168.7	120.84	1.987	1.0012	8.343	16.58	2005.9
94	162.3	168.4	6.03	47.8	168.3	120.41	1.987	1.0012	8.343	16.58	1998.8
95	161.8	167.8	6.03	47.8	167.8	119.93	1.987	1.0012	8.343	16.58	1990.9
96	161.4	167.4	6.01	47.8	167.3	119.48	2.001	1.0012	8.343	16.69	1997.1
97	160.7	166.9	6.11	47.8	166.7	118.91	2.001	1.0012	8.343	16.69	1987.6
98	160.2	166.3	6.12	47.8	166.2	118.39	2.042	1.0012	8.343	17.04	2019.9
99	159.8	165.8	6.04	47.8	165.8	117.97	2.029	1.0012	8.343	16.92	1999.1
100	159.2	165.2	6.01	47.8	165.1	117.30	2.029	1.0012	8.343	16.92	1987.7
101	158.5	164.6	6.07	47.8	164.5	116.72	2.042	1.0012	8.343	17.04	1991.4
102	158.1	164.1	6.00	47.9	164.0	116.11	2.070	1.0012	8.343	17.27	2007.7
103	157.6	163.6	6.01	48.1	163.5	115.43	2.056	1.0012	8.343	17.15	1982.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
104	157.1	163.1	6.00	48.2	162.9	114.73	2.070	1.0012	8.343	17.27	1983.8
105	156.5	162.4	5.91	48.2	162.3	114.13	2.056	1.0012	8.343	17.15	1960.2
106	155.9	161.9	6.01	48.2	161.7	113.46	2.084	1.0012	8.343	17.38	1974.8
107	155.3	161.3	5.94	48.3	161.2	112.91	2.084	1.0012	8.343	17.38	1965.2
108	155.0	160.9	5.93	48.3	160.8	112.44	2.084	1.0012	8.343	17.38	1957.1
109	154.4	160.3	5.88	48.3	160.2	111.86	2.098	1.0012	8.343	17.50	1959.9
110	153.8	159.7	5.83	48.3	159.6	111.24	2.084	1.0012	8.343	17.38	1936.2
111	153.3	159.2	5.92	48.4	159.1	110.72	2.111	1.0012	8.343	17.61	1952.6
112	152.7	158.6	5.89	48.4	158.5	110.08	2.125	1.0012	8.343	17.73	1954.1
113	152.4	158.3	5.95	48.4	158.0	109.60	2.125	1.0012	8.343	17.73	1945.5
114	152.5	158.3	5.89	48.4	158.2	109.72	2.139	1.0012	8.343	17.84	1960.3
115	152.5	158.4	5.94	48.4	158.1	109.70	2.125	1.0012	8.343	17.73	1947.3
116	152.1	158.6	6.43	48.4	158.3	109.89	2.263	1.0012	8.343	18.88	2077.4
117	152.6	159.0	6.41	48.4	158.8	110.33	2.291	1.0012	8.343	19.11	2111.1
118	153.1	159.3	6.19	48.4	159.0	110.56	2.236	1.0012	8.343	18.65	2064.6
119	153.3	159.5	6.24	48.4	159.2	110.77	2.180	1.0012	8.343	18.19	2017.4
120	153.6	159.9	6.25	48.5	159.6	111.12	2.194	1.0012	8.343	18.31	2036.7
121	154.0	160.2	6.25	48.5	160.0	111.51	2.194	1.0012	8.343	18.31	2043.8
122	154.3	160.5	6.25	48.5	160.2	111.75	2.194	1.0012	8.343	18.31	2048.1
123	155.1	161.1	6.01	48.5	160.8	112.28	2.153	1.0012	8.342	17.96	2018.9
124	155.4	161.5	6.12	48.5	161.2	112.72	2.139	1.0012	8.342	17.84	2013.8
125	155.7	162.1	6.39	48.5	161.9	113.37	2.194	1.0012	8.342	18.31	2077.8
126	156.4	162.9	6.45	48.5	162.6	114.05	2.194	1.0012	8.342	18.31	2090.3
127	157.0	163.4	6.42	48.5	163.2	114.63	2.194	1.0012	8.342	18.30	2101.0
128	157.6	164.2	6.55	48.5	163.8	115.27	2.180	1.0012	8.342	18.19	2099.3
129	158.4	164.6	6.19	48.5	164.4	115.83	2.098	1.0012	8.342	17.50	2029.4
130	159.1	165.3	6.17	48.6	165.1	116.57	2.084	1.0012	8.342	17.38	2029.0
131	159.8	165.9	6.15	48.5	165.7	117.13	2.056	1.0012	8.342	17.15	2011.8
132	160.5	166.6	6.14	48.6	166.3	117.75	2.042	1.0012	8.342	17.04	2008.8
133	161.1	167.3	6.19	48.6	167.1	118.42	2.042	1.0012	8.342	17.04	2020.2
134	161.8	168.0	6.26	48.6	167.7	119.03	2.042	1.0012	8.342	17.04	2030.5
135	162.4	168.7	6.27	48.6	168.5	119.83	2.042	1.0012	8.342	17.04	2044.3
136	162.9	169.2	6.30	48.7	168.9	120.28	2.042	1.0012	8.342	17.04	2052.0
137	163.7	169.9	6.22	48.7	169.6	120.94	2.001	1.0012	8.342	16.69	2021.4
138	164.3	170.5	6.22	48.7	170.2	121.55	2.001	1.0012	8.342	16.69	2031.5
139	164.9	171.2	6.27	48.7	170.9	122.22	1.987	1.0012	8.342	16.58	2028.7
140	165.5	171.9	6.34	48.5	171.6	123.05	2.001	1.0012	8.342	16.69	2056.6
141	166.2	172.5	6.32	48.4	172.3	123.89	1.987	1.0012	8.343	16.58	2056.4
142	166.9	173.3	6.40	48.3	173.0	124.64	1.973	1.0012	8.343	16.46	2054.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
143	167.4	173.8	6.37	48.3	173.7	125.41	1.987	1.0012	8.343	16.58	2081.7
144	167.9	174.4	6.47	48.3	174.1	125.78	1.987	1.0012	8.343	16.58	2087.8
145	168.4	174.9	6.52	48.2	174.7	126.41	1.987	1.0012	8.343	16.58	2098.4
146	169.2	175.8	6.53	48.2	175.5	127.27	1.987	1.0012	8.343	16.58	2112.5
147	170.3	176.3	6.06	48.2	176.1	127.86	1.849	1.0012	8.343	15.43	1975.0
148	170.9	177.0	6.10	48.3	176.7	128.45	1.849	1.0012	8.343	15.43	1984.0
149	171.5	177.6	6.11	48.3	177.4	129.16	1.849	1.0012	8.343	15.43	1995.1
150	172.0	178.1	6.11	48.3	177.9	129.66	1.849	1.0012	8.343	15.43	2002.7
151	172.7	178.9	6.19	48.3	178.5	130.25	1.835	1.0012	8.343	15.31	1996.9
152	173.5	179.6	6.17	48.3	179.4	131.10	1.835	1.0012	8.343	15.31	2009.9
153	173.8	180.0	6.15	48.3	179.7	131.47	1.822	1.0012	8.343	15.20	2000.3
154	174.8	180.9	6.12	48.3	180.7	132.38	1.808	1.0012	8.343	15.08	1999.0
155	174.9	181.0	6.09	48.3	180.9	132.59	1.808	1.0012	8.343	15.08	2002.1
156	174.8	180.8	5.99	48.3	180.6	132.36	1.794	1.0012	8.343	14.97	1983.5
157	174.6	180.5	5.98	48.3	180.4	132.16	1.780	1.0012	8.343	14.85	1965.2
158	174.5	180.5	5.98	48.3	180.4	132.10	1.766	1.0012	8.343	14.74	1949.1
159	174.2	180.2	6.01	48.3	180.1	131.84	1.808	1.0012	8.343	15.08	1990.9
160	174.0	180.0	6.03	48.3	179.9	131.60	1.794	1.0012	8.343	14.97	1972.1
161	173.7	179.7	5.97	48.3	179.6	131.30	1.808	1.0012	8.343	15.08	1982.7
162	173.3	179.3	5.93	48.3	179.2	130.93	1.794	1.0012	8.343	14.97	1962.0
163	173.2	179.1	5.91	48.3	179.0	130.68	1.780	1.0012	8.343	14.85	1943.3
164	172.8	178.7	5.93	48.3	178.6	130.36	1.794	1.0012	8.343	14.97	1953.5
165	172.3	178.3	5.96	48.3	178.1	129.85	1.808	1.0012	8.343	15.08	1960.8
166	172.1	178.0	5.87	48.3	177.9	129.65	1.794	1.0012	8.343	14.97	1942.8
167	171.7	177.5	5.87	48.3	177.4	129.12	1.808	1.0012	8.343	15.08	1949.8
168	171.3	177.1	5.84	48.3	177.0	128.76	1.794	1.0012	8.343	14.97	1929.5
169	170.9	176.7	5.84	48.3	176.6	128.33	1.794	1.0012	8.343	14.97	1923.0
170	170.4	176.3	5.82	48.3	176.1	127.81	1.794	1.0012	8.343	14.97	1915.3
171	170.1	175.9	5.80	48.3	175.7	127.41	1.794	1.0012	8.343	14.97	1909.3
172	169.6	175.4	5.75	48.4	175.3	126.87	1.808	1.0012	8.343	15.08	1915.8
173	169.2	174.9	5.78	48.6	174.9	126.24	1.808	1.0012	8.342	15.08	1906.2
174	168.9	174.5	5.58	48.7	174.5	125.72	1.808	1.0012	8.342	15.08	1898.3
175	168.2	174.1	5.83	48.8	173.9	125.12	1.822	1.0012	8.342	15.20	1903.6
176	167.8	173.6	5.80	48.9	173.5	124.67	1.849	1.0012	8.342	15.43	1925.5
177	167.4	173.1	5.78	48.9	173.1	124.15	1.863	1.0012	8.342	15.54	1931.8
178	167.0	172.8	5.78	49.0	172.7	123.68	1.849	1.0012	8.342	15.43	1910.2
179	166.4	172.2	5.86	49.0	172.1	123.11	1.877	1.0012	8.342	15.66	1929.9
180	165.8	171.6	5.83	49.0	171.5	122.50	1.891	1.0012	8.342	15.77	1934.4
181	165.5	171.2	5.66	49.0	171.1	122.06	1.877	1.0012	8.342	15.66	1913.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
182	165.0	170.7	5.79	49.0	170.6	121.62	1.877	1.0012	8.342	15.66	1906.5
183	164.7	170.3	5.56	49.1	170.1	121.03	1.849	1.0012	8.342	15.43	1869.3
184	164.0	169.8	5.73	49.1	169.7	120.56	1.863	1.0012	8.342	15.54	1875.9
185	163.5	169.2	5.71	49.1	169.1	120.04	1.891	1.0012	8.342	15.77	1895.6
186	163.0	168.7	5.77	49.1	168.6	119.57	1.904	1.0012	8.342	15.89	1901.9
187	162.5	168.3	5.77	49.1	168.2	119.09	1.918	1.0012	8.342	16.00	1908.0
188	162.1	167.7	5.64	49.1	167.6	118.52	1.891	1.0012	8.342	15.77	1871.5
189	161.5	167.3	5.78	49.1	167.2	118.09	1.932	1.0012	8.342	16.12	1905.5
190	161.0	166.8	5.81	49.0	166.6	117.62	1.960	1.0012	8.342	16.35	1925.1
191	160.3	166.1	5.75	49.0	166.0	116.97	1.946	1.0012	8.342	16.23	1901.0
192	159.7	165.6	5.92	49.0	165.5	116.47	2.001	1.0012	8.342	16.69	1946.5
193	159.2	165.1	5.92	49.0	165.0	115.99	2.015	1.0012	8.342	16.81	1951.8
194	158.8	164.6	5.87	49.0	164.5	115.52	2.015	1.0012	8.342	16.81	1943.9
195	158.2	164.0	5.84	49.0	163.9	114.92	2.001	1.0012	8.342	16.69	1920.6
196	157.5	163.4	5.90	49.0	163.4	114.36	2.029	1.0012	8.342	16.92	1937.6
197	157.1	163.0	5.92	49.0	162.8	113.79	2.042	1.0012	8.342	17.04	1941.0
198	156.6	162.4	5.88	49.0	162.3	113.27	2.042	1.0012	8.342	17.04	1932.3
199	156.1	161.9	5.84	49.0	161.8	112.77	2.042	1.0012	8.342	17.04	1923.7
200	155.6	161.4	5.77	49.0	161.3	112.29	2.042	1.0012	8.342	17.04	1915.5
201	155.0	160.8	5.80	49.0	160.7	111.69	2.042	1.0012	8.342	17.04	1905.4
202	154.6	160.3	5.71	49.1	160.2	111.13	2.029	1.0012	8.342	16.92	1882.9
203	154.0	159.7	5.78	49.1	159.6	110.56	2.056	1.0012	8.342	17.15	1898.7
204	153.4	159.2	5.74	49.1	159.0	109.94	2.042	1.0012	8.342	17.04	1875.5
205	153.0	158.6	5.64	49.1	158.5	109.39	2.029	1.0012	8.342	16.92	1853.4
206	152.5	158.2	5.70	49.1	158.1	109.05	2.070	1.0012	8.342	17.27	1885.3
207	152.6	158.3	5.70	49.0	158.0	109.01	2.070	1.0012	8.342	17.27	1884.7
208	152.3	158.1	5.73	49.0	157.9	108.91	2.084	1.0012	8.342	17.38	1895.5
209	152.4	158.3	5.87	48.9	158.0	109.20	2.098	1.0012	8.342	17.50	1913.1
210	152.7	158.6	5.95	48.6	158.3	109.71	2.111	1.0012	8.342	17.61	1934.9
211	152.9	159.0	6.05	48.4	158.7	110.30	2.125	1.0012	8.343	17.73	1958.0
212	153.2	159.2	5.93	48.3	159.0	110.66	2.111	1.0012	8.343	17.61	1951.7
213	153.7	159.6	5.96	48.3	159.3	111.04	2.084	1.0012	8.343	17.38	1932.8
214	153.9	159.9	6.00	48.3	159.7	111.45	2.111	1.0012	8.343	17.61	1965.6
215	154.4	160.5	6.02	48.2	160.2	111.96	2.098	1.0012	8.343	17.50	1961.7
216	154.8	160.8	6.09	48.2	160.6	112.38	2.098	1.0012	8.343	17.50	1969.0
217	155.1	161.1	6.00	48.2	160.9	112.72	2.098	1.0012	8.343	17.50	1975.1
218	155.5	161.6	6.10	48.1	161.3	113.12	2.084	1.0012	8.343	17.38	1969.0
219	155.9	161.9	6.04	48.1	161.8	113.64	2.084	1.0012	8.343	17.38	1978.1
220	156.3	162.5	6.15	48.1	162.1	114.04	2.084	1.0012	8.343	17.38	1985.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
221	157.0	163.1	6.07	48.1	162.9	114.79	2.070	1.0012	8.343	17.27	1984.8
222	157.3	163.4	6.09	48.1	163.2	115.10	2.056	1.0012	8.343	17.15	1976.9
223	158.2	164.4	6.14	48.1	164.1	116.03	2.070	1.0012	8.343	17.27	2006.2
224	158.9	165.0	6.10	48.0	164.7	116.62	2.015	1.0012	8.343	16.81	1962.7
225	159.5	165.6	6.07	48.1	165.4	117.31	2.015	1.0012	8.343	16.81	1974.2
226	160.1	166.2	6.14	48.1	166.0	117.94	2.015	1.0012	8.343	16.81	1984.9
227	160.8	167.0	6.15	48.0	166.7	118.66	2.015	1.0012	8.343	16.81	1997.1
228	161.5	167.5	6.06	48.0	167.3	119.25	1.987	1.0012	8.343	16.58	1979.4
229	161.9	168.1	6.15	48.0	167.8	119.80	1.987	1.0012	8.343	16.58	1988.6
230	162.7	168.9	6.18	48.0	168.6	120.56	1.987	1.0012	8.343	16.58	2001.3
231	163.4	169.4	6.00	48.0	169.3	121.22	1.973	1.0012	8.343	16.46	1998.3
232	164.1	170.2	6.03	48.0	169.9	121.86	1.932	1.0012	8.343	16.12	1966.7
233	164.7	170.7	6.06	48.0	170.5	122.42	1.932	1.0012	8.343	16.12	1975.7
234	165.4	171.4	6.01	48.0	171.3	123.26	1.932	1.0012	8.343	16.12	1989.1
235	166.0	172.2	6.16	48.0	171.9	123.85	1.918	1.0012	8.343	16.00	1984.4
236	166.7	172.9	6.12	48.1	172.6	124.55	1.918	1.0012	8.343	16.00	1995.6
237	167.4	173.5	6.08	48.1	173.2	125.17	1.904	1.0012	8.343	15.89	1991.2
238	168.1	174.2	6.17	48.1	173.9	125.86	1.891	1.0012	8.343	15.77	1987.7
239	168.8	174.9	6.12	48.1	174.7	126.61	1.891	1.0012	8.343	15.77	1999.5
240	169.4	175.6	6.22	48.1	175.3	127.22	1.877	1.0012	8.343	15.66	1994.4
241	170.3	176.4	6.10	48.1	176.2	128.08	1.877	1.0012	8.343	15.66	2007.9
242	170.8	176.9	6.14	48.1	176.6	128.57	1.849	1.0012	8.343	15.43	1986.0
243	171.4	177.5	6.14	48.1	177.3	129.18	1.849	1.0012	8.343	15.43	1995.4
244	172.2	178.2	5.95	48.1	177.9	129.78	1.780	1.0012	8.343	14.85	1929.9
245	172.9	178.8	5.94	48.1	178.6	130.46	1.822	1.0012	8.343	15.20	1985.1
246	173.5	179.5	6.01	48.1	179.2	131.07	1.780	1.0012	8.343	14.85	1949.0
247	173.9	180.2	6.25	48.1	179.9	131.80	1.835	1.0012	8.343	15.31	2020.7
248	174.3	180.6	6.24	48.1	180.4	132.28	1.849	1.0012	8.343	15.43	2043.3
249	174.3	180.3	5.99	48.1	180.2	132.07	1.822	1.0012	8.343	15.20	2009.5
250	174.4	180.2	5.80	48.1	180.0	131.92	1.766	1.0012	8.343	14.74	1946.5
251	174.1	180.1	5.99	48.1	179.9	131.85	1.780	1.0012	8.343	14.85	1960.6
252	173.8	179.8	5.99	48.0	179.6	131.60	1.794	1.0012	8.343	14.97	1972.0
253	173.8	179.7	5.91	48.0	179.5	131.52	1.780	1.0012	8.343	14.85	1955.8
254	173.4	179.4	5.95	48.0	179.2	131.17	1.794	1.0012	8.343	14.97	1965.7
255	173.1	179.0	5.91	48.0	178.8	130.81	1.780	1.0012	8.343	14.85	1945.2
256	172.8	178.8	5.99	48.0	178.7	130.66	1.808	1.0012	8.343	15.08	1973.1
257	172.5	178.4	5.93	48.0	178.3	130.32	1.794	1.0012	8.343	14.97	1952.9
258	172.0	178.0	5.94	48.0	177.8	129.81	1.808	1.0012	8.343	15.08	1960.2
259	171.7	177.6	5.90	48.0	177.6	129.53	1.808	1.0012	8.343	15.08	1956.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
260	171.3	177.3	5.91	48.1	177.2	129.14	1.808	1.0012	8.343	15.08	1950.0
261	170.9	176.8	5.91	48.1	176.7	128.66	1.808	1.0012	8.343	15.08	1942.9
262	170.5	176.4	5.91	48.1	176.3	128.20	1.822	1.0012	8.343	15.20	1950.8
263	170.1	176.0	5.90	48.0	175.9	127.86	1.822	1.0012	8.343	15.20	1945.6
264	169.6	175.5	5.86	48.0	175.4	127.34	1.822	1.0012	8.343	15.20	1937.6
265	169.3	175.1	5.85	48.0	175.0	126.94	1.822	1.0012	8.343	15.20	1931.6
266	168.6	174.6	5.99	48.0	174.6	126.56	1.835	1.0012	8.343	15.31	1940.4
267	168.3	174.3	6.00	48.0	174.2	126.16	1.863	1.0012	8.343	15.54	1963.3
268	167.8	173.7	5.95	48.0	173.6	125.62	1.863	1.0012	8.343	15.54	1954.9
269	167.2	173.2	5.95	48.0	173.2	125.17	1.877	1.0012	8.343	15.66	1962.4
270	166.8	172.8	5.98	48.0	172.7	124.69	1.891	1.0012	8.343	15.77	1969.2
271	166.3	172.2	5.95	48.0	172.1	124.14	1.891	1.0012	8.343	15.77	1960.4
272	165.8	171.8	5.92	48.0	171.6	123.61	1.891	1.0012	8.343	15.77	1952.0
273	165.5	171.3	5.88	48.0	171.2	123.22	1.877	1.0012	8.343	15.66	1931.8
274	164.9	170.7	5.85	48.0	170.6	122.62	1.891	1.0012	8.343	15.77	1936.6
275	164.4	170.3	5.86	48.0	170.1	122.14	1.891	1.0012	8.343	15.77	1928.9
276	164.0	169.8	5.78	48.0	169.6	121.66	1.877	1.0012	8.343	15.66	1907.3
277	163.6	169.1	5.58	48.0	169.1	121.09	1.822	1.0012	8.343	15.20	1842.5
278	163.2	168.7	5.54	48.0	168.6	120.64	1.835	1.0012	8.343	15.31	1849.6
279	162.5	168.3	5.77	48.0	168.2	120.22	1.891	1.0012	8.343	15.77	1898.6
280	162.0	167.8	5.72	48.0	167.7	119.69	1.891	1.0012	8.343	15.77	1890.3
281	161.6	167.3	5.70	48.0	167.2	119.17	1.891	1.0012	8.343	15.77	1882.0
282	161.1	166.8	5.71	48.0	166.7	118.66	1.904	1.0012	8.343	15.89	1887.7
283	160.6	166.3	5.63	47.9	166.2	118.21	1.891	1.0012	8.343	15.77	1866.8
284	159.7	165.8	6.05	47.9	165.7	117.77	1.987	1.0012	8.343	16.58	1954.9
285	159.0	165.2	6.25	47.9	165.1	117.24	2.084	1.0012	8.343	17.39	2040.8
286	158.4	164.7	6.23	47.8	164.5	116.68	2.070	1.0012	8.343	17.27	2017.5
287	158.0	164.2	6.20	47.8	164.0	116.24	2.084	1.0012	8.343	17.39	2023.3
288	157.4	163.5	6.10	47.8	163.4	115.62	2.084	1.0012	8.343	17.39	2012.6
289	156.8	162.9	6.13	47.8	162.8	114.98	2.084	1.0012	8.343	17.39	2001.4
290	156.4	162.5	6.11	47.8	162.4	114.56	2.084	1.0012	8.343	17.39	1994.2
291	155.8	161.9	6.11	47.8	161.7	113.90	2.070	1.0012	8.343	17.27	1969.4
292	155.3	161.3	6.03	47.8	161.2	113.34	2.084	1.0012	8.343	17.39	1972.9
293	154.7	160.7	6.03	47.8	160.5	112.74	2.084	1.0012	8.343	17.39	1962.4
294	153.8	160.1	6.25	47.8	159.9	112.08	2.153	1.0012	8.343	17.96	2015.5
295	153.6	159.6	5.94	47.8	159.5	111.71	2.111	1.0012	8.343	17.62	1970.3
296	152.7	158.9	6.20	47.8	158.7	110.90	2.167	1.0012	8.343	18.08	2007.2
297	152.4	158.5	6.11	47.8	158.3	110.55	2.167	1.0012	8.343	18.08	2000.9
298	152.1	158.2	6.13	47.8	158.0	110.24	2.167	1.0012	8.343	18.08	1995.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
299	152.0	158.1	6.15	47.8	157.9	110.10	2.167	1.0012	8.343	18.08	1992.6
300	152.3	158.3	5.98	47.8	158.0	110.24	2.098	1.0012	8.343	17.50	1931.6
301	152.2	158.3	6.15	47.7	158.1	110.37	2.167	1.0012	8.343	18.08	1997.6
302	152.7	158.9	6.22	47.7	158.6	110.88	2.180	1.0012	8.343	18.19	2019.6
303	152.9	159.1	6.22	47.7	158.8	111.07	2.153	1.0012	8.343	17.96	1997.5
304	153.3	159.6	6.25	47.7	159.2	111.46	2.167	1.0012	8.343	18.08	2017.3
305	153.7	159.8	6.06	47.7	159.6	111.91	2.153	1.0012	8.343	17.96	2012.5
306	154.3	160.4	6.13	47.7	160.1	112.39	2.111	1.0012	8.343	17.62	1982.3
307	154.6	160.7	6.13	47.7	160.4	112.72	2.111	1.0012	8.343	17.62	1988.2
308	155.2	161.1	5.96	47.7	160.8	113.08	2.084	1.0012	8.343	17.39	1968.4
309	155.4	161.6	6.15	47.8	161.3	113.43	2.070	1.0012	8.343	17.27	1961.4
310	156.1	162.3	6.22	48.0	162.0	113.99	2.111	1.0012	8.343	17.62	2010.5
311	156.5	162.7	6.21	48.0	162.4	114.39	2.111	1.0012	8.343	17.62	2017.6
312	157.2	163.2	6.05	48.1	162.9	114.80	2.070	1.0012	8.343	17.27	1985.0
313	157.4	163.7	6.30	48.2	163.4	115.18	2.125	1.0012	8.343	17.73	2044.7
314	158.2	164.3	6.10	48.2	164.0	115.78	2.084	1.0012	8.343	17.38	2015.2
315	158.7	164.8	6.08	48.2	164.5	116.29	2.029	1.0012	8.343	16.92	1970.5
316	159.3	165.4	6.11	48.3	165.1	116.80	1.960	1.0012	8.343	16.35	1911.8
317	160.1	166.2	6.14	48.4	166.0	117.61	2.029	1.0012	8.343	16.92	1992.9
318	160.6	166.8	6.20	48.2	166.5	118.27	2.029	1.0012	8.343	16.92	2004.0
319	161.2	167.4	6.26	48.1	167.1	119.06	2.029	1.0012	8.343	16.92	2017.6
320	161.7	167.9	6.14	48.0	167.7	119.65	2.015	1.0012	8.343	16.81	2013.7
321	162.3	168.5	6.18	48.0	168.3	120.32	2.001	1.0012	8.343	16.69	2011.1
322	163.0	169.2	6.25	47.9	168.9	120.99	2.001	1.0012	8.343	16.69	2022.4
323	163.7	169.9	6.14	47.9	169.6	121.68	1.960	1.0012	8.343	16.35	1991.8
324	164.3	170.5	6.21	47.9	170.3	122.34	1.960	1.0012	8.343	16.35	2002.6
325	165.0	171.2	6.21	47.9	170.9	123.04	1.960	1.0012	8.343	16.35	2014.0
326	165.7	172.0	6.24	47.9	171.7	123.83	1.946	1.0012	8.343	16.23	2012.7
327	166.3	172.5	6.20	47.9	172.2	124.30	1.946	1.0012	8.343	16.23	2020.3
328	167.0	173.3	6.22	47.9	173.0	125.05	1.932	1.0012	8.343	16.12	2018.1
329	167.5	173.8	6.28	47.9	173.5	125.58	1.918	1.0012	8.343	16.00	2012.2
330	168.2	174.5	6.28	47.9	174.2	126.31	1.932	1.0012	8.343	16.12	2038.4
331	168.8	175.0	6.26	47.9	174.9	126.95	1.918	1.0012	8.343	16.00	2034.1
332	169.5	175.9	6.33	47.9	175.6	127.69	1.918	1.0012	8.343	16.00	2045.9
333	170.3	176.4	6.05	47.9	176.1	128.18	1.835	1.0012	8.343	15.31	1965.1
334	170.9	177.0	6.07	47.9	176.8	128.82	1.849	1.0012	8.343	15.43	1989.8
335	171.4	177.6	6.13	47.9	177.3	129.36	1.835	1.0012	8.343	15.31	1983.3
336	172.0	178.2	6.15	48.0	177.9	129.94	1.835	1.0012	8.343	15.31	1992.2
337	172.7	178.8	6.11	48.0	178.6	130.59	1.794	1.0012	8.343	14.97	1957.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
338	173.2	179.4	6.16	48.0	179.2	131.18	1.835	1.0012	8.343	15.31	2011.3
339	173.8	180.1	6.24	48.0	179.8	131.83	1.822	1.0012	8.343	15.20	2005.9
340	174.3	180.6	6.26	48.0	180.3	132.31	1.835	1.0012	8.343	15.31	2028.5
341	174.2	180.4	6.21	48.0	180.3	132.29	1.835	1.0012	8.343	15.31	2028.2
342	174.2	180.4	6.22	48.0	180.3	132.25	1.835	1.0012	8.343	15.31	2027.6
343	174.0	180.2	6.19	48.0	180.1	132.10	1.835	1.0012	8.343	15.31	2025.2
344	174.0	180.1	6.06	48.0	180.0	132.02	1.822	1.0012	8.343	15.20	2008.8
345	173.8	179.9	6.07	48.0	179.8	131.77	1.808	1.0012	8.343	15.08	1989.9
346	173.6	179.7	6.04	48.0	179.5	131.53	1.794	1.0012	8.343	14.97	1971.1
347	173.4	179.4	6.01	48.0	179.3	131.27	1.808	1.0012	8.343	15.08	1982.3
348	173.1	179.1	6.02	48.0	179.0	131.00	1.794	1.0012	8.343	14.97	1963.2
349	172.7	178.7	6.01	48.0	178.6	130.60	1.794	1.0012	8.343	14.97	1957.1
350	172.5	178.5	5.98	48.0	178.3	130.31	1.808	1.0012	8.343	15.08	1967.8
351	172.1	178.1	5.96	48.0	178.0	129.99	1.808	1.0012	8.343	15.08	1963.0
352	171.6	177.5	5.99	48.0	177.4	129.37	1.808	1.0012	8.343	15.08	1953.5
353	171.4	177.3	5.93	48.0	177.2	129.21	1.794	1.0012	8.343	14.97	1936.3
354	170.9	176.9	5.99	48.0	176.8	128.78	1.835	1.0012	8.343	15.31	1974.4
355	170.5	176.5	5.99	48.1	176.4	128.31	1.835	1.0012	8.343	15.31	1967.1
356	170.0	175.9	5.94	48.3	175.9	127.63	1.835	1.0012	8.343	15.31	1956.7
357	169.6	175.7	6.11	48.4	175.6	127.17	1.849	1.0012	8.343	15.43	1964.2
358	169.1	175.2	6.11	48.4	175.1	126.64	1.904	1.0012	8.343	15.89	2014.5
359	168.6	174.7	6.08	48.5	174.6	126.10	1.891	1.0012	8.343	15.77	1991.4
360	168.3	174.4	6.07	48.5	174.2	125.71	1.891	1.0012	8.342	15.77	1985.1
361	167.6	173.6	6.05	48.6	173.6	125.01	1.891	1.0012	8.342	15.77	1974.1
362	167.4	173.4	6.01	48.6	173.3	124.72	1.891	1.0012	8.342	15.77	1969.5
363	166.8	172.8	6.03	48.6	172.6	124.00	1.904	1.0012	8.342	15.89	1972.4
364	166.4	172.4	5.95	48.5	172.3	123.77	1.891	1.0012	8.342	15.77	1954.5
365	166.0	172.0	5.96	48.3	171.9	123.52	1.904	1.0012	8.343	15.89	1964.8
366	165.5	171.4	5.89	48.3	171.4	123.07	1.891	1.0012	8.343	15.77	1943.5
367	165.0	170.9	5.91	48.2	170.9	122.62	1.904	1.0012	8.343	15.89	1950.6
368	164.7	170.6	5.90	48.2	170.5	122.27	1.891	1.0012	8.343	15.77	1930.9
369	164.0	169.9	5.88	48.2	169.8	121.64	1.904	1.0012	8.343	15.89	1935.0
370	163.5	169.5	5.99	48.1	169.4	121.25	1.946	1.0012	8.343	16.23	1970.7
371	163.1	169.1	5.98	48.1	168.9	120.84	1.946	1.0012	8.343	16.23	1964.1
372	162.5	168.4	5.95	48.1	168.3	120.25	1.946	1.0012	8.343	16.23	1954.5
373	162.0	168.0	5.93	48.1	167.9	119.81	1.960	1.0012	8.343	16.35	1961.1
374	161.5	167.5	5.95	48.1	167.3	119.26	1.960	1.0012	8.343	16.35	1952.2
375	160.9	166.8	5.91	48.0	166.7	118.67	1.960	1.0012	8.343	16.35	1942.5
376	160.6	166.4	5.86	48.0	166.3	118.31	1.960	1.0012	8.343	16.35	1936.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
377	160.1	165.9	5.87	48.0	165.8	117.80	1.973	1.0012	8.343	16.46	1941.9
378	159.6	165.4	5.83	48.0	165.3	117.34	1.960	1.0012	8.343	16.35	1920.7
379	158.8	164.8	6.06	48.0	164.7	116.74	2.001	1.0012	8.343	16.69	1951.3
380	158.3	164.3	6.06	48.0	164.2	116.28	2.042	1.0012	8.343	17.04	1983.8
381	157.7	163.8	6.03	48.0	163.7	115.72	2.056	1.0012	8.343	17.15	1987.6
382	157.2	163.3	6.03	47.9	163.1	115.18	2.042	1.0012	8.343	17.04	1965.1
383	156.8	162.7	5.97	47.9	162.6	114.66	2.056	1.0012	8.343	17.15	1969.4
384	156.3	162.2	5.94	47.9	162.1	114.21	2.056	1.0012	8.343	17.15	1961.7
385	155.8	161.7	5.89	47.9	161.6	113.67	2.056	1.0012	8.343	17.15	1952.4
386	155.1	161.0	5.90	47.9	160.9	112.99	2.070	1.0012	8.343	17.27	1953.8
387	154.6	160.5	5.86	47.9	160.3	112.43	2.056	1.0012	8.343	17.15	1931.1
388	154.2	160.1	5.84	47.9	160.0	112.07	2.056	1.0012	8.343	17.15	1925.0
389	153.7	159.5	5.83	47.9	159.4	111.47	2.056	1.0012	8.343	17.15	1914.6
390	153.2	158.9	5.72	47.9	158.8	110.91	2.056	1.0012	8.343	17.15	1905.0
391	152.6	158.4	5.73	47.9	158.2	110.32	2.056	1.0012	8.343	17.15	1894.8
392	152.6	158.4	5.78	47.9	158.1	110.21	2.056	1.0012	8.343	17.15	1893.0
393	152.6	158.3	5.73	47.9	158.1	110.23	2.070	1.0012	8.343	17.27	1906.0
394	152.7	158.5	5.75	47.9	158.2	110.34	2.056	1.0012	8.343	17.15	1895.2
395	152.9	158.7	5.82	47.9	158.4	110.52	2.056	1.0012	8.343	17.15	1898.3
396	153.5	159.3	5.83	47.9	159.0	111.15	2.056	1.0012	8.343	17.15	1909.1
397	154.0	159.8	5.80	47.9	159.6	111.67	2.042	1.0012	8.343	17.04	1905.1
398	154.1	160.0	5.89	47.9	159.7	111.81	2.056	1.0012	8.343	17.15	1920.5
399	154.6	160.5	5.93	47.9	160.2	112.31	2.056	1.0012	8.343	17.15	1929.1
400	155.0	160.9	5.94	47.9	160.6	112.69	2.056	1.0012	8.343	17.15	1935.6
401	155.4	161.4	6.01	47.9	161.0	113.16	2.056	1.0012	8.343	17.15	1943.6
402	155.9	161.9	5.97	47.9	161.7	113.78	2.042	1.0012	8.343	17.04	1941.2
403	156.2	162.3	6.06	47.9	162.0	114.09	2.056	1.0012	8.343	17.15	1959.7
404	156.9	163.0	6.08	47.9	162.6	114.75	2.056	1.0012	8.343	17.15	1971.0
405	157.3	163.3	6.06	47.9	163.1	115.26	2.042	1.0012	8.343	17.04	1966.4
406	158.1	164.2	6.15	47.9	163.9	115.99	2.042	1.0012	8.343	17.04	1978.9
407	158.5	164.6	6.11	47.9	164.4	116.54	2.056	1.0012	8.343	17.15	2001.7
408	158.7	164.9	6.26	47.9	164.6	116.70	2.042	1.0012	8.343	17.04	1990.9
409	159.3	165.4	6.14	47.9	165.2	117.34	2.042	1.0012	8.343	17.04	2001.9
410	160.0	166.3	6.28	48.1	165.9	117.86	2.042	1.0012	8.343	17.04	2010.7
411	160.6	166.8	6.25	48.2	166.6	118.43	2.056	1.0012	8.343	17.15	2034.1
412	160.8	167.0	6.21	48.2	166.9	118.68	2.029	1.0012	8.343	16.92	2011.0
413	161.5	167.8	6.29	48.3	167.5	119.20	2.042	1.0012	8.343	17.04	2033.6
414	161.9	168.2	6.31	48.3	168.0	119.61	2.042	1.0012	8.343	17.04	2040.5
415	162.4	168.7	6.35	48.4	168.5	120.12	2.042	1.0012	8.343	17.04	2049.3

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
416	162.9	169.2	6.34	48.4	169.0	120.59	2.042	1.0012	8.343	17.04	2057.3
417	163.5	169.9	6.42	48.5	169.6	121.11	2.042	1.0012	8.343	17.04	2066.2
418	163.8	170.1	6.31	48.4	170.1	121.62	2.042	1.0012	8.343	17.04	2074.8
419	164.2	170.6	6.38	48.3	170.5	122.20	2.042	1.0012	8.343	17.04	2084.8
420	164.7	171.2	6.52	48.2	170.9	122.80	2.015	1.0012	8.343	16.81	2066.6
421	165.3	171.7	6.34	48.1	171.4	123.32	2.029	1.0012	8.343	16.92	2089.7
422	165.6	172.2	6.56	48.0	171.9	123.86	2.001	1.0012	8.343	16.69	2070.3
423	166.0	172.5	6.55	48.0	172.4	124.35	2.042	1.0012	8.343	17.04	2121.6
424	166.8	173.1	6.32	48.0	172.9	124.91	1.987	1.0012	8.343	16.58	2073.4
425	167.4	173.7	6.27	48.0	173.4	125.42	1.932	1.0012	8.343	16.12	2024.1
426	167.7	174.0	6.31	48.0	173.8	125.83	1.946	1.0012	8.343	16.23	2045.2
427	168.3	174.6	6.36	47.9	174.3	126.32	1.932	1.0012	8.343	16.12	2038.6
428	168.9	175.2	6.31	47.9	175.0	127.08	1.932	1.0012	8.343	16.12	2050.8
429	169.2	175.6	6.41	47.9	175.2	127.34	1.918	1.0012	8.343	16.00	2040.4
430	169.7	176.1	6.42	47.9	175.8	127.89	1.932	1.0012	8.343	16.12	2063.9
431	170.3	176.7	6.41	47.9	176.5	128.59	1.918	1.0012	8.343	16.00	2060.5
432	170.8	177.3	6.49	47.9	176.9	129.06	1.918	1.0012	8.343	16.00	2068.0
433	171.3	177.8	6.49	47.9	177.5	129.64	1.932	1.0012	8.343	16.12	2092.2
434	171.8	178.3	6.53	47.9	178.1	130.20	1.932	1.0012	8.343	16.12	2101.2
435	172.3	178.8	6.55	47.9	178.6	130.70	1.918	1.0012	8.343	16.00	2094.3
436	172.9	179.5	6.61	47.9	179.2	131.32	1.918	1.0012	8.343	16.00	2104.1
437	173.3	179.9	6.60	47.9	179.7	131.77	1.918	1.0012	8.343	16.00	2111.4
438	173.4	179.9	6.56	47.9	179.8	131.91	1.918	1.0012	8.343	16.00	2113.7
439	173.3	179.8	6.51	47.9	179.7	131.80	1.932	1.0012	8.343	16.12	2127.1
440	173.1	179.7	6.55	47.9	179.5	131.63	1.918	1.0012	8.343	16.00	2109.2
441	172.9	179.4	6.57	47.9	179.3	131.42	1.918	1.0012	8.343	16.00	2105.8
442	172.8	179.3	6.53	47.9	179.2	131.32	1.918	1.0012	8.343	16.00	2104.2
443	172.7	179.2	6.49	47.9	179.0	131.15	1.918	1.0012	8.343	16.00	2101.5
444	172.5	178.8	6.29	47.9	178.7	130.81	1.891	1.0012	8.343	15.77	2065.9
445	172.2	178.6	6.36	47.9	178.4	130.52	1.877	1.0012	8.343	15.66	2046.2
446	171.9	178.2	6.35	47.9	178.1	130.18	1.891	1.0012	8.343	15.77	2055.9
447	171.6	177.9	6.28	47.9	177.8	129.91	1.877	1.0012	8.343	15.66	2036.7
448	171.2	177.5	6.30	48.1	177.4	129.33	1.891	1.0012	8.343	15.77	2042.5
449	170.8	177.1	6.27	48.2	177.0	128.77	1.877	1.0012	8.343	15.66	2018.7
450	170.5	176.7	6.18	48.3	176.6	128.37	1.891	1.0012	8.343	15.77	2027.3
451	170.1	176.3	6.18	48.3	176.2	127.89	1.891	1.0012	8.343	15.77	2019.7
452	169.8	176.0	6.19	48.4	175.8	127.40	1.891	1.0012	8.343	15.77	2011.9
453	169.3	175.4	6.14	48.5	175.3	126.86	1.891	1.0012	8.343	15.77	2003.4
454	168.8	174.9	6.10	48.5	174.9	126.41	1.891	1.0012	8.342	15.77	1996.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
455	168.6	174.6	6.06	48.5	174.5	126.02	1.891	1.0012	8.342	15.77	1990.1
456	168.1	174.2	6.07	48.5	174.0	125.47	1.891	1.0012	8.342	15.77	1981.5
457	167.7	173.8	6.06	48.4	173.6	125.26	1.891	1.0012	8.343	15.77	1978.1
458	167.2	173.3	6.02	48.3	173.1	124.89	1.891	1.0012	8.343	15.77	1972.2
459	166.8	172.8	6.03	48.2	172.7	124.45	1.891	1.0012	8.343	15.77	1965.4
460	166.3	172.3	5.99	48.1	172.2	124.08	1.891	1.0012	8.343	15.77	1959.5
461	165.9	171.8	5.97	48.1	171.7	123.66	1.904	1.0012	8.343	15.89	1967.1
462	165.5	171.4	5.93	48.1	171.3	123.28	1.891	1.0012	8.343	15.77	1946.9
463	165.0	171.0	5.96	48.0	170.8	122.79	1.891	1.0012	8.343	15.77	1939.2
464	164.6	170.6	5.92	48.0	170.4	122.39	1.904	1.0012	8.343	15.89	1946.9
465	164.0	169.9	5.91	48.0	169.8	121.72	1.891	1.0012	8.343	15.77	1922.3
466	163.7	169.6	5.88	48.0	169.5	121.46	1.891	1.0012	8.343	15.77	1918.1
467	163.3	169.1	5.80	48.0	169.1	121.09	1.904	1.0012	8.343	15.89	1926.3
468	162.7	168.6	5.86	48.0	168.4	120.46	1.904	1.0012	8.343	15.89	1916.2
469	162.3	168.1	5.79	48.0	168.0	120.04	1.891	1.0012	8.343	15.77	1895.7
470	161.8	167.6	5.80	47.9	167.5	119.57	1.904	1.0012	8.343	15.89	1902.1
471	161.4	167.1	5.77	47.9	167.0	119.04	1.891	1.0012	8.343	15.77	1879.9
472	161.0	166.5	5.48	47.9	166.5	118.54	1.863	1.0012	8.343	15.54	1844.8
473	160.5	166.2	5.71	47.9	166.1	118.17	1.891	1.0012	8.343	15.77	1866.2
474	160.1	165.8	5.70	47.9	165.6	117.69	1.904	1.0012	8.343	15.89	1872.2
475	159.5	165.2	5.66	47.9	165.1	117.15	1.891	1.0012	8.343	15.77	1850.1
476	159.0	164.7	5.63	47.9	164.6	116.67	1.904	1.0012	8.343	15.89	1856.0
477	158.6	164.2	5.60	47.9	164.1	116.21	1.904	1.0012	8.343	15.89	1848.7
478	158.1	163.7	5.58	47.9	163.5	115.60	1.904	1.0012	8.343	15.89	1839.0
479	157.7	163.3	5.56	48.1	163.1	115.07	1.904	1.0012	8.343	15.89	1830.6
480	157.2	162.7	5.46	48.2	162.7	114.52	1.904	1.0012	8.343	15.89	1821.7
481	156.8	162.3	5.49	48.2	162.2	113.95	1.918	1.0012	8.343	16.00	1825.7
482	156.3	161.8	5.46	48.3	161.6	113.33	1.904	1.0012	8.343	15.89	1802.8
483	155.4	161.2	5.82	48.4	161.1	112.79	1.960	1.0012	8.343	16.35	1846.1
484	155.0	160.9	5.86	48.4	160.7	112.31	2.056	1.0012	8.343	17.15	1928.9
485	154.5	160.4	5.84	48.4	160.2	111.81	2.042	1.0012	8.343	17.04	1907.5
486	154.0	159.8	5.81	48.4	159.7	111.30	2.056	1.0012	8.343	17.15	1911.6
487	153.5	159.3	5.77	48.4	159.2	110.77	2.056	1.0012	8.343	17.15	1902.4
488	152.9	158.6	5.71	48.4	158.5	110.08	2.042	1.0012	8.343	17.04	1878.0
489	152.5	158.2	5.75	48.2	158.1	109.82	2.056	1.0012	8.343	17.15	1886.2
490	152.2	157.9	5.72	48.1	157.8	109.65	2.056	1.0012	8.343	17.15	1883.2
491	152.1	157.8	5.75	48.1	157.6	109.51	2.042	1.0012	8.343	17.04	1868.2
492	152.3	158.0	5.72	48.0	157.8	109.82	2.070	1.0012	8.343	17.27	1899.0
493	151.9	158.3	6.39	48.0	158.0	110.04	2.208	1.0012	8.343	18.42	2029.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
494	152.3	158.7	6.40	47.9	158.4	110.53	2.236	1.0012	8.343	18.65	2064.0
495	152.5	159.0	6.45	47.9	158.7	110.79	2.236	1.0012	8.343	18.65	2069.0
496	152.8	159.3	6.49	47.8	158.9	111.08	2.236	1.0012	8.343	18.65	2074.4
497	153.4	159.9	6.57	47.8	159.5	111.74	2.236	1.0012	8.343	18.65	2086.8
498	154.1	160.7	6.57	47.8	160.3	112.55	2.236	1.0012	8.343	18.65	2101.9
499	154.5	161.1	6.60	47.8	160.8	113.02	2.236	1.0012	8.343	18.65	2110.7
500	155.0	161.6	6.61	47.8	161.3	113.54	2.236	1.0012	8.343	18.65	2120.3
501	155.4	162.1	6.65	47.8	161.8	114.04	2.249	1.0012	8.343	18.77	2142.8
502	156.0	162.7	6.71	47.7	162.4	114.63	2.236	1.0012	8.343	18.65	2140.8
503	156.5	163.2	6.69	47.7	163.0	115.28	2.249	1.0012	8.343	18.77	2166.2
504	157.0	163.8	6.77	47.7	163.5	115.76	2.222	1.0012	8.343	18.54	2148.6
505	157.5	164.3	6.83	47.7	163.9	116.22	2.249	1.0012	8.343	18.77	2183.8
506	158.3	165.1	6.84	47.7	164.7	117.07	2.236	1.0012	8.343	18.65	2186.3
507	159.4	165.6	6.20	47.7	165.3	117.62	2.084	1.0012	8.343	17.39	2047.4
508	159.9	166.1	6.24	47.7	165.9	118.22	2.029	1.0012	8.343	16.92	2003.3
509	160.1	166.5	6.34	47.7	166.1	118.41	2.042	1.0012	8.343	17.04	2020.3
510	161.0	167.3	6.32	47.8	167.0	119.19	2.029	1.0012	8.343	16.92	2019.7
511	161.7	168.0	6.30	47.9	167.8	119.87	2.029	1.0012	8.343	16.92	2031.3
512	162.1	168.4	6.32	48.0	168.2	120.15	2.029	1.0012	8.343	16.92	2035.9
513	162.6	169.0	6.39	48.1	168.7	120.55	2.042	1.0012	8.343	17.04	2056.6
514	163.1	169.5	6.44	48.2	169.2	121.00	2.042	1.0012	8.343	17.04	2064.3
515	163.9	170.3	6.46	48.2	170.1	121.82	2.029	1.0012	8.343	16.92	2064.2
516	164.6	171.1	6.53	48.3	170.8	122.44	2.029	1.0012	8.343	16.92	2074.8
517	165.3	171.8	6.57	48.3	171.4	123.07	2.042	1.0012	8.343	17.04	2099.6
518	165.9	172.4	6.48	48.4	172.2	123.86	2.029	1.0012	8.343	16.92	2098.7
519	166.6	173.2	6.58	48.4	172.9	124.49	2.042	1.0012	8.343	17.04	2123.7
520	167.3	173.9	6.62	48.2	173.6	125.40	2.029	1.0012	8.343	16.92	2124.8
521	167.9	174.5	6.64	48.1	174.3	126.16	2.029	1.0012	8.343	16.92	2137.7
522	168.4	175.1	6.71	48.0	174.9	126.82	2.015	1.0012	8.343	16.81	2134.4
523	169.0	175.7	6.73	48.0	175.4	127.45	2.029	1.0012	8.343	16.92	2159.7
524	169.7	176.5	6.80	47.9	176.3	128.31	2.015	1.0012	8.343	16.81	2159.5
525	170.3	177.2	6.84	47.9	176.9	129.00	2.015	1.0012	8.343	16.81	2171.0
526	171.2	178.0	6.84	47.9	177.8	129.88	2.015	1.0012	8.343	16.81	2186.0
527	171.5	178.4	6.94	47.9	178.1	130.23	2.015	1.0012	8.343	16.81	2191.8
528	172.3	179.2	6.97	47.9	179.0	131.07	2.015	1.0012	8.343	16.81	2206.0
529	172.9	179.9	6.99	47.9	179.6	131.73	2.001	1.0012	8.343	16.69	2201.8
530	173.2	180.2	6.99	47.9	179.9	132.05	2.015	1.0012	8.343	16.81	2222.5
531	173.4	180.4	6.94	47.9	180.2	132.38	2.001	1.0012	8.343	16.69	2212.8
532	173.3	180.3	6.98	47.8	180.1	132.29	2.001	1.0012	8.343	16.69	2211.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
533	173.0	180.0	6.94	47.8	179.8	132.00	2.001	1.0012	8.343	16.69	2206.4
534	172.9	179.8	6.92	47.8	179.6	131.83	2.015	1.0012	8.343	16.81	2218.7
535	172.6	179.6	6.95	47.8	179.4	131.59	2.015	1.0012	8.343	16.81	2214.7
536	172.4	179.2	6.87	47.8	179.1	131.28	2.001	1.0012	8.343	16.69	2194.4
537	172.0	178.8	6.89	47.8	178.7	130.94	2.001	1.0012	8.343	16.69	2188.6
538	172.4	178.5	6.09	47.8	178.5	130.64	1.877	1.0012	8.343	15.66	2048.1
539	172.1	178.2	6.07	48.0	178.1	130.05	1.822	1.0012	8.343	15.20	1978.8
540	171.7	177.8	6.15	48.2	177.7	129.50	1.849	1.0012	8.343	15.43	2000.3
541	171.3	177.5	6.14	48.2	177.4	129.12	1.863	1.0012	8.343	15.54	2009.4
542	171.0	177.1	6.13	48.3	177.0	128.71	1.849	1.0012	8.343	15.43	1988.1
543	170.7	176.7	6.08	48.4	176.7	128.29	1.877	1.0012	8.343	15.66	2011.2
544	170.3	176.4	6.09	48.4	176.2	127.82	1.863	1.0012	8.343	15.54	1989.1
545	169.9	176.0	6.06	48.5	175.8	127.33	1.863	1.0012	8.342	15.54	1981.4
546	169.4	175.4	6.00	48.5	175.4	126.85	1.863	1.0012	8.342	15.54	1973.9
547	169.0	175.0	5.99	48.5	175.0	126.43	1.863	1.0012	8.342	15.54	1967.4
548	168.6	174.7	6.03	48.4	174.6	126.13	1.877	1.0012	8.343	15.66	1977.4
549	168.2	174.3	6.01	48.3	174.1	125.84	1.863	1.0012	8.343	15.54	1958.3
550	167.6	173.8	6.14	48.2	173.7	125.49	1.891	1.0012	8.343	15.77	1981.7
551	167.2	173.4	6.12	48.1	173.2	125.11	1.904	1.0012	8.343	15.89	1990.2
552	166.7	172.9	6.14	48.1	172.8	124.68	1.918	1.0012	8.343	16.00	1997.7
553	166.3	172.4	6.06	48.0	172.3	124.28	1.904	1.0012	8.343	15.89	1977.1
554	165.9	172.0	6.08	48.0	171.9	123.87	1.918	1.0012	8.343	16.00	1984.7
555	165.4	171.4	6.04	48.0	171.3	123.36	1.932	1.0012	8.343	16.12	1990.8
556	164.8	170.9	6.04	48.0	170.8	122.82	1.918	1.0012	8.343	16.00	1968.0
557	164.5	170.5	5.97	48.0	170.4	122.41	1.904	1.0012	8.343	15.89	1947.3
558	163.9	170.0	6.00	47.9	169.8	121.91	1.918	1.0012	8.343	16.00	1953.3
559	163.4	169.4	5.98	47.9	169.2	121.33	1.918	1.0012	8.343	16.00	1944.1
560	163.1	169.1	5.96	47.9	169.0	121.09	1.918	1.0012	8.343	16.00	1940.2
561	162.5	168.4	5.88	47.9	168.4	120.52	1.904	1.0012	8.343	15.89	1917.3
562	162.1	168.0	5.89	47.9	167.9	119.99	1.918	1.0012	8.343	16.00	1922.7
563	161.6	167.5	5.82	48.1	167.4	119.31	1.932	1.0012	8.343	16.12	1925.4
564	161.2	167.0	5.84	48.2	166.9	118.68	1.918	1.0012	8.343	16.00	1901.7
565	160.7	166.5	5.83	48.3	166.4	118.10	1.918	1.0012	8.343	16.00	1892.2
566	160.3	166.1	5.76	48.3	165.9	117.60	1.918	1.0012	8.343	16.00	1884.3
567	159.7	165.3	5.68	48.4	165.3	116.96	1.932	1.0012	8.343	16.12	1887.4
568	159.3	165.0	5.75	48.4	164.8	116.42	1.918	1.0012	8.343	16.00	1865.3
569	158.9	164.6	5.70	48.5	164.4	115.94	1.918	1.0012	8.343	16.00	1857.6
570	158.4	164.1	5.65	48.5	163.9	115.41	1.918	1.0012	8.342	16.00	1849.1
571	157.9	163.5	5.60	48.5	163.4	114.83	1.918	1.0012	8.342	16.00	1839.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
572	157.4	163.0	5.60	48.5	162.8	114.31	1.932	1.0012	8.342	16.12	1844.6
573	157.0	162.5	5.56	48.4	162.4	113.97	1.918	1.0012	8.343	16.00	1826.1
574	156.3	162.0	5.78	48.2	161.9	113.65	1.946	1.0012	8.343	16.23	1847.2
575	155.7	161.5	5.80	48.1	161.3	113.15	1.987	1.0012	8.343	16.58	1878.2
576	155.3	161.0	5.68	48.1	160.9	112.86	1.987	1.0012	8.343	16.58	1873.4
577	154.8	160.5	5.71	48.0	160.3	112.33	1.987	1.0012	8.343	16.58	1864.6
578	154.3	160.0	5.65	48.0	159.9	111.93	1.987	1.0012	8.343	16.58	1858.0
579	153.8	159.4	5.66	47.9	159.3	111.35	2.001	1.0012	8.343	16.69	1861.2
580	153.2	158.8	5.60	47.9	158.7	110.75	1.987	1.0012	8.343	16.58	1838.4
581	152.9	158.5	5.57	47.9	158.3	110.43	1.987	1.0012	8.343	16.58	1833.1
582	152.6	158.2	5.60	47.9	158.1	110.21	2.001	1.0012	8.343	16.69	1842.1
583	152.7	158.3	5.59	48.0	158.1	110.13	1.987	1.0012	8.343	16.58	1828.1
584	152.8	158.4	5.60	48.1	158.2	110.03	1.987	1.0012	8.343	16.58	1826.5
585	152.9	158.5	5.62	48.2	158.4	110.14	1.987	1.0012	8.343	16.58	1828.3
586	153.3	159.0	5.66	48.3	158.7	110.46	1.987	1.0012	8.343	16.58	1833.4
587	153.7	159.4	5.68	48.3	159.1	110.83	1.987	1.0012	8.343	16.58	1839.6
588	154.4	160.2	5.72	48.4	159.9	111.56	1.987	1.0012	8.343	16.58	1851.8
589	155.0	160.8	5.80	48.4	160.5	112.05	2.001	1.0012	8.343	16.69	1872.9
590	155.7	161.4	5.72	48.4	161.2	112.74	1.987	1.0012	8.343	16.58	1871.4
591	156.4	162.3	5.89	48.5	161.9	113.42	1.987	1.0012	8.343	16.58	1882.7
592	157.1	162.9	5.84	48.5	162.6	114.12	1.987	1.0012	8.342	16.58	1894.2
593	157.5	163.4	5.89	48.5	163.1	114.57	1.987	1.0012	8.342	16.58	1901.6
594	158.2	164.1	5.96	48.5	163.8	115.31	1.987	1.0012	8.342	16.58	1914.1
595	159.1	165.1	6.01	48.5	164.7	116.20	1.987	1.0012	8.342	16.58	1928.8
596	159.7	165.7	5.97	48.6	165.4	116.82	1.973	1.0012	8.342	16.46	1925.6
597	160.2	166.3	6.06	48.6	166.0	117.40	1.973	1.0012	8.342	16.46	1935.2
598	160.5	166.6	6.11	48.6	166.4	117.77	1.987	1.0012	8.342	16.58	1954.7
599	161.7	167.7	6.03	48.6	167.5	118.93	1.987	1.0012	8.342	16.58	1974.0
600	162.2	168.3	6.17	48.6	168.0	119.42	1.973	1.0012	8.342	16.46	1968.4
601	162.9	169.0	6.14	48.5	168.7	120.20	1.973	1.0012	8.342	16.46	1981.2
602	163.5	169.8	6.25	48.3	169.5	121.16	1.973	1.0012	8.343	16.46	1997.2
603	164.2	170.5	6.32	48.2	170.1	121.91	1.973	1.0012	8.343	16.46	2009.6
604	164.8	171.0	6.22	48.1	170.8	122.72	1.973	1.0012	8.343	16.46	2022.9
605	165.6	171.9	6.34	48.1	171.7	123.62	1.960	1.0012	8.343	16.35	2023.5
606	166.1	172.5	6.42	48.0	172.2	124.15	1.987	1.0012	8.343	16.58	2060.8
607	166.9	173.4	6.48	48.0	173.2	125.16	1.960	1.0012	8.343	16.35	2048.8
608	167.1	173.6	6.46	48.0	173.3	125.36	1.973	1.0012	8.343	16.46	2066.4
609	168.3	174.8	6.53	48.0	174.5	126.52	1.973	1.0012	8.343	16.46	2085.6
610	168.8	175.3	6.56	48.0	175.1	127.12	1.960	1.0012	8.343	16.35	2080.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
611	169.2	175.8	6.64	47.9	175.5	127.61	1.960	1.0012	8.343	16.35	2088.9
612	170.1	176.6	6.51	47.9	176.4	128.48	1.960	1.0012	8.343	16.35	2103.1
613	171.1	177.3	6.18	48.0	176.9	128.85	1.822	1.0012	8.343	15.20	1960.6
614	171.4	177.6	6.17	48.2	177.3	129.08	1.808	1.0012	8.343	15.08	1949.2
615	172.5	178.7	6.16	48.4	178.4	130.03	1.822	1.0012	8.343	15.20	1978.5
616	173.2	179.4	6.22	48.4	179.1	130.64	1.822	1.0012	8.343	15.20	1987.8
617	173.7	179.9	6.21	48.5	179.7	131.22	1.808	1.0012	8.343	15.08	1981.4
618	174.4	180.7	6.29	48.5	180.5	131.92	1.822	1.0012	8.342	15.20	2007.2
619	174.7	180.9	6.15	48.6	180.8	132.23	1.822	1.0012	8.342	15.20	2012.0
620	174.4	180.6	6.18	48.6	180.5	131.89	1.822	1.0012	8.342	15.20	2006.8
621	174.2	180.3	6.20	48.6	180.3	131.64	1.808	1.0012	8.342	15.08	1987.8
622	174.0	180.2	6.20	48.7	180.0	131.34	1.822	1.0012	8.342	15.20	1998.4
623	173.9	180.1	6.17	48.7	179.9	131.23	1.822	1.0012	8.342	15.20	1996.7
624	173.6	179.7	6.09	48.7	179.7	130.97	1.808	1.0012	8.342	15.08	1977.6
625	173.4	179.5	6.12	48.7	179.4	130.66	1.835	1.0012	8.342	15.31	2003.0
626	173.0	179.1	6.10	48.8	179.0	130.19	1.822	1.0012	8.342	15.20	1980.9
627	172.7	178.8	6.09	48.8	178.6	129.89	1.822	1.0012	8.342	15.20	1976.3
628	172.3	178.4	6.06	48.8	178.2	129.46	1.822	1.0012	8.342	15.20	1969.7
629	171.9	177.9	5.98	48.8	177.9	129.10	1.822	1.0012	8.342	15.20	1964.2
630	171.6	177.6	6.02	48.6	177.5	128.90	1.822	1.0012	8.342	15.20	1961.2
631	171.2	177.2	6.03	48.4	177.1	128.70	1.822	1.0012	8.343	15.20	1958.2
632	170.8	176.7	5.88	48.3	176.7	128.39	1.822	1.0012	8.343	15.20	1953.5
633	170.3	176.3	5.99	48.3	176.2	127.98	1.822	1.0012	8.343	15.20	1947.3
634	170.0	176.0	5.98	48.2	175.9	127.64	1.822	1.0012	8.343	15.20	1942.1
635	169.6	175.5	5.94	48.2	175.4	127.21	1.822	1.0012	8.343	15.20	1935.6
636	169.1	175.0	5.90	48.1	174.9	126.78	1.822	1.0012	8.343	15.20	1929.1
637	168.7	174.6	5.89	48.1	174.5	126.41	1.822	1.0012	8.343	15.20	1923.4
638	168.3	174.1	5.82	48.1	174.1	126.04	1.822	1.0012	8.343	15.20	1917.8
639	167.8	173.6	5.77	48.1	173.6	125.52	1.835	1.0012	8.343	15.31	1924.4
640	167.7	173.2	5.54	48.1	173.1	125.02	1.753	1.0012	8.343	14.62	1830.3
641	167.0	172.8	5.81	48.1	172.7	124.65	1.822	1.0012	8.343	15.20	1896.6
642	166.5	172.2	5.75	48.1	172.2	124.10	1.822	1.0012	8.343	15.20	1888.4
643	166.2	171.9	5.75	48.0	171.8	123.79	1.835	1.0012	8.343	15.31	1897.9
644	165.6	171.4	5.79	48.0	171.2	123.24	1.822	1.0012	8.343	15.20	1875.3
645	165.1	171.0	5.93	48.0	170.9	122.90	1.849	1.0012	8.343	15.43	1898.3
646	164.5	170.5	5.93	47.9	170.3	122.41	1.891	1.0012	8.343	15.77	1933.2
647	164.0	169.9	5.88	47.9	169.8	121.91	1.877	1.0012	8.343	15.66	1911.2
648	163.6	169.4	5.80	47.9	169.4	121.50	1.877	1.0012	8.343	15.66	1904.8
649	163.1	169.0	5.85	47.9	168.8	120.93	1.891	1.0012	8.343	15.77	1909.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
650	162.7	168.6	5.83	47.9	168.4	120.56	1.877	1.0012	8.343	15.66	1890.0
651	162.2	168.0	5.81	47.9	167.9	120.05	1.891	1.0012	8.343	15.77	1895.9
652	161.7	167.5	5.77	48.0	167.4	119.41	1.891	1.0012	8.343	15.77	1885.9
653	161.3	167.0	5.72	48.1	166.9	118.82	1.891	1.0012	8.343	15.77	1876.5
654	160.7	166.5	5.71	48.2	166.3	118.14	1.891	1.0012	8.343	15.77	1865.7
655	160.4	166.0	5.66	48.3	165.9	117.67	1.877	1.0012	8.343	15.66	1844.7
656	159.8	165.4	5.67	48.3	165.3	116.99	1.891	1.0012	8.343	15.77	1847.5
657	159.3	164.8	5.58	48.4	164.8	116.37	1.891	1.0012	8.343	15.77	1837.7
658	158.7	164.4	5.72	48.4	164.3	115.88	1.918	1.0012	8.343	16.00	1856.7
659	158.3	163.9	5.66	48.5	163.8	115.35	1.918	1.0012	8.343	16.00	1848.2
660	157.8	163.4	5.64	48.5	163.3	114.87	1.932	1.0012	8.343	16.12	1853.8
661	157.3	162.9	5.66	48.5	162.8	114.26	1.932	1.0012	8.342	16.12	1843.9
662	156.7	162.3	5.59	48.5	162.2	113.64	1.946	1.0012	8.342	16.23	1846.9
663	156.2	161.8	5.62	48.4	161.7	113.27	1.932	1.0012	8.343	16.12	1828.0
664	155.8	161.3	5.57	48.2	161.2	112.98	1.946	1.0012	8.343	16.23	1836.4
665	155.2	160.8	5.61	48.1	160.6	112.51	1.946	1.0012	8.343	16.23	1828.6
666	154.5	160.3	5.77	48.1	160.2	112.14	2.015	1.0012	8.343	16.81	1887.4
667	154.1	159.9	5.81	48.0	159.7	111.71	2.029	1.0012	8.343	16.92	1893.0
668	153.5	159.3	5.80	48.0	159.2	111.22	2.029	1.0012	8.343	16.92	1884.6
669	153.0	158.7	5.77	48.0	158.6	110.69	2.029	1.0012	8.343	16.92	1875.7
670	152.5	158.1	5.68	47.9	158.1	110.15	2.029	1.0012	8.343	16.92	1866.5
671	152.3	158.0	5.72	47.9	157.8	109.93	2.042	1.0012	8.343	17.04	1875.5
672	152.3	158.1	5.74	47.9	157.9	109.98	2.029	1.0012	8.343	16.92	1863.6
673	152.3	158.0	5.73	47.9	157.8	109.97	2.029	1.0012	8.343	16.92	1863.5
674	152.7	158.5	5.81	47.8	158.2	110.35	2.029	1.0012	8.343	16.92	1870.0
675	152.8	158.9	6.12	47.8	158.7	110.86	2.084	1.0012	8.343	17.39	1929.7
676	153.5	159.7	6.18	47.8	159.5	111.67	2.139	1.0012	8.343	17.85	1995.3
677	153.8	160.1	6.33	47.8	159.7	111.96	2.153	1.0012	8.343	17.96	2013.3
678	154.4	160.8	6.34	47.7	160.4	112.68	2.153	1.0012	8.343	17.96	2026.4
679	155.1	161.5	6.41	47.7	161.1	113.42	2.153	1.0012	8.343	17.96	2039.6
680	155.6	162.0	6.40	47.7	161.7	114.04	2.153	1.0012	8.343	17.96	2050.8
681	156.2	162.6	6.41	47.7	162.4	114.67	2.153	1.0012	8.343	17.96	2062.2
682	156.9	163.4	6.48	47.7	163.1	115.42	2.153	1.0012	8.343	17.96	2075.6
683	157.4	164.0	6.57	47.7	163.7	115.96	2.153	1.0012	8.343	17.96	2085.3
684	158.2	164.7	6.56	47.7	164.4	116.69	2.153	1.0012	8.343	17.96	2098.4
685	159.1	165.4	6.33	47.7	165.2	117.51	2.084	1.0012	8.343	17.39	2045.5
686	159.7	166.0	6.30	47.7	165.8	118.13	2.056	1.0012	8.343	17.16	2029.1
687	160.5	166.9	6.45	47.7	166.6	118.88	2.056	1.0012	8.343	17.16	2042.0
688	161.1	167.5	6.46	47.7	167.2	119.55	2.070	1.0012	8.343	17.27	2067.2

<i>Elapsed Time (min)</i>	Appliance			Load							
	<i>T2 Return Temp °F</i>	<i>T1 Supply Temp °F</i>	<i>ΔT across Appliance</i>	<i>T3 Load IN Temp °F</i>	<i>Load Out Temp °F</i>	<i>Delta - T °F</i>	<i>Flow-Rate GPM</i>	<i>cp_i</i>	<i>σ_i</i>	<i>M_i Mass lb/min</i>	<i>Heat Output Btu</i>
689	161.6	168.1	6.56	47.7	167.7	120.03	2.056	1.0012	8.343	17.16	2061.7
690	162.2	168.8	6.58	47.7	168.4	120.72	2.070	1.0012	8.343	17.27	2087.5
691	162.9	169.5	6.55	47.7	169.2	121.54	2.056	1.0012	8.343	17.16	2087.6
692	163.4	170.0	6.60	47.7	169.7	122.06	2.070	1.0012	8.343	17.27	2110.6
693	164.1	170.8	6.69	47.7	170.4	122.77	2.056	1.0012	8.343	17.16	2108.7
694	164.7	171.4	6.66	47.7	171.2	123.51	2.056	1.0012	8.343	17.16	2121.4

Gravimetric Lab Data

ASTM E2515

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Run No.: 2
 Test Date: 2/25/25

OMNI Eq. ID Numbers
 Analytical Scale: 00637
 Audit Weight Set: 00283A/00273
 Analytical Scale: 00715
 Hygrometer: 00715
 Filters are weighed: In Pairs

Train A

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F510A	239.6	239.1	0.5	0.5
Probe catch*	5/14/24 @ 6:15	Probe	50	118128.1	118128.0	0.1	0.1
filter seals catch*	5/14/24 @ 6:15	Seals	S940	3274.6	3272.0	2.6	2.6
				Total Particulate, mg:		3.2	3.2

Train B

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F511A	242.3	238.9	3.4	3.4
Probe catch*	5/14/24 @ 6:15	Probe	73	117074.1	117074.0	0.1	0.1
filter seals catch*	5/14/24 @ 6:15	Seals	S941	3332.3	3332.1	0.2	0.2
Sub-Total				Total Particulate, mg:		3.7	3.7

Train C - First Hour

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F512	238.1	238.1	0.0	0.0
Probe catch*	5/14/24 @ 6:15	Probe	66	118456.6	118456.4	0.2	0.2
filter seals catch*	5/14/24 @ 6:15	Seals	S942	3319.5	3319.3	0.2	0.2
				Total Particulate, mg:		0.4	0.4

Train D - Ambient Background

Sample Component Date / Time in Desiccator		Reagent	Filter # or	Weights			
				Final, mg	Tare, mg	Particulate, mg	
Filter catch*	5/14/24 @ 6:15	Filter	F522	116.8	116.6	0.2	
				Total Particulate, mg:		0.2	

$$\text{Final (mg)} - \text{Tare (mg)} = \text{Particulate (mg)}$$

NOTE: The Uncorrected values are those where any negative filter weights are taken as a negative value. This can possibly occur when filter matter adheres the O-ring seals and thereby transfers some mass to the O-ring. The Corrected values reflect where any negative filter weights are taken as ZERO, thus not accounting for any transfer of mass and resultingly over-reporting. Corrected values were added to this analysis to report the "Corrected" results in this report in response to a request by the US EPA. In cases where the Final weight minus the Tare weight of the Ambient filter occurs, it is taken as a ZERO. Any negative probe weights are evaluated pursuant to clause of ASTM E25215 (or appropriately associated test standard as defined in the introduction of this report).

Technician Signature: _____

Reviewed By: _____

Run 2 - Run Notes

Manufacturer: Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 2
Test Date: 2/25/2025

This supplemental section of miscellaneous run notes is comprised of the following:

- Appliance Operation Notes
- Velocity Traverse / Supplemental Run Notes
- Test Fuel Notes
- Gravimetric Analysis Notes

OMNI-Test Laboratories, Inc.

ASTM E2780 Wood Heater Test NotesClient: Central Boiler _____ Project Number: 0117WB044E _____ Run Number: 2Model: 76C11 _____ Tracking Number: 2501 _____ Date: 2-25-25Test Crew: RT, JM, KM**Primary Air Control Settings**

N/A - AUTOMATIC

Secondary: N/A - FixedTertiary/Pilot: N/AFan: N/A**Preburn Notes**

Time	Notes
10:01	SEE SEPARATE HAND-WRITTEN NOTES. start.

Sampling Portion Notes

Sketch test fuel configuration:

SEE Photos

Start up procedures & Timeline:

Bypass: NOT USEDFuel loaded by: 85 secDoor closed at: 95 secPrimary air: N/A

Notes: _____

Time	Notes
Test 1035	Test complete

Technician Signature: [Signature]Date: 2-25-25

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 2

Model: 760.1

Tracking Number: 2501

Date: 2-25-25

Test Crew: RT, KM, JM

Supplemental Data

Test Booth No. E3

Sampling Start Time: 11:01

Sampling End Time: 22:35

Tunnel Cleaned Date 2/19/25

% Smoke Capture 100

Induced Draft 0 in. H₂O

Systems Leak Checks

System	Pre-Test	Post-Test	Sampling Probe Change-out
Pitot	@	@	
Train A	0 @ 15.70	0.00 @ 5.52	
Train B	0 @ 15.67	0.00 @ 5.89	
Train C	0.002 @ 14.15	0.001 @ 11.78	

Velocity Traverse, 6-inch tunnel

Location	Microtector (in. H ₂ O)	Δp (in. H ₂ O)	Tunnel Temp., °F
Center	.055	0.110	67
1	.050	0.100	67
2	.060	.120	67
3	.060	.120	67
4	.057	.114	67
5	.052	.104	67
6	.035	.070	67
7			
8			
Tunnel Static (in. H ₂ O)		Pre-Test -0.32	Post-Test -0.32

7 .051 .102 66
 8 .058 .116 66
 9 .058 .116 66
 10 .057 .114 66
 11 .052 .104 66
 12 .036 .072 66

Miscellaneous Parameters

Item	Initial	Final	Equipment No.
Room Air Velocity, ft/min.	8	9	
Scale Audit, lb. (20-80 % of fuel load)	20	20	
Room Relative Humidity, %	54	58	
Barometric Pressure, in. Hg	30.23	30.31	
Room Temperature, °F	63.2	64.7	

Flue Gas Continuous Analyzer

Flue Gas Continuous Analyzer						
Analyzer ID		Response Time, sec.	42.43	Leak Check Performed?	✓	
Bias Checks	Concentration:	16.88	Pre-Test Response	16.88	Post-Test Response	16.87
Concentration	Bottle No.	Value, %	Pre-Test Response		Post-Test Response	
			Zero	Span	Zero	Span
CO2 % Span	CC738144	16.88	0.00	16.88	0.05	16.87
CO % Span	CC738144	4.05	0.000	4.05	0	4.04
CO ppm Span	CC242987	502	0	513	0	512
Zero	TC-3AAM133	0				

Technician Signature: 

Date: 2/25/2025

Control No. P-SFDT-0002, Effective Date: 11/12/2024

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Average Moisture Content, % Dry Basis :
Total Mass, lb. : 0.0

21.27 % DB

Test Fuel Properties

ASTM E2780

Manufacturer : Central Boiler
 Model : Classic Edge 760.1
 Tracking No. : 2501
 Project No. : 0117WB044E
 Test Date : 2-25-25
 Run No. : 2

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Firebox Volume : 22.090 ft³
 Manufacturer's Recommended Loading Density : 13
 Ideal Fuel Weight : 287.17 lb.
 Minimum Fuel Weight : 258.45 lb.
 Maximum Fuel Weight : 315.89 lb.
 Fuel Species : Maple

Fuel Piece Data

PC No.	Weight, Lb. (W _i)	Cross-Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	9.6	6.5	5	24	24.6	26.8	26.5	24.3	23.8		
2	19.6	8.5	6.5	24	22.9	23.4	22.5	24.2	23.7		
3	13.6	7.5	5.5	24	21.3	22.1	22.4	21.8	20.6		
4	10.2	6.5	4.5	24	19.4	19.5	19.5	19.7	18.2		
5	17.3	7.25	6	24	22.9	23.0	22.9	22.7	21.9		
6	16.3	7.5	6	24	23.8	24.0	23.8	21.3	20.6		
7	17.9	7.75	5	24	20.1	19.6	20.2	21.6	22.0		
8	17.5	7.75	6.25	24	24.9	22.9	23.8	22.5	22.3		
9	13.7	7.75	4.5	24	19.1	20.5	19.6	19.4	19.0		
10	12.7	7.5	5.25	24	23.5	23.0	22.0	24.3	24.1		
11	19.7	7.5	6.5	24	23.1	23.4	23.1	23.2	19.8		
12	15.8	6.25	5.25	24	23.0	23.4	23.0	24.9	23.9		
13	15.4	8	6	24	22.3	23.0	24.9	22.8	21.0		
14	15.7	7.25	5	24	24.9	26.3	27.9	24.3	26		
15	14.6	7	5.5	24	24.1	21.9	25.4	26.4	25.3		
16	16.4	8	5.25	24	27.4	26.9	24.9	22.3	26.8		
17	19.6	8.25	5.5	24	26.5	27.9	27.8	26.9	27.3		
18											
19											
20	14.2	7.0	5.5								
21	13.1	6.0	4.0								
22	14.3	6.5	6.5								
23	11.7	5.5	5.0								
24	13.6	6.5	5.0								
25	16.7	8.0	5.5								
26	11.9	6.0	4.5								
27	10.5	6	4	24	19.4	22.4	19.8	20.5	22.9		
28	12.5	6.25	4.5	24	22.5	22.7	19.6	20.6	20.0		
29	14.6	7	6.5	24	24.2	21.2	23.4	25.6	25.6		
30											
TOTAL	0.0										0.00
Averages	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

233.2

243.7

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 2

Model: 760.1

Tracking Number: 2501

Date: 2-25-25

Test Crew: KM, RT, JM

Gravimetric Analysis Sheet

Assembled By:

JM

Date/Time in Desiccator:

2-25-25 @ 22:50

1st hour: 2-25-25 @ 12:15

Weighing's				
Date/Time: 2-27-25	Date/Time: 2-28-25 1730	Date/Time: 3-3-25 12:00	Date/Time:	Date/Time:
R/H %: 13	R/H %: 14	R/H %: 5	R/H %:	R/H %:
Temp: 69.3	Temp: 68.7	Temp: 68.0	Temp:	Temp:
100 mg Audit 100.0	100 mg Audit 100.0	100 mg Audit 100.0 99997.6	100 mg Audit	100 mg Audit
200 mg Audit: 200.0 2000.0	200 mg Audit: 200.0	200 mg Audit: 200.1	200 mg Audit:	200 mg Audit:
2 g Audit: 2000.0	2 g Audit: 2000.2	2 g Audit: 2000.2	2 g Audit:	2 g Audit:
100 g Audit: 99997.8	100 g Audit: 99998.0	100 g Audit: 99997.6	100 g Audit	100 g Audit
Initials: RT	Initials: RT	Initials: K/K	Initials:	Initials:

Train	Element	ID #	Tare (mg)	✓	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A	Filter Pair	FS10	239.1	✓	239.5	239.6	✓		✓
	Probe	50	118128.0	✓	118128.4	118128.1	118128.1	✓	✓
	O-Ring Set	5940	3272.0	✓	3275.1	3274.5	3274.6	✓	✓
B	Front Filter	FS11	238.9	✓	242.3	242.3	✓		✓
	Probe	73	117074.0	✓	117074.9	117074.1	117074.1	✓	✓
	O-Ring Set	5941	3332.1	✓	3332.0	3332.1	3332.3	✓	✓
C (1 st hr)	Front Filter	FS12	238.1	✓	238.0	238.1	✓		✓
	Probe	66	118456.4	✓	118456.7	118456.6	✓		✓
	O-Ring Set	5942	3319.3	✓	3319.6	3319.3	3319.5	✓	✓
BG	Filter	FS22	116.6	✓	116.8	116.8	✓		✓

Technician Signature:

L.H. Morgan

Date:

L.H. Morgan 3/3/25

Control No. P-SFDT-0002, Effective Date: 11/12/2024

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Row 2

2-25-25

Central Boiler 760.1

0117WBO44E

5:30 17.5 lb Coals + 25.5 lb. Raw Fuel

CBR: 27.1 - 54.1

43.0 lb total

6:16 sc 24.5, scale 62.0 added 37.5

80.5 lb total

6:34 Scale = 40.0, Scale = 83.0 added 43.0

123.5 lb. total

7:20 Scale = 40, Scale = 88.0 added 48.0

TOTAL = 123.5 + 48.0 = 171.5ZERO GASCO₂ = 0.100CO% = 0.000CO ppm~~16.88 / 4.05 CO%~~

16.88

4.05

~~15.00 CO₂ / 502 ppm CO~~

15.06

0.048

513

15.10 CO₂ / 502 ppm

8:18 Scale = 37.0, Scale = 86.0 added 49.0

TOTAL = 171.5 + 49.0 = 220.5Bias check 15.0% = 14.994
CO₂

9:11 Scale = 44.0, Scale = 62.0 added 18.0

TOTAL = 220.5 + 18 = 238.5

9:26 Scale 50.0, Scale 78.0 added 28

Total = 238.5 + 28.0 = 266.5

BL 11:39 16.54 lb. 1.00 min

BL 22:10 16.72 1.00 min

Equations and Calculations – ASTM E2618 & ASTM E2515



Manufacturer Central Boiler
 Model: Classic Edge 760.1
 Project Number: 0117WB044E
 Run Number: 2

Summary of INPUT values necessary for calculations

Global Input Parameters for Equations	Value	Source
MC_{Ave} - Average Fuel Load Moisture Content, % dry basis	23.10	Fuel Properties Work Sheet
W_{fuel} - Fuel charge weight (wet), pounds	270.8	Fuel Properties Work Sheet
HHV - Higher Heating Value of Fuel, Btu/lb.	8297	ISO Lab Report ¹
LHV - Lower Heating Value of Fuel, Btu/lb.	7698	CSA B415.1:22 ²
W_{app} - Mass of dry boiler, lb.	2457	Measured
W_{water} - Mass of Water within Boiler, lb.	2711	Measured
V_{SCENT} - Average gas velocity at the center of the dilution tunnel calculated after the Pitot tube traverse, ft/sec	21.86	Traverse Worksheet
V_{STRAV} - Average gas velocity calculated after the multipoint Pitot traverse	21.55	Traverse Worksheet
θ - Duration of test, min	694	Train A Worksheet
P_{bar} - Barometric pressure (average) at the testing site, in. Hg	30.27	Traverse Worksheet
P_g - Tunnel Static Pressure	-0.32	Traverse Worksheet

¹ From an Ultimate Analysis performed on a sample of the fuel lot that was used.

² CSA B415 only accepts input for the HHV and calculates the LHV from that data. This differs from the LHV reported in the ultimate analysis, however the CSA value was used for consistency in comparing SLM and delivered efficiencies.

Sample Train Input Parameters for Equations	Train A	Train B	Train C	Train D
V_m - Volume of gas sample measured at the dry gas meter, dcf	110.768	111.632	9.498	107.229
Y Dry gas meter calibration factor	1.012	1.024	1.006	1.007
ΔH - Average pressure differential across the orifice meter, in. H ₂ O	1.23	1.24	1.04	1.10
T_m - Temperature of Dry Gas Meter, °F	91.0	87.7	69.9	75.5

Uncorrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.1	0.1	0.2	n/a
m_f - mass of particulate matter from filters, mg	0.5	3.4	0.0	0.2
m_g - mass of particulate matter from seals, mg	2.6	0.2	0.2	n/a

Corrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.1	0.1	0.2	n/a
m_f - mass of particulate matter from filters, mg	0.5	3.4	0.0	n/a
m_g - mass of particulate matter from seals, mg	2.6	0.2	0.2	n/a

TI_{avg} - Average Temperature of Appliance and Water at Start of Test, °F - ASTM E2618 equation (1)

$$TI_{avg} = (T1 + T2)/2 \quad \text{At beginning of Test}$$

Where,

	Value
$T1$ = Temperature at inlet of supply side of exchanger, °F	147.1
$T2$ = Temperature at outlet of supply side of exchanger, °F	140.7

$$Ti_{avg} = (147.12 + 140.73) / 2 = 143.9$$

 TF_{avg} - Average Temperature of Appliance and Water at End of Test, °F - ASTM E2618 equation (2)

$$TF_{avg} = (T1 + T2)/2 \quad \text{At end of test}$$

Where,

	Value
$T1$ = Temperature at inlet of load side of heat exchanger, °F	171.4
$T2$ = Temperature at outlet of load side of heat exchanger, °F	164.7

$$TF_{avg} = (171.35 + 164.69) / 2 = 168.0$$

 MC_{Ave} - Average Fuel Load Moisture Content, dry basis, % - ASTM E2618 equation (3)

$$MC_{Ave} = (\sum W_i \cdot MC_i) / \sum W_i$$

Where,

W_i	= Weight of individual pieces
MC_i	= Average moisture content of individual fuel pieces, dry basis

$\sum(W_i \cdot MC_i)$	6256.1	Taken from fuel properties sheet
$\sum w_i$	270.8	Taken from fuel properties sheet

$$MC_{Ave} = (6256.1 / 270.8) = 23.10 \quad \%, \text{ dry basis}$$

Q_{in} - Heat Input, Btu (HHV) - ASTM E2618 equation (4)

$$Q_{in} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times HHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	270.8
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	23.10
HHV =	Higher Heating Value of Fuel, Btu/lb.	8297

$$Q_{in} = (270.8 / (1 + (23.1 / 100))) \times 8297 = 1825169.83 \quad \text{Btu}$$

Q_{in LHV} - Heat Input, Btu (LHV) - ASTM E2618 equation (5)

$$Q_{in LHV} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times LHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	270.8
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	23.10
LHV =	Higher Heating Value of Fuel, Btu/lb.	7698

$$Q_{in LHV} = (270.8 / (1 + (23.1 / 100))) \times 7698 = 1693402.115 \quad \text{Btu}$$

BR - Dry Burn-Rate, kg/hr

$$BR = [(W_{fuel} / (1 + (MC_{Ave}/100))) / 2.2046] / \theta$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	270.8
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	23.10
2.2046 =	Conversion kg -> lb.	2.2046
θ =	Duration of Test, hours	11.567

$$BR = (270.8 / (1 + (23.1 / 100))) / 2.2046 / 11.57 = 8.63 \quad \text{kg/hr}$$

Q_{out} - Heat Output, Btu - ASTM E2618 equation (7)

$$Q_{out} = \left[\sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) \right] + (W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg})$$

Where,

	<u>Value</u>
C_{pi} = Specific heat of water during interval (i), Btu/lb °F	Varies
ΔT_i = Temperature difference between water entering and exiting heat exchanger (load), °F	Varies
M_i = Mass flow-rate of water through heat exchanger during interval (i), lb./min	Varies
t_i = Data sampling interval, min	<u>Varies</u>
W_{app} = Weight of empty appliance, lb.	2457
C_{steel} = Specific heat of steel, Btu/lb.°F	0.1
C_{pa} = Specific heat of water at average appliance temperature, Btu/lb °F	1.0009
W_{water} = Weight of water in supply side of system, lb.	2711
TF_{avg} = Average temperature of appliance and water at end of test	168.02
TI_{avg} = Average temperature of appliance and water at start of test	143.92

$$\sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) \quad \text{from Water Data sheet} = \quad 1378158.613 \quad 119149.1597$$

$$C_{pa} = 1.0014 + (-0.000003485 \cdot (TI_{avg} + TF_{avg}) / 2) = \quad 1.0009$$

$$(W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg}) = \quad 71308.79$$

$$Q_{OUT} = \quad 1378158.613 + 1.0009 \times 71308.787 = \quad 1449467.40 \quad \text{Btu}$$

Heat Output Rate, Btu/hr - ASTM E2618 equation (15)

$$\text{Heat Output Rate} = Q_{OUT} / \theta$$

Where,

	<u>Value</u>
Q_{OUT} = Heat Output	1449467.4
Θ = Duration of test, hr	11.5667

$$\text{Heat Output Rate} = \quad 125314.2 \quad \text{Btu/hr}$$

V_S – Average gas velocity in the dilution tunnel, ft/sec - ASTM E2515 equation (9)

$$V_S = F_P \times K_P \times C_P \times (\sqrt{\Delta P})_{avg} \times \sqrt{\frac{T_{S(avg)}}{P_S \times M_S}}$$

Where

 F_P = Adjustment factor for center of tunnel pitot tube placement, where

$$F_P = V_{STRAV} / V_{SCENT}$$

 V_{SCENT} = Dilution tunnel velocity, at the center, ft/sec V_{STRAV} = Dilution tunnel velocity, multi-point pitot traverse, ft/sec K_P = Pitot tube constant, 85.49 C_P = Pitot tube coefficient: 0.99, unitless $\Delta P^{1/2}_{AVG}$ = Velocity pressure in the dilution tunnel, in H_2O $T_{S(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R P_S = Absolute average gas static pressure in tunnel, = $P_{bar} + P_g$, where P_{bar} = Barometric Pressure, in. Hg, P_g = Static pressure in tunnel, Hg (in H_2O / 13.6) M_S = The dilution tunnel wet molecular weight; $M_s = 28.78$ assuming a dry weight of 29 lb/lb-mole

(Duration of Test)

$$F_P = 0.9862$$

$$\Delta P^{1/2}_{AVG} = 0.3354$$

$$T_{S(avg)} = 535.7619$$

$$P_{bar} = 30.2700$$

$$P_g = -0.3200$$

$$P_S = 30.2465$$

$$V_S = 0.986 \times 85.49 \times 0.99 \times 0.335 \times \sqrt{[(536 / (30.25 \times 28.78))]}$$

$$V_S = \mathbf{21.964} \quad \text{ft/sec}$$

(First Hour of Test)

$$F_P = 0.9862$$

$$\Delta P^{1/2}_{AVG} = 0.3370$$

$$T_{S(avg)} = 543.2443$$

$$P_{bar} = 30.2300$$

$$P_g = -0.3200$$

$$P_S = 30.2065$$

$$V_S = 0.986 \times 85.49 \times 0.99 \times 0.337 \times \sqrt{[(543 / (30.21 \times 28.78))]}$$

$$V_S = \mathbf{22.232} \quad \text{ft/sec}$$

Q_{std} – Average gas flow rate in dilution tunnel, dscf/hr - ASTM E2515 equation (3)

$$Q_{std} = 3600 \times (1 - B_{ws}) \times v_s \times A \times \frac{T_{std}}{T_{s(avg)}} \times \frac{P_s}{P_{std}}$$

Where:

3600 = Conversion from seconds to hours (ASTM method uses 60 to convert in minutes)

B_{ws} = Water vapor in gas stream, proportion by volume; assume 2%

A = Cross sectional area of dilution tunnel, ft²

T_{std} = solute temperature, 528 °R

P_s = Absolute average gas static pressure in dilution tunnel, = Pbar + Pg , in Hg

$T_{s(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)

P_{std} = Standard absolute pressure, 29.92 in Hg

(Full Duration of Test):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 30.25 \\ T_{s(avg)} &= 536 \\ V_s &= 21.96 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 21.964 \times 0.7854 \times (528 / 536) \times (30.25 / 29.92)$$

$$Q_{std} = \mathbf{60632.0} \quad \text{dscf/hr}$$

(First Hour):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 30.21 \\ T_{s(avg)} &= 543 \\ V_s &= 22.232 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 22.232 \times 0.7854 \times (528 / 543) \times (30.21 / 29.92)$$

$$Q_{std} = \mathbf{60446.9} \quad \text{dscf/hr}$$

V_{m(std)} – Volume of Gas Sampled (Corrected), dscf - ASTM E2515 equation (6)

$$V_{m(std)} = K_1 V_m Y \frac{P_{bar} + \left(\frac{\Delta H}{13.6} \right)}{T_m}$$

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_{bar}	=	Barometric pressure at the testing site, in. Hg
ΔH	=	Average pressure differential across the orifice meter, in. H ₂ O
T_m	=	Absolute average dry gas meter temperature, °R

Train A

$$V_{m(std)} = 17.64 \times 110.768 \times 1.012 \times \frac{(30.27 + \frac{1.23}{13.6})}{(91.0 + 460)}$$

$$V_{m(std)} = \mathbf{108.974} \text{ dscf}$$

Train B

$$V_{m(std)} = 17.64 \times 111.632 \times 1.024 \times \frac{(30.27 + \frac{1.24}{13.6})}{(88 + 460)}$$

$$V_{m(std)} = \mathbf{111.832} \text{ dscf}$$

Train C (1st Hour)

$$V_{m(std)} = 17.64 \times 9.50 \times 1.006 \times \frac{(\underline{30.23} + \frac{1.04}{13.6})}{(69.9 + 460)}$$

$$V_{m(std)} = \mathbf{9.637} \text{ dscf}$$

Train D (Background)

$$V_{m(std)} = 17.64 \times 107.23 \times 1.007 \times \frac{(\underline{30.27} + \frac{1.10}{13.6})}{(75.5 + 460)}$$

$$V_{m(std)} = \mathbf{108.002} \text{ dscf}$$

mn – Total Particulate Matter Collected, mg - ASTM E2515 Equation (12)

$$m_n = m_p + m_f + m_g$$

Where:

m_p	=	mass of particulate matter from probe, mg
m_f	=	mass of particulate matter from filters, mg
m_g	=	mass of particulate matter from filter seals, mg

Uncorrected:

Train A	$m_n =$	0.1	+	0.5	+	2.6
	$m_n =$	3.2				mg

Train B	$m_n =$	0.1	+	3.4	+	0.2
	$m_n =$	3.7				mg

Train C (1st hour)	$m_n =$	0.2	+	0.0	+	0.2
	$m_n =$	0.4				mg

Train D (Background)	$m_n = m_f =$	0.2
	$m_n =$	0.2 mg

Corrected:

Train A	$m_n =$	0.1	+	0.5	+	2.6
	$m_n =$	3.2				mg

Train B	$m_n =$	0.1	+	3.4	+	0.2
	$m_n =$	3.7				mg

Train C (1st hour)	$m_n =$	0.2	+	0.0	+	0.2
	$m_n =$	0.4				mg

Train D (Background)	$m_n = m_f =$	0.2
	$m_n =$	0.2 mg

C_s - Concentration of particulate matter in tunnel gas, dry basis, corrected to standard conditions
g/dscf - ASTM E2515 equation (13)

$$C_s = K_2 \times \frac{m_n}{V_{m(std)}}$$

Where:

K₂ = Constant, 0.001 g/mg

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

Uncorrected:

Train A	C _s =	0.001 x	$\frac{3.2}{108.97}$
---------	------------------	---------	----------------------

C_s = **0.000029** g/dscf

Train B	C _s =	0.001 x	$\frac{3.7}{111.83}$
---------	------------------	---------	----------------------

C_s = **0.0000331** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{0.4}{9.64}$
--------------------	------------------	---------	--------------------

C_s = **0.000042** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{0.2}{108.00}$
----------------------	------------------	---------	----------------------

C_r = **0.000002** g/dscf

Corrected:

Train A	C _s =	0.001 x	$\frac{3.2}{108.97}$
---------	------------------	---------	----------------------

C_s = **0.000029** g/dscf

Train B	C _s =	0.001 x	$\frac{3.7}{111.83}$
---------	------------------	---------	----------------------

C_s = **0.0000331** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{0.4}{9.64}$
--------------------	------------------	---------	--------------------

C_s = **0.000042** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{0.2}{108.00}$
----------------------	------------------	---------	----------------------

C_r = **0.000002** g/dscf

ET – Total Particulate Emissions, g - ASTM E2515 equation (15)

$$E_T = (c_s - c_r) \times Q_{std} \times \theta$$

Where:

C_s	=	Concentration of particulate matter in tunnel gas, g/dscf
C_r	=	Concentration particulate matter room air, g/dscf
Q_{std}	=	Average dilution tunnel gas flow rate, dscf/hr
θ	=	Total time of test run, minutes

Uncorrected:

Train A

$$E_T = (0.000029 - 0.000002) \times 60632.0 \times 694 / 60$$

$$E_T = \mathbf{19.30} \text{ g}$$

Train B

$$E_T = (0.000033 - 0.000002) \times 60632.0 \times 694 / 60$$

$$E_T = \mathbf{21.90} \text{ g}$$

First Hour

$$E_T = (0.000042 - 0.000002) \times 60446.9 \times 60 / 60$$

$$E_T = \mathbf{2.40} \text{ g}$$

Trains A and B Average

$$E_T = \mathbf{20.60} \text{ g}$$

Corrected:

Train A

$$E_T = (0.000029 - 0.000002) \times 60632.0 \times 694 / 60$$

$$E_T = \mathbf{19.30} \text{ g}$$

Train B

$$E_T = (0.000033 - 0.000002) \times 60632.0 \times 694 / 60$$

$$E_T = \mathbf{21.90} \text{ g}$$

First Hour

$$E_T = (0.000042 - 0.000002) \times 60446.9 \times 60 / 60$$

$$E_T = \mathbf{2.40} \text{ g}$$

Trains A and B Average

$$E_T = \mathbf{20.60} \text{ g}$$

PM_R – Particulate emissions for test run, g/hr - ASTM E2780 equation (6)

$$PM_R = 60(E_T/\theta)$$

Where,

E_T = Total particulate emissions, grams

θ = Total length of full integrated test run, min

Uncorrected:

Train A	$E_T = 19.30 \text{ g}$
	$\theta = 694 \text{ min}$
	$PM_R = 60 \times (19.30 / 694)$
	$PM_R = \mathbf{1.67 \text{ g/hr}}$

Train B	$E_T = 21.90 \text{ g}$
	$\theta = 694 \text{ min}$
	$PM_R = 60 \times (21.90 / 694)$
	$PM_R = \mathbf{1.89 \text{ g/hr}}$

A and B Average	$PM_R = \mathbf{1.78 \text{ g/hr}}$
-----------------	-------------------------------------

First Hour	$E_T = 2.40 \text{ g}$
	$\theta = 60 \text{ min}$
	$PM_R = 60 \times (2.40 / 60)$
	$PM_R = \mathbf{2.40 \text{ g/hr}}$

Corrected:

Train A	$E_T = 19.30 \text{ g}$
	$\theta = 694 \text{ min}$
	$PM_R = 60 \times (19.30 / 694)$
	$PM_R = \mathbf{1.67 \text{ g/hr}}$

Train B	$E_T = 21.90 \text{ g}$
	$\theta = 694 \text{ min}$
	$PM_R = 60 \times (21.90 / 694)$
	$PM_R = \mathbf{1.89 \text{ g/hr}}$

A and B Average	$E_T = \mathbf{1.78 \text{ g}}$
-----------------	---------------------------------

First Hour	$E_T = 2.40 \text{ g}$
	$\theta = 60 \text{ min}$
	$PM_R = 60 \times (2.40 / 60)$
	$PM_R = \mathbf{2.40 \text{ g/hr}}$

E_{g/kg} - Particulate emission factor for test run, g/dry kg of fuel burned - ASTM E2618 equation (18)

$$E_{g/kg} = E_T / (W_{fuel} / (1 + MC/100))$$

Uncorrected:

Train A	E _T =	19.30	g
	W _{fuel} =	122.83	kg
	MC =	23.10	
	E _{g/kg} =	0.193	/kg

Train B	E _T =	21.90	g
	W _{fuel} =	122.83	kg
	MC =	23.10	
	E _{g/kg} =	0.220	/kg

Corrected:

Train A	E _T =	19.30	g
	W _{fuel} =	122.83	kg
	MC =	23.10	
	E _{g/kg} =	0.193	/kg

Train B	E _T =	21.90	g
	W _{fuel} =	122.83	kg
	MC =	23.10	
	E _{g/kg} =	0.220	/kg

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:

	Train A	Train B	Train C
θ = Total sampling time, min	694	694	60
θ_i = Length of recording interval, min	1	1	1
V_{mi} = Volume of gas sample measured by the dry gas meter during the "ith" time interval, dcf	0.161	0.162	0.16
V_m = Volume of gas sample as measured by dry gas meter, dcf	110.768	111.632	9.498
V_{si} = Average gas velocity in the dilution tunnel during the "ith" time interval, ft/sec	22.182	22.182	22.182
V_s = Average gas velocity in the dilution tunnel, ft/sec	21.964	21.964	22.224
T_{mi} = Absolute average dry gas meter temperature during the "ith" time interval, °R	527.0	526.0	526.8
T_m = Absolute average dry gas meter temperature, °R	551.0	547.7	529.9
T_{si} = Absolute average gas temperature in the dilution tunnel during the "ith" time interval, °R	538.4	538.4	538.4
T_s = Absolute average gas temperature in the dilution tunnel, °R	535.8	535.8	543.2

NOTE: These calculations are for the Second interval of each train)

$$\text{Train A PR} = \left(\frac{694 \times 0.161 \times 21.964 \times 551 \times 538}{1 \times 110.768 \times 22.182 \times 527 \times 536} \right) \times 100 = 104.9 \%$$

$$\text{Train B PR} = \left(\frac{694 \times 0.162 \times 21.964 \times 548 \times 538}{1 \times 111.632 \times 22.182 \times 526 \times 536} \right) \times 100 = 104.3 \%$$

$$\text{Train C PR} = \left(\frac{60 \times 0.16 \times 22.224 \times 530 \times 538}{1 \times 9.498 \times 22.182 \times 527 \times 543} \right) \times 100 = 100.9 \%$$

Emission Rates and Factors - ASTM E2618 equations 16, 17, 18 and 19

Uncorrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 20.6 / (1449467.4 \times 0.001055) = 0.0135$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (20.6 / 453.59) / (1449467.4 \times 10^{-6}) = 0.0313$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 20.6 / \left((270.8 / (1 + 23.1 / 100)) / 2.2046 \right) = 0.206$$

Corrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 20.6 / (1449467.4 \times 0.001055) = 0.0135$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (20.6 / 453.59) / (1449467.4 \times 10^{-6}) = 0.0313$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 20.6 / \left((270.8 / (1 + 23.1 / 100)) / 2.2046 \right) = 0.206$$

Run 3 Test Data

Test Date: 2/26/2025
Manufacturer: Central Boiler
Model Classic Edge 760.1

Contents, in the following order:

- Emissions Test Results
- CSA B415 Results and Data
- Test Fuel Properties
- Velocity Traverse / Supplemental Data Worksheet
- Test Pre-Burn Data
- Sample Train A / Dilution Tunnel Data
- Sample Train B Data
- Sample Train C (First Hour) Data
- Sample Train D (Background) / Flue Gas Data
- Water Flow Data
- Gravimetric Lab Analysis
- Test Lab Notes
 - Appliance Operation Notes
 - Velocity Traverse / Supplemental Data Notes
 - Test Fuel Notes
 - Gravimetric Analysis Notes
 - Supplemental Hand-Written Notes
- Equations and Calculations

Particulate Emissions and Delivered Efficiency Test Results

ASTM E2618 / ASTM E2515



Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Project No.: 0117WB044E
 Tracking No.: 2501
 Run: 3
 Test Date: 02/26/25

Quick View Summary	
lb./MMBtu	0.046
Delivered Efficiency %	80.8
PM 2.5 Emission Rate, g/hr.	1.19
PM 2.5 Emission Factor, g/kg	0.31

Particulate Emissions and Heat Output

Heat Input, Q_{IN} Btu	Heat Output Q_{OUT} Btu	Delivered Efficiency %	Uncorrected ¹		Corrected ²	
			ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)	ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)
1875421	1515889	80.8	1.19	0.046	1.19	0.046

Burn Rate, dry kg/hr	3.90
Emission Rate, E_g /MJ	0.020
Load Heat Output Rate, Btu/hr	56514

	Avg. of Trains A and B		First Hour	
	Uncorrected	Corrected	Uncorrected	Corrected
Total Emissions - E_T , g	31.44	31.44	6.67	6.67
Emission Rate, g/hr	1.19	1.19	6.67	6.67
Emissions Factor, g/kg	0.31	0.31	n/a	n/a

Fuel and Appliance Parameters

Wet Fuel Mass	274.2	lb.
Duration of test	1579	min
Higher Heating Value (HHV) of Fuel	8297	Btu
Lower Heating Value (LHV) of Fuel	7698	Btu
TI_{avg} - Average Temperature of Appliance at Start of Test:	162.2	°F
TF_{avg} - Average Temperature of Appliance at End of Test:	171.9	°F
MC_{Ave} - Average Moisture of Fuel, dry-basis:	21.31	%

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Dilution Tunnel Flow Parameters

	First Hour	Duration of Test
Average Tunnel Temperature, °F	71.6	71.3
Average Tunnel Gas Velocity (vs), feet/second	21.795	21.757
Average Tunnel Gas Flow Rate(Qsd)	DSCF/hr	60414.4
	DSCF/min	1006.9
Average Delta p, in. H ₂ O	0.113	0.113
Tunnel Static Pressure, in. H ₂ O	-0.320	-0.320
Total Time of Test, Min	60	1579

Particulate Sample Parameters - Uncorrected

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V _m), ft ³	245.100	253.908	256.450	9.588
Average Gas Meter Temperature, °F	77	93	90	69
Total Sample Volume (V _{mstd}), DSCF	245.552	247.918	255.061	9.714
Total Particulates (mn), mg - m _n	0.7	5.2	6.2	1.1
Particulate Concentration (C _s - C _r), g/DSCF	0.00000	0.00002	0.00002	0.00011
Total Particulate Emissions (ET), grams	n/a	28.79	34.08	6.67
Particulate Emission Rate, g/hr	n/a	1.09	1.30	6.67
Emissions Factor, g/kg	n/a	0.28	0.33	n/a
Difference, ET from Average ET, grams	n/a	-2.65	2.65	n/a

Particulate Sample Parameters - Corrected for any negative filter weights

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V _m), ft ³	245.100	253.908	256.450	9.588
Average Gas Meter Temperature, °F	77	93	90	69
Total Sample Volume (V _{mstd}), DSCF	245.552	247.918	255.061	9.714
Total Particulates (mn), mg - m _n	0.7	5.2	6.2	1.1
Particulate Concentration (C _s - C _r), g/DSCF	0.00000	0.00002	0.00002	0.00011
Total Particulate Emissions (ET), grams	n/a	28.79	34.08	6.67
Particulate Emission Rate, g/hr	n/a	1.09	1.30	6.67
Emissions Factor, g/kg	n/a	0.28	0.33	n/a
Difference, ET from Average ET, grams	n/a	-2.65	2.65	n/a

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Test Methodology Specifications Quality Checks

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	Train 1	Train 2	
Filter Temperature, °F	< 90	67	66	65	✓
Filter face velocity, fpm	< 30	8.68	8.89	8.89	✓
Dryer Exit, °F	< 80	62	51	48	✓
Tunnel Velocity, fpm	>800	1,308	1,305		✓
First Hour Leakage Rate	0.006	0.001			✓
Train A Leakage Rate	0.006		0.001		✓
Train B Leakage Rate	0.006			0.002	✓

Leakage Rate Limits (cfm) are < 4% of average sample rate or < 0.01 cfm, which ever is less

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	A	B	
Negative Probe Weight	=> 0	0.2	0.3	0.5	✓
Pro-Rate Variation	< 90 for < 10% of θ	0.00%	0.00%	0.11%	✓
	> 110 for < 10% of θ	0.00%	0.00%	0.00%	✓
	# Readings < 80%	0	0	0	✓
	# Readings > 120%	0	0	0	✓
Room Temp, °F (min)	> 55		62.3		✓
Room Temp, °F (max)	< 90		66.8		✓
Dual Train Precision	(1) < 7.5%		8.42%		✓
<i>1 or 2 must conform</i>	(2) < 0.5 g/kg		0.05		
Room Air Velocity	< 50 fpm		8		✓
Preburn Min. Weight	246.8		275		✓
Preburn Max. Weight	301.6				✓
Min. Coal Bed Weight	27.4		48.0		✓
Max. Coal Bed Weight	54.8				✓

CSA B415.1-11 Efficiency Results

Manufacturer Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 3
Test Date: 2/26/2025

Efficiency results reported herein are based on a stack-loss method in accordance with CSA B415.1:22 "Performance testing of solid-biofuel-burning heating appliance". OMNI uses the spreadsheet provided by CSA that is to be used in conjunction with the current version of the test standard. The most recent version of the software is version 2.4, dated April 15, 2010. OMNI received confirmation from CSA on October 18, 2023 that this is the current version of the software.

Stack Loss Efficiency

Manufacturer: Central Boiler
Model: Edge 760.1
Date: 02/26/25
Run: 3
Control #: 2495
Test Duration: 1578
Output Category: II

Technicians: R. Tiegs, J. McShane, K. Morgan

Test Results in Accordance with CSA B415.1-10

	HHV Basis	LHV Basis
Overall Efficiency	83.4%	89.4%
Combustion Efficiency	99.1%	99.1%
Heat Transfer Efficiency	84%	90.2%

Output Rate (kJ/h)	62,716	59,493	(Btu/h)
Burn Rate (kg/h)	3.90	8.59	(lb/h)
Input (kJ/h)	75,201	71,337	(Btu/h)

Test Load Weight (dry kg)	102.55	226.02	dry lb
MC wet (%)	17.57		
MC dry (%)	21.32		
Particulate (g)	31.44		
CO (g)	1,531		
Test Duration (h)	26.30		

Emissions	Particulate	CO
g/MJ Output	0.02	0.93
g/kg Dry Fuel	0.31	14.93
g/h	1.20	58.21
lb/MM Btu Output	0.04	2.16

Air/Fuel Ratio (A/F)	16.55
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VERSION:

2.4

4/15/2010

VERSION: 2.4

4/15/2010

Manufacturer: Central Boiler

Model: Edge 760.1

Date: 2/26/2025

Run: 3

Control #: 2495

Test Duration: 1578

Output Category: II

Appliance Type: Non Cat (Cat, Non

Temp. Units F (F or C)

Weight Units lb (kg or lb)

Fuel Data

Maple

HHV 19,286 kJ/kg

%C 49.85

%H 6.02

%O 43.6

%Ash 0.53

Wood Moisture (% wet): 17.57

Load Weight (lb wet): 274.20

Burn Rate (dry kg/h): 3.90

Total Particulate Emissions: 31.44 g

Averages

0.62

6.76

#DIV/0!

173.24

64.93

Temp. (°F)

Elapsed
Time (min)Fuel Weight
Remaining (lb)Flue Gas Composition (%)
CO CO₂ O₂Flue
GasRoom
Temp

0	274.20	0.05	17.01		277.0	63.2
2	273.20	0.30	2.85		225.6	62.5
4	271.90	0.11	17.57		279.1	62.4
6	269.78	0.12	17.47		281.9	62.5
8	268.92	0.12	16.65		284.0	63.3
10	266.78	0.13	16.33		287.1	63.1
12	264.97	0.13	16.10		289.3	63.3
14	263.30	0.12	15.75		289.6	63.4
16	262.26	0.12	15.81		291.6	63.4
18	260.62	0.11	15.86		293.3	63.2
20	258.66	0.11	16.09		296.1	63.7
22	257.50	0.07	9.66		266.7	63.5
24	257.19	0.06	6.24		235.0	64.2
26	256.64	0.08	4.02		221.2	63.4
28	256.48	0.06	4.48		212.0	63.5
30	257.29	0.06	3.83		204.9	63.1
32	257.26	0.05	2.48		203.0	63.2
34	256.39	0.17	2.56		197.8	63.2
36	256.50	0.35	3.59		191.6	63.5
38	257.02	0.60	4.77		185.8	63.5
40	257.10	0.72	4.71		180.0	63.4
42	256.85	0.96	5.44		174.7	63.5
44	257.00	0.98	5.18		170.1	63.6
46	256.87	1.01	5.04		165.4	63.3
48	257.03	1.02	4.97		161.3	63.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
50	256.73	1.06	4.98		157.2	62.9
52	257.16	1.05	4.85		153.9	62.9
54	256.38	0.99	4.54		150.4	62.7
56	256.58	0.90	4.09		147.1	62.5
58	256.96	0.94	4.25		144.5	62.8
60	256.74	0.89	4.02		141.8	63.1
62	256.91	0.90	4.07		139.2	63.3
64	256.63	0.83	3.75		136.6	63.7
66	256.85	0.82	3.70		133.5	63.5
68	256.37	0.80	3.61		132.1	63.3
70	256.61	0.77	3.48		130.8	63.7
72	256.49	0.76	3.46		128.5	64.1
74	256.68	0.73	3.26		126.6	63.5
76	257.24	0.76	3.45		124.4	63.3
78	256.98	0.75	3.42		123.3	63.4
80	257.40	0.69	3.14		121.3	63.5
82	257.00	0.72	3.29		120.2	63.9
84	256.91	0.69	3.14		119.8	63.9
86	256.67	0.71	3.21		117.1	64.4
88	256.75	0.70	3.14		116.3	64.1
90	256.63	0.67	3.06		115.1	64.4
92	256.60	1.64	9.15		148.9	64.5
94	256.70	1.19	6.69		130.8	64.6
96	256.64	0.93	5.24		123.6	64.2
98	256.67	0.711	4.04		118.9	64.6
100	257.07	0.697	3.982		116.2	64.6
102	257.14	0.585	3.361		115	64.8
104	256.82	0.567	3.306		113.6	64.8
106	257.12	0.551	3.261		112.1	65.1
108	256.19	0.512	3.03		111.9	64.9
110	256.22	0.498	3.015		110.9	64.9
112	256.49	0.464	2.844		109.8	64.7
114	256.48	0.471	2.938		108.4	65
116	256.24	0.473	2.976		108.2	65.1
118	257.09	0.476	3.023		107.8	65.1
120	257.02	0.471	3.009		107.2	65.3
122	256.58	1.158	8.384		150.3	64.9
124	256.85	1.207	8.155		162.3	65.4
126	255.02	0.1	15.451		237.8	65.5
128	252.45	0.067	16.051		275.1	65.5
130	251.11	0.068	17.339		294.7	65.2
132	249.06	0.078	17.097		286.9	65.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
134	247.50	0.088	17.607		289.8	65.2
136	245.39	0.09	17.789		294.1	65.3
138	244.17	0.087	17.707		295.1	65.4
140	242.15	0.069	16.23		295.3	65.3
142	240.76	0.07	17.26		296.3	65.2
144	238.57	0.058	17.102		296.4	65.1
146	236.73	0.052	16.833		298.9	64.9
148	235.63	0.041	16.666		301	65.1
150	233.91	0.028	15.311		297.9	65
152	231.86	0.028	16.421		299.4	64.8
154	231.66	0.011	9.61		248.8	65.5
156	231.20	0.024	7.839		227.8	65.5
158	231.06	0.039	7.737		218.3	65.1
160	231.00	0.043	5.516		210	65.2
162	230.46	0.047	3.97		207	64.9
164	229.99	0.267	4.111		203.7	65.2
166	230.33	0.558	4.919		197.2	65.1
168	230.82	0.836	5.682		191.2	64.9
170	230.32	0.787	4.986		185.3	65.4
172	230.68	0.772	4.727		179.7	64.8
174	230.56	0.703	4.328		174.9	64.8
176	230.18	0.549	3.431		169.8	64.9
178	230.13	0.537	3.423		165.6	65
180	230.76	0.418	2.691		161.7	65.4
182	230.10	0.377	2.475		157.9	65.1
184	230.08	0.317	2.131		154.6	65
186	230.12	0.294	2.027		150.6	65.2
188	230.39	0.237	1.691		147.5	64.9
190	230.77	0.261	1.828		144.6	65
192	230.39	0.21	1.531		141.8	65.3
194	230.60	0.21	1.519		140.4	65
196	230.73	0.202	1.492		137	65.2
198	230.25	0.185	1.33		135.2	64.8
200	231.01	0.174	1.281		132.9	65.1
202	230.32	0.157	1.18		131.4	64.9
204	230.64	0.165	1.205		129.8	65
206	230.98	0.15	1.129		127.7	65.3
208	230.46	0.157	1.176		125.5	65
210	230.26	0.141	1.07		124	64.8
212	230.32	0.148	1.134		122.4	64.8
214	230.70	0.138	1.054		121.3	64.5
216	230.94	0.139	1.071		121.2	64.6

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
218	230.57	0.138	1.091		119.2	64.7
220	230.71	0.16	1.241		117.1	64.4
222	231.01	1.038	8.042		167.7	64.5
224	230.06	1.388	7.752		142.3	64.6
226	230.21	0.94	5.624		130.3	64.4
228	229.94	0.689	4.355		123.8	64.5
230	230.13	0.518	3.296		119.2	64.2
232	230.70	0.472	3.031		116.8	64.7
234	230.77	0.403	2.656		115.4	65
236	230.07	0.349	2.339		113.6	65.6
238	230.69	0.295	2.007		112.7	65.6
240	231.01	0.282	1.971		111.6	65
242	230.89	0.264	1.893		110.5	65
244	230.85	0.235	1.744		108.8	64.9
246	230.43	0.216	1.641		107.7	64.9
248	230.26	0.208	1.599		106.7	65.3
250	230.58	0.191	1.501		106.4	64.9
252	230.91	0.185	1.467		105.7	65.1
254	230.04	1.391	7.749		140.5	65.2
256	230.29	1.017	5.977		125.3	64.6
258	230.34	0.734	4.576		119.3	64.8
260	230.01	0.534	3.431		113.9	65.2
262	229.99	0.433	2.842		111.8	64.6
264	230.49	0.348	2.362		108.4	64.8
266	229.80	1.454	9.477		171.4	65.2
268	228.70	0.056	16.488		239.4	64.5
270	227.20	0.032	16.379		276.3	64.6
272	225.72	0.039	16.432		292.1	64.7
274	223.54	0.05	16.462		291.5	64.9
276	222.14	0.049	16.587		287.5	65
278	220.67	0.042	16.702		287.9	65.4
280	219.28	0.037	17.097		291.2	65.2
282	217.76	0.03	15.647		292.7	64.9
284	215.92	0.051	17.408		290.9	65
286	214.28	0.02	14.736		293.6	65.4
288	211.79	0.025	16.698		296.9	64.9
290	211.57	0.025	16.766		298.8	65
292	209.57	0.024	16.519		300.9	65.4
294	208.01	0.023	14.348		299.2	65
296	206.44	0.015	10.642		260.7	65.9
298	206.55	0.02	9.845		233.8	66.1
300	205.66	0.065	9.445		221.7	65.2

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
302	206.17	0.043	7.286		212.5	65.2
304	205.27	0.047	5.687		206.9	65.3
306	205.58	0.217	4.687		205.2	65.4
308	205.94	0.831	6.979		199.6	65.4
310	205.07	1.141	7.097		193.2	65.2
312	205.72	1.192	6.68		187.2	65.2
314	205.19	1.206	6.295		181.9	65.5
316	205.83	1.21	6.209		176.9	65.7
318	205.52	0.967	4.993		171.9	66.1
320	205.92	0.941	4.818		167.5	65.1
322	205.58	0.831	4.399		163.3	65.5
324	205.86	0.72	3.882		159.2	65.2
326	205.79	0.65	3.515		155.5	65.7
328	205.89	0.55	3.093		152.4	66.8
330	205.39	0.527	2.953		149.5	65.8
332	206.12	0.506	2.918		147	65.5
334	206.04	0.437	2.484		143.4	65.4
336	206.15	0.41	2.48		140.4	65.2
338	206.01	0.392	2.311		138.4	65.4
340	206.03	0.402	2.516		135.9	65.8
342	206.10	0.364	2.318		134.8	66
344	206.18	0.332	2.23		132	65.4
346	206.12	0.348	2.353		130.2	65.3
348	205.97	0.334	2.287		128.7	65.5
350	206.14	0.317	2.296		126.2	65.5
352	206.10	0.325	2.334		125.7	65.5
354	206.12	0.286	2.128		123.5	65.3
356	206.25	0.317	2.402		122.6	65.5
358	206.27	0.293	2.255		121.1	65.6
360	206.35	0.281	2.17		119.6	65.5
362	206.35	0.288	2.264		118.4	65.4
364	206.32	0.292	2.328		136.4	65.3
366	205.91	1.751	9.388		150.5	65.2
368	205.86	1.384	7.653		134.1	65.4
370	205.66	1.002	5.834		125.6	65.2
372	205.16	0.757	4.53		121.6	65.2
374	205.35	0.641	3.906		119	65.1
376	205.47	0.52	3.271		116.7	65.2
378	205.55	0.457	2.906		116.3	65.1
380	205.12	0.41	2.626		114.2	65.1
382	205.61	0.338	2.34		112.7	65.1
384	205.74	0.291	2.084		111.9	65.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
386	205.06	0.276	1.994		110.6	65.4
388	205.44	0.257	1.977		109.6	64.9
390	205.93	0.232	1.829		109	64.9
392	205.14	0.212	1.66		107.8	65
394	205.43	0.204	1.713		108.1	65
396	205.72	1.382	8.288		150.9	65
398	205.21	1.222	6.777		130.3	64.9
400	205.19	0.87	5.195		120.7	65.1
402	204.90	0.583	3.734		115.5	65.1
404	204.91	0.485	3.174		113.3	65
406	205.12	0.412	2.807		110.8	64.8
408	205.52	0.338	2.427		109.2	64.6
410	204.62	1.879	9.15		174.5	64.4
412	203.55	0.454	15.232		231.6	65.2
414	202.10	0.057	15.213		268.3	65
416	200.83	0.066	15.839		285.2	65
418	198.55	0.072	16.113		295.1	65.7
420	196.64	0.082	16.285		291.1	65.4
422	195.23	0.076	16.357		289.6	65.4
424	193.57	0.062	16.632		290.4	65.4
426	192.14	0.065	16.619		292.6	65.8
428	190.35	0.067	16.7		294.8	65.1
430	188.86	0.074	16.89		297.1	65.1
432	186.71	0.064	17.108		299.9	65.3
434	185.15	0.033	14.723		298.3	65.2
436	183.61	0.047	15.423		300.5	65.3
438	182.44	0.049	16.224		303.2	65.4
440	181.10	0.017	11.012		256.1	65.9
442	180.17	0.039	9.546		232	65.7
444	180.31	0.105	8.816		220.9	65.4
446	179.50	0.08	6.105		212	65.6
448	179.64	0.084	4.713		208	65.6
450	179.31	0.191	3.758		205.3	65.4
452	179.73	0.483	5.315		199.6	65.4
454	179.40	0.598	5.581		193.6	64.9
456	179.58	0.673	5.67		187.8	65
458	180.05	0.665	5.307		181.8	65.3
460	179.49	0.594	4.782		176.7	65.1
462	179.83	0.546	4.445		171.5	65.8
464	180.05	0.443	3.799		166.9	65.5
466	179.67	0.371	3.289		163.2	65.3
468	179.44	0.334	3.183		158.8	65.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
470	179.68	0.31	2.904		155	65.5
472	179.67	0.256	2.551		151.5	65.3
474	179.87	0.226	2.443		148.7	65.1
476	179.68	0.209	2.179		146.2	65.6
478	179.55	0.209	2.141		143.1	65.6
480	180.39	0.165	1.904		140.1	65.6
482	180.01	0.16	1.859		137.5	66
484	180.13	0.14	1.673		135	65.5
486	180.19	0.133	1.517		132.8	65.1
488	179.94	0.119	1.524		131.6	64.5
490	179.64	0.117	1.485		129.7	65
492	180.55	0.102	1.276		127.9	65.5
494	180.20	0.112	1.422		126.7	65.9
496	179.89	0.107	1.331		124.2	65.4
498	180.49	0.107	1.4		123.3	65.4
500	179.99	0.106	1.307		121.4	65.3
502	180.31	0.103	1.25		120.7	65.5
504	179.87	0.108	1.303		118.2	65.2
506	180.03	0.116	1.303		118	65.8
508	180.50	0.109	1.359		150.7	66
510	179.55	1.446	8.059		146.6	66.2
512	179.63	1.147	6.805		132.9	66.1
514	180.13	0.76	4.783		125.9	66
516	180.13	0.618	3.997		122.3	66.1
518	180.21	0.498	3.251		118.4	64.9
520	179.71	0.434	2.854		116.6	64.8
522	179.80	0.37	2.454		114.5	64.8
524	179.44	0.314	2.113		114	65.5
526	180.03	0.273	1.856		111.8	65.7
528	180.14	0.251	1.782		111.1	65.7
530	179.61	0.229	1.622		109.8	65.3
532	180.13	0.214	1.526		108.9	65.7
534	179.84	0.182	1.395		108.8	65.5
536	179.58	0.17	1.34		107.5	65.3
538	179.69	0.163	1.287		106.6	65.7
540	180.09	1.517	7.869		145.9	65.8
542	179.36	1.148	6.229		128.5	66
544	179.72	0.888	5.2		120.1	66.1
546	179.20	0.621	3.755		115.9	65.4
548	179.25	0.48	3.048		112.4	65
550	179.45	0.394	2.635		110.5	64.8
552	179.89	0.308	2.085		109.4	65.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
554	179.38	0.278	1.943		107	65.4
556	179.54	0.281	1.969		127.4	65.8
558	178.92	3.377	11.708		198.2	65.3
560	177.22	0.168	14.94		253.2	65.3
562	175.79	0.049	15.316		279.6	65.5
564	174.79	0.046	16.424		295.5	65.2
566	172.86	0.047	16.309		286.7	65.3
568	170.78	0.045	16.697		288.5	65.5
570	169.65	0.061	17.35		293.9	66
572	168.15	0.062	16.683		294.2	66.1
574	166.02	0.051	15.32		294.7	66.2
576	164.80	0.04	13.946		295.1	65.5
578	162.81	0.024	15.025		296.3	65.6
580	161.33	0.043	16.276		299.2	65.3
582	159.60	0.038	15.352		297.2	65.4
584	157.36	0.024	15.972		296.3	64.9
586	155.73	0.026	14.377		301.1	65.8
588	155.18	0.041	13.005		255.1	65.9
590	153.86	0.081	12.7		231.6	66
592	154.06	0.18	12.369		219.9	65.7
594	153.50	0.062	8.733		211.1	65.5
596	152.96	0.077	6.677		206.5	65.7
598	153.01	0.423	5.953		204.2	66.3
600	153.59	1.204	8.057		198.5	66.3
602	153.34	1.508	8.292		192.6	66.1
604	153.59	1.45	7.597		186.7	65.3
606	152.71	1.261	6.514		181.3	65.6
608	153.29	1.291	6.561		176.4	64.9
610	152.86	1.109	5.842		171.1	65.7
612	152.86	0.838	4.546		166.4	65.2
614	153.30	0.757	4.229		162.6	65.9
616	153.49	0.612	3.575		158.7	65.5
618	153.38	0.537	3.248		154.9	65.3
620	153.10	0.447	2.747		151.7	65.1
622	153.33	0.396	2.524		148.4	65.6
624	152.92	0.342	2.23		144.9	65.5
626	153.38	0.321	2.159		142.4	66
628	153.54	0.281	1.916		139	65.7
630	152.97	0.273	1.886		137	65.9
632	152.97	0.231	1.614		135.3	65.6
634	153.75	0.21	1.486		133.7	65.3
636	153.56	0.203	1.425		131.1	64.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
638	153.44	0.174	1.268		128.8	64.7
640	153.42	0.181	1.321		127.4	64.9
642	153.67	0.187	1.373		126.2	65.7
644	153.96	0.181	1.312		123.4	65.3
646	153.15	0.184	1.336		122.4	65.5
648	153.52	0.196	1.38		121.6	65.4
650	153.39	0.188	1.343		120.1	65.6
652	153.81	0.196	1.373		118.7	65.9
654	153.30	0.188	1.519		117.7	66
656	153.56	0.195	1.384		149.2	65.9
658	152.91	1.104	7.658		148.2	65.5
660	152.79	0.918	6.507		133.3	64.5
662	152.88	0.636	4.634		125.7	64.5
664	152.83	0.492	3.679		122.3	65
666	152.73	0.43	3.189		118.6	65.4
668	152.85	0.366	2.732		115.8	65.7
670	153.46	0.348	2.559		114.5	65.2
672	153.40	0.304	2.433		112.5	65.4
674	152.82	0.271	2.193		111.2	65.4
676	153.44	0.238	1.922		110.2	65.6
678	152.95	0.228	1.842		109.3	65.8
680	152.81	0.212	1.754		109	66
682	153.51	0.197	1.641		108.8	65.9
684	153.56	0.2	1.719		107.1	65.2
686	153.49	0.182	1.614		105.8	64.9
688	152.70	1.459	8.015		147.4	64.8
690	153.20	1.062	6.18		129.6	64.8
692	152.47	0.755	4.834		121.3	64.9
694	153.05	0.504	3.411		116.5	65.6
696	153.11	0.462	3.187		113.7	65.3
698	152.43	0.338	2.418		110.4	65.4
700	153.03	0.313	2.297		109.5	65.3
702	153.30	0.282	2.048		128.6	65.4
704	152.23	1.444	11.742		198.8	65.7
706	150.43	0.063	15.451		258.5	65.8
708	149.01	0.037	16.723		284.7	64.9
710	147.84	0.046	16.66		285.1	65.4
712	145.39	0.057	17.501		288.7	64.7
714	143.64	0.054	17.29		290.7	65.1
716	141.96	0.067	17.547		289.1	65.2
718	140.79	0.064	17.374		290.8	65.7
720	139.45	0.086	17.188		297.4	65.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
722	137.20	0.055	15.767		297.4	65.2
724	136.14	0.062	16.891		296.2	65.3
726	133.78	0.055	16.921		300.1	65.5
728	131.91	0.021	14.355		301.8	65.6
730	131.05	0.029	14.754		302	65.1
732	128.96	0.006	13.946		284.2	66.2
734	127.57	0.049	13.657		245.4	65.5
736	126.98	0.052	12.409		227.5	65.3
738	126.43	0.096	12.218		217	65
740	126.68	0.059	9.261		209.1	65.8
742	126.85	0.091	6.046		207.1	65.6
744	126.00	1.315	8.94		202.8	65.8
746	126.67	2.148	10.139		196.6	65.2
748	125.96	2.244	9.573		190.5	65
750	126.55	2.315	9.48		184.9	65.2
752	126.61	1.962	8.028		179.5	65.9
754	126.04	1.9	7.81		174.4	66
756	126.25	1.607	6.712		169.9	65.2
758	126.05	1.401	6.012		165.5	65.3
760	125.85	1.135	4.99		161	64.1
762	126.21	0.955	4.361		157	64.7
764	126.19	0.832	3.903		153.4	64.6
766	126.35	0.724	3.474		150.7	65.6
768	126.03	0.73	3.587		148.1	65.3
770	126.10	0.576	2.874		144.5	65.5
772	126.86	0.54	2.743		142.2	65.2
774	125.96	0.512	2.609		139.4	65.1
776	126.39	0.45	2.306		137.3	65.4
778	126.22	0.404	2.134		134.6	65.4
780	126.03	0.39	2.04		132	65.7
782	126.79	0.348	1.851		130.5	65.3
784	126.50	0.365	1.916		128.5	65.2
786	126.41	0.333	1.787		127.6	64.9
788	126.85	0.343	1.851		125	64.4
790	126.91	0.322	1.771		123.5	64.7
792	126.66	0.339	1.807		121.4	64.6
794	126.61	0.302	1.718		120	65.3
796	126.66	0.318	1.757		118.4	65
798	126.62	0.332	1.833		118.4	65
800	127.06	0.33	1.801		116.6	64.9
802	126.45	1.407	8.329		161.8	65
804	125.78	1.143	7.235		141.1	64.9

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
806	125.82	0.861	5.582		130.6	64.9
808	125.75	0.6	4.022		124.3	64.4
810	126.00	0.497	3.414		120.6	64.5
812	126.42	0.41	2.766		117.7	65
814	126.45	0.385	2.589		116	65.1
816	126.51	0.332	2.294		114.5	66.3
818	126.48	0.297	2.072		112.2	65.3
820	126.61	0.303	2.095		110.7	65.4
822	126.57	0.246	1.779		109.1	64.9
824	126.70	0.238	1.751		108.9	65
826	126.57	0.23	1.625		107.3	65.1
828	126.26	0.215	1.578		106.6	65.6
830	126.07	0.211	1.599		106.2	65.7
832	126.56	0.194	1.511		138.2	65.3
834	125.97	0.968	5.706		136.8	65.2
836	125.50	0.722	4.77		124.2	64.8
838	125.70	0.52	3.626		117.3	64.5
840	125.64	0.41	2.942		113	64.2
842	125.66	0.313	2.325		110.6	64.8
844	125.25	1.339	7.463		169.8	64.9
846	124.49	1.447	11.641		221.2	65.3
848	122.97	0.167	14.916		265.7	64.9
850	121.89	0.075	15.27		285.2	65.1
852	120.42	0.069	15.858		297.2	64.9
854	118.50	0.072	15.977		293.8	64.9
856	116.92	0.088	16.466		291.7	64.7
858	115.43	0.102	17.052		294.8	65.4
860	113.05	0.128	16.985		294.5	65.5
862	110.89	0.23	18.122		290	64.8
864	109.45	0.111	17.16		293.8	64.4
866	107.64	0.092	17.008		297.4	64.4
868	105.95	0.089	15.801		298.9	64.6
870	104.41	0.073	14.595		302.9	64.7
872	103.16	0.043	13.946		302.3	65.4
874	100.70	0.046	14.723		302.6	64.9
876	99.51	0.026	13.324		262.5	65.7
878	99.16	0.061	14.553		236.2	65.6
880	98.67	0.187	14.087		223.2	64.6
882	97.70	0.042	10.838		213.7	65.1
884	97.42	0.035	8.489		207.7	64.5
886	97.94	0.519	7.267		206.5	64.6
888	98.05	1.76	9.81		200.9	64.7

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
890	97.30	2.364	10.624		195	65
892	97.25	2.438	10.184		188.8	64.9
894	97.54	2.362	9.612		183.1	65.3
896	97.72	2.166	8.75		177.9	65
898	97.29	1.922	7.792		173.2	64.8
900	97.06	1.593	6.636		168.3	65
902	97.37	1.389	5.819		164.1	65
904	97.33	1.257	5.422		160.2	65.4
906	97.52	1.123	4.981		156.2	65.8
908	97.29	0.862	3.925		153	64.8
910	97.54	0.805	3.744		149.4	65
912	97.71	0.778	3.654		146.5	63.9
914	97.50	0.667	3.21		143.7	64.9
916	97.18	0.587	2.847		141.4	64.8
918	98.08	0.544	2.736		138.6	65.1
920	97.15	0.504	2.626		136.2	65.1
922	97.83	0.512	2.61		134.2	65.4
924	97.51	0.467	2.468		132.5	64.9
926	98.01	0.418	2.248		130.8	64.9
928	97.29	0.423	2.285		128.9	65.1
930	97.57	0.358	2.058		126.8	65
932	97.83	0.38	2.09		124.9	65.3
934	97.89	0.366	1.995		123.3	64.5
936	97.34	0.353	1.961		121.6	64
938	97.51	0.369	2.03		119.8	64.4
940	98.06	0.349	1.939		119.4	64.6
942	98.03	0.349	1.937		117.8	64.3
944	97.79	0.363	1.986		123.9	65.2
946	97.35	1.381	8.897		151.8	64.4
948	97.18	1.273	8.043		136.1	64.7
950	97.60	0.883	5.638		128.7	65
952	97.61	0.656	4.105		122.7	64.8
954	97.05	0.513	3.408		119.2	65.3
956	97.74	0.47	3.09		116.9	64.8
958	97.75	0.383	2.516		116.2	64.6
960	97.67	0.349	2.33		114.5	63.9
962	97.76	0.312	2.224		112.8	64.5
964	97.70	0.3	2.061		111.1	64.1
966	97.18	0.251	1.784		110.2	64.7
968	97.23	0.269	1.837		109.5	65.1
970	97.41	0.23	1.635		107.7	64.7
972	97.47	0.208	1.504		107.1	64.8

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
974	97.76	0.23	1.675		106.7	64.6
976	97.12	1.24	7.433		150.4	64.9
978	97.01	1.084	6.466		131.4	64.6
980	96.84	0.814	5.211		122.2	64.4
982	97.43	0.591	4.035		116.5	64.1
984	96.86	0.459	3.087		112.1	64.6
986	97.43	0.384	2.796		111	65
988	96.95	0.313	2.414		108.6	64.5
990	97.25	0.292	2.164		107.6	64.6
992	97.05	0.258	1.965		106.5	64.7
994	97.53	0.246	1.882		133.6	65
996	96.06	1.213	11.229		198.9	65.3
998	95.67	0.14	14.514		254.3	64.8
1000	93.88	0.062	14.635		280.6	64.9
1002	92.23	0.069	15.167		291.8	64.8
1004	90.85	0.073	15.357		298.6	64.7
1006	89.53	0.076	15.664		294.8	64.5
1008	87.55	0.092	16.353		295.6	64.6
1010	86.00	0.104	16.416		295.4	64.5
1012	84.28	0.099	16.446		298.1	64.7
1014	82.09	0.105	16.601		301.3	64.5
1016	80.26	0.106	16.653		303.4	65.2
1018	78.26	0.103	16.883		306.2	64.7
1020	77.16	0.128	17.492		307.3	65.3
1022	74.97	0.095	16.311		309.7	65
1024	73.73	0.055	13.358		275.1	65.4
1026	72.40	0.518	20.239		243.4	65.2
1028	71.57	1.479	19.534		227.6	64.8
1030	71.27	0.69	19.146		217.4	64.6
1032	71.06	0.447	15.68		209.9	64.1
1034	70.65	2.148	13.263		208.8	64.9
1036	70.05	5.228	16.617		204	64.6
1038	69.99	5.48	16.666		198	64.2
1040	70.38	5.479	16.104		192	65.3
1042	70.25	5.279	14.52		186.3	64.6
1044	69.86	4.749	13.158		181.1	64.8
1046	70.31	4.55	12.864		176.1	64.5
1048	69.68	3.56	10.341		171.5	64.8
1050	70.37	3.399	10.099		167.8	65.1
1052	70.10	2.998	9.123		163.4	64.2
1054	69.69	2.55	7.993		159.5	64.4
1056	70.17	2.398	7.737		155	64.7

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1058	69.66	2.184	7.254		152.2	64.7
1060	70.24	1.804	6.193		149.2	65.3
1062	69.76	1.737	6.066		146.2	64.8
1064	70.20	1.552	5.608		143.2	65
1066	69.69	1.507	5.582		140.4	64.8
1068	70.14	1.379	5.195		138.5	64.9
1070	70.43	1.307	5.029		136.2	64.8
1072	69.80	1.121	4.435		134	65
1074	70.10	1.189	4.749		132.9	64.5
1076	70.18	1.092	4.364		130.1	64.9
1078	70.34	0.992	4.011		128.4	64.5
1080	70.39	0.861	3.532		126.5	64.2
1082	70.38	0.966	3.917		124.5	65.3
1084	69.86	0.874	3.547		123.3	64.8
1086	70.01	0.862	3.527		122.7	64.8
1088	69.90	0.802	3.327		120.2	64.8
1090	69.67	0.846	3.403		119.3	64.6
1092	69.84	0.832	3.266		118	64.4
1094	69.34	1.477	7.264		154.6	64.1
1096	69.50	1.346	6.632		138.9	64.5
1098	69.93	1.086	5.333		130.6	64.7
1100	69.68	0.812	4.068		125.3	64.6
1102	69.91	0.717	3.618		122.6	65.8
1104	69.53	0.582	2.89		117.9	64.5
1106	69.73	0.539	2.772		116.9	64.6
1108	69.80	0.499	2.567		116.2	64.6
1110	69.51	0.467	2.416		115.1	65.2
1112	69.66	0.425	2.263		113.1	65.3
1114	69.80	0.377	2.025		111.2	64.9
1116	70.01	0.347	1.913		110.8	64.5
1118	69.50	0.352	1.934		109.1	63.9
1120	69.94	0.315	1.75		108.3	64.4
1122	69.67	0.33	1.854		107.4	64.1
1124	69.91	0.77	4.971		150.7	64.1
1126	69.42	0.708	4.514		132	65.1
1128	69.14	0.572	3.758		122.4	64.6
1130	69.48	0.462	3.09		118	65.1
1132	70.03	0.364	2.577		113.7	64.5
1134	69.75	0.329	2.351		112	64.7
1136	69.66	0.318	2.347		110.3	64.5
1138	69.99	0.282	2.087		108.5	64
1140	70.10	0.264	2.032		107.7	64.4

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1142	69.74	0.268	1.953		106.2	64.3
1144	69.35	0.228	1.895		105	64.5
1146	69.32	0.24	1.891		124.3	64.7
1148	68.87	1.335	7.486		184.9	64.4
1150	68.29	0.503	12.436		231	64.4
1152	66.81	0.236	13.247		261.6	64.3
1154	65.30	0.109	14.039		277.4	65
1156	64.14	0.089	15.819		294.7	64.8
1158	62.99	0.112	16.194		302.8	64.6
1160	61.04	0.119	16.593		304.6	64.8
1162	59.34	0.113	16.714		299.1	64.5
1164	57.14	0.121	16.062		300.5	64.1
1166	55.18	0.121	16.677		301.5	64.8
1168	54.08	0.13	16.319		302	64.4
1170	52.28	0.121	16.308		303.8	64.6
1172	50.68	0.117	16.505		306.3	64.7
1174	49.52	0.125	16.739		309.2	65.1
1176	47.64	0.092	15.63		259	65.2
1178	46.77	0.268	18.011		235	65.7
1180	46.56	1.405	20.003		222.9	65
1182	46.29	0.506	17.457		213.9	65
1184	45.51	0.462	13.988		209.4	64.7
1186	45.88	4.95	17.516		206.1	65
1188	45.48	5.48	20.679		200.9	65
1190	44.74	5.48	19.955		195.2	64.8
1192	44.88	5.48	19.154		189.5	64.5
1194	45.41	5.483	18.914		184.1	64.9
1196	45.01	5.48	15.679		179	64.7
1198	44.82	5.479	14.339		174.5	64.9
1200	44.33	5.095	13.386		169.8	64.8
1202	44.96	4.679	12.424		165.8	64.9
1204	44.44	3.996	10.852		161.2	65.4
1206	44.90	3.473	9.622		157.9	64.9
1208	44.63	3.029	8.614		155.4	64.9
1210	44.21	2.981	8.53		151.8	64.8
1212	44.53	2.571	7.497		148.6	65.1
1214	44.80	2.338	6.919		145.9	64.7
1216	44.95	2.049	6.147		143.2	64.3
1218	44.48	1.964	6.016		140.2	64.6
1220	44.28	1.818	5.588		137.7	64.7
1222	44.53	1.611	5.033		135.8	64.8
1224	44.92	1.483	4.745		134.1	64.8

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1226	45.16	1.303	4.206		131.4	64.9
1228	44.90	1.256	4.084		129.3	64.9
1230	44.61	1.154	3.755		127.7	64.8
1232	44.63	1.109	3.608		126.8	65.2
1234	44.64	1.106	3.608		124.3	65.1
1236	44.91	1.055	3.426		123.5	64.5
1238	44.62	0.94	3.076		120.1	64.5
1240	45.23	0.908	2.964		120.1	63.5
1242	44.82	0.926	3.037		118.8	63.7
1244	44.59	1.456	4.804		153.7	63.7
1246	44.33	1.617	7.641		146.3	64.5
1248	44.64	1.303	6.117		133.8	64.3
1250	44.36	1.04	4.903		126.5	64.3
1252	44.22	0.898	4.211		123.3	64.4
1254	44.95	0.687	3.273		119.4	64.4
1256	44.24	0.575	2.69		117	64.9
1258	44.27	0.513	2.471		114.4	65
1260	44.86	0.469	2.25		113.4	64.6
1262	44.40	0.425	2.055		111.4	64.7
1264	44.54	0.384	1.867		111.3	64.5
1266	44.32	0.374	1.809		109.6	64.7
1268	44.20	0.364	1.734		109.4	65.1
1270	44.80	0.325	1.601		107.5	64.8
1272	44.49	0.262	1.404		105.9	64.2
1274	44.59	0.276	1.394		106.3	64.3
1276	44.22	1.196	6.944		141.7	64.8
1278	44.82	0.817	4.841		125.9	64.5
1280	44.45	0.646	3.931		118	65.4
1282	44.63	0.495	3.05		114	65
1284	44.70	0.377	2.374		110.7	64.8
1286	44.35	0.31	2.015		110	64.9
1288	43.99	0.296	1.938		108.4	64.7
1290	44.63	0.273	1.837		106	64.8
1292	43.76	1.083	9.743		186.9	65.1
1294	42.99	0.107	14.141		246.1	65.4
1296	41.93	0.061	14.193		272.5	64.7
1298	40.17	0.063	14.068		282.5	64.5
1300	39.50	0.063	14.57		291.2	64.3
1302	38.52	0.091	14.908		298.6	64.2
1304	36.68	0.086	15.257		304.7	64.7
1306	35.00	0.087	15.282		308.3	65
1308	34.11	0.08	15.526		309.6	64.2

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1310	32.29	0.083	15.436		305	63.7
1312	31.56	0.052	14.888		309.8	63.6
1314	30.05	0.048	15.234		307	64.5
1316	28.18	0.045	14.971		309.5	64.2
1318	27.54	0.048	9.288		259.8	64.6
1320	26.91	0.039	9.366		234.7	65.8
1322	26.55	0.098	10.494		223.7	64.3
1324	26.31	0.06	8.473		214.6	64.1
1326	26.86	0.045	7.08		210.7	64.8
1328	26.22	0.741	8.157		207.8	64.3
1330	26.59	2.05	11.179		202	65.1
1332	26.08	2.493	11.454		195.7	64.6
1334	25.94	2.631	11.315		189.6	64.5
1336	26.09	2.58	10.792		183.7	64.6
1338	26.30	2.238	9.387		178.6	64.6
1340	26.10	2.041	8.67		174	64.7
1342	26.18	1.841	7.918		169.3	65.1
1344	26.10	1.429	6.345		165.1	64.8
1346	26.54	1.176	5.388		160.8	64.6
1348	26.20	0.997	4.716		156.3	64.2
1350	25.80	0.785	3.834		152.9	64.3
1352	25.80	0.665	3.28		149.3	64.6
1354	25.85	0.605	3.087		146.4	65.4
1356	26.41	0.477	2.535		143.5	65.3
1358	26.31	0.419	2.261		141.1	65
1360	26.32	0.365	2.07		138.5	65
1362	26.46	0.305	1.804		135.7	65.3
1364	26.08	0.274	1.629		133.7	64.8
1366	26.52	0.231	1.459		131.6	64.7
1368	26.61	0.203	1.328		129.7	64.9
1370	26.03	0.199	1.255		127.1	64.6
1372	26.32	0.164	1.196		125.1	65.3
1374	26.72	0.165	1.151		123.4	64.9
1376	26.63	0.148	1.014		122.2	65.1
1378	26.17	0.135	0.947		120.9	64.8
1380	26.32	0.132	0.934		120.2	65.1
1382	26.23	0.12	0.901		119.3	64.3
1384	26.91	0.117	0.93		117.2	64.3
1386	26.66	0.214	1.584		151.2	64.2
1388	26.73	1.195	9.239		142.5	64.9
1390	26.65	0.934	7.038		129.1	64.5
1392	26.13	0.74	5.54		122.9	64.8

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1394	26.86	0.483	3.757		119.1	65.4
1396	26.31	0.395	2.992		117.4	65.4
1398	26.09	0.339	2.523		115.2	65.2
1400	26.06	0.258	1.965		113.6	65.2
1402	26.05	0.254	1.917		112.3	65.1
1404	26.01	0.255	1.949		110.4	65
1406	26.27	0.247	1.887		110.2	65.2
1408	26.81	0.244	1.871		108.5	65.2
1410	26.47	0.256	1.971		108	65.1
1412	26.80	0.219	1.701		108.5	65.5
1414	26.54	0.215	1.652		106.9	64.2
1416	26.29	0.206	1.592		106.2	63.8
1418	26.76	1.398	7.881		138.8	64
1420	26.65	0.997	5.913		121.8	64.8
1422	26.69	0.734	4.499		114.2	65.1
1424	26.55	0.522	3.267		110.5	64.6
1426	25.77	2.095	13.041		185.8	64.4
1428	24.80	0.059	15.426		248.1	64.8
1430	23.68	0.053	14.591		273.9	65.1
1432	22.25	0.059	14.344		283.6	65
1434	21.73	0.065	14.552		290.5	64.6
1436	20.33	0.076	14.625		295.5	64.7
1438	19.08	0.073	15.318		302.8	64.6
1440	17.38	0.066	15.773		310.2	65.1
1442	16.36	0.054	15.636		304.6	64.7
1444	15.48	0.05	15.666		310.1	64.9
1446	14.21	0.047	15.615		313.8	64.7
1448	12.66	0.039	15.292		314	64.8
1450	11.63	0.03	15.207		315.1	64.7
1452	11.02	0.059	7.256		262.6	66
1454	10.29	0.036	6.926		236.6	66
1456	10.36	0.063	7.336		225.9	65
1458	10.09	0.037	5.719		217	65.1
1460	10.03	0.039	4.716		212.3	65
1462	10.02	0.105	3.548		209.9	64.8
1464	10.05	0.523	5.952		204	64.6
1466	9.47	0.805	6.408		197.6	64.7
1468	10.16	1.08	7.029		191.5	64.9
1470	10.11	1.165	6.893		185.9	65.2
1472	10.02	1.132	6.427		180.4	64.8
1474	9.99	0.983	5.59		175.1	64.8
1476	9.44	0.872	4.865		170.5	64.9

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1478	9.53	0.747	4.227		166.2	65
1480	9.67	0.7	3.958		162	64.9
1482	9.65	0.559	3.238		157.4	65.1
1484	10.20	0.514	2.992		154.1	65
1486	9.60	0.434	2.573		150.8	65.2
1488	10.34	0.362	2.184		147.1	64.8
1490	9.65	0.311	1.889		144.6	65.2
1492	10.40	0.303	1.812		141.6	65.2
1494	9.78	0.242	1.542		139.2	65.4
1496	9.95	0.226	1.42		136.5	65
1498	10.10	0.205	1.261		134.3	65.3
1500	10.39	0.178	1.08		132.6	64.9
1502	10.47	0.151	0.992		130.5	64.7
1504	10.40	0.148	0.937		128.4	64.9
1506	10.40	0.141	0.847		126.6	65.1
1508	10.32	0.131	0.873		124.8	65.3
1510	10.19	0.138	0.95		123.2	64.9
1512	10.15	0.135	0.923		121.7	64.9
1514	10.13	0.129	0.898		119.8	65.2
1516	10.27	0.148	0.964		118.8	65.2
1518	9.96	0.135	0.926		117.7	65.1
1520	10.05	0.127	0.888		145.6	64.7
1522	9.83	0.001	0.22		134.3	64.7
1524	10.06	0.059	0.645		126.5	65
1526	10.35	0.071	0.756		121.9	64.7
1528	9.92	0.056	0.621		119.3	65.2
1530	10.10	0.044	0.492		116.6	65
1532	10.44	0.031	0.413		114.9	64.8
1534	10.25	0.021	0.268		113.9	65
1536	9.86	0.009	0.282		112.8	64.8
1538	10.09	0.003	0.3		110.4	65.3
1540	10.80	0.006	0.263		110.2	65
1542	10.42	0.012	0.208		109.7	65.3
1544	10.08	0.016	0.175		107.7	64.8
1546	10.61	0.012	0.198		108.2	65.1
1548	9.94	0.008	0.187		107.1	64.8
1550	10.80	0.008	0.212		106.1	64.6
1552	9.78	1.475	7.922		139.5	65.2
1554	9.75	1.047	5.801		121.4	65.3
1556	10.27	0.724	3.984		114.4	64.7
1558	10.39	0.505	2.907		111	65
1560	10.57	0.356	2.086		108.9	65.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1562	10.28	0.96	10.867		156.1	65.1
1564	8.91	0.268	15.006		222.8	65.3
1566	7.63	0.071	15.616		261.5	64.7
1568	6.95	0.052	15.058		274	65.1
1570	5.77	0.041	14.843		280.5	65.1
1572	4.68	0.066	15.086		286.6	65.2
1574	3.62	0.052	15.336		292.9	65.1
1576	2.19	0.048	15.022		295.4	64.9
1578	1.76	0.04	15.088		298.4	65

Test Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
Model : Classic Edge 760.1
Tracking No. : 2501
Project No. : 0117WB044E
Test Date : 2/26/2025
Run No. : 3

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Firebox Volume : 22.090 ft³
Manufacturer's Recommended Loading Density 13
Ideal Fuel Weight : 287.17 lb.
Minimum Fuel Weight : 258.45 lb.
Maximum Fuel Weight : 315.89 lb.
Fuel Species : Maple

Fuel Piece Data

PC No.	Weight, Lb. (W _i)	Cross- Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	10.8	6.75	5.50	24.00	19.5	22.4	21.4	21.0	20.0	20.9	225.29
2	10.5	5.00	4.00	24.00	19.7	23.1	24.1	19.6	23.8	22.1	231.63
3	16.4	7.00	5.50	24.00	21.0	23.8	23.2	24.9	19.7	22.5	369.33
4	9.3	6.50	5.50	24.00	22.0	20.6	18.4	19.8	19.5	20.1	186.56
5	16.0	7.00	5.00	24.00	19.8	24.9	25.4	19.8	18.0	21.6	345.28
6	14.4	6.75	6.75	24.00	19.4	20.1	18.1	19.7	21.6	19.8	284.83
7	16.5	7.25	5.25	24.00	18.0	19.5	22.8	18.9	20.0	19.8	327.36
8	10.4	5.50	4.50	24.00	19.0	19.0	19.6	19.6	20.1	19.5	202.38
9	9.9	5.00	4.75	24.00	22.7	26.9	25.2	22.9	20.0	23.5	233.05
10	12.4	6.75	4.75	24.00	22.1	23.6	24.9	24.9	23.7	23.8	295.62
11	13.6	6.50	4.50	24.00	19.4	21.2	18.9	19.7	19.4	19.7	268.19
12	11.4	6.00	5.50	24.00	19.2	19.6	19.6	18.2	18.0	18.9	215.69
13	12.2	7.00	4.50	24.00	18.1	19.3	19.7	20.4	20.6	19.6	239.36
14	11.6	5.25	5.00	24.00	23.8	26.5	19.7	21.5	19.2	22.1	256.82
15	10.6	6.00	4.50	24.00	21.7	20.9	23.6	19.8	18.5	20.9	221.54
16	14.2	7.50	5.50	24.00	19.0	18.0	18.6	19.5	19.7	19.0	269.23
17	13.0	6.50	5.00	24.00	20.1	20.2	21.3	19.0	19.4	20.0	260.00
18	10.7	6.50	5.75	24.00	24.9	24.9	23.0	20.5	24.9	23.6	252.95
19	12.8	6.25	5.50	24.00	20.4	23.0	22.8	23.0	21.3	22.1	282.88
20	10.2	6.00	5.25	24.00	25.7	20.7	25.4	22.8	22.7	23.5	239.29
21	11.9	7.00	5.50	24.00	21.9	25.3	24.3	22.4	24.9	23.8	282.74
22	15.4	6.50	5.00	24.00	21.3	22.0	22.9	25.4	22.9	22.9	352.66
23											
24											
25											
26											
27											
28											
29											
30											
TOTAL	274.2										5842.69
Averages	12.46	6.39	5.14	24.00	20.85	22.07	21.95	21.06	20.81	21.35	265.58

Fuel Load Properties

Number of Pieces	Wet Weight, lb.	Dry Weight, lb.	Fuel Loading Density, lb/ft ³ Wet Basis	Fuel Loading Density, lb/ft ³ Dry Basis	Moisture, % dry basis (ΣW _i · MC _i) / ΣW _i	Moisture, % wet Basis
22	274.2	226.04	12.41	10.23	21.31	17.57

Compliance Checks, Loading Density and Moisture

	Fuel Load, Wet Lb.	Load Density, lb/ft ³ of FB vol	Number of moisture readings > 28%	Number of moisture readings < 18%	Average Fuel Moisture, % DB	
Measured	274.2	12.41	0	0	20.81	
Required	258.5 - 315.9	10 - 15	0	0	19 - 25	
Complies ?	Yes	Yes	Yes	Yes	Yes	

Compliance Checks, Fuel weights and Dimensions

	Cross Section of Individual Pieces		Minimum Piece Weight, Lb.	Maximum Piece Weight, Lb.
	Min	Max		
Measured	4.00	7.50	9.3	16.5
Required	3	12	8.8	26.5
Complies ?	Yes	Yes	Yes	Yes

Pre-Burn Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
Model : Classic Edge 760.1
Tracking No. : 2501
Project No. : 0117WB044E
Test Date : 2/26/2025
Run No. : 3

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Average Moisture Content, % Dry Basis : 21.6
Total Mass, lb. : 275.0

Piece No.	Moisture, db					Weight, lb.
	1	2	3	4	5	
1	19.5	20.8	17.8	19.0	19.3	16.4
2	25.6	26.3	26.2	22.0	24.1	18.5
3	19.6	19.4	18.7	19.1	19.4	14.3
4	19.8	22.4	19.3	4.9	22.0	21.7
5	26.8	23.2	24.3	26.2	25.2	15.9
6	24.2	25.3	26.0	24.4	24.8	16.3
7	20.8	22.9	21.7	19.5	19.8	9.8
8	26.3	24.1	24.8	25.9	24.7	19.5
9	25.9	24.9	24.8	21.7	21.9	13.1
10	20.5	18.5	19.2	20.1	19.7	16.2
11	18.6	19.1	18.8	19.0	19.1	10.1
12	25.2	19.5	20.9	17.5	19.6	10.1
13	24.9	24.8	24.9	21.0	24.7	19.4
14	20.6	23.5	20.4	18.6	19.1	20.0
15	22.5	20.9	19.9	22.7	22.3	18.3
16	19.4	19.6	19.8	18.7	20.9	16.2
17	19.4	19.8	24.7	19.4	19.9	15.7
Subtotal						271.5
The above pieces were measured for moisture content and weighed and then split into slightly smaller pieces to ensure uniform coal bed charcoallization and consistency.						
Mass of coals that were used as part of the preburn (+)						18.5
Mass of preburn charge ultimately not used (-)						15.0
Net mass of preburn used						275.0

Dilution Tunnel Velocity Traverse and Supplementary Data

ASTM E2515-11

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1

Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/26/2025

Dilution Tunnel Velocity Traverse

Pitot Location								
Traverse Point	% of Diameter	Inches into Tunnel	dP in. H ₂ O	Tunnel Temp, °F	dP ^{1/2}	Tunnel Static Pressure	-0.330	in. H ₂ O
X1	4.4	0.53	0.106	65	0.326	Tunnel Moisture	2.00	%
X2	14.6	1.75	0.118	65	0.344	Tunnel Diameter	12.00	inches
X3	29.6	3.55	0.116	65	0.341	Pitot Tube C _p	0.99	inches
X4	70.4	8.45	0.118	65	0.344	Tunnel Molecular Weight	29	(dry)
X5	85.4	10.25	0.108	65	0.329	Tunnel Molecular Weight	28.78	(M _s , wet)
X6	95.6	11.47	0.066	65	0.257	Tunnel Area	0.78539816	ft ²
Y1	4.4	0.53	0.102	65	0.319	K _p	85.49	constant
Y2	14.6	1.75	0.118	65	0.344	P _s =P _{bar} +Tunnel Static	30.1357353	in HG
Y3	29.6	3.55	0.114	65	0.338	$V_{strav} = K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 21.538$		
Y4	70.4	8.45	0.110	65	0.332			
Y5	85.4	10.25	0.106	65	0.326	$V_{scent} = K_p C_p \sqrt{\Delta p_{center}} \sqrt{\frac{T_{s,center}}{P_s M_s}} = 22.037$		
Y6	95.6	11.47	0.078	65	0.279			
Center	50.0	6.00	0.112	65	0.335	$F_p = V_{strav} / V_{scent} = 0.977$		

* Probe location must be no closer than 0.50 in to tunnel wall

$$\text{Initial Tunnel Velocity, } V_s = F_p K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 21.042129 \text{ ft/sec}$$

Supplementary Data and Information

Environment	Test Start	Test End	
Time of Day	11:03	13:22	(Following Day)
Barometric Pressure, in. Hg	30.16	30.18	
Room Air Velocity, fpm	8	5	
Room Air Temperature, °F	63	65	
Room Relative Humidity, %	48.0	45.0	
Platform Scale Audit, lb.	20.0	20.0	

Leak Checks

Pitot and associated tubing, (pass/fail) ¹	pass	pass
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See sampling box worksheets for sampling boxes

Dilution Tunnel

Date last cleaned	2/19/2025	
Smoke Capture, % (visual) ²	100	
Draft Inducement, (pass/fail) ³	pass	
Static Pressure, in. H ₂ O	-0.320	-0.340

¹ Both sides (independently) of the pitot system are brought under a minimum vacuum of 3 in. H₂O and then sealed. Any indication of pressure loss is deemed a fail.

² Create a smoking condition during start of pre-burn activities and using adequate lighting pointed upward and around tunnel hood, visually observe if 100% of visible smoke is being captured by the hood. If not, increase flow tunnel flow and / or re-assess chimney proximity to draft hood as required and repeat until 100% capture is observed.

³ With the appliance installed and the dilution tunnel flow turned-off, observe the flue draft gauge while turning the dilution tunnel on. Any detectible response by the draft gauge associated with activation of the tunnel flow indicates that draft inducement is occurring. Determine the cause (i.e. flue chimney too deep into tunnel?) before continuing.

Preburn Data

ASTM E2618

Run: 3

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/26/25

Final Coal Bed Weight: 48.0 lb.
 Average Heat Output Rate Last One Hour, Btu/hr: 56787.6 Btu/hr.

Beginning Clock Time: 5:46
 Logging Intervqal, Min: 1

Coal Bed Range **27.4 54.8**
 (lb): (min) (max)

314		Appliance						Load									
Elapsed Time (Min)	Fuel Remaining (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σι, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
0	25.9	176.4	161.9	14.5	316.7	-0.049	66.6	175	108.2	4.871	1.0012	8.324	40.55	4393.5	263611	63	
1	25.1	176.5	156.9	19.6	314.6	-0.035	52.1	174	121.6	5.341	1.0012	8.339	44.54	5423.2	325390	62.8	
2	84.7	175.9	155.5	20.4	287.5	-0.03	51.5	173	121.5	5.782	1.0012	8.340	48.22	5867.5	352049	63	
3	84.7	175.0	154.3	20.7	309.7	-0.042	50.7	172	121.3	6.031	1.0012	8.341	50.3	6106.6	366394	62.8	
4	83.0	173.9	153.7	20.1	307	-0.033	49.7	171	121.3	5.934	1.0012	8.341	49.5	6010.3	360621	63	
5	82.1	173.2	152.4	20.8	306.5	-0.063	49.2	170	120.9	5.948	1.0012	8.342	49.62	6004.1	360246	63.1	
6	81.3	172.3	151.6	20.6	313.1	-0.054	48.9	169	120.3	6.072	1.0012	8.342	50.65	6099.4	365967	62.9	
7	79.8	171.6	151.0	20.6	310.5	-0.044	48.7	168	119.7	6.044	1.0012	8.342	50.42	6043.6	362617	63.1	
8	79.0	170.7	150.3	20.4	314.5	-0.034	48.6	168	119.0	6.072	1.0012	8.342	50.65	6037.6	362257	63	
9	78.0	170.1	149.7	20.4	313.7	-0.057	48.6	167	118.4	6.086	1.0012	8.342	50.77	6019.2	361150	63.3	
10	76.4	169.2	149.1	20.2	305.6	-0.039	48.5	166	117.7	6.086	1.0012	8.342	50.77	5982.7	358964	63.3	
11	76.2	168.6	148.4	20.2	313.9	-0.029	48.4	166	117.1	6.100	1.0012	8.343	50.89	5965.9	357955	63.3	
12	75.2	167.8	147.7	20.0	306.7	-0.039	48.3	165	116.4	6.113	1.0012	8.343	51	5941.9	356514	63.4	
13	73.8	167.0	147.0	20.0	315.3	-0.04	48.0	164	116.0	6.086	1.0012	8.343	50.77	5894.5	353672	63.3	
14	72.3	166.3	146.3	20.0	305.5	-0.044	47.6	163	115.6	6.100	1.0012	8.343	50.89	5890.6	353434	63.3	
15	71.7	165.7	145.8	19.9	312	-0.04	47.3	163	115.3	6.086	1.0012	8.344	50.78	5863.3	351798	63.3	
16	70.5	165.2	145.4	19.9	315.9	-0.039	47.1	162	115.0	6.100	1.0012	8.344	50.89	5859.0	351537	63.2	
17	68.9	164.9	145.1	19.8	313.9	-0.053	47.1	162	114.6	6.017	1.0012	8.344	50.2	5762.5	345751	63	
18	68.6	164.4	151.5	12.8	314.2	-0.038	47.2	164	116.3	4.030	1.0012	8.344	33.62	3915.9	234955	63.3	
19	67.1	164.0	151.3	12.8	313.9	-0.047	47.3	163	115.8	3.961	1.0012	8.343	33.05	3832.5	229947	63.3	
20	66.0	163.9	150.6	13.4	314.4	-0.047	47.4	163	115.7	4.099	1.0012	8.343	34.2	3961.5	237690	63.5	
21	65.1	164.3	150.0	14.3	318.4	-0.037	47.3	163	115.7	4.402	1.0012	8.343	36.73	4255.1	255303	63.3	
22	63.3	164.5	150.1	14.4	313.1	-0.047	47.3	163	116.0	4.457	1.0012	8.344	37.19	4318.5	259110	63.3	
23	62.1	164.4	150.1	14.3	302.7	-0.039	47.3	163	115.9	4.444	1.0012	8.344	37.08	4303.3	258200	63.2	
24	61.0	164.3	149.5	14.8	315.3	-0.083	47.2	163	115.7	4.595	1.0012	8.344	38.34	4440.0	266398	63.5	
25	59.7	164.3	149.4	14.9	312.2	-0.043	47.2	163	115.7	4.623	1.0012	8.344	38.57	4467.1	268023	63.4	
26	59.2	164.4	149.6	14.8	302.1	-0.044	47.2	163	115.8	4.623	1.0012	8.344	38.57	4471.6	268293	63.3	
27	58.2	164.3	149.5	14.9	317.7	-0.022	47.2	163	115.7	4.609	1.0012	8.344	38.46	4453.6	267216	63.5	
28	56.8	164.4	149.5	14.9	308.3	-0.044	47.3	163	115.7	4.609	1.0012	8.344	38.46	4455.1	267303	63.4	
29	55.2	164.2	149.3	14.8	303.5	-0.05	47.2	163	115.6	4.623	1.0012	8.344	38.57	4463.1	267789	63.5	
30	54.1	164.2	149.3	14.9	316.3	-0.058	47.2	163	115.5	4.609	1.0012	8.344	38.46	4447.3	266836	63.4	
31	52.9	164.3	149.0	15.3	307.8	-0.04	47.2	163	115.5	4.706	1.0012	8.344	39.26	4539.4	272367	63.4	
32	52.2	164.1	148.9	15.2	307.9	-0.033	47.2	163	115.4	4.720	1.0012	8.344	39.38	4548.0	272880	63.7	
33	51.4	164.2	149.0	15.3	316.7	-0.045	47.2	163	115.5	4.733	1.0012	8.344	39.49	4565.6	273939	63.6	
34	50.1	164.3	149.0	15.2	316.4	-0.047	47.2	163	115.5	4.733	1.0012	8.344	39.49	4567.2	274033	63.8	
35	48.2	164.5	149.2	15.2	315.1	-0.042	47.2	163	115.8	4.733	1.0012	8.344	39.49	4578.1	274683	63.6	
36	47.4	164.4	149.2	15.3	316.6	-0.05	47.2	163	115.7	4.733	1.0012	8.344	39.49	4573.5	274407	63.3	
37	46.6	164.5	149.2	15.3	313.5	-0.052	47.2	163	115.7	4.733	1.0012	8.344	39.49	4574.8	274485	63.5	
38	46.1	164.7	149.4	15.3	313.1	-0.05	47.2	163	116.0	4.733	1.0012	8.344	39.49	4585.3	275117	63.6	
39	44.4	165.0	149.6	15.4	313.8	-0.047	47.2	163	116.3	4.733	1.0012	8.344	39.49	4597.4	275844	63.6	
40	43.1	165.4	150.0	15.4	312.1	-0.048	47.2	164	116.7	4.720	1.0012	8.344	39.38	4601.4	276086	63.4	
41	43.2	165.2	149.8	15.3	311.4	-0.035	47.2	164	116.5	4.733	1.0012	8.344	39.49	4608.5	276512	63.5	
42	96.6	165.7	150.2	15.4	291.3	-0.043	47.2	164	116.9	4.733	1.0012	8.344	39.49	4623.7	277420	63.6	

314		Appliance					Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H ₂ O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F
43	95.4	164.9	149.6	15.3	308.7	0.003	47.2	163	116.2	4.720	1.0012	8.344	39.38	4582.2	274930	63.7
44	95.1	164.3	149.1	15.2	299.7	-0.051	47.2	163	115.6	4.720	1.0012	8.344	39.38	4558.5	273510	63.9
45	94.1	164.0	148.7	15.2	299.2	-0.044	47.2	162	115.3	4.720	1.0012	8.344	39.38	4544.3	272656	63.8
46	92.6	163.8	148.6	15.2	306.9	-0.037	47.2	162	115.1	4.720	1.0012	8.344	39.38	4539.1	272345	63.8
47	91.2	163.6	148.5	15.1	305.5	-0.039	47.2	162	114.9	4.733	1.0012	8.344	39.49	4544.8	272688	63.8
48	90.5	163.6	148.3	15.2	300.6	-0.047	47.2	162	114.9	4.720	1.0012	8.344	39.38	4528.9	271734	63.8
49	89.9	163.4	148.3	15.1	307.8	-0.054	47.1	162	114.8	4.706	1.0012	8.344	39.26	4511.7	270705	63.9
50	88.9	163.2	148.6	14.6	305.4	-0.034	47.2	162	114.7	4.651	1.0012	8.344	38.8	4455.6	267337	63.9
51	87.3	163.1	147.9	15.3	295.8	-0.037	47.1	162	114.4	4.733	1.0012	8.344	39.49	4524.5	271472	64.1
52	86.9	162.9	147.7	15.2	290.4	-0.031	47.1	161	114.2	4.775	1.0012	8.344	39.84	4557.0	273417	63.8
53	85.7	162.7	147.6	15.2	298	-0.04	47.1	161	114.1	4.789	1.0012	8.344	39.95	4563.8	273830	64.1
54	84.9	162.6	147.4	15.2	297.7	-0.036	47.1	161	113.9	4.761	1.0012	8.344	39.72	4531.5	271891	63.8
55	83.4	162.4	147.3	15.1	296.9	-0.054	47.1	161	113.8	4.761	1.0012	8.344	39.72	4526.2	271575	63.6
56	82.9	162.1	147.0	15.1	291.6	-0.02	47.1	161	113.4	4.775	1.0012	8.344	39.84	4524.8	271491	64
57	82.2	162.1	146.9	15.1	297.6	-0.041	47.1	160	113.4	4.761	1.0012	8.344	39.72	4511.4	270684	63.8
58	81.1	161.8	146.7	15.0	294.4	-0.042	47.1	160	113.1	4.775	1.0012	8.344	39.84	4512.4	270746	63.9
59	79.6	161.6	146.5	15.1	292	-0.047	47.1	160	112.9	4.775	1.0012	8.344	39.84	4503.9	270233	63.8
60	78.8	161.3	146.3	15.0	295.7	-0.024	47.1	160	112.7	4.761	1.0012	8.344	39.72	4481.7	268904	63.9
61	78.1	161.2	146.1	15.0	293.2	-0.039	47.1	160	112.5	4.775	1.0012	8.344	39.84	4487.6	269257	63.9
62	77.3	161.0	146.1	14.9	287.2	-0.021	47.1	159	112.4	4.761	1.0012	8.344	39.72	4471.9	268313	63.9
63	76.6	160.8	146.0	14.9	287.8	-0.042	47.0	159	112.2	4.761	1.0012	8.344	39.72	4464.0	267842	64
64	75.2	160.6	145.7	14.9	289.1	-0.034	47.0	159	112.0	4.775	1.0012	8.344	39.84	4465.9	267955	64
65	74.5	160.4	145.5	14.9	285.6	-0.038	47.0	159	111.8	4.789	1.0012	8.344	39.95	4473.0	268377	64
66	73.5	160.4	145.5	14.8	288.8	-0.037	47.0	159	111.8	4.761	1.0012	8.344	39.72	4446.3	266778	64
67	73.3	160.1	145.3	14.9	288.8	-0.034	47.0	159	111.6	4.775	1.0012	8.344	39.84	4450.1	267008	63.9
68	72.3	160.0	145.2	14.8	290.5	-0.029	47.0	158	111.4	4.761	1.0012	8.344	39.72	4430.4	265823	63.8
69	71.4	159.9	145.0	14.8	288	-0.03	47.0	158	111.2	4.775	1.0012	8.344	39.84	4436.9	266216	64
70	70.5	159.7	144.9	14.8	293.6	-0.04	47.0	158	111.2	4.761	1.0012	8.344	39.72	4420.9	265252	63.9
71	69.3	159.5	144.7	14.8	291.6	-0.03	47.0	158	110.9	4.761	1.0012	8.344	39.72	4410.0	264597	64
72	67.9	159.4	144.7	14.8	294.7	-0.027	47.0	158	110.8	4.761	1.0012	8.344	39.72	4408.0	264480	63.9
73	67.5	159.5	144.7	14.8	288.9	-0.046	47.0	158	110.9	4.761	1.0012	8.344	39.72	4410.4	264624	64.1
74	66.6	159.2	144.5	14.7	291.9	-0.033	47.0	158	110.7	4.747	1.0012	8.344	39.61	4390.0	263403	63.9
75	65.0	159.2	144.4	14.7	293.5	-0.037	47.0	158	110.6	4.761	1.0012	8.344	39.72	4398.9	263935	63.9
76	65.2	159.1	144.4	14.6	293.2	-0.039	46.9	158	110.6	4.747	1.0012	8.344	39.61	4387.8	263270	63.7
77	63.6	159.0	144.3	14.7	293.5	-0.041	46.8	157	110.6	4.747	1.0012	8.344	39.61	4386.7	263204	63.9
78	63.3	159.0	144.2	14.7	292	-0.045	46.8	157	110.6	4.761	1.0012	8.344	39.73	4399.2	263950	63.8
79	61.8	158.9	144.2	14.7	291.2	-0.041	46.7	157	110.6	4.761	1.0012	8.344	39.73	4400.0	264000	63.9
80	61.6	158.9	144.2	14.7	291.6	-0.031	46.7	157	110.6	4.733	1.0012	8.344	39.5	4372.1	262327	63.7
81	60.6	158.6	143.9	14.7	291.5	-0.036	46.7	157	110.3	4.761	1.0012	8.344	39.73	4388.8	263327	63.9
82	60.0	158.6	143.9	14.7	290.8	-0.028	46.7	157	110.3	4.747	1.0012	8.344	39.61	4374.9	262494	63.9
83	59.2	158.7	144.0	14.7	290.4	-0.033	46.7	157	110.4	4.761	1.0012	8.344	39.73	4392.8	263566	63.8
84	57.9	158.6	143.9	14.7	290.2	-0.03	46.7	157	110.2	4.747	1.0012	8.344	39.61	4371.8	262308	63.8
85	57.5	158.4	143.7	14.6	290.1	-0.034	46.8	157	110.0	4.733	1.0012	8.344	39.49	4347.9	260873	63.3
86	56.1	158.5	143.9	14.6	288.8	-0.045	46.9	157	110.0	4.747	1.0012	8.344	39.61	4364.1	261848	63.6
87	55.8	158.4	143.8	14.6	288	-0.032	46.9	157	110.0	4.761	1.0012	8.344	39.73	4373.6	262418	63.6
88	54.6	158.4	143.7	14.6	287.4	-0.028	46.9	157	109.9	4.747	1.0012	8.344	39.61	4358.9	261535	63.7
89	54.2	158.3	143.7	14.6	287.7	-0.041	46.9	157	109.8	4.761	1.0012	8.344	39.72	4366.9	262011	63.8
90	53.7	158.2	143.6	14.5	287.8	-0.039	46.9	157	109.7	4.747	1.0012	8.344	39.61	4350.7	261045	63.4
91	52.3	158.2	143.6	14.6	286.8	-0.028	46.9	157	109.6	4.733	1.0012	8.344	39.49	4334.8	260090	63.9
92	52.2	158.0	143.5	14.6	286.5	-0.038	46.9	156	109.5	4.747	1.0012	8.344	39.61	4342.4	260545	63.4
93	50.8	157.9	143.3	14.6	286.5	-0.042	47.0	156	109.3	4.747	1.0012	8.344	39.61	4334.4	260064	63.6
94	50.4	157.9	143.3	14.6	286.7	-0.038	47.0	156	109.3	4.761	1.0012	8.344	39.72	4348.2	260889	63.6
95	50.3	158.0	143.4	14.6	286	-0.034	47.0	156	109.4	4.747	1.0012	8.344	39.61	4337.9	260277	63.7
96	48.4	157.8	143.2	14.5	286.9	-0.027	47.0	156	109.2	4.747	1.0012	8.344	39.61	4330.6	259838	63.5
97	48.4	157.8	143.9	13.9	287.7	-0.035	47.0	156	109.5	4.595	1.0012	8.344	38.34	4202.0	252118	63.3
98	47.4	157.8	143.2	14.6	287.6	-0.027	47.0	156	109.2	4.706	1.0012	8.344	39.26	4291.3	257480	63.7
99	46.7	157.8	143.2	14.6	287	-0.038	47.0	156	109.2	4.775	1.0012	8.344	39.84	4356.0	261361	63.7
100	46.4	157.7	144.3	13.5	286.1	-0.041	47.0	156	109.4	4.444	1.0012	8.344	37.08	4062.3	243737	63.6
101	44.5	157.8	144.3	13.4	291.1	-0.031	47.0	157	109.5	4.402	1.0012	8.344	36.73	4026.5	241588	63.8

314		Appliance					Load										
Elapsed Time (Min)	Fuel Remaining (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
102	45.0	157.6	144.2	13.5	294.7	-0.051	47.0	156	109.3	4.402	1.0012	8.344	36.73	4019.7	241184	63.8	
103	43.9	157.9	144.4	13.5	291.5	-0.033	47.1	157	109.5	4.388	1.0012	8.344	36.62	4015.6	240938	63.7	
104	42.8	158.0	144.8	13.2	287.2	-0.037	47.1	157	109.7	4.375	1.0012	8.344	36.5	4009.1	240544	63.3	
105	42.3	158.0	144.8	13.1	290.2	-0.028	47.0	157	109.7	4.306	1.0012	8.344	35.92	3947.3	236838	62.9	
106	42.1	158.0	144.5	13.6	287.7	-0.031	47.1	157	109.7	4.375	1.0012	8.344	36.5	4008.5	240513	62.4	
107	41.1	158.0	144.9	13.0	288.4	-0.045	47.0	157	109.8	4.333	1.0012	8.344	36.16	3975.2	238510	61.8	
108	40.5	158.0	144.4	13.6	289	-0.036	47.0	157	109.6	4.402	1.0012	8.344	36.73	4032.5	241948	61.9	
109	71.0	158.3	144.6	13.7	265	-0.031	47.0	157	109.9	4.457	1.0012	8.344	37.19	4090.8	245450	62.1	
110	94.2	158.5	144.9	13.6	294.9	-0.059	47.1	157	110.2	4.402	1.0012	8.344	36.73	4052.4	243146	62.4	
111	93.4	157.8	144.3	13.5	278.9	-0.042	47.1	157	109.4	4.444	1.0012	8.344	37.08	4062.9	243771	62.6	
112	92.1	157.6	144.2	13.4	288	-0.026	47.0	156	109.2	4.402	1.0012	8.344	36.73	4017.4	241044	62.7	
113	92.3	157.6	144.0	13.6	291.4	-0.031	47.1	156	109.2	4.430	1.0012	8.344	36.96	4040.5	242429	62.7	
114	91.2	157.6	144.1	13.5	291.4	-0.033	47.1	156	109.3	4.430	1.0012	8.344	36.96	4043.5	242611	62.8	
115	89.4	157.7	144.2	13.5	292.2	-0.039	47.0	156	109.3	4.430	1.0012	8.344	36.96	4045.3	242717	62.5	
116	88.9	157.7	144.2	13.5	291.7	-0.041	47.1	156	109.3	4.430	1.0012	8.344	36.96	4044.2	242650	62.8	
117	88.1	157.6	144.0	13.5	291.6	-0.039	47.1	156	109.2	4.430	1.0012	8.344	36.96	4040.6	242438	63	
118	86.6	157.6	144.0	13.5	291.2	-0.051	47.1	156	109.1	4.444	1.0012	8.344	37.08	4051.8	243109	63	
119	86.3	157.6	144.1	13.5	291.6	-0.021	47.1	156	109.2	4.430	1.0012	8.344	36.96	4042.0	242520	62.9	
120	84.5	157.5	144.0	13.5	292.7	-0.028	47.0	156	109.2	4.416	1.0012	8.344	36.85	4027.9	241675	63	
121	83.7	157.5	144.0	13.5	294	-0.041	47.0	156	109.2	4.430	1.0012	8.344	36.96	4039.4	242364	63.1	
122	83.1	157.5	144.0	13.5	295.1	-0.05	47.1	156	109.2	4.416	1.0012	8.344	36.85	4027.0	241623	63	
123	82.4	157.6	144.1	13.5	295	-0.035	47.1	156	109.2	4.416	1.0012	8.344	36.85	4030.1	241807	63.1	
124	81.0	157.7	144.2	13.5	295.5	-0.026	47.1	156	109.4	4.430	1.0012	8.344	36.96	4047.9	242874	63.3	
125	79.6	157.7	144.2	13.5	290.6	-0.048	47.0	156	109.4	4.430	1.0012	8.344	36.96	4049.6	242974	63.1	
126	78.9	157.8	144.2	13.6	291.8	-0.045	47.1	156	109.4	4.416	1.0012	8.344	36.85	4037.1	242225	63.3	
127	78.1	157.8	144.2	13.6	293.2	-0.048	47.0	156	109.4	4.430	1.0012	8.344	36.96	4049.3	242959	63.3	
128	76.7	157.9	144.3	13.5	294.5	-0.04	47.0	157	109.5	4.416	1.0012	8.344	36.85	4038.2	242294	63.4	
129	76.1	157.9	144.3	13.6	294.5	-0.046	47.1	157	109.5	4.430	1.0012	8.344	36.96	4052.6	243155	63.4	
130	75.4	158.0	144.5	13.5	294.3	-0.03	47.0	157	109.7	4.416	1.0012	8.344	36.85	4047.1	242824	63.2	
131	74.6	158.1	144.5	13.6	292.4	-0.041	47.0	157	109.8	4.416	1.0012	8.344	36.85	4049.5	242968	63.4	
132	73.5	158.3	144.7	13.5	291.5	-0.044	47.0	157	109.9	4.430	1.0012	8.344	36.96	4068.4	244104	63.3	
133	72.6	158.3	144.7	13.6	290.5	-0.047	47.0	157	109.9	4.430	1.0012	8.344	36.96	4066.9	244016	63.5	
134	71.1	158.3	144.7	13.6	289.6	-0.038	47.0	157	110.0	4.402	1.0012	8.344	36.73	4043.8	242629	63.5	
135	71.1	158.3	144.7	13.6	289.7	-0.036	47.0	157	110.0	4.430	1.0012	8.344	36.96	4069.1	244144	63.4	
136	69.5	158.4	144.8	13.6	289.7	-0.048	47.0	157	110.0	4.416	1.0012	8.344	36.85	4059.4	243564	63.5	
137	68.3	158.5	144.9	13.6	289.1	-0.028	47.0	157	110.1	4.416	1.0012	8.344	36.85	4063.5	243811	63.5	
138	67.6	158.6	144.9	13.7	289.3	-0.045	47.0	157	110.3	4.402	1.0012	8.344	36.73	4054.8	243286	63.5	
139	66.6	158.6	144.9	13.7	288.4	-0.043	47.0	157	110.2	4.416	1.0012	8.344	36.85	4066.0	243959	63.2	
140	66.6	158.6	145.0	13.6	288.1	-0.042	47.0	157	110.3	4.416	1.0012	8.344	36.85	4068.8	244128	63.4	
141	65.8	158.8	145.1	13.7	288.9	-0.029	47.0	157	110.4	4.416	1.0012	8.344	36.85	4073.3	244397	63.2	
142	64.2	158.9	145.2	13.7	290.4	-0.035	47.0	157	110.5	4.402	1.0012	8.344	36.73	4064.2	243854	63.5	
143	64.3	158.9	145.2	13.7	293.2	-0.037	47.0	158	110.6	4.416	1.0012	8.344	36.85	4081.3	244878	63.8	
144	62.6	159.0	145.4	13.7	291.4	-0.05	47.0	158	110.7	4.402	1.0012	8.344	36.73	4072.8	244369	63.7	
145	61.5	159.2	145.4	13.7	294.2	-0.037	47.0	158	110.8	4.402	1.0012	8.344	36.73	4074.5	244467	63.5	
146	61.6	159.4	145.6	13.8	296.9	-0.041	47.0	158	111.0	4.402	1.0012	8.344	36.73	4082.9	244973	63.6	
147	60.8	159.4	145.7	13.8	297.2	-0.05	47.0	158	111.1	4.416	1.0012	8.344	36.85	4100.1	246009	63.7	
148	60.1	159.6	145.9	13.7	292	-0.044	46.9	158	111.4	4.402	1.0012	8.344	36.73	4095.4	245724	63.9	
149	59.0	159.7	145.9	13.8	293.4	-0.045	46.9	158	111.4	4.402	1.0012	8.344	36.73	4097.6	245856	63.6	
150	58.2	159.8	146.0	13.8	293.8	-0.049	46.9	158	111.5	4.416	1.0012	8.344	36.85	4114.1	246848	63.8	
151	56.6	159.8	146.0	13.8	293.7	-0.034	46.9	159	111.6	4.402	1.0012	8.344	36.73	4103.5	246212	63.9	
152	56.3	159.9	146.0	13.9	292	-0.053	46.9	159	111.6	4.402	1.0012	8.344	36.73	4105.4	246324	63.8	
153	56.0	160.1	146.3	13.8	295.7	-0.042	46.9	159	111.9	4.402	1.0012	8.344	36.73	4115.5	246928	63.8	
154	54.1	160.1	146.3	13.8	298.2	-0.039	46.9	159	111.9	4.402	1.0012	8.344	36.73	4114.3	246858	64.1	
155	54.0	160.4	146.5	13.9	303.8	-0.041	46.9	159	112.1	4.388	1.0012	8.344	36.62	4109.6	246579	64.1	
156	52.9	160.6	146.7	13.9	303.2	-0.044	46.9	159	112.4	4.388	1.0012	8.344	36.62	4119.7	247179	63.8	
157	51.8	160.8	147.0	13.9	300.8	-0.04	46.9	160	112.6	4.402	1.0012	8.344	36.73	4142.1	248524	64	
158	51.9	160.9	147.0	13.9	294.3	-0.032	46.9	160	112.7	4.402	1.0012	8.344	36.73	4145.0	248699	64.1	
159	51.1	160.9	147.0	13.9	290	-0.038	46.9	160	112.7	4.388	1.0012	8.344	36.62	4132.7	247962	64	
160	50.3	160.9	147.0	13.9	296.6	-0.035	46.9	160	112.7	4.388	1.0012	8.344	36.62	4130.4	247825	64.1	

314		Appliance						Load								
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H ₂ O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F
161	49.7	161.1	147.1	14.0	295.9	-0.042	46.8	160	112.9	4.402	1.0012	8.344	36.73	4151.0	249062	63.9
162	48.6	161.3	147.3	14.0	290.1	-0.04	46.7	160	113.2	4.388	1.0012	8.344	36.62	4149.1	248947	64.1
163	47.2	161.3	147.3	14.0	300.7	-0.032	46.7	160	113.3	4.402	1.0012	8.344	36.73	4168.3	250096	64.3
164	46.7	161.6	147.8	13.8	297.6	-0.044	46.6	160	113.6	4.237	1.0012	8.344	35.35	4021.6	241294	64.2
165	46.4	161.9	147.7	14.2	297.3	-0.032	46.6	161	113.9	4.430	1.0012	8.344	36.96	4215.6	252938	63.8
166	45.4	161.9	147.7	14.2	303.9	-0.035	46.6	161	114.0	4.416	1.0012	8.344	36.85	4205.5	252332	63.9
167	45.0	162.2	148.0	14.2	292.9	-0.036	46.6	161	114.2	4.444	1.0012	8.344	37.08	4240.5	254427	63.9
168	43.5	162.3	148.0	14.3	300	-0.056	46.5	161	114.4	4.416	1.0012	8.344	36.85	4219.2	253149	64
169	43.0	162.2	147.9	14.3	296.7	-0.039	46.5	161	114.3	4.430	1.0012	8.344	36.96	4229.8	253786	63.8
170	41.9	162.1	147.9	14.2	289.9	-0.036	46.5	161	114.3	4.430	1.0012	8.344	36.96	4228.4	253702	64.1
171	41.2	162.0	147.8	14.2	287.8	-0.037	46.5	161	114.2	4.430	1.0012	8.344	36.96	4226.7	253601	63.8
172	40.5	162.1	148.7	13.5	290.9	-0.032	46.6	161	114.3	4.264	1.0012	8.344	35.58	4070.5	244229	63.3
173	68.1	162.2	148.0	14.2	267.9	-0.036	46.7	161	114.2	4.375	1.0012	8.344	36.5	4172.0	250321	63.2
174	109.2	163.3	149.0	14.3	292.1	-0.05	46.7	162	115.3	4.416	1.0012	8.344	36.85	4254.2	255255	63.7
175	108.1	162.5	148.3	14.2	282.8	-0.022	46.7	161	114.5	4.416	1.0012	8.344	36.85	4223.1	253385	63.8
176	107.9	161.9	147.7	14.1	285.2	-0.031	46.7	161	113.9	4.430	1.0012	8.344	36.96	4215.4	252922	63.7
177	106.5	161.7	147.5	14.1	291.9	-0.048	46.7	160	113.6	4.402	1.0012	8.344	36.73	4179.2	250754	64
178	105.6	161.7	147.6	14.1	293.4	-0.041	46.7	160	113.7	4.416	1.0012	8.344	36.85	4193.0	251577	63.8
179	104.8	161.7	147.7	14.0	294	-0.045	46.7	160	113.7	4.430	1.0012	8.344	36.96	4207.7	252463	64
180	104.4	161.7	147.8	13.9	295.2	-0.053	46.7	161	113.8	4.306	1.0012	8.344	35.93	4093.3	245598	63.4
181	102.5	161.7	147.5	14.1	295.8	-0.045	46.7	160	113.6	4.430	1.0012	8.344	36.96	4202.7	252163	63.9
182	102.5	161.6	147.5	14.1	295.7	-0.029	46.7	160	113.6	4.430	1.0012	8.344	36.96	4202.4	252147	63.9
183	100.5	161.7	148.0	13.6	296.8	-0.041	46.7	160	113.7	4.361	1.0012	8.344	36.39	4141.5	248489	64
184	100.7	161.5	147.9	13.6	293.2	-0.05	46.8	160	113.5	4.250	1.0012	8.344	35.47	4031.9	241911	64.1
185	98.9	161.4	147.3	14.1	291.9	-0.031	46.8	160	113.3	4.444	1.0012	8.344	37.08	4204.3	252256	64
186	98.8	161.3	147.1	14.2	292.7	-0.043	46.7	160	113.2	4.457	1.0012	8.344	37.19	4214.9	252895	64.2
187	97.3	161.2	146.9	14.2	288	-0.035	46.7	160	113.1	4.485	1.0012	8.344	37.42	4236.0	254160	64
188	97.3	161.0	146.8	14.2	293	-0.031	46.7	160	112.9	4.457	1.0012	8.344	37.19	4205.3	252321	64.1
189	95.7	161.0	146.8	14.2	291.1	-0.049	46.7	160	112.8	4.485	1.0012	8.344	37.42	4227.6	253655	64
190	94.7	160.9	146.7	14.2	287.9	-0.036	46.7	159	112.7	4.471	1.0012	8.344	37.31	4210.0	252599	64
191	94.9	160.6	146.5	14.1	289.7	-0.036	46.7	159	112.6	4.471	1.0012	8.344	37.31	4205.4	252323	64
192	93.7	160.5	146.4	14.1	289.9	-0.029	46.7	159	112.4	4.471	1.0012	8.344	37.31	4197.6	251854	64.2
193	92.5	160.6	146.5	14.1	290.3	-0.043	46.7	159	112.4	4.471	1.0012	8.344	37.31	4200.3	252015	64.1
194	91.5	160.4	146.3	14.1	286.5	-0.036	46.7	159	112.3	4.471	1.0012	8.344	37.31	4194.7	251681	64.5
195	90.6	160.2	146.1	14.1	286.9	-0.042	46.6	159	112.3	4.485	1.0012	8.344	37.42	4206.1	252365	64.2
196	90.1	160.1	146.0	14.1	283.5	-0.035	46.5	159	112.2	4.485	1.0012	8.344	37.42	4204.6	252274	64.2
197	89.7	160.2	146.1	14.1	290.4	-0.044	46.5	159	112.3	4.485	1.0012	8.344	37.42	4209.2	252554	64.2
198	88.6	160.0	145.9	14.1	289.7	-0.034	46.5	159	112.1	4.457	1.0012	8.344	37.19	4176.2	250572	64.1
199	87.2	159.9	145.9	14.0	289.4	-0.035	46.5	159	112.1	4.471	1.0012	8.344	37.31	4187.8	251271	64
200	87.2	159.9	146.5	13.4	288.7	-0.033	46.4	159	112.2	4.333	1.0012	8.344	36.16	4062.1	243726	64.2
201	86.0	159.7	145.9	13.8	288.5	-0.03	46.4	158	111.9	4.430	1.0012	8.344	36.96	4142.5	248550	63.9
202	84.8	159.7	145.6	14.1	287.1	-0.035	46.4	158	111.9	4.444	1.0012	8.344	37.08	4154.3	249261	63.6
203	84.6	159.7	145.6	14.0	285.8	-0.046	46.4	158	111.9	4.485	1.0012	8.344	37.42	4192.0	251519	63.5
204	84.0	159.6	145.6	14.0	284.7	-0.035	46.4	158	111.8	4.471	1.0012	8.344	37.31	4176.6	250596	64.1
205	83.2	159.4	145.4	14.0	285.4	-0.04	46.4	158	111.6	4.485	1.0012	8.344	37.42	4183.2	250989	64
206	82.2	159.1	145.2	14.0	284.9	-0.035	46.4	158	111.4	4.471	1.0012	8.344	37.31	4161.2	249674	64.2
207	81.5	159.2	145.1	14.1	284.2	-0.034	46.3	158	111.4	4.471	1.0012	8.344	37.31	4162.2	249730	64
208	80.6	159.2	145.3	13.8	282.5	-0.028	46.3	158	111.5	4.444	1.0012	8.344	37.08	4138.9	248333	63.9
209	79.6	159.1	145.4	13.7	282.2	-0.039	46.3	158	111.5	4.402	1.0012	8.344	36.73	4099.2	245951	64.2
210	78.5	158.9	145.1	13.8	281.1	-0.03	46.3	158	111.3	4.416	1.0012	8.344	36.85	4105.4	246325	64.2
211	77.8	158.9	145.2	13.7	278.1	-0.03	46.3	158	111.3	4.416	1.0012	8.344	36.85	4105.5	246329	63.9
212	77.6	158.8	145.0	13.8	279	-0.035	46.3	157	111.1	4.416	1.0012	8.344	36.85	4100.7	246040	63.5
213	76.9	158.9	145.1	13.8	283	-0.037	46.4	158	111.1	4.444	1.0012	8.344	37.08	4125.0	247499	62.7
214	75.4	158.8	145.0	13.8	283.5	-0.04	46.5	157	110.9	4.430	1.0012	8.344	36.96	4104.1	246246	62.7
215	74.9	158.7	145.0	13.8	282.9	-0.043	46.5	157	110.8	4.416	1.0012	8.344	36.85	4088.0	245280	62.1
216	73.9	158.7	144.9	13.8	284	-0.038	46.6	157	110.8	4.416	1.0012	8.344	36.85	4086.6	245196	61.8
217	72.9	158.7	145.2	13.5	282.3	-0.038	46.6	157	110.9	4.388	1.0012	8.344	36.62	4064.4	243862	61.8
218	73.0	158.6	144.8	13.7	282.3	-0.027	46.6	157	110.7	4.416	1.0012	8.344	36.85	4082.3	244935	61.6
219	71.7	158.6	144.8	13.8	287.7	-0.036	46.6	157	110.6	4.416	1.0012	8.344	36.85	4081.1	244867	61.9

314		Appliance					Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H ₂ O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F
220	71.5	158.7	145.0	13.8	286.4	-0.037	46.6	157	110.7	4.402	1.0012	8.344	36.73	4070.2	244212	62.2
221	70.1	158.7	145.0	13.7	284	-0.021	46.6	157	110.7	4.416	1.0012	8.344	36.85	4085.8	245146	62.5
222	69.4	158.6	144.9	13.7	282.1	-0.037	46.6	157	110.6	4.402	1.0012	8.344	36.73	4067.0	244020	62.9
223	69.4	158.5	144.8	13.7	286.6	-0.049	46.6	157	110.5	4.430	1.0012	8.344	36.96	4088.8	245326	62.9
224	68.9	158.6	144.9	13.7	283	-0.052	46.7	157	110.6	4.402	1.0012	8.344	36.73	4066.9	244011	62.8
225	67.9	158.5	144.8	13.7	279.5	-0.063	46.7	157	110.5	4.402	1.0012	8.344	36.73	4062.1	243727	62.9
226	67.0	158.5	144.7	13.8	284.9	-0.037	46.7	157	110.4	4.430	1.0012	8.344	36.96	4086.4	245181	63.2
227	66.0	158.4	144.9	13.5	286.1	-0.05	46.7	157	110.4	4.361	1.0012	8.344	36.39	4022.9	241375	63.1
228	65.5	158.5	145.0	13.6	286.5	-0.036	46.6	157	110.6	4.361	1.0012	8.344	36.39	4029.4	241762	63.6
229	65.1	158.6	145.0	13.6	287.4	-0.053	46.5	157	110.8	4.375	1.0012	8.344	36.5	4048.5	242909	63.5
230	64.6	158.5	145.0	13.5	288	-0.014	46.5	157	110.7	4.347	1.0012	8.344	36.27	4022.1	241325	63.4
231	63.9	158.7	145.1	13.6	284.1	-0.042	46.4	157	110.9	4.347	1.0012	8.344	36.27	4027.9	241673	63.3
232	63.3	158.9	145.4	13.4	286.2	-0.042	46.4	158	111.2	4.292	1.0012	8.344	35.81	3986.1	239165	63.4
233	62.8	158.8	145.4	13.4	287.1	-0.033	46.4	158	111.1	4.278	1.0012	8.344	35.7	3970.3	238217	63.3
234	62.3	158.8	145.4	13.4	284.5	-0.042	46.4	158	111.1	4.292	1.0012	8.344	35.81	3982.7	238962	63.4
235	60.8	158.8	145.4	13.4	286.1	-0.039	46.4	158	111.1	4.306	1.0012	8.344	35.93	3997.1	239823	63.5
236	61.1	158.9	145.6	13.4	288	-0.041	46.4	158	111.3	4.292	1.0012	8.344	35.81	3989.9	239395	63.4
237	59.9	159.0	146.7	12.3	283.4	-0.03	46.4	158	111.5	3.974	1.0012	8.344	33.16	3703.7	222221	63.5
238	58.8	159.1	152.6	6.5	286.1	-0.032	46.4	159	112.3	3.077	1.0012	8.344	25.68	2887.1	173225	63.6
239	58.6	159.2	154.6	4.6	285.9	-0.042	46.6	159	112.3	1.670	1.0012	8.344	13.93	1566.9	94012.6	63.3
240	58.2	160.2	156.6	3.5	286.3	-0.026	46.8	160	113.0	1.352	1.0012	8.344	11.28	1276.5	76591	63.6
241	57.1	160.7	158.0	2.7	286	-0.024	46.9	161	113.6	1.118	1.0012	8.344	9.327	1060.4	63624.3	63.1
242	57.0	161.9	159.2	2.7	286.3	-0.023	47.1	162	114.7	1.049	1.0012	8.344	8.751	1004.8	60285.3	62.9
243	55.3	163.0	160.5	2.6	277.8	-0.028	47.2	163	115.4	0.980	1.0012	8.344	8.175	944.6	56678.7	62.7
244	54.7	164.7	162.1	2.6	284.7	-0.037	47.5	164	116.8	0.966	1.0012	8.343	8.06	942.2	56530.6	63.3
245	54.0	165.7	163.1	2.6	278	-0.044	47.9	165	117.5	0.994	1.0012	8.343	8.29	975.4	58524.6	62.9
246	53.6	166.3	163.6	2.7	281.5	-0.034	48.2	166	117.8	0.994	1.0012	8.343	8.289	977.6	58654	63.1
247	53.3	167.2	164.6	2.6	253.4	-0.033	48.4	167	118.5	0.994	1.0012	8.343	8.289	983.4	59003.1	62.9
248	52.5	167.9	165.3	2.6	235.8	-0.03	48.7	168	118.9	0.966	1.0012	8.342	8.059	959.4	57563.2	63.1
249	53.0	167.9	165.4	2.5	226.1	-0.031	48.9	168	118.9	0.966	1.0012	8.342	8.059	959.0	57542.5	63.4
250	52.1	168.1	165.6	2.6	218.3	-0.027	49.0	168	118.9	0.980	1.0012	8.342	8.174	973.0	58380.9	64.4
251	52.9	168.3	165.9	2.4	214.8	-0.026	49.1	168	119.1	0.938	1.0012	8.342	7.828	933.3	55996.8	63.4
252	52.2	168.5	166.1	2.4	210.4	-0.027	49.1	168	119.2	0.925	1.0012	8.342	7.713	920.5	55232.5	63.6
253	52.5	168.5	166.2	2.4	206	-0.027	49.2	168	119.1	0.925	1.0012	8.342	7.713	920.0	55199.5	64
254	52.9	168.7	166.3	2.4	201.9	-0.025	49.2	169	119.3	0.925	1.0012	8.342	7.713	921.2	55270.2	63.8
255	52.9	168.7	166.6	2.2	198.4	-0.027	49.1	169	119.5	0.869	1.0012	8.342	7.253	867.5	52048.2	63.7
256	52.7	168.7	166.3	2.4	195.8	-0.023	48.9	169	119.6	0.925	1.0012	8.342	7.713	923.5	55412.1	63.6
257	52.6	168.7	166.3	2.4	192.6	-0.025	48.9	169	119.7	0.911	1.0012	8.342	7.598	910.5	54631	63.7
258	53.5	168.7	166.3	2.4	189.2	-0.025	48.9	169	119.8	0.925	1.0012	8.342	7.713	924.9	55493.4	63.4
259	52.8	168.7	166.4	2.3	189	-0.027	48.8	169	119.9	0.925	1.0012	8.342	7.713	926.0	55557	63.7
260	52.2	168.8	166.3	2.5	187.7	-0.022	48.8	169	119.8	0.938	1.0012	8.342	7.828	939.4	56363	63.3
261	52.3	168.7	166.2	2.5	185.8	-0.023	48.8	169	119.8	0.952	1.0012	8.342	7.943	952.8	57169.3	63.6
262	52.1	168.5	166.1	2.5	183.7	-0.024	48.8	168	119.7	0.938	1.0012	8.342	7.828	938.5	56307.1	63.5
263	52.3	168.6	166.2	2.4	181.3	-0.02	48.7	168	119.7	0.911	1.0012	8.342	7.598	911.0	54659	63.7
264	53.0	168.5	165.9	2.6	178.9	-0.024	48.6	168	119.7	0.952	1.0012	8.342	7.944	951.8	57110.3	63.6
265	52.3	168.3	165.8	2.6	176.6	-0.022	48.7	168	119.5	0.980	1.0012	8.342	8.174	978.3	58699.2	63.4
266	52.5	168.2	165.6	2.6	174.1	-0.021	48.6	168	119.6	0.994	1.0012	8.342	8.289	992.3	59535.5	63.4
267	52.7	168.2	165.6	2.6	172	-0.022	48.6	168	119.6	0.952	1.0012	8.342	7.944	951.2	57071.9	63.5
268	52.0	168.1	165.5	2.6	169.7	-0.019	48.6	168	119.4	0.994	1.0012	8.342	8.289	990.9	59454.6	63.3
269	52.9	168.0	165.4	2.6	167.4	-0.016	48.5	168	119.2	0.980	1.0012	8.342	8.174	975.8	58546.1	63.2
270	52.1	167.8	165.2	2.6	165.1	-0.02	48.5	168	119.2	0.980	1.0012	8.342	8.174	975.4	58524.3	63.2
271	52.5	167.8	165.2	2.6	163.1	-0.02	48.5	168	119.2	0.980	1.0012	8.342	8.174	975.3	58515.1	63.4
272	52.9	167.6	165.0	2.6	161.4	-0.019	48.5	167	119.0	0.980	1.0012	8.342	8.174	973.9	58433	63.9
273	52.0	167.4	164.9	2.5	159.4	-0.018	48.5	167	118.8	0.980	1.0012	8.342	8.174	972.4	58344.2	63.4
274	52.4	167.4	164.8	2.6	157.5	-0.018	48.5	167	118.7	0.994	1.0012	8.342	8.289	985.2	59110.7	63.3
275	53.0	167.1	164.5	2.6	155.7	-0.021	48.5	167	118.4	0.952	1.0012	8.342	7.944	942.0	56521.6	63.3
276	52.7	166.9	164.4	2.5	154	-0.019	48.5	167	118.4	0.980	1.0012	8.342	8.174	968.8	58129	63.3
277	52.8	166.9	164.5	2.4	152.6	-0.018	48.5	167	118.2	0.966	1.0012	8.342	8.059	953.8	57228.7	63.8
278	52.6	166.7	164.3	2.4	150.3	-0.027	48.6	167	118.0	0.938	1.0012	8.342	7.829	925.0	55499.3	63.1

314		Appliance					Load										
Elapsed Time (Min)	Fuel Remaining (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	oi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
279	52.7	166.4	164.0	2.5	148.6	-0.017	48.6	166	117.8	0.980	1.0012	8.342	8.174	964.2	57852.6	63.2	
280	52.7	166.3	163.8	2.5	147	-0.016	48.9	166	117.3	0.994	1.0012	8.342	8.289	973.3	58396.5	63.1	
281	52.7	166.3	163.8	2.5	145.4	-0.015	49.0	166	117.1	0.980	1.0012	8.342	8.174	958.5	57511	63.1	
282	52.5	166.0	163.5	2.5	143.6	-0.017	49.1	166	116.9	0.980	1.0012	8.342	8.173	956.3	57376.1	63.4	
283	52.3	165.8	163.5	2.4	142.4	-0.017	49.2	166	116.5	0.966	1.0012	8.342	8.058	940.3	56416.6	63.3	
284	52.4	165.7	163.2	2.5	141.4	-0.015	49.4	166	116.2	0.980	1.0012	8.342	8.173	951.1	57067.7	63.2	
285	52.9	165.5	163.1	2.5	139.7	-0.022	49.5	165	115.9	0.980	1.0012	8.342	8.173	948.2	56890.1	63.3	
286	52.3	165.4	162.9	2.5	138.3	-0.014	49.5	165	115.8	0.980	1.0012	8.342	8.173	947.3	56835.5	63.2	
287	52.4	165.2	162.7	2.5	136.6	-0.013	49.8	165	115.2	0.994	1.0012	8.341	8.288	955.7	57343	64.4	
288	52.9	164.8	162.3	2.5	135.5	-0.011	49.7	165	115.1	0.980	1.0012	8.341	8.173	941.7	56504.6	63.8	
289	53.1	164.7	162.3	2.5	135.1	-0.018	49.5	165	115.1	0.980	1.0012	8.342	8.173	941.5	56490.7	63.4	
290	52.8	164.6	162.2	2.5	133.6	-0.015	49.3	164	115.1	0.980	1.0012	8.342	8.173	942.3	56536.9	63.4	
291	52.4	164.4	162.0	2.5	132.4	-0.014	49.3	164	115.1	0.980	1.0012	8.342	8.173	941.7	56504.7	63.7	
292	52.3	164.2	161.7	2.5	131.1	-0.014	49.2	164	114.9	1.007	1.0012	8.342	8.404	966.9	58014.2	63.5	
293	52.9	164.0	161.5	2.5	129.8	-0.013	49.1	164	114.7	0.994	1.0012	8.342	8.289	952.0	57117.9	63.4	
294	52.2	163.8	161.3	2.5	128.9	-0.016	49.1	164	114.6	0.994	1.0012	8.342	8.289	950.9	57054.4	63.4	
295	53.2	163.6	161.2	2.4	127.6	-0.013	49.1	164	114.4	0.980	1.0012	8.342	8.173	936.3	56177.2	63.5	
296	52.8	163.4	161.0	2.4	126.9	-0.014	49.0	163	114.3	0.994	1.0012	8.342	8.289	948.7	56919	63.8	
297	52.7	163.3	160.8	2.5	126.1	-0.015	49.0	163	114.1	0.994	1.0012	8.342	8.289	947.0	56818.3	63.6	
298	52.4	162.9	160.5	2.4	125.2	-0.011	49.0	163	113.8	0.994	1.0012	8.342	8.289	944.5	56671.7	63.5	
299	52.3	162.8	160.3	2.5	123.8	-0.012	49.0	163	113.6	0.994	1.0012	8.342	8.289	943.0	56577.6	63.6	
300	52.5	162.5	160.1	2.4	123.1	-0.01	49.0	162	113.5	0.994	1.0012	8.342	8.289	941.7	56504.8	63.6	
301	53.1	162.3	159.8	2.5	122.3	-0.018	48.9	162	113.2	0.994	1.0012	8.342	8.289	939.6	56376.7	63.4	
302	52.6	162.1	159.7	2.4	121.6	-0.014	48.9	162	113.1	0.994	1.0012	8.342	8.289	938.6	56315.6	63.4	
303	52.7	161.9	159.4	2.4	121.3	-0.013	48.9	162	112.9	0.994	1.0012	8.342	8.289	936.9	56214.7	63.6	
304	52.5	161.6	159.2	2.5	120.4	-0.014	48.9	161	112.6	1.007	1.0012	8.342	8.404	947.8	56869.6	63.6	
305	53.1	161.5	159.1	2.4	119.7	-0.013	48.9	161	112.5	0.994	1.0012	8.342	8.289	934.0	56037.8	63.5	
306	52.4	161.3	158.8	2.4	118.8	-0.01	48.9	161	112.3	0.994	1.0012	8.342	8.289	932.1	55927.3	63.5	
307	52.5	161.0	158.6	2.4	118.1	-0.013	48.9	161	112.1	1.007	1.0012	8.342	8.404	942.8	56569.7	63.6	
308	53.0	160.8	158.4	2.4	117.1	-0.011	48.8	161	111.9	0.980	1.0012	8.342	8.174	915.9	54956.9	63.4	
309	53.0	160.5	158.1	2.4	153.5	-0.025	48.8	160	111.6	0.994	1.0012	8.342	8.289	926.0	55560.8	63.2	
310	51.9	160.2	157.9	2.3	194.6	-0.033	48.9	160	111.2	0.966	1.0012	8.342	8.059	897.4	53842.6	63.1	
311	50.8	160.3	157.8	2.5	233.4	-0.035	48.9	160	111.2	0.994	1.0012	8.342	8.289	922.9	55373.1	63.3	
312	49.8	161.0	158.5	2.5	260.1	-0.026	48.9	161	111.8	1.007	1.0012	8.342	8.404	940.7	56443	63	
313	48.9	161.8	159.2	2.5	274.9	-0.048	48.9	161	112.5	1.007	1.0012	8.342	8.404	946.4	56781.3	63	
314	48.0	162.6	160.1	2.6	280.9	-0.008	48.8	162	113.4	1.021	1.0012	8.342	8.519	967.3	58040.5	62.9	

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Test Start Time: 11:03

Test Length: 1579 min

Recording Interval: 1 min

Pre-test 0 cfm @ 14.78 in. Hg

Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
Tot / Avg		-274.2	253.908	0.161	1.24	93.4	2.10	65.82	51.33	64.94	100.0	71.3	0.113	0.336	21.76
Minimum	0.0	-2.1	0.000	0.139	-0.01	66	0.05	63	46	62	90.7	65	0.104	0.322	21.10
Max	273.7	1.0	253.908	0.166	1.28	96	2.25	69	59	67	105.6	90	0.124	0.352	22.51
0	274.2		0.000		-0.01	67	0.05	63	58.6	63		79	0.109	0.330	22.37
1	273.7	-0.5	0.139	0.139	1.26	67	2.24	63.4	56.7	62	90.7	72	0.111	0.333	21.56
2	273.2	-0.5	0.297	0.158	1.26	66	2.25	63.5	56.2	63	103.8	71	0.115	0.339	21.77
3	272.1	-1.1	0.455	0.158	1.23	66	2.13	64.1	56.1	63	104.0	80	0.110	0.332	21.79
4	271.9	-0.2	0.614	0.159	1.22	66	2.13	64.3	56.3	62	105.6	82	0.113	0.336	21.81
5	270.7	-1.1	0.770	0.156	1.22	67	2.15	64.4	56.4	63	102.9	81	0.117	0.342	22.16
6	269.8	-1.0	0.928	0.158	1.22	66	2.20	64.6	56.6	63	103.4	82	0.113	0.336	22.16
7	269.8	0.0	1.085	0.157	1.23	67	2.13	64.7	56.7	63	103.1	82	0.113	0.336	21.98
8	268.9	-0.9	1.241	0.156	1.22	67	2.19	64.8	56.9	63	102.6	83	0.116	0.341	22.14
9	268.2	-0.7	1.399	0.158	1.23	68	2.17	65	57.1	63	103.1	84	0.118	0.344	22.39
10	266.8	-1.4	1.554	0.155	1.21	67	2.13	65.3	57.3	63	100.8	87	0.115	0.339	22.38
11	266.2	-0.6	1.711	0.157	1.22	68	2.18	65.4	57.5	64	103.1	84	0.110	0.332	22.00
12	265.0	-1.2	1.867	0.156	1.21	68	2.12	65.5	57.7	63	103.5	84	0.112	0.335	21.82
13	263.8	-1.2	2.023	0.156	1.21	68	2.16	65.6	57.9	64	103.1	83	0.116	0.341	22.10
14	263.3	-0.5	2.179	0.156	1.19	68	2.15	65.7	58.1	63	102.5	83	0.110	0.332	22.00
15	262.4	-0.9	2.334	0.155	1.19	68	2.13	65.8	58.2	63	102.4	83	0.113	0.336	21.85
16	262.3	-0.2	2.490	0.156	1.20	69	2.14	65.9	58.4	63	103.2	83	0.111	0.333	21.89
17	261.8	-0.4	2.645	0.155	1.19	69	2.12	65.9	58.6	64	102.8	83	0.109	0.330	21.70
18	260.6	-1.2	2.803	0.158	1.21	69	2.17	66	58.7	63	104.5	83	0.117	0.342	21.99
19	259.3	-1.3	2.959	0.156	1.22	70	2.15	66.1	58.9	63	102.4	83	0.110	0.332	22.04
20	258.7	-0.6	3.118	0.159	1.21	70	2.16	66.2	59	64	104.2	82	0.117	0.342	22.04
21	258.1	-0.5	3.274	0.156	1.22	70	2.16	66.3	59.2	63	101.9	82	0.112	0.335	22.13
22	257.5	-0.6	3.430	0.156	1.23	70	2.15	65.9	59.3	64	101.6	71	0.110	0.332	21.68
23	257.7	0.2	3.589	0.159	1.23	70	2.15	65.6	59.1	64	103.1	70	0.118	0.344	21.84
24	257.2	-0.5	3.746	0.157	1.23	71	2.14	65.5	58.7	64	100.9	69	0.112	0.335	21.91
25	256.9	-0.3	3.904	0.158	1.22	71	2.14	65.4	58.2	65	101.4	68	0.116	0.341	21.80
26	256.6	-0.2	4.062	0.158	1.23	72	2.14	65.3	57.8	63	101.7	67	0.110	0.332	21.69
27	257.3	0.6	4.219	0.157	1.23	72	2.13	65.2	57.5	63	101.1	67	0.116	0.341	21.67
28	256.5	-0.8	4.377	0.158	1.22	72	2.12	65	57.2	64	101.7	67	0.110	0.332	21.67
29	257.1	0.6	4.535	0.158	1.23	73	2.13	65	57	64	101.7	67	0.116	0.341	21.67
30	257.3	0.2	4.691	0.156	1.22	73	2.16	65	56.7	63	99.6	67	0.116	0.341	21.95
31	257.3	0.0	4.850	0.159	1.24	73	2.08	64.8	56.4	63	100.5	66	0.119	0.345	22.08
32	257.3	0.0	5.007	0.157	1.21	74	2.14	64.7	56.2	63	99.2	66	0.112	0.335	21.88
33	256.7	-0.5	5.165	0.158	1.23	74	2.17	64.7	55.9	63	100.6	65	0.115	0.339	21.69
34	256.4	-0.3	5.323	0.158	1.22	74	2.18	64.6	55.7	63	100.7	65	0.115	0.339	21.83
35	257.1	0.7	5.480	0.157	1.21	75	2.12	64.5	55.3	63	100.2	65	0.110	0.332	21.59
36	256.5	-0.6	5.639	0.159	1.22	74	2.11	64.5	55.1	64	102.0	65	0.115	0.339	21.59
37	256.5	0.0	5.796	0.157	1.23	75	2.08	64.4	54.9	63	100.6	65	0.111	0.333	21.64
38	257.0	0.5	5.953	0.157	1.22	75	2.15	64.3	54.6	64	100.0	65	0.118	0.344	21.78
39	257.1	0.1	6.112	0.159	1.21	75	2.15	64.3	54.3	63	100.4	65	0.116	0.341	22.01
40	257.1	0.0	6.269	0.157	1.22	76	2.17	64.2	53.9	63	99.1	65	0.113	0.336	21.78

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
41	257.3	0.2	6.427	0.158	1.23	76	2.11	64.2	53.7	63	99.6	65	0.121	0.348	22.01
42	256.8	-0.4	6.586	0.159	1.23	77	2.10	64.1	53.5	64	99.8	65	0.112	0.335	21.97
43	256.4	-0.5	6.743	0.157	1.22	77	2.13	64	53.2	63	99.3	65	0.114	0.338	21.63
44	257.0	0.6	6.902	0.159	1.24	77	2.09	64	52.9	64	101.2	65	0.113	0.336	21.68
45	256.4	-0.6	7.060	0.158	1.23	77	2.10	63.9	52.6	64	100.3	65	0.115	0.339	21.73
46	256.9	0.5	7.217	0.157	1.22	77	2.13	63.8	52.4	63	99.6	65	0.113	0.336	21.73
47	256.3	-0.5	7.376	0.159	1.22	78	2.08	63.8	52.2	64	100.9	65	0.114	0.338	21.68
48	257.0	0.7	7.534	0.158	1.23	78	2.06	63.8	51.9	63	100.6	65	0.110	0.332	21.53
49	256.7	-0.4	7.691	0.157	1.22	79	2.08	63.7	51.7	63	100.5	65	0.111	0.333	21.39
50	256.7	0.1	7.851	0.160	1.23	79	2.07	63.7	51.4	63	102.2	65	0.114	0.338	21.58
51	256.6	-0.2	8.009	0.158	1.23	79	2.14	63.7	51.2	63	100.5	65	0.111	0.333	21.58
52	257.2	0.6	8.166	0.157	1.22	79	2.05	63.6	51.1	63	100.1	65	0.112	0.335	21.48
53	256.4	-0.8	8.325	0.159	1.22	79	2.05	63.6	50.8	63	101.1	67	0.116	0.341	21.74
54	256.4	0.0	8.484	0.159	1.23	79	2.13	63.7	50.6	63	100.1	67	0.117	0.342	22.00
55	257.3	0.9	8.641	0.157	1.23	80	2.16	63.6	50.4	63	99.0	66	0.107	0.327	21.56
56	256.6	-0.7	8.800	0.159	1.20	80	2.08	63.5	50.2	63	101.7	66	0.112	0.335	21.31
57	256.2	-0.4	8.958	0.158	1.23	81	2.18	63.5	49.9	63	101.0	66	0.112	0.335	21.55
58	257.0	0.7	9.116	0.158	1.23	81	2.02	63.5	49.7	63	100.6	66	0.111	0.333	21.50
59	257.1	0.2	9.275	0.159	1.23	81	2.02	63.4	49.5	63	101.3	66	0.112	0.335	21.51
60	256.7	-0.4	9.433	0.158	1.22	81	2.11	63.4	49.4	63	101.0	66	0.108	0.329	21.37
61	256.3	-0.5	9.591	0.158	1.23	81	2.04	63.5	49.3	63	101.5	68	0.112	0.335	21.38
62	256.9	0.6	9.751	0.160	1.23	82	2.06	63.6	49.2	63	102.1	71	0.116	0.341	21.82
63	256.8	-0.1	9.909	0.158	1.23	82	2.07	63.6	48	64	99.7	68	0.112	0.335	21.81
64	256.6	-0.2	10.067	0.158	1.23	82	2.05	63.6	47.3	64	100.2	67	0.109	0.330	21.44
65	256.9	0.2	10.227	0.160	1.24	82	2.06	63.6	47.1	63	103.0	67	0.106	0.326	21.14
66	256.9	0.0	10.385	0.158	1.23	82	2.14	63.7	47	64	102.2	68	0.112	0.335	21.30
67	256.3	-0.5	10.543	0.158	1.23	82	2.07	63.7	47	64	100.9	68	0.114	0.338	21.69
68	256.4	0.1	10.703	0.160	1.23	83	2.11	63.7	47.1	63	100.6	68	0.116	0.341	21.87
69	256.5	0.1	10.861	0.158	1.23	83	2.06	63.7	47	64	99.5	68	0.109	0.330	21.64
70	256.6	0.1	11.020	0.159	1.22	84	2.13	63.7	47	64	100.4	68	0.118	0.344	21.74
71	256.5	-0.1	11.180	0.160	1.23	83	2.06	63.8	47	64	100.6	68	0.111	0.333	21.84
72	256.5	0.0	11.338	0.158	1.23	83	2.07	63.9	47	64	99.7	69	0.113	0.336	21.61
73	256.5	0.0	11.496	0.158	1.21	84	2.05	63.9	47	64	100.0	69	0.113	0.336	21.71
74	256.7	0.2	11.657	0.161	1.23	84	2.12	63.9	47	64	101.8	69	0.112	0.335	21.66
75	257.1	0.4	11.816	0.159	1.24	84	2.12	64	46.9	63	100.8	69	0.111	0.333	21.57
76	257.2	0.2	11.973	0.157	1.23	85	2.12	64.1	46.9	63	100.0	69	0.109	0.330	21.43
77	257.2	-0.1	12.134	0.161	1.22	84	2.05	64.1	46.8	63	102.6	70	0.114	0.338	21.58
78	257.0	-0.2	12.293	0.159	1.22	85	2.05	64.1	46.8	63	100.2	70	0.117	0.342	21.97
79	256.4	-0.6	12.452	0.159	1.23	85	2.12	64.2	46.7	64	99.4	70	0.113	0.336	21.93
80	257.4	1.0	12.612	0.160	1.24	85	2.11	64.2	46.6	64	100.9	70	0.109	0.330	21.54
81	256.5	-0.9	12.772	0.160	1.23	85	2.07	64.2	46.6	64	101.6	70	0.115	0.339	21.64
82	257.0	0.5	12.930	0.158	1.22	85	2.14	64.3	46.6	64	99.7	71	0.113	0.336	21.84
83	257.3	0.3	13.089	0.159	1.26	86	2.10	64.3	46.5	64	100.5	71	0.109	0.330	21.56
84	256.9	-0.4	13.250	0.161	1.21	86	2.08	64.4	46.5	64	102.3	71	0.114	0.338	21.61

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel				
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs	
85	256.5	-0.4	13.409	0.159	1.21	86	2.03	64.4	46.4	64	100.2	71	0.115	0.339	21.90	
86	256.7	0.1	13.567	0.158	1.23	86	2.13	64.5	46.4	64	99.2	71	0.111	0.333	21.75	
87	257.3	0.6	13.728	0.161	1.23	86	2.05	64.6	46.4	64	101.8	72	0.112	0.335	21.62	
88	256.7	-0.5	13.887	0.159	1.23	87	2.13	64.7	46.4	64	101.1	72	0.109	0.330	21.53	
89	257.0	0.3	14.046	0.159	1.23	86	2.13	64.7	46.4	64	100.6	72	0.118	0.344	21.82	
90	256.6	-0.4	14.206	0.160	1.23	87	2.12	64.7	46.3	64	100.4	72	0.110	0.332	21.86	
91	257.2	0.5	14.366	0.160	1.22	87	2.12	65	46.4	64	101.3	77	0.112	0.335	21.63	
92	256.6	-0.6	14.524	0.158	1.23	87	2.05	65	46.4	65	100.6	73	0.110	0.332	21.64	
93	256.4	-0.2	14.684	0.160	1.22	87	2.07	65	46.3	65	101.6	72	0.111	0.333	21.54	
94	256.7	0.3	14.844	0.160	1.23	87	2.13	65	46.3	65	101.3	72	0.115	0.339	21.78	
95	256.9	0.2	15.003	0.159	1.22	88	2.12	65.1	46.4	65	100.1	73	0.111	0.333	21.78	
96	256.6	-0.2	15.161	0.158	1.23	87	2.08	65.1	46.3	64	99.9	72	0.111	0.333	21.59	
97	256.6	0.0	15.322	0.161	1.25	87	2.07	65.2	46.3	64	101.9	73	0.114	0.338	21.74	
98	256.7	0.1	15.482	0.160	1.21	88	2.10	65.2	46.3	65	101.2	73	0.109	0.330	21.64	
99	257.2	0.5	15.641	0.159	1.22	88	2.12	65.3	46.3	65	100.9	73	0.112	0.335	21.55	
100	257.1	-0.1	15.801	0.160	1.23	88	2.12	65.4	46.3	65	101.2	73	0.114	0.338	21.79	
101	257.0	-0.1	15.961	0.160	1.22	88	2.03	65.5	46.3	65	100.3	73	0.115	0.339	21.94	
102	257.1	0.2	16.120	0.159	1.23	89	2.04	65.4	46.3	65	99.4	73	0.113	0.336	21.89	
103	256.2	-0.9	16.279	0.159	1.20	88	2.11	65.5	46.3	65	99.7	73	0.113	0.336	21.79	
104	256.8	0.6	16.440	0.161	1.23	89	2.11	65.5	46.3	65	101.3	73	0.112	0.335	21.75	
105	256.6	-0.3	16.600	0.160	1.23	88	2.10	65.6	46.2	65	100.9	73	0.112	0.335	21.70	
106	257.1	0.6	16.759	0.159	1.19	88	2.04	65.6	46.3	65	100.5	73	0.111	0.333	21.66	
107	256.4	-0.8	16.919	0.160	1.21	88	2.05	65.6	46.2	65	101.2	73	0.113	0.336	21.70	
108	256.2	-0.2	17.079	0.160	1.23	89	2.04	65.7	46.3	65	100.7	74	0.114	0.338	21.85	
109	256.3	0.2	17.238	0.159	1.23	89	2.11	65.7	46.2	65	100.3	73	0.108	0.329	21.61	
110	256.2	-0.1	17.397	0.159	1.23	89	2.03	65.7	46.2	65	100.8	74	0.114	0.338	21.61	
111	256.3	0.1	17.558	0.161	1.21	89	2.04	65.8	46.2	65	101.5	74	0.113	0.336	21.86	
112	256.5	0.2	17.718	0.160	1.22	89	2.03	65.8	46.2	65	100.5	74	0.112	0.335	21.76	
113	257.2	0.7	17.877	0.159	1.23	89	2.07	65.9	46.2	65	100.0	74	0.114	0.338	21.81	
114	256.5	-0.7	18.037	0.160	1.24	90	2.07	65.9	46.2	65	100.3	74	0.114	0.338	21.91	
115	257.0	0.5	18.198	0.161	1.24	90	2.03	66	46.2	65	100.9	74	0.111	0.333	21.77	
116	256.2	-0.8	18.357	0.159	1.24	90	2.11	66	46.2	65	99.8	74	0.115	0.339	21.81	
117	256.9	0.6	18.516	0.159	1.23	90	2.01	66.1	46.2	65	99.6	74	0.113	0.336	21.91	
118	257.1	0.2	18.677	0.161	1.20	90	2.01	66.1	46.2	65	100.5	74	0.116	0.341	21.96	
119	257.2	0.1	18.837	0.160	1.22	90	2.12	66.1	46.2	65	100.0	74	0.110	0.332	21.82	
120	257.0	-0.1	18.996	0.159	1.22	90	2.11	66.2	46.3	65	100.1	74	0.113	0.336	21.68	
121	257.2	0.1	19.156	0.160	1.23	90	2.04	66.2	46.3	65	100.9	74	0.112	0.335	21.77	
122	256.6	-0.6	19.316	0.160	1.22	90	2.08	66.4	46.4	65	101.2	81	0.112	0.335	21.79	
123	256.2	-0.4	19.476	0.160	1.23	91	2.03	66.4	46.4	66	101.5	74	0.108	0.329	21.59	
124	256.9	0.7	19.634	0.158	1.22	90	2.02	66.5	46.4	65	101.5	79	0.104	0.322	21.17	
125	254.8	-2.1	19.795	0.161	1.23	90	2.05	66.7	46.6	65	104.4	81	0.113	0.336	21.50	
126	255.0	0.3	19.954	0.159	1.20	90	2.14	67	46.6	66	101.5	84	0.114	0.338	22.04	
127	253.5	-1.5	20.113	0.159	1.21	90	2.02	67.3	46.8	66	100.8	86	0.111	0.333	21.99	
128	252.5	-1.1	20.273	0.160	1.21	90	2.12	67.4	46.9	66	102.0	87	0.112	0.335	21.92	

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
129	251.9	-0.6	20.432	0.159	1.23	91	2.12	67.6	47	65	101.8	88	0.109	0.330	21.85
130	251.1	-0.8	20.591	0.159	1.22	91	2.04	67.8	47.3	65	101.9	88	0.113	0.336	21.91
131	250.3	-0.8	20.750	0.159	1.23	91	2.03	67.9	47.3	65	101.4	86	0.111	0.333	21.98
132	249.1	-1.2	20.910	0.160	1.21	91	2.10	67.9	47.4	65	101.6	85	0.113	0.336	21.95
133	247.9	-1.1	21.068	0.158	1.23	91	2.03	68	47.5	66	100.4	85	0.111	0.333	21.94
134	247.5	-0.4	21.227	0.159	1.21	91	2.01	68.1	47.6	65	101.2	85	0.111	0.333	21.84
135	247.0	-0.5	21.387	0.160	1.23	92	2.06	68.1	47.7	66	101.8	85	0.113	0.336	21.94
136	245.4	-1.6	21.546	0.159	1.21	91	2.16	68.2	47.9	65	100.7	85	0.113	0.336	22.04
137	244.6	-0.8	21.704	0.158	1.21	92	2.03	68.2	47.9	66	99.5	85	0.116	0.341	22.19
138	244.2	-0.5	21.864	0.160	1.21	92	2.03	68.3	48.1	65	100.3	85	0.114	0.338	22.24
139	242.7	-1.5	22.023	0.159	1.22	92	2.08	68.3	48.1	65	99.8	85	0.114	0.338	22.14
140	242.2	-0.5	22.181	0.158	1.23	92	2.15	68.4	48.2	65	99.8	85	0.110	0.332	21.94
141	240.7	-1.4	22.341	0.160	1.21	92	2.02	68.4	48.4	65	101.2	84	0.116	0.341	22.02
142	240.8	0.0	22.500	0.159	1.21	92	2.09	68.4	48.4	65	100.2	85	0.111	0.333	22.07
143	239.2	-1.6	22.658	0.158	1.20	92	2.12	68.5	48.4	66	100.4	85	0.109	0.330	21.74
144	238.6	-0.6	22.819	0.161	1.21	92	2.15	68.5	48.5	65	102.7	84	0.113	0.336	21.83
145	238.3	-0.3	22.977	0.158	1.22	92	2.04	68.5	48.7	65	100.1	83	0.112	0.335	21.96
146	236.7	-1.5	23.136	0.159	1.21	92	2.10	68.6	48.6	65	101.0	85	0.108	0.329	21.72
147	235.8	-1.0	23.296	0.160	1.24	92	2.13	68.7	48.8	65	102.5	84	0.110	0.332	21.63
148	235.6	-0.1	23.455	0.159	1.21	92	2.11	68.7	48.7	65	101.2	85	0.116	0.341	22.03
149	234.9	-0.8	23.614	0.159	1.22	93	2.02	68.7	48.8	65	100.4	84	0.109	0.330	21.98
150	233.9	-1.0	23.773	0.159	1.21	93	2.14	68.7	48.9	65	100.2	84	0.118	0.344	22.07
151	232.7	-1.2	23.933	0.160	1.22	92	2.01	68.7	48.9	65	100.2	83	0.112	0.335	22.20
152	231.9	-0.8	24.092	0.159	1.21	92	2.01	68.7	48.9	65	100.0	81	0.110	0.332	21.78
153	232.0	0.1	24.250	0.158	1.21	93	2.14	68.3	49	66	99.4	74	0.114	0.338	21.79
154	231.7	-0.3	24.412	0.162	1.23	93	2.14	68	48.9	66	101.5	72	0.108	0.329	21.60
155	231.6	0.0	24.571	0.159	1.19	93	2.02	67.8	48.8	65	100.0	71	0.113	0.336	21.52
156	231.2	-0.4	24.731	0.160	1.22	92	2.14	67.7	48.8	66	100.1	71	0.113	0.336	21.75
157	231.4	0.2	24.891	0.160	1.23	93	2.02	67.6	48.6	65	99.5	69	0.113	0.336	21.73
158	231.1	-0.3	25.051	0.160	1.23	93	2.02	67.3	48.6	65	99.3	69	0.114	0.338	21.77
159	231.3	0.2	25.211	0.160	1.22	93	2.14	67.2	48.5	65	98.9	69	0.115	0.339	21.86
160	231.0	-0.3	25.370	0.159	1.22	93	2.02	67.2	48.4	65	98.1	69	0.114	0.338	21.85
161	230.8	-0.2	25.532	0.162	1.24	93	2.02	67	48.2	65	100.5	69	0.110	0.332	21.61
162	230.5	-0.3	25.692	0.160	1.24	93	2.10	66.9	48.1	65	100.2	68	0.110	0.332	21.40
163	230.1	-0.4	25.852	0.160	1.21	93	2.13	66.9	48.1	65	100.2	68	0.114	0.338	21.59
164	230.0	-0.1	26.011	0.159	1.21	93	2.02	66.8	48	65	98.7	68	0.113	0.336	21.73
165	230.0	0.0	26.172	0.161	1.23	93	2.01	66.6	47.8	65	99.8	67	0.112	0.335	21.63
166	230.3	0.3	26.332	0.160	1.21	93	2.11	66.6	47.7	65	99.4	67	0.113	0.336	21.63
167	230.7	0.3	26.492	0.160	1.22	93	2.01	66.5	47.8	65	99.5	67	0.111	0.333	21.58
168	230.8	0.1	26.652	0.160	1.24	93	1.99	66.4	47.7	65	100.0	67	0.109	0.330	21.39
169	230.5	-0.4	26.813	0.161	1.24	93	2.13	66.3	47.6	65	101.7	67	0.106	0.326	21.14
170	230.3	-0.1	26.973	0.160	1.22	93	2.01	66.3	47.5	65	101.6	72	0.112	0.335	21.34
171	230.1	-0.3	27.132	0.159	1.24	94	2.02	66.4	47.6	64	99.7	69	0.114	0.338	21.74
172	230.7	0.6	27.293	0.161	1.21	93	2.09	66.2	47.5	65	99.3	68	0.117	0.342	21.94

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
173	230.2	-0.5	27.454	0.161	1.22	94	2.02	66.1	47.5	65	98.8	68	0.114	0.338	21.94
174	230.6	0.4	27.614	0.160	1.22	93	2.06	66	47.4	65	98.3	69	0.116	0.341	21.89
175	230.4	-0.2	27.773	0.159	1.23	93	2.13	66	47.3	65	97.4	69	0.118	0.344	22.09
176	230.2	-0.2	27.935	0.162	1.23	94	2.01	66	47.4	65	98.8	70	0.116	0.341	22.10
177	230.6	0.5	28.095	0.160	1.22	93	2.03	66	47.4	65	98.3	70	0.112	0.335	21.83
178	230.1	-0.5	28.254	0.159	1.23	93	2.03	66.1	47.4	65	99.2	73	0.110	0.332	21.57
179	230.2	0.0	28.414	0.160	1.23	93	2.01	66	47.4	65	100.7	70	0.110	0.332	21.47
180	230.8	0.6	28.575	0.161	1.25	93	2.11	66	47.3	65	101.2	70	0.111	0.333	21.49
181	230.4	-0.3	28.735	0.160	1.22	93	2.12	65.9	47.2	65	100.2	69	0.112	0.335	21.58
182	230.1	-0.3	28.895	0.160	1.22	93	2.12	65.9	47.2	65	99.7	69	0.113	0.336	21.67
183	230.1	0.0	29.055	0.160	1.21	93	2.12	65.9	47.3	65	99.6	69	0.111	0.333	21.62
184	230.1	0.0	29.216	0.161	1.22	93	2.13	65.8	47.3	65	100.0	69	0.116	0.341	21.75
185	230.1	0.0	29.376	0.160	1.23	93	1.99	65.8	47.3	65	98.8	68	0.113	0.336	21.85
186	230.1	0.0	29.536	0.160	1.24	94	2.06	65.8	47.2	65	99.1	68	0.111	0.333	21.60
187	230.1	0.0	29.697	0.161	1.23	93	2.02	65.8	47.3	65	100.1	68	0.114	0.338	21.65
188	230.4	0.3	29.857	0.160	1.22	94	2.06	65.7	47.2	65	99.4	68	0.111	0.333	21.65
189	230.7	0.3	30.017	0.160	1.23	93	2.13	65.7	47.2	65	99.7	68	0.111	0.333	21.50
190	230.8	0.0	30.177	0.160	1.22	94	2.07	65.6	47.2	65	99.9	68	0.112	0.335	21.54
191	230.1	-0.7	30.338	0.161	1.23	94	2.06	65.7	47.3	65	100.3	68	0.112	0.335	21.59
192	230.4	0.3	30.499	0.161	1.22	93	2.02	65.6	47.3	65	99.7	68	0.116	0.341	21.78
193	231.0	0.6	30.658	0.159	1.23	94	2.01	65.6	47.4	65	98.2	68	0.111	0.333	21.73
194	230.6	-0.4	30.817	0.159	1.22	93	2.12	65.6	47.3	65	98.6	68	0.113	0.336	21.59
195	230.3	-0.3	30.979	0.162	1.23	93	2.12	65.5	47.3	65	100.4	67	0.115	0.339	21.78
196	230.7	0.5	31.140	0.161	1.24	93	2.10	65.5	47.2	65	99.5	67	0.111	0.333	21.68
197	230.9	0.1	31.299	0.159	1.22	93	2.03	65.5	47.3	65	98.6	67	0.114	0.338	21.63
198	230.2	-0.6	31.459	0.160	1.23	94	2.02	65.4	47.3	65	98.9	67	0.115	0.339	21.82
199	230.5	0.2	31.621	0.162	1.24	94	2.09	65.4	47.2	65	100.2	67	0.109	0.330	21.58
200	231.0	0.5	31.781	0.160	1.22	94	2.10	65.4	47.2	65	99.1	67	0.118	0.344	21.72
201	230.9	-0.2	31.940	0.159	1.22	94	2.00	65.4	47.2	65	97.9	67	0.112	0.335	21.87
202	230.3	-0.5	32.101	0.161	1.24	94	2.07	65.3	47.2	65	99.6	67	0.110	0.332	21.48
203	230.4	0.0	32.262	0.161	1.23	93	2.09	65.3	47.2	65	100.2	67	0.115	0.339	21.62
204	230.6	0.3	32.422	0.160	1.23	94	2.06	65.3	47.2	65	98.8	67	0.114	0.338	21.81
205	231.0	0.3	32.582	0.160	1.22	94	2.02	65.2	47.3	65	98.7	67	0.111	0.333	21.62
206	231.0	0.0	32.743	0.161	1.23	94	2.00	65.2	47.2	65	100.0	67	0.112	0.335	21.52
207	230.8	-0.2	32.904	0.161	1.22	94	2.12	65.1	47.2	65	99.8	67	0.115	0.339	21.71
208	230.5	-0.4	33.064	0.160	1.22	94	2.01	65.1	47.2	65	99.4	67	0.106	0.326	21.42
209	230.4	0.0	33.224	0.160	1.23	94	2.02	65.1	47.1	65	100.4	67	0.112	0.335	21.28
210	230.3	-0.2	33.385	0.161	1.22	94	2.02	65.1	47.1	65	100.8	67	0.111	0.333	21.52
211	230.2	0.0	33.545	0.160	1.23	94	2.03	65	47.1	65	99.6	67	0.112	0.335	21.52
212	230.3	0.1	33.706	0.161	1.25	94	2.00	64.9	47.1	65	100.4	66	0.109	0.330	21.42
213	230.5	0.2	33.865	0.159	1.21	94	2.13	64.9	47	65	98.8	66	0.118	0.344	21.71
214	230.7	0.2	34.027	0.162	1.24	94	2.10	64.9	47	65	99.6	66	0.112	0.335	21.85
215	231.1	0.4	34.187	0.160	1.23	94	2.09	64.9	47.1	65	98.6	66	0.113	0.336	21.61
216	230.9	-0.2	34.347	0.160	1.24	94	2.12	64.9	47	65	98.9	66	0.114	0.338	21.71

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
217	230.8	-0.1	34.507	0.160	1.23	94	2.03	64.9	47.1	65	98.0	66	0.119	0.345	21.99
218	230.6	-0.2	34.669	0.162	1.24	94	2.00	64.8	47	65	98.8	66	0.112	0.335	21.90
219	230.4	-0.1	34.829	0.160	1.26	94	2.07	64.8	47.1	65	98.6	66	0.112	0.335	21.56
220	230.7	0.3	34.989	0.160	1.23	95	2.12	64.8	47.1	64	98.9	66	0.116	0.341	21.75
221	231.2	0.5	35.148	0.159	1.22	94	2.12	64.8	47	65	97.7	66	0.113	0.336	21.80
222	231.0	-0.2	35.310	0.162	1.23	94	2.14	65.1	47.1	65	99.6	73	0.118	0.344	21.96
223	230.4	-0.6	35.470	0.160	1.22	94	2.05	64.8	47.2	65	97.9	67	0.115	0.339	22.06
224	230.1	-0.3	35.630	0.160	1.21	94	2.13	64.8	47	65	97.4	66	0.117	0.342	21.95
225	230.0	-0.1	35.790	0.160	1.21	95	2.00	64.7	47	65	97.5	70	0.118	0.344	22.12
226	230.2	0.2	35.952	0.162	1.23	95	2.04	64.9	47.1	64	98.7	69	0.115	0.339	22.06
227	230.0	-0.3	36.112	0.160	1.23	95	2.03	64.9	47.1	64	98.3	68	0.110	0.332	21.65
228	229.9	0.0	36.272	0.160	1.26	94	2.11	64.8	47	65	99.2	67	0.114	0.338	21.58
229	230.0	0.1	36.432	0.160	1.23	95	2.03	64.8	47	65	99.0	67	0.113	0.336	21.72
230	230.1	0.1	36.594	0.162	1.23	94	2.08	64.8	47	64	100.4	68	0.110	0.332	21.54
231	230.3	0.1	36.754	0.160	1.23	94	2.02	64.8	46.9	65	100.2	68	0.109	0.330	21.35
232	230.7	0.4	36.914	0.160	1.22	94	2.04	64.8	47	65	100.0	69	0.116	0.341	21.65
233	231.0	0.3	37.074	0.160	1.22	94	2.07	64.8	46.9	65	98.7	69	0.115	0.339	21.95
234	230.8	-0.2	37.236	0.162	1.21	94	2.10	64.9	47	65	99.8	70	0.111	0.333	21.72
235	230.4	-0.4	37.396	0.160	1.22	94	2.13	64.9	47	65	99.3	71	0.115	0.339	21.74
236	230.1	-0.3	37.556	0.160	1.22	94	2.03	65.1	47	66	99.1	72	0.114	0.338	21.91
237	230.7	0.7	37.716	0.160	1.21	94	2.02	65.1	47	65	99.1	70	0.111	0.333	21.70
238	230.7	-0.1	37.878	0.162	1.23	94	2.02	65.1	47	66	101.0	69	0.111	0.333	21.53
239	230.1	-0.6	38.038	0.160	1.24	95	2.12	65.1	46.9	65	99.9	69	0.112	0.335	21.57
240	231.0	0.9	38.198	0.160	1.23	94	2.02	65.1	46.9	65	99.7	69	0.112	0.335	21.61
241	230.1	-0.9	38.358	0.160	1.23	94	2.05	65.1	46.9	65	100.0	69	0.108	0.329	21.42
242	230.9	0.8	38.519	0.161	1.23	94	2.03	65.1	46.9	65	100.8	68	0.114	0.338	21.51
243	230.0	-0.9	38.680	0.161	1.21	95	2.02	65.1	46.9	65	99.7	68	0.115	0.339	21.84
244	230.9	0.8	38.839	0.159	1.22	94	2.10	65.1	46.8	65	98.0	68	0.112	0.335	21.74
245	230.4	-0.5	39.000	0.161	1.23	95	2.01	65	46.9	65	99.4	68	0.115	0.339	21.74
246	230.4	0.1	39.161	0.161	1.22	94	1.99	65.1	46.8	65	99.7	68	0.109	0.330	21.59
247	230.9	0.5	39.321	0.160	1.22	94	2.07	65.1	46.9	65	99.4	68	0.115	0.339	21.59
248	230.3	-0.6	39.481	0.160	1.23	94	2.11	65.1	46.9	65	98.8	67	0.114	0.338	21.82
249	230.8	0.5	39.642	0.161	1.23	94	2.10	65.1	46.9	65	99.1	67	0.113	0.336	21.72
250	230.6	-0.2	39.803	0.161	1.23	94	2.11	65.1	46.9	65	99.8	67	0.110	0.332	21.53
251	230.3	-0.2	39.963	0.160	1.22	95	2.11	65.1	46.9	65	99.0	67	0.118	0.344	21.77
252	230.9	0.6	40.123	0.160	1.23	94	2.01	65.1	46.9	65	98.8	67	0.107	0.327	21.62
253	230.1	-0.8	40.284	0.161	1.21	94	2.03	65.2	47.1	65	100.3	71	0.115	0.339	21.51
254	230.0	-0.1	40.448	0.164	1.24	94	2.01	65.2	47.1	65	101.9	67	0.112	0.335	21.76
255	230.4	0.3	40.605	0.157	1.25	94	2.12	65.1	47	65	97.5	67	0.108	0.329	21.38
256	230.3	-0.1	40.765	0.160	1.23	95	2.10	65.1	47	65	99.7	67	0.117	0.342	21.62
257	229.9	-0.4	40.926	0.161	1.23	95	2.09	65.1	46.9	65	99.0	67	0.114	0.338	21.91
258	230.3	0.5	41.087	0.161	1.24	95	2.02	65.1	47	65	99.3	67	0.108	0.329	21.47
259	230.3	0.0	41.247	0.160	1.22	94	2.02	65	47	65	99.4	67	0.117	0.342	21.62
260	230.0	-0.3	41.407	0.160	1.24	95	2.03	65	47	65	98.5	67	0.113	0.336	21.85

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25
Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
261	230.5	0.5	41.569	0.162	1.24	95	2.03	65	47	65	99.7	66	0.112	0.335	21.61
262	230.0	-0.5	41.730	0.161	1.21	94	2.09	64.9	47	65	99.2	66	0.117	0.342	21.80
263	230.2	0.2	41.890	0.160	1.25	94	2.11	64.9	46.9	65	98.3	66	0.111	0.333	21.75
264	230.5	0.3	42.052	0.162	1.21	94	2.02	64.9	46.9	65	99.8	66	0.116	0.341	21.71
265	229.9	-0.6	42.211	0.159	1.23	95	2.08	65	47	65	97.7	69	0.116	0.341	21.97
266	229.8	-0.1	42.371	0.160	1.23	94	2.03	65.1	47.1	65	98.6	74	0.112	0.335	21.85
267	229.3	-0.5	42.531	0.160	1.22	94	2.03	65.4	47.3	65	99.5	80	0.118	0.344	22.07
268	228.7	-0.6	42.690	0.159	1.21	95	2.10	65.7	47.3	65	98.4	81	0.116	0.341	22.33
269	228.0	-0.7	42.851	0.161	1.23	95	2.02	66	47.4	65	99.8	82	0.112	0.335	22.07
270	227.2	-0.8	43.011	0.160	1.21	95	2.05	66.1	47.4	65	100.3	83	0.113	0.336	21.95
271	226.5	-0.7	43.170	0.159	1.23	95	2.07	66.3	47.6	65	100.0	85	0.113	0.336	22.02
272	225.7	-0.7	43.331	0.161	1.24	94	2.08	66.5	47.6	65	101.3	86	0.113	0.336	22.05
273	224.4	-1.3	43.491	0.160	1.23	95	2.12	66.7	47.7	65	101.0	86	0.110	0.332	21.91
274	223.5	-0.9	43.653	0.162	1.22	94	2.07	66.8	47.7	65	102.4	85	0.114	0.338	21.95
275	222.7	-0.9	43.809	0.156	1.23	95	2.03	66.9	47.8	65	98.4	85	0.110	0.332	21.94
276	222.1	-0.5	43.971	0.162	1.23	94	2.07	67	47.9	65	102.6	87	0.112	0.335	21.86
277	221.9	-0.2	44.130	0.159	1.21	94	2.12	67.3	48	66	101.2	87	0.109	0.330	21.83
278	220.7	-1.3	44.289	0.159	1.22	94	2.00	67.3	48	65	101.2	86	0.112	0.335	21.82
279	219.6	-1.1	44.449	0.160	1.22	94	2.14	67.4	48.1	66	100.9	85	0.116	0.341	22.14
280	219.3	-0.3	44.609	0.160	1.21	95	2.00	67.5	48.1	65	100.0	85	0.113	0.336	22.18
281	218.5	-0.8	44.768	0.159	1.22	95	2.16	67.6	48.3	65	99.4	85	0.115	0.339	22.14
282	217.8	-0.7	44.926	0.158	1.21	94	2.00	67.7	48.3	65	99.2	85	0.110	0.332	21.99
283	216.9	-0.9	45.090	0.164	1.22	95	2.10	67.7	48.4	65	103.6	84	0.111	0.333	21.78
284	215.9	-1.0	45.249	0.159	1.22	95	2.15	67.7	48.4	65	100.4	82	0.113	0.336	21.90
285	215.3	-0.6	45.405	0.156	1.21	95	2.16	67.8	48.5	65	98.6	84	0.109	0.330	21.81
286	214.3	-1.1	45.566	0.161	1.21	95	2.16	67.9	48.6	65	102.6	84	0.108	0.329	21.58
287	213.7	-0.6	45.725	0.159	1.24	94	2.16	67.9	48.7	65	101.5	83	0.112	0.335	21.72
288	211.8	-1.9	45.884	0.159	1.21	94	2.11	68	48.7	65	100.8	84	0.112	0.335	21.92
289	211.9	0.1	46.043	0.159	1.23	95	2.15	68	48.8	65	100.5	83	0.110	0.332	21.81
290	211.6	-0.3	46.204	0.161	1.22	95	2.08	68.1	48.8	65	102.2	85	0.110	0.332	21.72
291	210.5	-1.1	46.363	0.159	1.21	95	2.01	68.1	48.9	65	101.0	84	0.112	0.335	21.83
292	209.6	-0.9	46.521	0.158	1.19	94	2.05	68.1	48.8	65	100.1	84	0.110	0.332	21.82
293	208.9	-0.6	46.685	0.164	1.22	94	2.10	68.2	48.9	65	104.0	84	0.112	0.335	21.83
294	208.0	-0.9	46.844	0.159	1.22	95	2.04	68.3	49	65	100.7	84	0.111	0.333	21.88
295	207.3	-0.7	47.000	0.156	1.21	94	2.00	68.1	49	66	98.4	76	0.109	0.330	21.65
296	206.4	-0.8	47.161	0.161	1.21	95	1.98	67.8	49	66	100.9	73	0.115	0.339	21.73
297	206.5	0.1	47.321	0.160	1.22	94	2.11	67.6	49	66	98.9	71	0.116	0.341	22.02
298	206.5	0.0	47.480	0.159	1.21	95	2.01	67.5	48.8	66	97.7	71	0.114	0.338	21.95
299	206.6	0.0	47.639	0.159	1.24	94	2.05	67.4	48.7	65	97.9	70	0.114	0.338	21.83
300	205.7	-0.9	47.801	0.162	1.22	94	2.02	67.3	48.6	65	100.2	69	0.112	0.335	21.72
301	205.6	-0.1	47.961	0.160	1.20	94	2.06	67.2	48.6	66	99.3	69	0.113	0.336	21.67
302	206.2	0.6	48.120	0.159	1.22	94	2.06	67.1	48.4	65	98.2	69	0.117	0.342	21.90
303	205.8	-0.4	48.282	0.162	1.21	94	2.00	67	48.3	66	99.5	69	0.113	0.336	21.89
304	205.3	-0.5	48.444	0.162	1.24	95	2.02	67	48.2	65	99.9	68	0.112	0.335	21.65

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
305	206.1	0.8	48.604	0.160	1.22	94	2.10	66.9	48.2	66	99.0	68	0.115	0.339	21.73
306	205.6	-0.5	48.760	0.156	1.22	95	2.10	66.8	48.1	65	95.7	67	0.117	0.342	21.97
307	205.1	-0.4	48.921	0.161	1.21	94	2.00	66.7	48	65	98.6	67	0.111	0.333	21.77
308	205.9	0.8	49.082	0.161	1.22	94	2.00	66.7	47.9	65	99.6	67	0.113	0.336	21.58
309	205.4	-0.5	49.241	0.159	1.23	94	2.13	66.6	47.9	65	99.0	67	0.109	0.330	21.48
310	205.1	-0.3	49.400	0.159	1.22	94	1.99	66.6	47.9	65	99.3	67	0.112	0.335	21.43
311	205.8	0.8	49.562	0.162	1.23	94	2.12	66.5	47.9	66	100.9	67	0.112	0.335	21.58
312	205.7	-0.1	49.722	0.160	1.23	94	2.13	66.4	47.7	65	99.5	67	0.111	0.333	21.53
313	205.2	-0.5	49.885	0.163	1.21	94	2.01	66.3	47.7	65	101.4	67	0.113	0.336	21.58
314	205.2	0.0	50.044	0.159	1.21	94	2.07	66.3	47.8	66	98.2	67	0.116	0.341	21.82
315	205.4	0.2	50.205	0.161	1.23	94	2.01	66.3	47.9	66	99.3	67	0.109	0.330	21.62
316	205.8	0.4	50.362	0.157	1.23	94	2.02	66.2	47.7	66	97.7	67	0.113	0.336	21.48
317	205.9	0.0	50.522	0.160	1.22	94	2.02	66.1	47.7	66	99.4	67	0.113	0.336	21.67
318	205.5	-0.3	50.683	0.161	1.24	95	2.15	66.2	47.7	66	99.6	72	0.116	0.341	21.87
319	205.4	-0.2	50.843	0.160	1.23	95	1.99	66.2	47.7	65	98.6	69	0.113	0.336	21.89
320	205.9	0.6	51.003	0.160	1.21	94	1.99	66.1	47.8	65	99.0	68	0.109	0.330	21.50
321	205.9	0.0	51.162	0.159	1.22	94	2.00	66	47.8	65	99.3	68	0.113	0.336	21.50
322	205.6	-0.3	51.324	0.162	1.22	94	2.09	66	47.8	66	100.1	68	0.119	0.345	21.98
323	205.2	-0.4	51.486	0.162	1.22	95	2.13	65.9	47.7	65	98.8	68	0.115	0.339	22.08
324	205.9	0.6	51.646	0.160	1.23	94	2.13	65.9	47.7	65	97.7	69	0.116	0.341	21.94
325	205.4	-0.5	51.806	0.160	1.21	94	2.02	65.9	47.8	66	98.4	69	0.112	0.335	21.81
326	205.8	0.4	51.967	0.161	1.23	95	2.12	65.9	47.8	66	99.2	70	0.118	0.344	21.92
327	205.2	-0.6	52.124	0.157	1.22	95	2.02	66	47.9	66	96.5	71	0.112	0.335	21.93
328	205.9	0.7	52.284	0.160	1.24	94	2.07	66.1	47.8	67	99.1	72	0.113	0.336	21.72
329	205.1	-0.8	52.444	0.160	1.22	94	2.08	66.1	47.8	66	99.3	70	0.114	0.338	21.81
330	205.4	0.3	52.605	0.161	1.23	94	2.08	66.1	47.8	66	100.0	70	0.109	0.330	21.59
331	206.0	0.7	52.765	0.160	1.21	95	2.14	66	47.7	65	100.2	69	0.110	0.332	21.38
332	206.1	0.1	52.924	0.159	1.20	95	2.13	66	47.7	66	99.3	69	0.115	0.339	21.67
333	206.1	0.0	53.087	0.163	1.24	95	2.13	66	47.7	65	101.5	69	0.106	0.326	21.47
334	206.0	-0.1	53.248	0.161	1.24	94	2.11	66	47.8	65	101.0	69	0.113	0.336	21.37
335	206.1	0.1	53.408	0.160	1.23	94	2.02	65.9	47.8	65	99.7	68	0.114	0.338	21.75
336	206.2	0.1	53.567	0.159	1.23	94	2.00	65.9	47.8	65	97.9	68	0.116	0.341	21.89
337	206.0	-0.2	53.726	0.159	1.21	94	2.13	65.9	47.8	66	97.3	68	0.117	0.342	22.03
338	206.0	0.0	53.886	0.160	1.23	94	2.02	65.9	47.7	65	98.4	68	0.108	0.329	21.65
339	206.0	0.0	54.045	0.159	1.20	95	2.02	65.9	47.7	66	99.2	68	0.111	0.333	21.35
340	206.0	0.0	54.205	0.160	1.22	94	2.02	65.8	47.6	66	101.0	68	0.104	0.322	21.15
341	206.0	0.0	54.367	0.162	1.23	94	2.13	65.8	47.6	66	102.9	68	0.110	0.332	21.10
342	206.1	0.1	54.527	0.160	1.22	94	2.12	65.9	47.6	66	100.8	68	0.112	0.335	21.50
343	206.1	0.0	54.689	0.162	1.20	95	2.13	65.8	47.6	66	100.6	68	0.114	0.338	21.69
344	206.2	0.0	54.848	0.159	1.24	95	2.00	65.8	47.7	65	98.1	68	0.113	0.336	21.73
345	206.0	-0.1	55.010	0.162	1.23	95	2.12	65.8	47.6	65	100.2	68	0.111	0.333	21.59
346	206.1	0.1	55.170	0.160	1.22	94	2.10	65.8	47.7	65	99.3	68	0.114	0.338	21.63
347	206.1	0.0	55.329	0.159	1.24	94	2.12	65.8	47.7	65	98.6	67	0.111	0.333	21.63
348	206.0	-0.1	55.488	0.159	1.21	94	2.13	65.8	47.7	66	98.9	67	0.111	0.333	21.49

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
349	206.1	0.1	55.648	0.160	1.22	95	2.06	65.7	47.6	66	99.6	67	0.112	0.335	21.53
350	206.1	0.1	55.808	0.160	1.22	95	2.00	65.7	47.6	66	99.5	67	0.111	0.333	21.53
351	206.0	-0.2	55.967	0.159	1.22	95	2.06	65.7	47.6	65	99.4	67	0.108	0.329	21.34
352	206.1	0.1	56.129	0.162	1.21	95	2.01	65.6	47.6	66	101.3	67	0.114	0.338	21.48
353	206.1	0.0	56.292	0.163	1.21	95	2.12	65.7	47.6	66	100.8	67	0.115	0.339	21.82
354	206.1	0.0	56.451	0.159	1.23	94	2.13	65.6	47.5	65	97.6	67	0.114	0.338	21.81
355	206.1	0.0	56.610	0.159	1.22	95	2.00	65.6	47.5	66	97.4	67	0.117	0.342	21.91
356	206.2	0.1	56.772	0.162	1.22	95	2.01	65.6	47.5	66	98.6	67	0.117	0.342	22.05
357	206.1	-0.1	56.932	0.160	1.23	95	2.12	65.6	47.5	66	98.0	67	0.109	0.330	21.67
358	206.3	0.1	57.089	0.157	1.21	94	2.07	65.5	47.4	66	97.7	67	0.111	0.333	21.38
359	206.2	-0.1	57.250	0.161	1.23	94	2.12	65.5	47.5	65	100.2	67	0.115	0.339	21.67
360	206.4	0.1	57.410	0.160	1.22	95	1.99	65.5	47.5	66	98.9	67	0.110	0.332	21.62
361	206.3	-0.1	57.570	0.160	1.23	95	2.06	65.5	47.4	65	99.2	67	0.113	0.336	21.52
362	206.3	0.0	57.729	0.159	1.22	95	2.00	65.4	47.4	65	98.0	67	0.117	0.342	21.86
363	206.3	0.0	57.893	0.164	1.22	95	2.02	65.5	47.5	65	100.4	67	0.113	0.336	21.86
364	206.3	0.0	58.054	0.161	1.20	95	2.02	65.4	47.4	65	99.1	69	0.113	0.336	21.68
365	205.9	-0.4	58.213	0.159	1.25	95	2.08	65.5	47.5	65	98.0	69	0.116	0.341	21.85
366	205.9	0.0	58.373	0.160	1.22	94	2.00	65.4	47.5	65	97.7	67	0.118	0.344	22.07
367	206.0	0.1	58.534	0.161	1.21	95	2.00	65.4	47.5	65	97.8	67	0.115	0.339	22.00
368	205.9	-0.1	58.695	0.161	1.22	95	2.13	65.4	47.3	65	98.7	67	0.110	0.332	21.61
369	205.7	-0.2	58.851	0.156	1.21	95	2.05	65.3	47.5	65	96.9	67	0.112	0.335	21.47
370	205.7	0.0	59.011	0.160	1.22	95	2.01	65.3	47.4	65	99.0	67	0.116	0.341	21.76
371	205.4	-0.3	59.173	0.162	1.24	95	2.12	65.3	47.4	65	99.7	67	0.110	0.332	21.66
372	205.2	-0.2	59.333	0.160	1.21	94	2.08	65.3	47.3	65	99.1	66	0.113	0.336	21.52
373	205.0	-0.1	59.495	0.162	1.24	94	2.01	65.3	47.4	65	100.6	66	0.111	0.333	21.56
374	205.3	0.3	59.655	0.160	1.21	95	2.02	65.3	47.4	65	99.7	66	0.109	0.330	21.37
375	205.7	0.4	59.817	0.162	1.22	94	2.14	65.3	47.4	65	100.7	66	0.117	0.342	21.66
376	205.5	-0.2	59.977	0.160	1.23	94	2.07	65.3	47.4	65	98.7	66	0.110	0.332	21.70
377	205.0	-0.5	60.136	0.159	1.23	95	2.07	65.3	47.4	65	98.0	66	0.117	0.342	21.70
378	205.6	0.6	60.297	0.161	1.22	95	2.07	65.2	47.4	65	99.0	66	0.112	0.335	21.80
379	205.9	0.4	60.455	0.158	1.21	95	2.03	65.2	47.4	65	97.6	66	0.110	0.332	21.46
380	205.1	-0.8	60.615	0.160	1.23	95	2.02	65.2	47.4	65	98.9	66	0.118	0.344	21.75
381	205.4	0.3	60.774	0.159	1.22	95	2.08	65.2	47.4	65	97.5	66	0.112	0.335	21.84
382	205.6	0.2	60.936	0.162	1.22	95	1.99	65.2	47.3	65	99.4	66	0.116	0.341	21.75
383	204.9	-0.7	61.097	0.161	1.23	94	2.01	65.1	47.3	65	99.2	66	0.110	0.332	21.65
384	205.7	0.8	61.259	0.162	1.21	95	2.05	65.2	47.3	65	100.0	66	0.116	0.341	21.65
385	205.8	0.0	61.419	0.160	1.24	94	2.12	65.2	47.3	65	98.8	66	0.110	0.332	21.65
386	205.1	-0.7	61.580	0.161	1.21	94	2.01	65.1	47.3	65	99.4	66	0.116	0.341	21.65
387	205.7	0.6	61.741	0.161	1.25	94	2.08	65.1	47.3	65	98.8	66	0.116	0.341	21.94
388	205.4	-0.2	61.901	0.160	1.22	94	2.11	65.1	47.3	65	97.2	66	0.119	0.345	22.08
389	205.2	-0.3	62.060	0.159	1.23	95	2.01	65	47.3	65	96.7	66	0.112	0.335	21.89
390	205.9	0.8	62.219	0.159	1.23	95	2.00	65	47.2	65	97.4	66	0.115	0.339	21.70
391	205.6	-0.3	62.379	0.160	1.21	95	2.00	65	47.2	65	98.1	66	0.115	0.339	21.84
392	205.1	-0.5	62.539	0.160	1.23	95	1.99	65	47.3	65	98.4	66	0.110	0.332	21.60

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
393	205.8	0.7	62.699	0.160	1.23	95	2.10	65	47.3	65	98.9	66	0.115	0.339	21.60
394	205.4	-0.4	62.863	0.164	1.24	95	1.99	65	47.3	65	101.3	66	0.111	0.333	21.65
395	205.3	-0.1	63.023	0.160	1.21	95	2.02	65	47.3	65	98.6	69	0.118	0.344	21.83
396	205.7	0.4	63.183	0.160	1.22	94	2.03	65.1	47.4	65	97.8	67	0.116	0.341	22.08
397	204.9	-0.8	63.343	0.160	1.21	95	2.13	65	47.4	65	97.6	66	0.113	0.336	21.81
398	205.2	0.3	63.504	0.161	1.23	95	2.13	65	47.4	65	98.1	66	0.121	0.348	22.03
399	205.0	-0.2	63.664	0.160	1.24	95	1.99	65	47.3	65	97.1	66	0.112	0.335	21.98
400	205.2	0.1	63.824	0.160	1.22	95	2.06	64.9	47.3	65	97.9	66	0.114	0.338	21.65
401	205.3	0.2	63.982	0.158	1.23	95	2.11	64.9	47.4	65	97.4	66	0.113	0.336	21.70
402	204.9	-0.4	64.143	0.161	1.22	95	2.06	64.9	47.4	65	99.0	66	0.115	0.339	21.75
403	205.4	0.5	64.303	0.160	1.23	95	2.11	64.8	47.4	65	98.3	66	0.113	0.336	21.75
404	204.9	-0.4	64.465	0.162	1.23	95	2.14	64.8	47.3	65	99.6	66	0.114	0.338	21.70
405	205.2	0.3	64.626	0.161	1.23	95	1.98	64.8	47.3	66	99.5	66	0.110	0.332	21.56
406	205.1	-0.1	64.787	0.161	1.23	95	1.98	65	47.3	65	100.4	70	0.111	0.333	21.46
407	204.8	-0.3	64.947	0.160	1.23	95	1.99	65	47.3	64	99.7	68	0.114	0.338	21.67
408	205.5	0.7	65.106	0.159	1.23	95	2.00	64.9	47.3	65	98.4	67	0.111	0.333	21.64
409	204.9	-0.7	65.268	0.162	1.21	95	2.00	65	47.3	65	100.8	70	0.112	0.335	21.56
410	204.6	-0.2	65.428	0.160	1.24	95	2.01	65.1	47.4	64	99.6	74	0.116	0.341	21.87
411	204.1	-0.5	65.587	0.159	1.22	94	2.00	65.3	47.5	65	98.1	76	0.117	0.342	22.17
412	203.6	-0.6	65.744	0.157	1.22	95	2.16	65.5	47.6	65	97.6	79	0.107	0.327	21.79
413	202.8	-0.7	65.905	0.161	1.24	95	2.02	65.8	47.7	65	101.9	82	0.112	0.335	21.60
414	202.1	-0.7	66.066	0.161	1.24	95	2.01	66.1	47.7	65	102.0	83	0.112	0.335	21.89
415	201.0	-1.1	66.230	0.164	1.22	95	2.08	66.4	47.8	65	103.5	85	0.111	0.333	21.87
416	200.8	-0.2	66.390	0.160	1.26	95	2.18	66.6	48	65	101.4	87	0.112	0.335	21.91
417	199.6	-1.2	66.552	0.162	1.24	94	2.06	67	48	65	103.2	89	0.108	0.329	21.81
418	198.5	-1.1	66.714	0.162	1.24	95	2.03	67.1	48.2	66	103.5	88	0.112	0.335	21.81
419	198.3	-0.2	66.874	0.160	1.23	95	2.18	67.2	48.3	66	101.1	87	0.116	0.341	22.18
420	196.6	-1.7	67.035	0.161	1.23	94	2.14	67.2	48.3	65	100.7	84	0.112	0.335	22.15
421	196.7	0.0	67.196	0.161	1.26	95	2.07	67.3	48.4	66	101.4	85	0.109	0.330	21.78
422	195.2	-1.5	67.358	0.162	1.24	95	2.03	67.4	48.4	65	103.5	84	0.106	0.326	21.48
423	194.6	-0.6	67.515	0.157	1.24	95	2.17	67.5	48.5	65	100.6	84	0.112	0.335	21.62
424	193.6	-1.0	67.675	0.160	1.25	94	2.17	67.6	48.6	65	101.3	84	0.114	0.338	22.01
425	193.1	-0.5	67.839	0.164	1.23	95	2.03	67.7	48.8	65	102.5	84	0.116	0.341	22.21
426	192.1	-1.0	68.001	0.162	1.25	94	2.17	67.8	48.8	66	101.4	84	0.109	0.330	21.96
427	191.5	-0.7	68.162	0.161	1.23	95	2.16	67.9	48.9	65	101.0	84	0.118	0.344	22.06
428	190.4	-1.1	68.322	0.160	1.22	95	2.02	67.9	49	65	99.9	84	0.111	0.333	22.16
429	189.8	-0.5	68.482	0.160	1.22	95	2.02	68.1	49.1	65	100.3	84	0.113	0.336	21.91
430	188.9	-1.0	68.644	0.162	1.23	95	2.02	68.1	49.1	65	101.9	84	0.113	0.336	22.01
431	188.3	-0.6	68.805	0.161	1.23	94	2.18	68.2	49.2	65	101.5	84	0.109	0.330	21.82
432	186.7	-1.6	68.965	0.160	1.24	95	2.18	68.3	49.2	65	100.9	84	0.117	0.342	22.02
433	186.6	-0.1	69.125	0.160	1.23	95	2.15	68.3	49.3	65	100.2	84	0.111	0.333	22.12
434	185.1	-1.5	69.285	0.160	1.24	94	2.09	68.4	49.3	65	100.2	84	0.115	0.339	22.02
435	185.1	-0.1	69.445	0.160	1.24	94	2.09	68.4	49.3	66	100.2	84	0.114	0.338	22.17
436	183.6	-1.4	69.608	0.163	1.23	95	2.02	68.4	49.4	65	102.4	84	0.109	0.330	21.88

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
437	182.8	-0.8	69.768	0.160	1.23	95	2.01	68.4	49.4	65	101.0	84	0.115	0.339	21.92
438	182.4	-0.4	69.930	0.162	1.25	94	2.02	68.5	49.5	65	101.6	84	0.114	0.338	22.17
439	181.6	-0.8	70.091	0.161	1.24	95	2.08	68.3	49.5	66	99.4	74	0.118	0.344	22.21
440	181.1	-0.5	70.252	0.161	1.24	95	2.15	68	49.6	66	98.3	73	0.115	0.339	22.14
441	180.4	-0.7	70.412	0.160	1.24	95	2.02	67.8	49.4	66	98.1	71	0.114	0.338	21.91
442	180.2	-0.2	70.574	0.162	1.26	95	2.02	67.6	49.3	66	99.9	70	0.113	0.336	21.80
443	180.2	0.0	70.736	0.162	1.25	95	2.18	67.5	49.2	66	100.2	69	0.113	0.336	21.73
444	180.3	0.1	70.894	0.158	1.23	95	2.01	67.3	49.1	65	97.5	69	0.115	0.339	21.81
445	180.3	0.0	71.055	0.161	1.24	95	2.09	67.2	49	66	99.4	69	0.111	0.333	21.71
446	179.5	-0.8	71.219	0.164	1.24	95	2.05	67.1	48.8	66	101.6	69	0.113	0.336	21.61
447	180.3	0.8	71.382	0.163	1.22	95	2.12	67.1	48.7	65	100.8	69	0.114	0.338	21.75
448	179.6	-0.7	71.544	0.162	1.24	95	2.09	66.9	48.6	66	99.6	68	0.115	0.339	21.84
449	180.3	0.7	71.705	0.161	1.24	95	2.05	66.8	48.5	66	98.3	68	0.119	0.345	22.06
450	179.3	-1.0	71.866	0.161	1.24	95	2.13	66.8	48.5	65	98.0	67	0.113	0.336	21.97
451	179.5	0.1	72.027	0.161	1.25	95	2.09	66.6	48.4	66	99.1	69	0.111	0.333	21.60
452	179.7	0.3	72.190	0.163	1.25	95	2.12	66.8	48.2	65	101.3	70	0.114	0.338	21.68
453	179.6	-0.1	72.352	0.162	1.26	95	2.13	66.6	48.1	65	100.0	69	0.115	0.339	21.86
454	179.4	-0.2	72.513	0.161	1.25	95	2.06	66.5	48.2	65	98.4	69	0.118	0.344	22.04
455	179.4	0.0	72.674	0.161	1.24	95	2.10	66.4	48.2	65	97.9	68	0.116	0.341	22.08
456	179.6	0.1	72.834	0.160	1.24	95	2.12	66.3	48	65	97.1	68	0.118	0.344	22.07
457	180.0	0.4	72.996	0.162	1.25	95	2.14	66.2	48	65	98.7	68	0.113	0.336	21.93
458	180.1	0.1	73.161	0.165	1.26	95	2.04	66.2	48	65	101.8	69	0.111	0.333	21.61
459	179.7	-0.3	73.322	0.161	1.26	95	2.05	66.2	48.1	65	100.4	69	0.110	0.332	21.46
460	179.5	-0.2	73.483	0.161	1.24	95	2.02	66.1	48	65	100.5	69	0.113	0.336	21.57
461	179.9	0.4	73.645	0.162	1.25	95	2.12	66.2	47.9	65	100.7	71	0.113	0.336	21.74
462	179.8	0.0	73.807	0.162	1.24	95	2.03	66.3	48	66	100.5	72	0.113	0.336	21.76
463	179.3	-0.6	73.969	0.162	1.24	95	2.15	66.3	48.1	66	100.0	70	0.116	0.341	21.89
464	180.0	0.8	74.130	0.161	1.23	95	2.14	66.2	48.1	66	98.9	69	0.113	0.336	21.87
465	179.9	-0.1	74.291	0.161	1.25	95	2.12	66.1	48.1	65	99.2	69	0.114	0.338	21.76
466	179.7	-0.3	74.453	0.162	1.25	95	2.11	66.1	48.1	65	100.0	69	0.113	0.336	21.76
467	180.0	0.3	74.613	0.160	1.24	94	2.04	66.1	48.1	66	98.7	68	0.115	0.339	21.80
468	179.4	-0.5	74.777	0.164	1.23	95	2.15	66.1	48.1	65	101.2	68	0.111	0.333	21.70
469	180.4	0.9	74.938	0.161	1.25	95	2.10	66.1	48.2	65	99.7	68	0.113	0.336	21.60
470	179.7	-0.7	75.099	0.161	1.26	95	2.13	66	48.2	66	100.1	68	0.110	0.332	21.55
471	180.2	0.5	75.262	0.163	1.27	95	2.14	66	48.2	65	101.8	68	0.110	0.332	21.40
472	179.7	-0.5	75.424	0.162	1.24	95	2.04	65.9	48.2	65	101.7	68	0.108	0.329	21.30
473	180.1	0.5	75.585	0.161	1.25	95	2.15	66	48.1	66	101.2	68	0.111	0.333	21.34
474	179.9	-0.2	75.746	0.161	1.25	95	2.04	65.9	48.1	65	100.8	67	0.110	0.332	21.44
475	179.9	0.0	75.907	0.161	1.24	95	2.12	65.9	48.1	66	100.7	67	0.110	0.332	21.39
476	179.7	-0.2	76.070	0.163	1.25	95	2.10	65.8	48.1	66	101.6	67	0.114	0.338	21.58
477	180.2	0.6	76.232	0.162	1.24	95	2.12	65.8	48.1	66	100.1	67	0.114	0.338	21.77
478	179.6	-0.7	76.393	0.161	1.24	96	2.03	65.9	48.1	66	99.2	67	0.112	0.335	21.68
479	179.6	0.1	76.555	0.162	1.25	95	2.06	65.8	48.2	66	99.8	67	0.116	0.341	21.77
480	180.4	0.8	76.716	0.161	1.23	95	2.08	65.8	48.2	66	98.5	67	0.116	0.341	21.96

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
481	180.2	-0.2	76.879	0.163	1.25	95	2.11	65.8	48.1	66	100.2	67	0.108	0.329	21.58
482	180.0	-0.2	77.041	0.162	1.24	96	2.13	65.7	48.1	66	100.6	67	0.114	0.338	21.48
483	179.9	-0.1	77.202	0.161	1.26	95	2.11	65.7	48	66	99.7	67	0.113	0.336	21.72
484	180.1	0.2	77.363	0.161	1.24	96	2.05	65.7	48	66	99.5	70	0.113	0.336	21.71
485	180.2	0.1	77.524	0.161	1.25	95	2.12	65.8	48	66	99.5	70	0.115	0.339	21.83
486	180.2	-0.1	77.688	0.164	1.24	95	2.11	65.7	47.9	65	101.2	68	0.110	0.332	21.66
487	179.6	-0.6	77.849	0.161	1.25	95	2.13	65.6	48	65	99.8	67	0.113	0.336	21.54
488	179.9	0.3	78.011	0.162	1.23	95	2.14	65.6	48	65	100.2	67	0.115	0.339	21.78
489	180.4	0.5	78.172	0.161	1.25	96	2.09	65.6	48	65	99.2	68	0.111	0.333	21.69
490	179.6	-0.8	78.333	0.161	1.24	95	2.13	65.6	48	65	99.7	68	0.113	0.336	21.60
491	180.1	0.5	78.496	0.163	1.25	95	2.13	65.6	48	65	101.6	69	0.108	0.329	21.46
492	180.6	0.5	78.658	0.162	1.23	95	2.13	65.6	48	66	101.1	69	0.116	0.341	21.62
493	179.7	-0.9	78.820	0.162	1.25	95	2.12	65.8	48	67	100.2	73	0.115	0.339	21.99
494	180.2	0.5	78.981	0.161	1.25	95	2.12	65.8	48	66	98.9	70	0.114	0.338	21.90
495	180.5	0.3	79.142	0.161	1.23	95	2.06	65.7	47.9	66	99.3	69	0.111	0.333	21.67
496	179.9	-0.6	79.305	0.163	1.25	95	2.13	65.7	47.8	65	100.8	69	0.116	0.341	21.76
497	180.3	0.4	79.467	0.162	1.24	95	2.14	65.7	47.8	65	99.3	68	0.117	0.342	22.04
498	180.5	0.2	79.628	0.161	1.25	95	2.08	65.7	47.8	65	98.8	68	0.109	0.330	21.70
499	179.8	-0.7	79.789	0.161	1.24	95	2.13	65.7	47.8	66	99.9	68	0.114	0.338	21.55
500	180.0	0.2	79.951	0.162	1.25	95	2.13	65.7	47.8	65	100.6	68	0.111	0.333	21.64
501	180.5	0.5	80.114	0.163	1.26	95	2.06	65.7	47.8	66	101.0	68	0.113	0.336	21.59
502	180.3	-0.2	80.275	0.161	1.24	94	2.12	65.7	47.8	66	99.1	67	0.119	0.345	21.97
503	180.5	0.2	80.437	0.162	1.24	95	2.11	65.7	47.8	66	98.8	67	0.113	0.336	21.96
504	179.9	-0.7	80.598	0.161	1.25	95	2.05	65.6	47.8	65	98.7	67	0.114	0.338	21.72
505	179.8	-0.1	80.759	0.161	1.24	95	2.05	65.6	47.8	66	99.1	67	0.114	0.338	21.77
506	180.0	0.2	80.922	0.163	1.24	95	2.09	65.7	47.8	66	100.9	67	0.108	0.329	21.48
507	180.2	0.2	81.084	0.162	1.24	95	2.12	65.7	47.9	66	101.1	67	0.113	0.336	21.43
508	180.5	0.3	81.245	0.161	1.24	95	2.13	65.9	47.8	66	100.7	73	0.110	0.332	21.59
509	179.7	-0.8	81.406	0.161	1.23	95	2.12	65.7	47.9	66	100.5	68	0.112	0.335	21.55
510	179.6	-0.2	81.568	0.162	1.25	96	2.12	65.8	47.8	66	101.0	67	0.108	0.329	21.40
511	180.0	0.5	81.730	0.162	1.24	96	2.08	65.7	47.9	66	101.4	67	0.111	0.333	21.34
512	179.6	-0.4	81.892	0.162	1.27	95	2.11	65.6	47.8	66	100.7	67	0.115	0.339	21.67
513	179.5	-0.2	82.054	0.162	1.25	96	2.12	65.6	47.9	66	100.0	67	0.111	0.333	21.67
514	180.1	0.7	82.215	0.161	1.23	95	2.07	65.6	47.9	66	99.4	67	0.114	0.338	21.62
515	179.5	-0.7	82.377	0.162	1.25	96	2.05	65.6	47.9	66	100.0	67	0.112	0.335	21.67
516	180.1	0.7	82.540	0.163	1.26	95	2.07	65.5	47.8	66	100.7	67	0.113	0.336	21.62
517	179.5	-0.6	82.701	0.161	1.24	96	2.13	65.6	47.8	66	99.9	71	0.111	0.333	21.61
518	180.2	0.7	82.863	0.162	1.23	96	2.12	65.7	47.8	65	99.9	69	0.119	0.345	21.92
519	179.6	-0.7	83.024	0.161	1.24	95	2.11	65.6	47.8	66	98.5	68	0.111	0.333	21.89
520	179.7	0.2	83.186	0.162	1.26	96	2.09	65.5	47.9	65	99.9	67	0.112	0.335	21.54
521	180.3	0.6	83.349	0.163	1.26	95	2.12	65.5	47.9	65	101.1	68	0.113	0.336	21.64
522	179.8	-0.5	83.511	0.162	1.25	96	2.11	65.5	47.8	65	100.1	68	0.113	0.336	21.69
523	179.8	0.0	83.672	0.161	1.25	95	2.05	65.5	47.8	65	99.8	69	0.110	0.332	21.56
524	179.4	-0.4	83.833	0.161	1.23	95	2.13	65.5	47.8	66	100.3	69	0.112	0.335	21.51

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
525	179.8	0.3	83.995	0.162	1.24	96	2.14	65.5	47.8	66	100.9	69	0.111	0.333	21.57
526	180.0	0.3	84.158	0.163	1.24	95	2.05	65.6	47.7	66	101.8	72	0.111	0.333	21.55
527	180.0	0.0	84.320	0.162	1.26	96	2.07	65.6	47.8	66	101.4	69	0.109	0.330	21.46
528	180.1	0.1	84.481	0.161	1.24	95	2.05	65.6	47.7	66	101.3	69	0.107	0.327	21.23
529	179.6	-0.5	84.642	0.161	1.24	96	2.12	65.6	47.7	66	101.7	68	0.110	0.332	21.27
530	179.6	0.0	84.804	0.162	1.25	95	2.10	65.5	47.7	65	101.1	68	0.116	0.341	21.70
531	180.0	0.4	84.967	0.163	1.26	95	2.06	65.5	47.6	66	100.2	68	0.114	0.338	21.88
532	180.1	0.2	85.129	0.162	1.22	95	2.08	65.5	47.7	66	99.4	68	0.114	0.338	21.78
533	180.3	0.2	85.290	0.161	1.23	95	2.07	65.5	47.7	66	98.0	68	0.124	0.352	22.25
534	179.8	-0.5	85.451	0.161	1.24	95	2.12	65.5	47.6	66	96.9	67	0.114	0.338	22.25
535	179.8	-0.1	85.613	0.162	1.25	95	2.02	65.5	47.6	66	98.2	67	0.117	0.342	21.91
536	179.6	-0.2	85.776	0.163	1.24	95	2.01	65.5	47.7	65	99.8	67	0.112	0.335	21.82
537	179.6	0.0	85.938	0.162	1.25	95	2.02	65.5	47.7	66	100.1	67	0.111	0.333	21.53
538	179.7	0.1	86.099	0.161	1.24	95	2.13	65.5	47.7	66	100.5	67	0.108	0.329	21.33
539	179.9	0.2	86.260	0.161	1.23	95	2.06	65.7	47.7	66	101.3	72	0.111	0.333	21.38
540	180.1	0.2	86.422	0.162	1.25	95	2.09	65.6	47.8	66	101.1	68	0.115	0.339	21.73
541	179.6	-0.4	86.584	0.162	1.24	96	2.08	65.5	47.7	66	99.7	67	0.112	0.335	21.72
542	179.4	-0.3	86.746	0.162	1.25	96	2.03	65.5	47.8	66	99.8	67	0.114	0.338	21.67
543	179.3	0.0	86.907	0.161	1.25	95	2.04	65.6	47.8	66	99.0	67	0.115	0.339	21.81
544	179.7	0.4	87.068	0.161	1.25	95	2.14	65.5	47.8	66	98.7	67	0.114	0.338	21.81
545	179.6	-0.1	87.230	0.162	1.25	96	2.03	65.5	47.8	66	99.4	69	0.115	0.339	21.83
546	179.2	-0.4	87.393	0.163	1.26	96	2.16	65.6	47.8	65	101.1	69	0.105	0.324	21.42
547	180.0	0.8	87.554	0.161	1.24	95	2.12	65.6	47.8	65	101.2	67	0.111	0.333	21.21
548	179.2	-0.7	87.716	0.162	1.25	95	2.02	65.5	47.8	65	101.0	68	0.116	0.341	21.73
549	180.0	0.7	87.877	0.161	1.24	95	2.16	65.4	47.8	65	99.2	68	0.111	0.333	21.73
550	179.4	-0.5	88.039	0.162	1.24	95	2.05	65.4	47.7	65	99.9	68	0.116	0.341	21.74
551	179.3	-0.2	88.202	0.163	1.24	96	2.14	65.4	47.7	65	100.5	68	0.110	0.332	21.69
552	179.9	0.6	88.363	0.161	1.24	95	2.02	65.4	47.7	65	99.6	69	0.115	0.339	21.65
553	179.3	-0.6	88.524	0.161	1.26	96	2.04	65.4	47.7	65	98.9	69	0.118	0.344	22.04
554	179.4	0.1	88.686	0.162	1.23	95	2.02	65.5	47.7	65	98.6	71	0.116	0.341	22.11
555	180.0	0.6	88.848	0.162	1.25	95	2.14	65.6	47.7	66	98.7	72	0.118	0.344	22.14
556	179.5	-0.5	89.010	0.162	1.24	95	2.15	65.6	47.8	66	98.8	71	0.115	0.339	22.09
557	179.0	-0.5	89.171	0.161	1.24	95	2.13	65.8	47.9	66	99.7	76	0.108	0.329	21.65
558	178.9	-0.1	89.332	0.161	1.24	95	2.04	66	47.8	65	101.6	76	0.110	0.332	21.47
559	178.4	-0.5	89.493	0.161	1.23	95	2.03	66.2	48	65	101.9	79	0.112	0.335	21.70
560	177.2	-1.2	89.656	0.163	1.23	95	2.16	66.4	48	65	102.1	81	0.117	0.342	22.09
561	176.3	-0.9	89.817	0.161	1.25	95	2.06	66.6	48.1	66	99.9	83	0.115	0.339	22.27
562	175.8	-0.6	89.978	0.161	1.23	95	2.16	66.8	48.1	66	100.1	83	0.113	0.336	22.10
563	175.6	-0.2	90.138	0.160	1.25	95	2.05	67	48.2	66	100.3	84	0.112	0.335	21.97
564	174.8	-0.8	90.300	0.162	1.24	95	2.04	67.2	48.4	65	101.4	85	0.118	0.344	22.23
565	173.8	-0.9	90.461	0.161	1.24	95	2.04	67.3	48.4	65	100.2	83	0.110	0.332	22.11
566	172.9	-1.0	90.622	0.161	1.24	95	2.14	67.3	48.5	65	100.9	83	0.113	0.336	21.84
567	171.8	-1.1	90.782	0.160	1.23	96	2.18	67.4	48.6	65	100.3	83	0.115	0.339	22.09
568	170.8	-1.0	90.943	0.161	1.23	96	2.15	67.5	48.6	66	100.6	83	0.111	0.333	21.99

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
569	170.2	-0.6	91.105	0.162	1.26	95	2.14	67.6	48.7	66	101.6	83	0.114	0.338	21.95
570	169.7	-0.5	91.265	0.160	1.22	95	2.03	67.7	48.9	66	100.0	84	0.115	0.339	22.15
571	168.7	-0.9	91.426	0.161	1.24	96	2.07	67.8	48.9	66	100.4	84	0.112	0.335	22.06
572	168.2	-0.6	91.586	0.160	1.23	96	2.17	67.9	49	66	99.6	84	0.118	0.344	22.20
573	167.2	-1.0	91.748	0.162	1.22	95	2.08	67.9	49.2	66	100.7	84	0.111	0.333	22.16
574	166.0	-1.2	91.909	0.161	1.24	96	2.17	68	49.3	66	100.6	84	0.115	0.339	22.02
575	165.4	-0.6	92.069	0.160	1.23	96	2.08	68.1	49.3	65	100.1	85	0.113	0.336	22.13
576	164.8	-0.6	92.229	0.160	1.23	95	2.19	68.2	49.4	66	100.7	87	0.109	0.330	21.86
577	163.2	-1.6	92.391	0.162	1.24	96	2.15	68.2	49.4	65	101.9	85	0.119	0.345	22.15
578	162.8	-0.4	92.552	0.161	1.23	95	2.19	68.2	49.5	66	99.8	85	0.115	0.339	22.42
579	161.9	-1.0	92.712	0.160	1.23	96	2.04	68.3	49.5	65	99.6	85	0.110	0.332	21.99
580	161.3	-0.5	92.871	0.159	1.24	95	2.14	68.2	49.5	65	100.4	85	0.111	0.333	21.79
581	159.7	-1.6	93.034	0.163	1.24	95	2.17	68.3	49.6	65	103.2	84	0.112	0.335	21.88
582	159.6	-0.1	93.195	0.161	1.23	95	2.04	68.3	49.6	65	101.6	85	0.112	0.335	21.94
583	158.5	-1.1	93.355	0.160	1.24	96	2.18	68.4	49.7	65	100.7	85	0.114	0.338	22.04
584	157.4	-1.1	93.514	0.159	1.24	95	2.04	68.5	49.8	65	100.1	88	0.111	0.333	22.02
585	157.3	0.0	93.677	0.163	1.22	95	2.19	68.7	49.8	66	103.0	87	0.112	0.335	21.94
586	155.7	-1.6	93.837	0.160	1.22	96	2.18	68.8	49.8	66	101.0	87	0.113	0.336	22.03
587	155.3	-0.4	93.998	0.161	1.24	96	2.11	68.5	49.8	67	100.4	76	0.114	0.338	22.01
588	155.2	-0.1	94.158	0.160	1.23	96	2.16	68.2	49.8	66	99.4	74	0.109	0.330	21.69
589	154.2	-1.0	94.320	0.162	1.24	95	2.08	68	49.8	67	101.3	73	0.113	0.336	21.61
590	153.9	-0.3	94.482	0.162	1.24	95	2.18	67.9	49.7	66	101.1	72	0.112	0.335	21.73
591	154.2	0.4	94.643	0.161	1.25	95	2.17	67.8	49.6	66	100.3	71	0.110	0.332	21.56
592	154.1	-0.1	94.803	0.160	1.23	95	2.19	67.7	49.5	66	99.7	70	0.114	0.338	21.64
593	153.1	-0.9	94.964	0.161	1.24	95	2.17	67.6	49.4	66	100.2	70	0.109	0.330	21.59
594	153.5	0.4	95.127	0.163	1.25	95	2.12	67.5	49.2	66	101.3	69	0.116	0.341	21.68
595	153.6	0.1	95.288	0.161	1.25	95	2.07	67.4	49.1	66	99.7	69	0.110	0.332	21.72
596	153.0	-0.6	95.449	0.161	1.24	95	2.17	67.3	49	66	100.2	68	0.110	0.332	21.41
597	153.7	0.7	95.610	0.161	1.24	96	2.17	67.1	48.9	66	100.1	68	0.116	0.341	21.69
598	153.0	-0.6	95.772	0.162	1.26	95	2.14	67.1	48.8	66	100.0	68	0.111	0.333	21.74
599	153.1	0.1	95.934	0.162	1.24	96	2.14	67.1	48.7	66	100.6	68	0.109	0.330	21.40
600	153.6	0.5	96.095	0.161	1.25	96	2.06	67	48.6	66	100.1	68	0.116	0.341	21.64
601	152.8	-0.8	96.256	0.161	1.24	96	2.17	67	48.6	66	99.4	68	0.111	0.333	21.74
602	153.3	0.5	96.417	0.161	1.23	95	2.13	66.9	48.6	66	99.4	68	0.114	0.338	21.64
603	152.9	-0.5	96.580	0.163	1.23	95	2.05	66.8	48.6	66	99.9	68	0.120	0.346	22.07
604	153.6	0.7	96.741	0.161	1.22	95	2.12	66.8	48.5	65	98.2	70	0.111	0.333	21.96
605	153.0	-0.6	96.903	0.162	1.25	96	2.11	66.7	48.5	66	99.7	69	0.114	0.338	21.67
606	152.7	-0.2	97.063	0.160	1.25	95	2.03	66.6	48.6	66	99.2	68	0.109	0.330	21.55
607	153.2	0.5	97.225	0.162	1.23	95	2.05	66.5	48.6	65	100.5	68	0.116	0.341	21.64
608	153.3	0.1	97.387	0.162	1.25	96	2.03	66.4	48.5	65	99.9	68	0.112	0.335	21.79
609	152.9	-0.4	97.549	0.162	1.24	95	2.15	66.3	48.5	65	99.6	68	0.117	0.342	21.84
610	152.9	0.0	97.710	0.161	1.24	95	2.02	66.3	48.5	66	98.8	68	0.113	0.336	21.89
611	153.5	0.6	97.871	0.161	1.25	95	2.09	66.2	48.6	66	99.2	69	0.112	0.335	21.66
612	152.9	-0.6	98.033	0.162	1.24	95	2.04	66.3	48.7	65	100.4	69	0.113	0.336	21.66

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
613	153.1	0.2	98.195	0.162	1.24	95	2.16	66.4	48.7	66	100.6	73	0.113	0.336	21.75
614	153.3	0.2	98.356	0.161	1.25	96	2.05	66.4	48.6	66	99.4	70	0.117	0.342	21.95
615	152.8	-0.5	98.517	0.161	1.25	95	2.06	66.3	48.6	66	98.7	69	0.112	0.335	21.87
616	153.5	0.7	98.678	0.161	1.24	95	2.01	66.3	48.6	66	99.7	69	0.110	0.332	21.52
617	152.9	-0.6	98.841	0.163	1.24	95	2.06	66.2	48.7	66	101.7	69	0.112	0.335	21.51
618	153.4	0.5	99.002	0.161	1.25	95	2.03	66.2	48.7	65	100.1	68	0.112	0.335	21.60
619	153.1	-0.3	99.164	0.162	1.24	95	2.10	66.2	48.8	65	100.6	68	0.112	0.335	21.60
620	153.1	0.0	99.324	0.160	1.23	95	2.02	66.1	48.7	65	98.8	68	0.117	0.342	21.84
621	153.6	0.5	99.486	0.162	1.24	95	2.16	66.1	48.7	66	99.4	68	0.113	0.336	21.88
622	153.3	-0.3	99.649	0.163	1.25	95	2.15	66	48.6	66	100.1	68	0.114	0.338	21.74
623	152.9	-0.4	99.810	0.161	1.25	95	2.19	66	48.5	65	98.9	67	0.116	0.341	21.87
624	152.9	0.0	99.971	0.161	1.25	96	2.09	66	48.6	66	98.5	68	0.114	0.338	21.87
625	153.2	0.2	100.132	0.161	1.24	95	2.15	65.9	48.6	66	99.0	67	0.112	0.335	21.68
626	153.4	0.2	100.294	0.162	1.25	96	2.18	65.9	48.6	66	101.0	67	0.105	0.324	21.24
627	153.5	0.1	100.456	0.162	1.25	95	2.08	65.9	48.6	66	102.1	67	0.112	0.335	21.24
628	153.5	0.1	100.617	0.161	1.24	95	2.11	65.9	48.6	66	100.2	67	0.116	0.341	21.78
629	153.5	-0.1	100.779	0.162	1.25	96	2.17	65.8	48.6	66	99.0	67	0.117	0.342	22.01
630	153.0	-0.5	100.939	0.160	1.25	96	2.03	65.8	48.5	66	97.8	67	0.110	0.332	21.72
631	153.5	0.5	101.102	0.163	1.23	96	2.02	65.7	48.5	66	100.6	67	0.114	0.338	21.58
632	153.0	-0.5	101.263	0.161	1.26	95	2.13	65.7	48.5	66	99.2	70	0.117	0.342	21.94
633	153.5	0.5	101.425	0.162	1.24	96	2.01	65.8	48.5	65	99.0	70	0.116	0.341	22.07
634	153.7	0.2	101.586	0.161	1.25	95	2.10	65.8	48.5	65	98.6	68	0.111	0.333	21.76
635	153.7	0.0	101.746	0.160	1.24	95	2.02	65.7	48.4	65	98.9	67	0.113	0.336	21.59
636	153.6	-0.1	101.910	0.164	1.27	95	2.13	65.6	48.5	64	101.4	68	0.114	0.338	21.73
637	153.5	-0.1	102.071	0.161	1.25	95	2.06	65.6	48.4	65	99.2	68	0.113	0.336	21.73
638	153.4	0.0	102.233	0.162	1.25	96	2.08	65.5	48.4	65	99.9	68	0.113	0.336	21.69
639	153.3	-0.1	102.394	0.161	1.23	95	2.05	65.5	48.4	65	99.7	69	0.111	0.333	21.60
640	153.4	0.1	102.555	0.161	1.23	95	2.14	65.5	48.3	65	100.2	69	0.111	0.333	21.51
641	153.6	0.1	102.718	0.163	1.26	95	2.10	65.6	48.3	65	101.8	72	0.112	0.335	21.59
642	153.7	0.1	102.880	0.162	1.24	95	2.15	65.7	48.4	66	100.6	70	0.115	0.339	21.79
643	153.9	0.2	103.041	0.161	1.25	95	2.16	65.7	48.3	66	99.4	69	0.111	0.333	21.72
644	154.0	0.1	103.202	0.161	1.24	95	2.17	65.6	48.2	65	99.6	68	0.115	0.339	21.70
645	153.6	-0.3	103.363	0.161	1.24	95	2.04	65.6	48.2	65	99.5	68	0.111	0.333	21.70
646	153.2	-0.5	103.526	0.163	1.25	95	2.16	65.6	48.2	66	100.9	68	0.113	0.336	21.60
647	153.3	0.1	103.688	0.162	1.22	95	2.03	65.6	48.2	65	100.0	68	0.116	0.341	21.83
648	153.5	0.3	103.849	0.161	1.24	94	2.16	65.6	48.2	65	98.6	67	0.115	0.339	21.92
649	153.8	0.3	104.010	0.161	1.23	95	2.03	65.5	48.2	65	99.1	67	0.110	0.332	21.63
650	153.4	-0.4	104.172	0.162	1.25	95	2.04	65.6	48.2	66	100.4	67	0.114	0.338	21.58
651	153.2	-0.2	104.334	0.162	1.25	95	2.16	65.6	48.2	66	99.9	67	0.115	0.339	21.82
652	153.8	0.7	104.495	0.161	1.25	95	2.04	65.5	48.2	66	98.7	67	0.115	0.339	21.86
653	153.7	-0.1	104.656	0.161	1.23	96	2.03	65.5	48.2	66	98.7	67	0.113	0.336	21.77
654	153.3	-0.4	104.817	0.161	1.24	95	2.02	65.6	48.3	66	99.2	67	0.112	0.335	21.62
655	153.5	0.2	104.980	0.163	1.24	96	2.17	65.5	48.3	66	100.9	67	0.112	0.335	21.57
656	153.6	0.1	105.141	0.161	1.24	95	2.04	65.7	48.2	66	100.5	72	0.109	0.330	21.48

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel				
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs	
657	153.1	-0.4	105.302	0.161	1.24	95	2.11	65.6	48.3	65	101.0	71	0.112	0.335	21.52	
658	152.9	-0.2	105.463	0.161	1.25	96	2.08	65.7	48.3	66	100.0	68	0.114	0.338	21.72	
659	152.8	-0.1	105.624	0.161	1.24	95	2.05	65.6	48.3	65	99.6	67	0.110	0.332	21.59	
660	152.8	0.0	105.788	0.164	1.25	95	2.13	65.5	48.2	65	101.9	67	0.112	0.335	21.48	
661	152.8	0.0	105.949	0.161	1.27	96	2.16	65.5	48.3	65	99.6	68	0.116	0.341	21.77	
662	152.9	0.1	106.111	0.162	1.24	96	2.11	65.5	48.3	65	99.2	68	0.115	0.339	21.92	
663	153.0	0.1	106.272	0.161	1.24	96	2.02	65.5	48.2	65	98.2	68	0.117	0.342	21.97	
664	152.8	-0.1	106.433	0.161	1.24	95	2.11	65.4	48.2	65	98.4	68	0.113	0.336	21.88	
665	152.8	0.0	106.596	0.163	1.24	95	2.06	65.5	48.2	65	100.6	69	0.111	0.333	21.61	
666	152.7	-0.1	106.758	0.162	1.26	95	2.07	65.5	48.2	65	100.8	70	0.113	0.336	21.63	
667	152.7	-0.1	106.919	0.161	1.24	95	2.04	65.7	48.3	67	99.7	71	0.116	0.341	21.89	
668	152.8	0.2	107.080	0.161	1.24	95	2.14	65.7	48.3	66	99.7	69	0.107	0.327	21.59	
669	153.1	0.3	107.241	0.161	1.26	95	2.04	65.6	48.3	66	100.6	69	0.112	0.335	21.37	
670	153.5	0.3	107.404	0.163	1.25	95	2.04	65.6	48.3	65	101.6	68	0.113	0.336	21.65	
671	153.6	0.2	107.566	0.162	1.25	95	2.13	65.5	48.2	65	100.2	68	0.113	0.336	21.69	
672	153.4	-0.2	107.727	0.161	1.25	95	2.03	65.5	48.2	65	100.0	68	0.109	0.330	21.50	
673	153.1	-0.3	107.888	0.161	1.25	95	2.12	65.5	48.2	65	100.2	67	0.115	0.339	21.59	
674	152.8	-0.3	108.050	0.162	1.25	95	2.05	65.5	48.2	65	99.5	67	0.119	0.345	22.06	
675	153.1	0.2	108.212	0.162	1.23	95	2.04	65.5	48.2	65	98.6	67	0.113	0.336	21.96	
676	153.4	0.4	108.374	0.162	1.26	94	2.03	65.5	48.2	66	99.8	67	0.110	0.332	21.53	
677	153.2	-0.2	108.535	0.161	1.25	95	2.06	65.5	48.2	65	99.9	67	0.115	0.339	21.62	
678	152.9	-0.3	108.696	0.161	1.25	95	2.03	65.5	48.2	66	98.5	67	0.120	0.346	22.09	
679	153.7	0.8	108.859	0.163	1.26	95	2.03	65.4	48.2	66	98.4	67	0.117	0.342	22.19	
680	152.8	-0.9	109.021	0.162	1.24	95	2.13	65.4	48.1	66	98.6	67	0.111	0.333	21.76	
681	153.4	0.6	109.182	0.161	1.26	95	2.05	65.4	48.2	66	99.1	67	0.116	0.341	21.71	
682	153.5	0.1	109.344	0.162	1.25	95	2.04	65.4	48.2	66	99.1	67	0.117	0.342	22.00	
683	153.4	-0.1	109.505	0.161	1.24	96	2.08	65.4	48.2	65	98.2	70	0.114	0.338	21.94	
684	153.6	0.1	109.667	0.162	1.25	96	2.05	65.5	48.2	65	99.3	68	0.115	0.339	21.86	
685	153.4	-0.1	109.829	0.162	1.25	95	2.03	65.5	48.2	65	99.1	67	0.116	0.341	21.92	
686	153.5	0.1	109.991	0.162	1.25	95	2.06	65.4	48.2	65	99.0	68	0.115	0.339	21.92	
687	152.9	-0.6	110.152	0.161	1.24	96	2.11	65.7	48.3	64	98.7	72	0.116	0.341	21.97	
688	152.7	-0.2	110.313	0.161	1.24	96	2.13	65.5	48.3	65	99.1	69	0.110	0.332	21.74	
689	152.7	0.0	110.476	0.163	1.26	96	2.15	65.5	48.3	65	100.7	68	0.115	0.339	21.66	
690	153.2	0.5	110.638	0.162	1.25	95	2.10	65.4	48.3	65	99.6	69	0.116	0.341	21.94	
691	153.0	-0.2	110.799	0.161	1.25	95	2.15	65.4	48.2	65	98.6	68	0.114	0.338	21.89	
692	152.5	-0.6	110.960	0.161	1.26	95	2.03	65.4	48.1	65	99.4	69	0.110	0.332	21.61	
693	152.5	0.1	111.121	0.161	1.25	95	2.09	65.5	48.2	65	100.6	72	0.111	0.333	21.51	
694	153.0	0.5	111.284	0.163	1.24	95	2.12	65.6	48.3	66	101.0	69	0.120	0.346	21.99	
695	153.2	0.2	111.446	0.162	1.25	95	2.13	65.6	48.3	66	99.0	69	0.112	0.335	22.00	
696	153.1	-0.1	111.608	0.162	1.25	95	2.12	65.5	48.3	65	100.2	69	0.108	0.329	21.42	
697	152.6	-0.5	111.769	0.161	1.24	95	2.14	65.5	48.2	65	100.3	68	0.117	0.342	21.65	
698	152.4	-0.2	111.930	0.161	1.27	95	2.13	65.5	48.2	65	99.1	68	0.114	0.338	21.93	
699	152.7	0.3	112.093	0.163	1.25	95	2.15	65.4	48.2	65	100.4	68	0.109	0.330	21.54	
700	153.0	0.3	112.255	0.162	1.26	94	2.13	65.4	48.2	65	101.1	67	0.111	0.333	21.39	

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25
Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
701	153.2	0.2	112.417	0.162	1.25	95	2.14	65.4	48.2	65	101.2	67	0.111	0.333	21.48
702	153.3	0.1	112.578	0.161	1.23	94	2.15	65.4	48.3	65	100.5	68	0.110	0.332	21.44
703	153.0	-0.3	112.738	0.160	1.24	94	2.10	65.7	48.4	65	100.6	74	0.111	0.333	21.51
704	152.2	-0.7	112.901	0.163	1.26	95	2.15	65.8	48.4	66	102.1	75	0.116	0.341	21.88
705	151.4	-0.9	113.063	0.162	1.23	95	2.04	66.1	48.6	66	100.7	79	0.112	0.335	21.97
706	150.4	-0.9	113.223	0.160	1.25	95	2.05	66.4	48.7	66	100.0	81	0.113	0.336	21.88
707	149.3	-1.1	113.384	0.161	1.25	95	2.06	66.6	48.6	65	101.0	83	0.113	0.336	21.98
708	149.0	-0.3	113.545	0.161	1.23	96	2.04	66.8	48.8	65	101.2	85	0.112	0.335	21.97
709	147.8	-1.2	113.707	0.162	1.23	95	2.08	67	48.9	65	101.8	84	0.113	0.336	21.98
710	147.8	0.0	113.868	0.161	1.23	95	2.04	67	49	65	101.3	82	0.110	0.332	21.85
711	146.6	-1.3	114.028	0.160	1.24	95	2.05	67	49	64	100.6	83	0.116	0.341	21.99
712	145.4	-1.2	114.189	0.161	1.25	95	2.11	67.1	49.1	65	101.0	83	0.109	0.330	21.94
713	145.5	0.1	114.351	0.162	1.24	96	2.13	67.1	49.2	65	102.3	81	0.110	0.332	21.64
714	143.6	-1.8	114.511	0.160	1.24	95	2.14	67.3	49.2	65	101.0	85	0.116	0.341	22.00
715	144.0	0.4	114.672	0.161	1.25	95	2.12	67.4	49.2	65	100.9	84	0.111	0.333	22.07
716	142.0	-2.1	114.832	0.160	1.24	95	2.08	67.5	49.3	65	100.2	87	0.117	0.342	22.15
717	141.9	-0.1	114.994	0.162	1.23	95	2.14	67.7	49.4	66	101.6	83	0.108	0.329	22.00
718	140.8	-1.1	115.155	0.161	1.23	95	2.17	67.7	49.4	66	101.4	83	0.114	0.338	21.81
719	139.6	-1.2	115.315	0.160	1.22	95	2.05	67.9	49.6	65	100.5	85	0.115	0.339	22.17
720	139.5	-0.2	115.475	0.160	1.25	94	2.16	67.9	49.7	65	100.3	85	0.110	0.332	21.99
721	138.1	-1.4	115.638	0.163	1.25	95	2.05	68	49.8	65	102.8	85	0.113	0.336	21.88
722	137.2	-0.9	115.798	0.160	1.22	95	2.06	68.1	49.9	65	101.0	84	0.111	0.333	21.93
723	136.9	-0.3	115.958	0.160	1.24	95	2.08	68.1	49.9	66	100.8	84	0.113	0.336	21.93
724	136.1	-0.8	116.118	0.160	1.23	95	2.16	68.1	50	65	100.4	84	0.115	0.339	22.11
725	135.1	-1.1	116.281	0.163	1.24	95	2.07	68.1	50	65	101.8	82	0.112	0.335	22.04
726	133.8	-1.3	116.441	0.160	1.24	95	2.16	68.3	50	66	99.8	84	0.117	0.342	22.14
727	132.8	-1.0	116.602	0.161	1.24	95	2.12	68.4	50.1	66	100.7	85	0.109	0.330	22.02
728	131.9	-0.9	116.761	0.159	1.24	96	2.14	68.4	50.1	66	99.8	85	0.117	0.342	22.03
729	131.4	-0.5	116.924	0.163	1.24	95	2.07	68.4	50.1	66	101.8	84	0.113	0.336	22.22
730	131.1	-0.3	117.084	0.160	1.23	95	2.11	68.5	50.1	65	99.9	86	0.114	0.338	22.09
731	129.8	-1.2	117.245	0.161	1.24	95	2.12	68.7	50.2	66	100.8	88	0.115	0.339	22.22
732	129.0	-0.9	117.405	0.160	1.25	95	2.16	68.4	50.4	66	99.6	76	0.111	0.333	21.98
733	128.8	-0.2	117.567	0.162	1.24	95	2.10	68	50.2	65	100.3	73	0.116	0.341	21.88
734	127.6	-1.2	117.728	0.161	1.23	95	2.05	67.8	50.3	66	99.6	72	0.111	0.333	21.84
735	127.9	0.4	117.889	0.161	1.25	95	2.06	67.6	50.2	66	99.7	72	0.115	0.339	21.77
736	127.0	-1.0	118.050	0.161	1.22	95	2.12	67.5	50.1	65	99.3	71	0.115	0.339	21.95
737	127.6	0.6	118.211	0.161	1.25	95	2.10	67.4	49.9	66	99.4	71	0.110	0.332	21.70
738	126.4	-1.1	118.373	0.162	1.26	95	2.09	67.3	49.9	65	100.8	71	0.113	0.336	21.61
739	127.1	0.7	118.535	0.162	1.24	96	2.10	67.3	49.7	65	100.8	73	0.113	0.336	21.77
740	126.7	-0.5	118.696	0.161	1.25	95	2.14	67.3	49.6	66	100.0	73	0.113	0.336	21.79
741	126.4	-0.2	118.856	0.160	1.24	95	2.13	67.3	49.5	66	98.8	70	0.116	0.341	21.91
742	126.9	0.4	119.018	0.162	1.27	95	2.16	67.1	49.4	66	99.7	69	0.112	0.335	21.82
743	126.7	-0.1	119.180	0.162	1.24	95	2.16	67.1	49.4	65	100.1	69	0.113	0.336	21.67
744	126.0	-0.7	119.341	0.161	1.25	95	2.15	67	49.3	66	99.9	69	0.111	0.333	21.61

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
745	126.5	0.5	119.503	0.162	1.25	95	2.08	66.9	49.1	65	100.6	68	0.113	0.336	21.60
746	126.7	0.2	119.663	0.160	1.24	95	2.15	66.8	49.1	65	99.5	68	0.109	0.330	21.50
747	126.3	-0.4	119.826	0.163	1.25	95	2.06	66.7	49.1	65	100.9	68	0.120	0.346	21.84
748	126.0	-0.3	119.988	0.162	1.24	95	2.09	66.7	49.1	65	99.4	68	0.110	0.332	21.88
749	126.1	0.1	120.149	0.161	1.23	95	2.06	66.6	49	66	98.9	68	0.118	0.344	21.78
750	126.5	0.4	120.310	0.161	1.21	96	2.07	66.5	49	65	98.6	68	0.114	0.338	21.97
751	126.8	0.3	120.471	0.161	1.24	95	2.09	66.5	49	66	98.5	68	0.115	0.339	21.83
752	126.6	-0.2	120.634	0.163	1.25	95	2.15	66.4	49.1	66	99.6	67	0.118	0.344	22.01
753	126.2	-0.4	120.796	0.162	1.24	96	2.14	66.3	49.1	66	98.6	67	0.114	0.338	21.97
754	126.0	-0.2	120.957	0.161	1.26	95	2.09	66.3	49.1	66	98.3	67	0.116	0.341	21.87
755	125.9	-0.2	121.118	0.161	1.24	96	2.07	66.2	49	66	98.7	67	0.112	0.335	21.77
756	126.2	0.4	121.279	0.161	1.25	95	2.16	66.3	49.2	65	99.3	70	0.114	0.338	21.70
757	126.5	0.3	121.442	0.163	1.23	96	2.07	66.2	49.2	65	100.6	69	0.114	0.338	21.81
758	126.1	-0.5	121.603	0.161	1.23	95	2.15	66.1	49.2	65	99.0	68	0.114	0.338	21.79
759	126.8	0.7	121.765	0.162	1.25	96	2.07	66	49.2	65	99.4	68	0.116	0.341	21.88
760	125.8	-0.9	121.925	0.160	1.24	96	2.13	65.9	49.1	64	98.2	68	0.111	0.333	21.73
761	126.5	0.7	122.088	0.163	1.25	96	2.14	65.9	49.1	64	100.2	68	0.118	0.344	21.83
762	126.2	-0.3	122.250	0.162	1.24	96	2.08	65.8	49.2	65	99.3	69	0.112	0.335	21.89
763	126.5	0.3	122.411	0.161	1.25	95	2.14	65.8	49.2	65	99.1	69	0.114	0.338	21.70
764	126.2	-0.3	122.572	0.161	1.24	95	2.14	65.8	49.2	65	99.4	69	0.114	0.338	21.80
765	126.4	0.2	122.733	0.161	1.24	95	2.07	65.8	49.2	65	99.6	72	0.112	0.335	21.74
766	126.4	-0.1	122.896	0.163	1.24	95	2.06	65.9	49.2	66	100.9	70	0.115	0.339	21.80
767	126.6	0.3	123.058	0.162	1.25	95	2.11	65.9	49.2	66	99.7	69	0.115	0.339	21.91
768	126.0	-0.6	123.219	0.161	1.25	95	2.11	65.8	49.1	65	98.7	69	0.115	0.339	21.90
769	126.7	0.6	123.380	0.161	1.24	95	2.06	65.8	49.1	65	99.1	68	0.110	0.332	21.65
770	126.1	-0.6	123.541	0.161	1.24	95	2.06	65.8	49.1	66	99.6	68	0.116	0.341	21.69
771	126.6	0.5	123.704	0.163	1.27	95	2.15	65.7	49.1	65	100.5	68	0.112	0.335	21.78
772	126.9	0.2	123.866	0.162	1.25	95	2.06	65.7	49.1	65	100.0	67	0.113	0.336	21.63
773	126.1	-0.8	124.027	0.161	1.22	95	2.12	65.7	49.2	65	99.3	67	0.115	0.339	21.77
774	126.0	-0.1	124.188	0.161	1.24	95	2.12	65.7	49.1	65	98.9	67	0.114	0.338	21.82
775	126.5	0.5	124.349	0.161	1.25	95	2.05	65.6	49.1	65	99.1	67	0.112	0.335	21.67
776	126.4	-0.1	124.515	0.166	1.25	95	2.12	65.7	49	65	102.7	67	0.112	0.335	21.58
777	126.5	0.1	124.674	0.159	1.26	95	2.13	65.6	49	65	98.2	67	0.116	0.341	21.77
778	126.2	-0.2	124.835	0.161	1.24	95	2.05	65.6	49	65	98.9	67	0.113	0.336	21.82
779	126.1	-0.2	124.996	0.161	1.25	96	2.11	65.5	48.9	66	99.2	67	0.111	0.333	21.58
780	126.0	0.0	125.158	0.162	1.24	96	2.15	65.5	48.9	66	100.2	67	0.115	0.339	21.67
781	126.3	0.2	125.320	0.162	1.25	95	2.05	65.4	48.9	65	99.3	67	0.117	0.342	21.95
782	126.8	0.5	125.482	0.162	1.26	95	2.04	65.5	49	65	98.9	67	0.113	0.336	21.86
783	127.0	0.2	125.643	0.161	1.24	95	2.15	65.4	48.9	66	98.7	67	0.115	0.339	21.76
784	126.5	-0.5	125.804	0.161	1.24	95	2.04	65.4	48.9	65	98.7	69	0.117	0.342	21.98
785	126.1	-0.4	125.966	0.162	1.25	95	2.13	65.5	49	64	99.1	68	0.114	0.338	21.95
786	126.4	0.3	126.131	0.165	1.24	95	2.11	65.5	49	65	101.2	67	0.113	0.336	21.73
787	126.4	0.0	126.289	0.158	1.26	96	2.16	65.4	49	64	96.7	67	0.119	0.345	21.96
788	126.9	0.5	126.450	0.161	1.26	95	2.04	65.2	48.9	64	98.2	67	0.111	0.333	21.86

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
789	126.8	0.0	126.611	0.161	1.23	95	2.04	65.2	48.9	65	99.3	67	0.112	0.335	21.53
790	126.9	0.1	126.774	0.163	1.25	95	2.11	65.2	48.8	65	101.5	68	0.110	0.332	21.49
791	126.9	0.0	126.936	0.162	1.26	95	2.04	65.2	48.7	65	101.0	68	0.112	0.335	21.49
792	126.7	-0.2	127.097	0.161	1.24	95	2.05	65.2	48.8	65	99.6	68	0.117	0.342	21.83
793	126.6	-0.1	127.258	0.161	1.24	95	2.15	65.3	48.7	65	99.1	72	0.112	0.335	21.88
794	126.6	0.0	127.419	0.161	1.25	95	2.03	65.4	48.8	65	99.2	69	0.116	0.341	21.84
795	126.6	0.0	127.582	0.163	1.24	95	2.04	65.3	48.7	65	100.5	68	0.110	0.332	21.70
796	126.7	0.0	127.747	0.165	1.25	95	2.14	65.3	48.7	65	102.5	68	0.112	0.335	21.50
797	126.6	-0.1	127.908	0.161	1.24	95	2.06	65.2	48.7	65	100.0	68	0.113	0.336	21.64
798	126.6	0.0	128.066	0.158	1.26	95	2.06	65.2	48.7	65	97.6	68	0.114	0.338	21.73
799	126.9	0.3	128.228	0.162	1.25	95	2.05	65.3	48.7	65	100.0	67	0.112	0.335	21.68
800	127.1	0.2	128.390	0.162	1.24	95	2.05	65.2	48.8	65	100.1	67	0.114	0.338	21.68
801	126.8	-0.3	128.552	0.162	1.24	95	2.05	65.3	48.7	65	100.4	70	0.111	0.333	21.66
802	126.5	-0.3	128.713	0.161	1.24	95	2.13	65.3	48.8	65	100.2	69	0.112	0.335	21.57
803	126.0	-0.5	128.874	0.161	1.25	95	2.10	65.3	48.8	65	99.8	67	0.114	0.338	21.69
804	125.8	-0.2	129.036	0.162	1.25	95	2.03	65.2	48.8	65	99.7	67	0.114	0.338	21.76
805	125.8	0.1	129.198	0.162	1.24	95	2.04	65.2	48.7	65	99.6	67	0.113	0.336	21.71
806	125.8	0.0	129.363	0.165	1.26	95	2.10	65.2	48.7	65	102.2	67	0.109	0.330	21.48
807	125.8	0.0	129.524	0.161	1.23	95	2.06	65.3	48.8	65	100.0	70	0.117	0.342	21.70
808	125.7	0.0	129.682	0.158	1.25	96	2.12	65.3	48.7	64	96.8	68	0.117	0.342	22.09
809	125.9	0.2	129.845	0.163	1.25	95	2.06	65.2	48.7	64	99.2	67	0.113	0.336	21.87
810	126.0	0.1	130.007	0.162	1.25	95	2.12	65.2	48.7	65	99.4	67	0.114	0.338	21.72
811	126.5	0.5	130.168	0.161	1.25	95	2.07	65.1	48.7	64	98.9	67	0.116	0.341	21.87
812	126.4	-0.1	130.330	0.162	1.24	95	2.05	65.1	48.7	65	99.3	68	0.113	0.336	21.83
813	125.7	-0.7	130.491	0.161	1.23	95	2.05	65.1	48.7	65	99.4	68	0.111	0.333	21.59
814	126.5	0.7	130.653	0.162	1.25	95	2.13	65.1	48.7	65	100.3	68	0.116	0.341	21.74
815	125.8	-0.6	130.816	0.163	1.23	95	2.06	65.1	48.7	65	100.5	69	0.112	0.335	21.80
816	126.5	0.7	130.980	0.164	1.25	95	2.13	65.3	48.7	66	101.6	72	0.113	0.336	21.69
817	125.9	-0.6	131.141	0.161	1.25	95	2.03	65.3	48.7	65	99.6	69	0.115	0.339	21.84
818	126.5	0.6	131.302	0.161	1.24	95	2.09	65.3	48.7	65	99.1	69	0.112	0.335	21.76
819	125.9	-0.5	131.462	0.160	1.25	95	2.05	65.2	48.7	65	98.6	68	0.116	0.341	21.79
820	126.6	0.7	131.624	0.162	1.25	94	2.05	65.3	48.6	65	99.3	68	0.116	0.341	21.97
821	125.9	-0.7	131.785	0.161	1.25	95	2.12	65.2	48.6	65	98.7	67	0.112	0.335	21.78
822	126.6	0.6	131.947	0.162	1.24	94	2.06	65.2	48.6	65	99.9	67	0.114	0.338	21.68
823	125.9	-0.6	132.108	0.161	1.25	94	2.05	65.2	48.6	65	99.2	67	0.115	0.339	21.82
824	126.7	0.8	132.271	0.163	1.25	95	2.05	65.2	48.6	65	99.8	67	0.116	0.341	21.91
825	125.9	-0.8	132.433	0.162	1.24	95	2.05	65.1	48.6	65	99.4	67	0.111	0.333	21.72
826	126.6	0.7	132.597	0.164	1.24	95	2.05	65.1	48.5	65	100.8	67	0.118	0.344	21.81
827	126.0	-0.5	132.759	0.162	1.24	95	2.09	65.1	48.6	65	99.4	67	0.110	0.332	21.76
828	126.3	0.2	132.920	0.161	1.26	95	2.04	65.1	48.6	66	99.8	67	0.110	0.332	21.37
829	126.7	0.5	133.080	0.160	1.25	95	2.09	65.1	48.7	66	99.5	67	0.115	0.339	21.61
830	126.1	-0.7	133.241	0.161	1.25	95	2.04	65.1	48.6	66	99.1	66	0.114	0.338	21.80
831	126.0	0.0	133.403	0.162	1.26	95	2.16	65.1	48.6	66	99.6	66	0.112	0.335	21.66
832	126.6	0.5	133.564	0.161	1.25	96	2.13	65.2	48.7	65	98.9	70	0.120	0.346	21.99

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
833	126.1	-0.5	133.725	0.161	1.25	96	2.14	65.1	48.7	66	98.1	68	0.113	0.336	22.05
834	126.0	-0.1	133.888	0.163	1.25	96	2.12	65.2	48.7	65	100.1	70	0.112	0.335	21.67
835	126.3	0.4	134.053	0.165	1.26	95	2.06	65.2	48.7	64	101.8	68	0.117	0.342	21.86
836	125.5	-0.8	134.214	0.161	1.24	95	2.05	65.1	48.7	65	98.4	67	0.115	0.339	21.96
837	126.2	0.7	134.376	0.162	1.26	95	2.12	65	48.7	64	98.4	67	0.119	0.345	22.05
838	125.7	-0.5	134.537	0.161	1.23	95	2.12	65	48.7	65	97.9	67	0.113	0.336	21.95
839	126.3	0.6	134.697	0.160	1.27	95	2.06	65	48.8	64	98.1	68	0.114	0.338	21.72
840	125.6	-0.7	134.859	0.162	1.25	95	2.06	64.9	48.7	64	99.8	67	0.114	0.338	21.78
841	126.2	0.6	135.021	0.162	1.25	95	2.15	65	48.8	65	99.1	68	0.119	0.345	22.02
842	125.7	-0.6	135.182	0.161	1.24	95	2.06	65	48.7	65	98.4	68	0.111	0.333	21.89
843	126.4	0.7	135.343	0.161	1.24	95	2.06	65	48.7	65	99.9	70	0.110	0.332	21.48
844	125.3	-1.1	135.506	0.163	1.24	94	2.07	65.3	48.8	65	102.9	78	0.110	0.332	21.53
845	125.1	-0.1	135.670	0.164	1.25	95	2.10	65.6	48.9	65	103.6	79	0.113	0.336	21.76
846	124.5	-0.6	135.831	0.161	1.24	95	2.08	65.8	48.9	65	101.1	80	0.111	0.333	21.82
847	123.9	-0.6	135.992	0.161	1.24	95	2.15	66	48.9	65	101.1	82	0.114	0.338	21.90
848	123.0	-0.9	136.153	0.161	1.24	95	2.06	66.2	48.9	65	100.6	83	0.116	0.341	22.17
849	122.1	-0.9	136.313	0.160	1.24	94	2.07	66.5	49.1	65	99.4	84	0.115	0.339	22.25
850	121.9	-0.2	136.473	0.160	1.23	94	2.08	66.6	49.2	65	99.6	84	0.114	0.338	22.16
851	120.4	-1.5	136.634	0.161	1.25	95	2.07	66.7	49.2	65	100.5	85	0.115	0.339	22.17
852	120.4	0.0	136.794	0.160	1.26	95	2.15	66.9	49.4	65	100.0	85	0.113	0.336	22.14
853	118.9	-1.5	136.957	0.163	1.24	95	2.16	67	49.5	65	102.6	84	0.108	0.329	21.78
854	118.5	-0.4	137.118	0.161	1.24	95	2.08	67.1	49.5	65	102.2	84	0.112	0.335	21.72
855	117.3	-1.2	137.281	0.163	1.22	94	2.16	67.1	49.6	65	103.0	83	0.113	0.336	21.95
856	116.9	-0.4	137.441	0.160	1.23	95	2.14	67.2	49.7	65	100.5	83	0.112	0.335	21.94
857	115.7	-1.2	137.602	0.161	1.24	95	2.07	67.3	49.8	65	101.4	83	0.110	0.332	21.80
858	115.4	-0.2	137.764	0.162	1.26	95	2.11	67.4	49.9	65	101.8	83	0.118	0.344	22.09
859	113.7	-1.7	137.922	0.158	1.24	95	2.08	67.4	49.9	66	98.6	83	0.110	0.332	22.10
860	113.0	-0.7	138.082	0.160	1.25	95	2.12	67.4	50	66	99.9	82	0.117	0.342	22.03
861	112.7	-0.3	138.243	0.161	1.26	95	2.16	67.6	50.1	65	100.2	85	0.115	0.339	22.30
862	110.9	-1.8	138.404	0.161	1.24	95	2.15	67.6	50.1	65	100.0	82	0.114	0.338	22.16
863	110.9	0.0	138.565	0.161	1.24	95	2.09	67.7	50.2	64	100.5	83	0.112	0.335	21.99
864	109.5	-1.4	138.725	0.160	1.23	95	2.17	67.6	50.3	64	100.6	83	0.111	0.333	21.85
865	109.1	-0.4	138.888	0.163	1.23	95	2.07	67.8	50.4	64	102.8	84	0.113	0.336	21.91
866	107.6	-1.4	139.050	0.162	1.24	95	2.10	67.7	50.4	64	101.6	85	0.116	0.341	22.17
867	107.3	-0.3	139.210	0.160	1.24	95	2.17	67.8	50.4	64	99.4	85	0.116	0.341	22.32
868	105.9	-1.4	139.371	0.161	1.23	95	2.12	67.9	50.5	65	99.8	85	0.115	0.339	22.27
869	104.9	-1.1	139.530	0.159	1.24	95	2.17	68	50.6	65	98.7	86	0.117	0.342	22.34
870	104.4	-0.5	139.690	0.160	1.24	95	2.17	68.1	50.6	65	99.9	88	0.111	0.333	22.18
871	104.0	-0.4	139.850	0.160	1.23	95	2.08	68.3	50.7	66	100.9	88	0.112	0.335	21.96
872	103.2	-0.8	140.010	0.160	1.24	95	2.11	68.3	50.8	65	101.1	87	0.112	0.335	21.99
873	101.9	-1.3	140.171	0.161	1.23	95	2.08	68.3	50.8	65	101.6	86	0.112	0.335	21.96
874	100.7	-1.2	140.332	0.161	1.24	95	2.09	68.4	50.9	65	102.1	85	0.108	0.329	21.75
875	100.0	-0.7	140.496	0.164	1.25	95	2.07	68.2	50.9	65	103.7	77	0.113	0.336	21.72
876	99.5	-0.5	140.656	0.160	1.23	95	2.13	67.9	50.9	66	99.5	74	0.116	0.341	21.99

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
877	99.3	-0.3	140.817	0.161	1.23	95	2.06	67.7	50.8	66	99.4	72	0.111	0.333	21.84
878	99.2	-0.1	140.979	0.162	1.25	95	2.14	67.5	50.7	66	100.4	71	0.114	0.338	21.72
879	98.9	-0.3	141.140	0.161	1.25	95	2.11	67.4	50.8	65	99.7	70	0.113	0.336	21.79
880	98.7	-0.2	141.298	0.158	1.24	95	2.12	67.3	50.7	65	97.2	70	0.117	0.342	21.92
881	98.3	-0.3	141.459	0.161	1.25	95	2.08	67.2	50.6	65	98.6	72	0.116	0.341	22.08
882	97.7	-0.6	141.621	0.162	1.25	95	2.12	67.2	50.4	65	99.4	71	0.113	0.336	21.90
883	97.5	-0.2	141.783	0.162	1.26	95	2.14	67	50.2	65	100.3	69	0.109	0.330	21.54
884	97.4	-0.1	141.944	0.161	1.25	95	2.06	66.9	50.2	65	100.7	68	0.111	0.333	21.42
885	97.7	0.3	142.108	0.164	1.25	95	2.11	66.8	50.1	65	102.3	69	0.113	0.336	21.61
886	97.9	0.2	142.269	0.161	1.23	96	2.15	66.7	50	65	99.2	69	0.118	0.344	21.95
887	97.9	0.0	142.431	0.162	1.26	95	2.07	66.6	49.9	65	99.0	69	0.114	0.338	21.99
888	98.1	0.1	142.593	0.162	1.25	95	2.15	66.6	49.8	65	99.1	69	0.116	0.341	21.90
889	97.6	-0.5	142.754	0.161	1.24	95	2.05	66.5	49.7	65	98.5	69	0.116	0.341	22.00
890	97.3	-0.3	142.912	0.158	1.25	95	2.14	66.5	49.7	65	96.2	69	0.119	0.345	22.14
891	97.1	-0.2	143.074	0.162	1.25	94	2.13	66.5	49.7	65	98.8	70	0.112	0.335	21.96
892	97.3	0.2	143.236	0.162	1.26	95	2.13	66.5	49.7	65	99.7	74	0.117	0.342	21.91
893	97.8	0.6	143.397	0.161	1.23	95	2.07	66.5	49.6	66	99.2	70	0.112	0.335	21.91
894	97.5	-0.3	143.558	0.161	1.24	95	2.06	66.4	49.6	65	99.5	70	0.112	0.335	21.63
895	97.2	-0.3	143.722	0.164	1.25	95	2.07	66.4	49.7	65	102.1	69	0.111	0.333	21.57
896	97.7	0.5	143.884	0.162	1.25	95	2.05	66.3	49.7	65	100.8	69	0.113	0.336	21.61
897	97.4	-0.3	144.046	0.162	1.23	95	2.14	66.2	49.7	65	100.8	68	0.110	0.332	21.56
898	97.3	-0.1	144.208	0.162	1.26	95	2.14	66.2	49.7	65	100.6	68	0.115	0.339	21.64
899	97.9	0.6	144.369	0.161	1.25	95	2.06	66.1	49.8	65	99.9	68	0.108	0.329	21.54
900	97.1	-0.8	144.530	0.161	1.23	94	2.06	66.1	49.9	65	100.4	68	0.113	0.336	21.45
901	97.6	0.6	144.690	0.160	1.24	95	2.11	66	49.9	65	98.9	67	0.118	0.344	21.92
902	97.4	-0.2	144.851	0.161	1.24	95	2.09	65.9	49.9	65	98.4	67	0.113	0.336	21.92
903	97.1	-0.3	145.012	0.161	1.23	95	2.15	65.9	49.9	65	99.0	67	0.112	0.335	21.63
904	97.3	0.2	145.176	0.164	1.26	95	2.14	65.8	49.8	65	101.3	67	0.115	0.339	21.72
905	97.5	0.1	145.337	0.161	1.23	95	2.07	65.8	49.9	66	99.1	67	0.113	0.336	21.77
906	97.5	0.1	145.500	0.163	1.24	96	2.12	65.8	50	66	99.7	67	0.119	0.345	21.96
907	97.4	-0.1	145.661	0.161	1.24	95	2.13	65.7	49.9	66	97.8	67	0.116	0.341	22.10
908	97.3	-0.1	145.823	0.162	1.24	95	2.15	65.7	49.9	65	98.8	69	0.114	0.338	21.88
909	97.3	0.0	145.984	0.161	1.25	95	2.15	65.8	50	65	98.9	68	0.115	0.339	21.85
910	97.5	0.2	146.143	0.159	1.24	95	2.15	65.7	49.9	65	97.5	67	0.115	0.339	21.88
911	98.0	0.4	146.305	0.162	1.25	95	2.06	65.6	49.8	65	99.3	67	0.114	0.338	21.82
912	97.7	-0.3	146.466	0.161	1.24	95	2.10	65.6	49.8	64	98.6	68	0.117	0.342	21.92
913	97.0	-0.7	146.627	0.161	1.22	95	2.15	65.4	49.8	64	98.5	68	0.113	0.336	21.88
914	97.5	0.5	146.791	0.164	1.22	95	2.07	65.4	49.8	65	100.8	68	0.114	0.338	21.74
915	97.8	0.3	146.953	0.162	1.25	95	2.12	65.4	49.9	65	99.9	68	0.113	0.336	21.74
916	97.2	-0.6	147.115	0.162	1.23	95	2.10	65.3	49.9	65	99.8	68	0.115	0.339	21.79
917	97.5	0.3	147.277	0.162	1.24	95	2.15	65.4	49.9	65	99.7	69	0.114	0.338	21.85
918	98.1	0.6	147.438	0.161	1.23	95	2.13	65.4	49.8	65	99.5	69	0.110	0.332	21.61
919	97.5	-0.6	147.599	0.161	1.25	95	2.09	65.5	49.8	65	100.1	72	0.115	0.339	21.70
920	97.1	-0.3	147.759	0.160	1.24	95	2.10	65.6	49.8	65	98.9	69	0.114	0.338	21.89

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
921	97.7	0.6	147.921	0.162	1.25	95	2.10	65.4	49.8	65	99.8	69	0.112	0.335	21.72
922	97.8	0.1	148.082	0.161	1.22	95	2.07	65.4	49.7	65	99.6	68	0.114	0.338	21.70
923	97.5	-0.4	148.246	0.164	1.24	95	2.14	65.4	49.7	65	101.4	68	0.112	0.335	21.69
924	97.5	0.0	148.406	0.160	1.25	95	2.06	65.3	49.7	65	98.9	68	0.114	0.338	21.69
925	98.0	0.5	148.569	0.163	1.24	95	2.15	65.3	49.7	65	100.4	67	0.115	0.339	21.82
926	98.0	0.0	148.731	0.162	1.24	95	2.06	65.3	49.8	65	99.4	67	0.114	0.338	21.82
927	97.7	-0.3	148.892	0.161	1.26	94	2.13	65.3	49.8	65	99.2	67	0.112	0.335	21.67
928	97.3	-0.4	149.053	0.161	1.24	94	2.07	65.3	49.8	65	99.5	67	0.114	0.338	21.67
929	97.3	0.0	149.214	0.161	1.23	95	2.08	65.2	49.8	65	99.4	67	0.112	0.335	21.66
930	97.6	0.3	149.375	0.161	1.23	95	2.07	65.2	49.8	65	99.7	67	0.111	0.333	21.52
931	98.0	0.4	149.536	0.161	1.24	95	2.15	65.2	49.8	66	99.5	67	0.116	0.341	21.71
932	97.8	-0.2	149.697	0.161	1.24	95	2.14	65.2	49.8	65	99.1	67	0.111	0.333	21.71
933	97.4	-0.4	149.861	0.164	1.24	95	2.06	65.2	49.8	65	101.5	70	0.113	0.336	21.60
934	97.9	0.5	150.023	0.162	1.25	95	2.16	65.2	49.7	65	100.4	67	0.113	0.336	21.70
935	98.0	0.1	150.186	0.163	1.26	96	2.14	65.1	49.7	65	100.4	68	0.115	0.339	21.78
936	97.3	-0.6	150.347	0.161	1.25	95	2.06	65.1	49.7	64	98.7	68	0.116	0.341	21.92
937	98.0	0.7	150.509	0.162	1.26	95	2.09	65.1	49.7	64	99.5	67	0.110	0.332	21.68
938	97.5	-0.5	150.669	0.160	1.24	95	2.13	65	49.7	64	98.9	67	0.115	0.339	21.63
939	97.8	0.3	150.831	0.162	1.25	95	2.06	65	49.7	64	100.1	68	0.112	0.335	21.73
940	98.1	0.3	150.991	0.160	1.24	95	2.08	65	49.7	65	98.3	68	0.119	0.345	21.93
941	97.4	-0.6	151.152	0.161	1.24	95	2.15	65.1	49.7	64	98.0	68	0.116	0.341	22.12
942	98.0	0.6	151.313	0.161	1.23	95	2.12	65.1	49.8	64	98.5	71	0.113	0.336	21.87
943	97.5	-0.5	151.477	0.164	1.26	95	2.14	65.2	49.8	65	101.1	69	0.114	0.338	21.78
944	97.8	0.3	151.639	0.162	1.26	95	2.08	65.1	49.8	65	100.5	69	0.108	0.329	21.52
945	98.0	0.2	151.801	0.162	1.24	95	2.05	65.2	50	65	101.3	70	0.113	0.336	21.49
946	97.4	-0.6	151.962	0.161	1.26	95	2.10	65.1	49.9	64	100.3	68	0.112	0.335	21.67
947	96.9	-0.5	152.124	0.162	1.25	95	2.13	65.1	49.9	65	100.5	67	0.111	0.333	21.54
948	97.2	0.3	152.285	0.161	1.25	95	2.08	65.1	49.9	65	100.7	67	0.107	0.327	21.29
949	97.7	0.5	152.448	0.163	1.25	95	2.07	65.1	49.9	65	101.9	67	0.116	0.341	21.53
950	97.6	-0.1	152.609	0.161	1.26	95	2.07	65.1	50	65	99.4	67	0.113	0.336	21.81
951	97.8	0.2	152.768	0.159	1.26	95	2.06	65.1	50	65	97.7	67	0.114	0.338	21.71
952	97.6	-0.2	152.929	0.161	1.26	95	2.12	65	50	65	99.3	67	0.112	0.335	21.66
953	97.3	-0.4	153.093	0.164	1.24	95	2.15	65	49.9	65	101.3	66	0.113	0.336	21.61
954	97.1	-0.2	153.256	0.163	1.25	95	2.09	65	50	65	100.6	66	0.114	0.338	21.71
955	97.1	0.0	153.418	0.162	1.25	95	2.13	65	50	65	99.9	66	0.112	0.335	21.66
956	97.7	0.7	153.579	0.161	1.26	95	2.16	65	50.1	65	99.5	68	0.114	0.338	21.68
957	97.8	0.0	153.740	0.161	1.24	95	2.13	65	50.1	65	99.4	67	0.112	0.335	21.69
958	97.8	0.0	153.902	0.162	1.24	95	2.15	65	50.1	65	99.6	67	0.117	0.342	21.81
959	97.8	0.1	154.065	0.163	1.25	95	2.11	65	50.2	64	99.3	67	0.118	0.344	22.10
960	97.7	-0.2	154.227	0.162	1.25	95	2.06	64.9	50.2	64	98.5	67	0.113	0.336	21.91
961	97.8	0.1	154.385	0.158	1.25	95	2.09	64.9	50.2	64	96.8	67	0.115	0.339	21.77
962	97.8	0.0	154.546	0.161	1.26	95	2.13	64.8	50.2	65	98.8	67	0.115	0.339	21.87
963	97.7	-0.1	154.710	0.164	1.24	95	2.08	64.9	50.2	65	100.6	68	0.113	0.336	21.78
964	97.7	0.0	154.874	0.164	1.24	95	2.13	64.9	50.2	64	100.8	68	0.116	0.341	21.83

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
965	97.4	-0.3	155.035	0.161	1.25	95	2.10	64.9	50.2	65	98.6	70	0.117	0.342	22.05
966	97.2	-0.2	155.197	0.162	1.24	95	2.07	65	50.2	65	99.2	69	0.113	0.336	21.92
967	97.1	0.0	155.358	0.161	1.24	95	2.07	65	50.2	65	99.3	68	0.112	0.335	21.66
968	97.2	0.1	155.519	0.161	1.27	95	2.07	65	50.2	65	99.9	68	0.112	0.335	21.60
969	97.1	-0.1	155.682	0.163	1.24	95	2.03	64.9	50.2	65	101.1	68	0.113	0.336	21.64
970	97.4	0.3	155.843	0.161	1.24	95	2.03	64.9	50.3	65	99.8	67	0.111	0.333	21.58
971	97.3	-0.1	156.001	0.158	1.25	95	2.17	64.9	50.3	65	98.4	67	0.110	0.332	21.43
972	97.5	0.2	156.162	0.161	1.24	95	2.04	64.9	50.3	65	100.4	67	0.112	0.335	21.48
973	97.5	0.0	156.327	0.165	1.26	95	2.14	64.8	50.3	65	101.9	67	0.118	0.344	21.86
974	97.8	0.2	156.490	0.163	1.25	95	2.03	64.8	50.3	65	99.8	66	0.111	0.333	21.80
975	97.7	0.0	156.651	0.161	1.24	94	2.04	64.9	50.4	65	98.7	69	0.120	0.346	21.92
976	97.1	-0.6	156.812	0.161	1.24	95	2.13	64.9	50.5	65	98.4	68	0.112	0.335	21.98
977	96.8	-0.3	156.973	0.161	1.24	95	2.17	64.9	50.6	65	98.9	66	0.112	0.335	21.57
978	97.0	0.2	157.135	0.162	1.25	95	2.06	64.9	50.5	65	100.5	69	0.112	0.335	21.58
979	96.9	-0.1	157.297	0.162	1.24	95	2.04	65	50.7	65	100.1	68	0.117	0.342	21.84
980	96.8	-0.1	157.459	0.162	1.24	95	2.15	64.9	50.6	64	99.4	67	0.112	0.335	21.82
981	97.2	0.3	157.620	0.161	1.24	95	2.13	64.9	50.6	64	99.0	67	0.114	0.338	21.67
982	97.4	0.3	157.779	0.159	1.25	96	2.17	64.8	50.6	64	97.8	67	0.115	0.339	21.81
983	97.0	-0.4	157.944	0.165	1.24	95	2.10	64.8	50.7	64	101.1	67	0.114	0.338	21.82
984	96.9	-0.2	158.105	0.161	1.26	95	2.07	64.7	50.6	65	98.9	67	0.114	0.338	21.77
985	97.4	0.5	158.267	0.162	1.25	95	2.15	64.8	50.6	64	99.5	68	0.116	0.341	21.88
986	97.4	0.1	158.428	0.161	1.25	95	2.03	64.8	50.6	65	98.7	68	0.114	0.338	21.88
987	96.8	-0.6	158.589	0.161	1.25	95	2.14	64.8	50.6	65	98.9	68	0.113	0.336	21.74
988	96.9	0.1	158.752	0.163	1.26	95	2.16	64.8	50.7	65	100.4	68	0.115	0.339	21.79
989	97.4	0.5	158.914	0.162	1.24	94	2.17	64.9	50.7	64	99.6	69	0.115	0.339	21.89
990	97.3	-0.2	159.075	0.161	1.25	94	2.03	64.9	50.7	65	99.3	69	0.111	0.333	21.71
991	97.0	-0.3	159.236	0.161	1.25	94	2.11	64.9	50.7	65	100.2	69	0.111	0.333	21.52
992	97.0	0.1	159.397	0.161	1.24	95	2.15	65	50.7	65	100.4	70	0.113	0.336	21.62
993	97.3	0.2	159.560	0.163	1.26	95	2.04	65	50.8	65	100.8	70	0.116	0.341	21.87
994	97.5	0.3	159.721	0.161	1.24	94	2.06	65.2	50.8	65	99.8	73	0.109	0.330	21.71
995	96.7	-0.8	159.882	0.161	1.24	94	2.13	65.5	50.9	65	100.4	77	0.118	0.344	21.88
996	96.1	-0.7	160.042	0.160	1.24	95	2.15	65.6	51	65	99.1	78	0.115	0.339	22.22
997	95.9	-0.1	160.205	0.163	1.24	94	2.08	65.8	51.1	65	101.1	80	0.111	0.333	21.91
998	95.7	-0.3	160.366	0.161	1.24	95	2.05	66	51.1	65	101.3	82	0.111	0.333	21.76
999	94.5	-1.2	160.527	0.161	1.24	95	2.16	66.2	51.2	65	101.6	83	0.113	0.336	21.89
1000	93.9	-0.6	160.687	0.160	1.24	95	2.15	66.4	51.3	65	100.6	84	0.113	0.336	22.00
1001	93.4	-0.4	160.848	0.161	1.24	95	2.04	66.6	51.3	65	100.9	84	0.114	0.338	22.06
1002	92.2	-1.2	161.010	0.162	1.24	94	2.06	66.7	51.4	65	101.3	84	0.115	0.339	22.17
1003	92.0	-0.2	161.171	0.161	1.24	94	2.18	66.8	51.6	65	101.0	85	0.110	0.332	21.98
1004	90.9	-1.1	161.331	0.160	1.25	94	2.16	67	51.7	65	101.0	85	0.113	0.336	21.89
1005	89.9	-0.9	161.491	0.160	1.24	94	2.19	67.2	51.8	65	100.9	85	0.113	0.336	22.03
1006	89.5	-0.4	161.653	0.162	1.24	95	2.11	67.2	51.9	65	101.7	87	0.115	0.339	22.15
1007	88.8	-0.8	161.814	0.161	1.23	95	2.14	67.4	52	65	100.7	86	0.114	0.338	22.21
1008	87.6	-1.2	161.974	0.160	1.24	95	2.17	67.4	52.1	65	100.1	84	0.112	0.335	22.03

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Test Start Time: 11:03

Test Length: 1579 min

Recording Interval: 1 min

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg

Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1009	86.5	-1.0	162.134	0.160	1.23	95	2.06	67.4	52.3	64	100.5	84	0.113	0.336	21.96
1010	86.0	-0.5	162.296	0.162	1.24	95	2.15	67.5	52.4	65	101.6	84	0.114	0.338	22.06
1011	84.9	-1.1	162.456	0.160	1.23	95	2.19	67.5	52.5	64	100.4	85	0.111	0.333	21.98
1012	84.3	-0.7	162.616	0.160	1.22	95	2.16	67.6	52.5	65	100.3	85	0.118	0.344	22.18
1013	83.0	-1.3	162.776	0.160	1.22	95	2.11	67.7	52.5	64	99.6	86	0.114	0.338	22.34
1014	82.1	-0.9	162.938	0.162	1.26	95	2.13	67.8	52.6	65	101.2	86	0.112	0.335	22.06
1015	81.3	-0.8	163.098	0.160	1.24	95	2.18	67.9	52.7	65	100.7	86	0.113	0.336	22.02
1016	80.3	-1.1	163.258	0.160	1.24	94	2.19	68.1	52.9	65	100.9	89	0.113	0.336	22.09
1017	79.4	-0.8	163.418	0.160	1.22	95	2.12	68.2	53	65	100.7	87	0.114	0.338	22.15
1018	78.3	-1.2	163.580	0.162	1.24	95	2.15	68.3	53.1	65	101.9	87	0.111	0.333	22.03
1019	77.8	-0.5	163.740	0.160	1.27	95	2.19	68.3	53.1	65	101.1	86	0.112	0.335	21.92
1020	77.2	-0.6	163.900	0.160	1.23	95	2.19	68.3	53.2	65	100.5	86	0.118	0.344	22.25
1021	75.9	-1.3	164.060	0.160	1.24	94	2.05	68.4	53.2	65	99.5	86	0.114	0.338	22.35
1022	75.0	-0.9	164.221	0.161	1.24	94	2.05	68.4	53.3	65	100.6	86	0.112	0.335	22.06
1023	74.1	-0.9	164.382	0.161	1.24	94	2.05	68.4	53.4	65	101.0	83	0.115	0.339	22.08
1024	73.7	-0.3	164.542	0.160	1.24	95	2.09	68	53.3	65	99.5	74	0.112	0.335	21.95
1025	72.9	-0.8	164.703	0.161	1.23	95	2.16	67.8	53.4	65	99.7	73	0.114	0.338	21.80
1026	72.4	-0.5	164.864	0.161	1.23	95	2.09	67.6	53.4	65	100.2	71	0.109	0.330	21.63
1027	71.8	-0.6	165.025	0.161	1.25	95	2.19	67.5	53.2	65	100.4	71	0.115	0.339	21.66
1028	71.6	-0.3	165.185	0.160	1.23	95	2.17	67.3	53.2	65	98.8	71	0.117	0.342	22.04
1029	71.4	-0.2	165.346	0.161	1.23	95	2.06	67.3	53	65	98.8	71	0.112	0.335	21.89
1030	71.3	-0.1	165.508	0.162	1.25	95	2.10	67.2	53	65	100.0	69	0.114	0.338	21.73
1031	71.2	-0.1	165.669	0.161	1.23	95	2.18	67	53	65	99.2	69	0.116	0.341	21.91
1032	71.1	-0.2	165.830	0.161	1.25	95	2.12	66.9	52.9	64	98.6	69	0.115	0.339	21.95
1033	70.8	-0.2	165.990	0.160	1.23	95	2.06	66.8	52.8	64	98.1	68	0.114	0.338	21.85
1034	70.7	-0.2	166.153	0.163	1.24	95	2.18	66.6	52.7	65	100.7	68	0.110	0.332	21.60
1035	70.5	-0.2	166.314	0.161	1.24	95	2.11	66.6	52.6	65	99.4	69	0.120	0.346	21.89
1036	70.1	-0.4	166.475	0.161	1.25	95	2.03	66.5	52.6	65	98.3	69	0.114	0.338	22.08
1037	70.2	0.1	166.635	0.160	1.24	95	2.19	66.5	52.6	64	97.8	69	0.116	0.341	21.90
1038	70.0	-0.2	166.797	0.162	1.24	95	2.15	66.4	52.6	64	99.0	71	0.119	0.345	22.16
1039	70.0	0.0	166.958	0.161	1.24	95	2.18	66.6	52.6	65	98.9	71	0.106	0.326	21.70
1040	70.4	0.4	167.119	0.161	1.25	95	2.12	66.4	52.7	65	100.6	69	0.113	0.336	21.40
1041	70.4	0.1	167.280	0.161	1.24	94	2.18	66.3	52.8	65	100.1	69	0.116	0.341	21.86
1042	70.3	-0.2	167.440	0.160	1.25	94	2.14	66.2	52.8	65	98.2	68	0.115	0.339	21.94
1043	69.9	-0.3	167.603	0.163	1.24	95	2.03	66.1	52.9	65	100.5	68	0.109	0.330	21.60
1044	69.9	-0.1	167.764	0.161	1.25	94	2.03	66.1	53	65	100.8	68	0.108	0.329	21.26
1045	69.9	0.1	167.925	0.161	1.26	94	2.13	66	53	65	101.2	68	0.113	0.336	21.44
1046	70.3	0.4	168.085	0.160	1.24	94	2.09	66	53	65	99.5	67	0.113	0.336	21.68
1047	70.2	-0.1	168.247	0.162	1.24	94	2.13	65.9	53	65	100.5	67	0.110	0.332	21.53
1048	69.7	-0.6	168.409	0.162	1.24	95	2.14	65.8	53	65	100.5	67	0.116	0.341	21.67
1049	69.9	0.2	168.570	0.161	1.26	94	2.02	65.9	53	65	99.4	69	0.112	0.335	21.79
1050	70.4	0.5	168.730	0.160	1.23	95	2.04	65.9	53.1	65	99.3	69	0.111	0.333	21.57
1051	69.8	-0.5	168.891	0.161	1.24	95	2.07	65.8	53.1	65	100.2	68	0.112	0.335	21.56
1052	70.1	0.3	169.054	0.163	1.24	94	2.10	65.7	53.1	64	101.2	67	0.113	0.336	21.63

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Start Time: 11:03

Test Length: 1579 min

Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg

Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1053	70.1	0.0	169.215	0.161	1.24	95	2.03	65.6	53.1	65	99.6	68	0.113	0.336	21.68
1054	69.7	-0.4	169.375	0.160	1.25	94	2.19	65.6	53	64	99.0	68	0.112	0.335	21.64
1055	70.0	0.4	169.536	0.161	1.25	95	2.06	65.6	53	65	99.9	68	0.112	0.335	21.60
1056	70.2	0.1	169.698	0.162	1.26	94	2.15	65.6	53	65	100.7	69	0.112	0.335	21.60
1057	69.8	-0.4	169.859	0.161	1.23	94	2.18	65.5	53.1	65	100.1	68	0.112	0.335	21.61
1058	69.7	-0.1	170.020	0.161	1.24	94	2.03	65.5	53.1	65	100.4	70	0.111	0.333	21.57
1059	70.0	0.3	170.181	0.161	1.23	95	2.03	65.6	53.1	66	100.7	72	0.111	0.333	21.56
1060	70.2	0.2	170.342	0.161	1.26	94	2.02	65.6	53.1	65	100.3	69	0.114	0.338	21.69
1061	69.9	-0.4	170.504	0.162	1.24	95	2.04	65.5	53	65	99.3	69	0.121	0.348	22.14
1062	69.8	-0.1	170.665	0.161	1.25	95	2.19	65.5	53	65	97.9	68	0.111	0.333	21.98
1063	70.0	0.2	170.826	0.161	1.24	94	2.10	65.4	53	65	99.1	68	0.113	0.336	21.60
1064	70.2	0.2	170.986	0.160	1.23	94	2.20	65.5	53	65	99.0	67	0.115	0.339	21.78
1065	70.1	-0.1	171.149	0.163	1.23	95	2.18	65.4	53	65	100.2	67	0.114	0.338	21.82
1066	69.7	-0.4	171.310	0.161	1.25	95	2.09	65.3	53	65	99.0	67	0.113	0.336	21.72
1067	70.0	0.3	171.471	0.161	1.24	94	2.03	65.3	53.1	65	99.6	67	0.111	0.333	21.57
1068	70.1	0.2	171.631	0.160	1.24	94	2.03	65.3	53.1	65	99.4	67	0.113	0.336	21.57
1069	69.8	-0.3	171.793	0.162	1.25	95	2.02	65.2	53	65	99.8	67	0.117	0.342	21.86
1070	70.4	0.6	171.955	0.162	1.23	95	2.17	65.2	53	65	99.2	70	0.114	0.338	21.93
1071	70.1	-0.3	172.115	0.160	1.24	95	2.19	65.3	53	65	98.4	68	0.113	0.336	21.75
1072	69.8	-0.3	172.276	0.161	1.24	95	2.14	65.2	53	65	99.6	67	0.110	0.332	21.54
1073	70.0	0.2	172.437	0.161	1.25	95	2.19	65.1	53	64	100.0	67	0.114	0.338	21.58
1074	70.1	0.1	172.599	0.162	1.23	95	2.12	65.1	53	65	100.0	67	0.114	0.338	21.77
1075	70.4	0.3	172.760	0.161	1.24	95	2.03	65.1	53	65	99.0	67	0.114	0.338	21.77
1076	70.2	-0.2	172.921	0.161	1.23	95	2.20	65.1	52.9	65	98.5	68	0.119	0.345	22.01
1077	70.2	0.0	173.081	0.160	1.25	94	2.19	65	53	65	97.5	68	0.114	0.338	22.02
1078	70.3	0.1	173.243	0.162	1.25	95	2.20	65	53	65	99.0	68	0.116	0.341	21.88
1079	70.4	0.1	173.405	0.162	1.24	95	2.00	65.1	53	65	99.3	69	0.114	0.338	21.89
1080	70.4	0.0	173.566	0.161	1.24	95	2.09	65.2	53.1	64	99.4	71	0.112	0.335	21.73
1081	70.4	0.0	173.726	0.160	1.25	94	2.04	65.2	53.1	65	99.4	70	0.113	0.336	21.69
1082	70.4	-0.1	173.887	0.161	1.24	94	2.05	65.2	53	65	99.7	69	0.114	0.338	21.76
1083	70.4	0.0	174.050	0.163	1.24	94	2.17	65.1	53	65	100.8	68	0.112	0.335	21.70
1084	69.9	-0.6	174.211	0.161	1.23	94	2.05	65.1	53	65	99.4	68	0.116	0.341	21.78
1085	69.8	-0.1	174.371	0.160	1.24	95	2.14	65.1	53	65	98.4	67	0.113	0.336	21.82
1086	70.0	0.2	174.532	0.161	1.24	94	2.06	65	53.1	65	99.1	67	0.114	0.338	21.72
1087	70.6	0.5	174.695	0.163	1.23	95	2.06	65	53	65	100.4	67	0.114	0.338	21.76
1088	69.9	-0.7	174.856	0.161	1.24	95	2.16	65	53	65	98.8	67	0.116	0.341	21.85
1089	70.6	0.7	175.017	0.161	1.23	94	2.07	65	53	65	98.5	66	0.115	0.339	21.90
1090	69.7	-0.9	175.178	0.161	1.23	95	2.07	65	53	65	98.1	68	0.120	0.346	22.10
1091	70.4	0.7	175.339	0.161	1.24	95	2.05	65.1	53.1	65	98.0	68	0.112	0.335	21.98
1092	69.8	-0.6	175.501	0.162	1.23	95	2.05	65	53	64	99.9	67	0.110	0.332	21.50
1093	70.6	0.7	175.662	0.161	1.23	94	2.13	65.5	53.2	64	100.5	74	0.115	0.339	21.70
1094	69.3	-1.2	175.823	0.161	1.25	95	2.16	65.1	53.3	64	99.9	68	0.112	0.335	21.80
1095	70.1	0.7	175.984	0.161	1.25	94	2.16	65	53.2	64	99.1	68	0.116	0.341	21.78
1096	69.5	-0.6	176.147	0.163	1.25	95	2.07	65	53.2	65	100.2	68	0.113	0.336	21.83

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1097	69.9	0.4	176.308	0.161	1.25	94	2.06	65	53.2	65	99.4	68	0.111	0.333	21.59
1098	69.9	0.0	176.470	0.162	1.24	94	2.05	65	53.1	65	100.1	68	0.118	0.344	21.84
1099	69.3	-0.6	176.630	0.160	1.24	95	2.04	64.9	53.2	65	97.7	68	0.117	0.342	22.12
1100	69.7	0.4	176.791	0.161	1.25	94	2.06	65	53.2	65	98.1	68	0.114	0.338	21.93
1101	69.9	0.3	176.955	0.164	1.24	94	2.06	65.1	53.3	64	100.8	70	0.115	0.339	21.86
1102	69.9	0.0	177.116	0.161	1.25	94	2.10	65.1	53.2	66	99.5	71	0.112	0.335	21.79
1103	69.5	-0.4	177.277	0.161	1.25	95	2.04	65.1	53.2	65	99.4	69	0.116	0.341	21.82
1104	69.5	0.0	177.438	0.161	1.24	94	2.04	65.1	53.2	65	99.0	68	0.113	0.336	21.84
1105	69.3	-0.2	177.599	0.161	1.25	95	2.07	65.1	53.2	65	99.4	68	0.111	0.333	21.59
1106	69.7	0.4	177.762	0.163	1.25	94	2.03	65.1	53.2	65	101.1	67	0.114	0.338	21.63
1107	70.2	0.5	177.923	0.161	1.24	95	2.04	65	53.3	65	98.7	67	0.120	0.346	22.06
1108	69.8	-0.4	178.084	0.161	1.24	94	2.06	65	53.3	65	97.9	67	0.113	0.336	22.00
1109	69.4	-0.4	178.245	0.161	1.24	95	2.14	65	53.3	65	98.7	67	0.113	0.336	21.66
1110	69.5	0.1	178.407	0.162	1.26	94	2.02	65	53.4	65	99.7	66	0.116	0.341	21.80
1111	70.0	0.5	178.569	0.162	1.24	95	2.18	64.9	53.4	65	99.3	66	0.114	0.338	21.85
1112	69.7	-0.3	178.730	0.161	1.24	94	2.16	65	53.4	65	98.7	66	0.115	0.339	21.80
1113	69.4	-0.2	178.891	0.161	1.24	94	2.11	64.9	53.4	65	98.8	66	0.114	0.338	21.80
1114	69.8	0.4	179.052	0.161	1.24	94	2.17	65	53.4	65	99.3	68	0.112	0.335	21.67
1115	70.2	0.4	179.215	0.163	1.24	95	2.12	64.9	53.4	65	100.7	67	0.115	0.339	21.72
1116	70.0	-0.1	179.376	0.161	1.24	94	2.17	64.9	53.4	65	98.9	66	0.115	0.339	21.85
1117	69.9	-0.1	179.538	0.162	1.27	95	2.05	64.8	53.5	64	99.2	67	0.115	0.339	21.85
1118	69.5	-0.4	179.698	0.160	1.24	95	2.04	64.8	53.4	64	98.3	67	0.112	0.335	21.71
1119	69.3	-0.2	179.860	0.162	1.23	95	2.03	64.7	53.4	64	100.0	68	0.114	0.338	21.68
1120	69.9	0.6	180.022	0.162	1.24	95	2.08	64.7	53.4	64	100.0	67	0.113	0.336	21.73
1121	70.2	0.3	180.184	0.162	1.25	95	2.13	64.7	53.4	64	100.0	68	0.113	0.336	21.68
1122	69.7	-0.5	180.345	0.161	1.25	94	2.12	64.7	53.4	64	99.1	68	0.117	0.342	21.87
1123	69.7	0.0	180.506	0.161	1.25	95	2.03	64.8	53.4	64	98.6	68	0.114	0.338	21.93
1124	69.9	0.2	180.668	0.162	1.25	95	2.17	65.1	53.5	64	99.8	75	0.115	0.339	21.91
1125	69.7	-0.2	180.829	0.161	1.27	94	2.01	65	53.6	65	99.3	71	0.115	0.339	21.98
1126	69.4	-0.3	180.991	0.162	1.24	94	2.17	64.9	53.5	65	99.6	68	0.113	0.336	21.82
1127	69.9	0.5	181.151	0.160	1.25	95	2.03	64.9	53.6	65	98.9	68	0.111	0.333	21.60
1128	69.1	-0.7	181.312	0.161	1.25	95	2.16	64.8	53.6	65	100.1	67	0.111	0.333	21.49
1129	70.0	0.9	181.475	0.163	1.25	95	2.07	64.8	53.6	65	101.3	67	0.113	0.336	21.58
1130	69.5	-0.6	181.637	0.162	1.23	95	2.17	64.8	53.6	65	100.4	67	0.112	0.335	21.62
1131	69.3	-0.2	181.798	0.161	1.24	95	2.07	64.8	53.6	65	100.1	66	0.109	0.330	21.42
1132	70.0	0.8	181.959	0.161	1.24	94	2.06	64.7	53.7	65	99.8	69	0.120	0.346	21.82
1133	69.5	-0.6	182.120	0.161	1.24	95	2.05	64.8	53.7	65	98.6	67	0.112	0.335	21.97
1134	69.8	0.3	182.283	0.163	1.25	94	2.19	64.8	53.7	65	99.9	67	0.115	0.339	21.72
1135	69.1	-0.7	182.445	0.162	1.25	94	2.17	64.8	53.8	65	100.0	67	0.111	0.333	21.67
1136	69.7	0.6	182.606	0.161	1.23	94	2.16	64.8	53.7	65	99.5	67	0.115	0.339	21.67
1137	69.9	0.2	182.767	0.161	1.24	95	2.05	64.8	53.7	65	99.0	67	0.116	0.341	21.91
1138	70.0	0.1	182.929	0.162	1.24	94	2.04	64.7	53.7	64	98.9	67	0.116	0.341	21.96
1139	70.0	0.0	183.091	0.162	1.26	95	2.02	64.8	53.6	65	98.5	68	0.119	0.345	22.11
1140	70.1	0.1	183.252	0.161	1.25	94	2.16	64.7	53.6	64	98.6	67	0.107	0.327	21.68

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1141	69.9	-0.2	183.413	0.161	1.24	94	2.16	64.7	53.7	64	100.4	68	0.112	0.335	21.34
1142	69.7	-0.2	183.574	0.161	1.24	94	2.02	64.7	53.7	64	100.5	68	0.113	0.336	21.64
1143	69.3	-0.5	183.737	0.163	1.27	94	2.18	64.7	53.7	65	101.2	68	0.111	0.333	21.60
1144	69.4	0.1	183.898	0.161	1.26	94	2.19	64.7	53.6	65	100.3	69	0.111	0.333	21.50
1145	69.9	0.5	184.059	0.161	1.24	95	2.18	64.8	53.7	64	100.3	69	0.114	0.338	21.66
1146	69.3	-0.5	184.220	0.161	1.25	95	2.04	64.9	53.8	65	99.7	70	0.114	0.338	21.82
1147	69.9	0.6	184.381	0.161	1.24	94	2.15	65	53.8	64	99.7	75	0.115	0.339	21.93
1148	68.9	-1.0	184.544	0.163	1.25	95	2.17	65.3	53.8	64	101.2	76	0.113	0.336	21.94
1149	69.1	0.2	184.705	0.161	1.26	94	2.16	65.4	53.9	65	100.6	77	0.110	0.332	21.73
1150	68.3	-0.8	184.866	0.161	1.25	94	2.18	65.7	54	64	101.6	80	0.112	0.335	21.72
1151	67.3	-1.0	185.026	0.160	1.24	94	2.19	65.9	54	65	101.1	82	0.112	0.335	21.87
1152	66.8	-0.5	185.188	0.162	1.27	94	2.05	66.2	53.9	64	102.3	86	0.113	0.336	21.97
1153	66.1	-0.7	185.349	0.161	1.24	95	2.19	66.4	54.1	65	101.4	85	0.113	0.336	22.05
1154	65.3	-0.8	185.510	0.161	1.24	94	2.04	66.6	54.2	65	101.3	86	0.112	0.335	22.00
1155	64.6	-0.7	185.670	0.160	1.25	94	2.09	66.8	54.2	65	101.6	86	0.107	0.327	21.71
1156	64.1	-0.5	185.831	0.161	1.25	94	2.03	66.9	54.4	65	103.0	86	0.112	0.335	21.71
1157	63.4	-0.7	185.992	0.161	1.24	95	2.20	67.1	54.4	65	102.5	86	0.111	0.333	21.92
1158	63.0	-0.4	186.152	0.160	1.24	95	2.12	67.1	54.5	65	101.2	86	0.113	0.336	21.96
1159	62.2	-0.8	186.312	0.160	1.23	95	2.11	67.3	54.7	65	100.2	85	0.118	0.344	22.29
1160	61.0	-1.2	186.473	0.161	1.24	94	2.04	67.3	54.8	65	100.5	87	0.110	0.332	22.15
1161	60.2	-0.9	186.634	0.161	1.23	94	2.17	67.5	54.9	65	101.6	87	0.113	0.336	21.93
1162	59.3	-0.8	186.794	0.160	1.23	95	2.14	67.6	54.9	65	101.6	84	0.107	0.327	21.76
1163	58.1	-1.2	186.954	0.160	1.24	94	2.13	67.5	55	65	101.3	84	0.117	0.342	21.92
1164	57.1	-1.0	187.115	0.161	1.25	94	2.20	67.5	55.1	64	101.5	85	0.108	0.329	21.97
1165	56.4	-0.7	187.276	0.161	1.25	94	2.18	67.7	55.2	64	101.7	85	0.115	0.339	21.88
1166	55.2	-1.3	187.436	0.160	1.21	94	2.20	67.7	55.2	65	100.4	85	0.116	0.341	22.28
1167	54.9	-0.2	187.595	0.159	1.24	94	2.08	67.8	55.3	65	99.4	85	0.111	0.333	22.09
1168	54.1	-0.9	187.757	0.162	1.25	95	2.20	67.8	55.3	64	102.3	85	0.110	0.332	21.80
1169	53.7	-0.4	187.918	0.161	1.22	95	2.07	67.9	55.4	64	102.1	86	0.113	0.336	21.90
1170	52.3	-1.4	188.078	0.160	1.22	94	2.21	68	55.4	65	101.7	86	0.107	0.327	21.76
1171	51.2	-1.1	188.237	0.159	1.23	94	2.06	68	55.5	65	101.9	86	0.109	0.330	21.57
1172	50.7	-0.5	188.399	0.162	1.24	94	2.05	68.2	55.6	65	104.1	87	0.109	0.330	21.68
1173	50.4	-0.3	188.559	0.160	1.23	94	2.10	68.3	55.6	65	102.3	87	0.112	0.335	21.83
1174	49.5	-0.9	188.719	0.160	1.23	94	2.05	68.4	55.7	65	101.6	87	0.112	0.335	21.98
1175	48.0	-1.5	188.879	0.160	1.24	95	2.12	68	55.7	65	100.0	76	0.116	0.341	22.07
1176	47.6	-0.4	189.041	0.162	1.24	94	2.19	67.8	55.5	65	100.3	75	0.111	0.333	21.90
1177	47.9	0.2	189.202	0.161	1.25	94	2.20	67.6	55.4	66	100.3	74	0.113	0.336	21.73
1178	46.8	-1.1	189.362	0.160	1.24	94	2.18	67.5	55.4	66	100.2	74	0.109	0.330	21.61
1179	46.9	0.1	189.522	0.160	1.25	95	2.05	67.4	55.4	65	100.6	73	0.111	0.333	21.51
1180	46.6	-0.3	189.685	0.163	1.24	94	2.04	67.5	55.3	65	101.9	75	0.117	0.342	21.91
1181	45.9	-0.6	189.845	0.160	1.25	95	2.18	67.3	55.3	65	99.0	72	0.111	0.333	21.90
1182	46.3	0.4	190.006	0.161	1.24	94	2.14	67.2	55.4	65	99.6	71	0.115	0.339	21.76
1183	45.9	-0.4	190.166	0.160	1.25	94	2.04	67.1	55.4	65	99.6	70	0.108	0.329	21.60
1184	45.5	-0.4	190.328	0.162	1.23	94	2.13	67	55.5	65	101.2	69	0.114	0.338	21.53

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
1185	45.6	0.1	190.489	0.161	1.24	95	2.19	66.8	55.5	65	100.2	68	0.111	0.333	21.66
1186	45.9	0.2	190.650	0.161	1.24	94	2.18	66.7	55.6	65	99.8	68	0.114	0.338	21.65
1187	45.5	-0.4	190.810	0.160	1.23	95	2.05	66.7	55.6	65	98.5	68	0.118	0.344	21.98
1188	45.5	-0.1	190.971	0.161	1.25	95	2.19	66.7	55.6	65	98.8	69	0.110	0.332	21.80
1189	44.9	-0.6	191.134	0.163	1.25	95	2.11	66.6	55.6	65	101.2	68	0.111	0.333	21.47
1190	44.7	-0.1	191.294	0.160	1.23	95	2.06	66.5	55.6	65	99.4	68	0.116	0.341	21.74
1191	45.5	0.8	191.455	0.161	1.25	95	2.18	66.4	55.6	65	99.6	68	0.109	0.330	21.65
1192	44.9	-0.6	191.615	0.160	1.24	95	2.05	66.3	55.7	65	99.6	69	0.112	0.335	21.46
1193	44.7	-0.2	191.778	0.163	1.24	94	2.05	66.2	55.7	65	101.6	69	0.113	0.336	21.66
1194	45.4	0.7	191.939	0.161	1.25	94	2.05	66.2	55.6	65	99.9	69	0.112	0.335	21.66
1195	44.5	-0.9	192.100	0.161	1.24	95	2.08	66.1	55.6	65	100.0	69	0.112	0.335	21.61
1196	45.0	0.5	192.260	0.160	1.24	95	2.07	66.1	55.6	65	98.9	69	0.117	0.342	21.86
1197	44.7	-0.3	192.422	0.162	1.25	94	2.14	66	55.7	65	99.1	69	0.117	0.342	22.10
1198	44.8	0.1	192.584	0.162	1.24	94	2.05	66	55.7	65	98.8	69	0.116	0.341	22.05
1199	45.0	0.2	192.745	0.161	1.25	95	2.05	66	55.6	65	98.3	69	0.116	0.341	22.00
1200	44.3	-0.7	192.905	0.160	1.23	94	2.18	66	55.6	65	98.2	69	0.112	0.335	21.81
1201	45.0	0.7	193.066	0.161	1.26	95	2.15	66	55.6	65	100.1	70	0.109	0.330	21.48
1202	45.0	-0.1	193.229	0.163	1.24	95	2.13	65.9	55.6	65	102.2	70	0.112	0.335	21.49
1203	44.4	-0.6	193.390	0.161	1.23	94	2.04	66	55.6	65	100.6	72	0.113	0.336	21.70
1204	44.4	0.1	193.550	0.160	1.25	94	2.04	66	55.6	65	99.5	70	0.112	0.335	21.70
1205	44.9	0.4	193.711	0.161	1.24	94	2.13	66	55.6	65	99.7	69	0.116	0.341	21.82
1206	44.9	0.0	193.873	0.162	1.25	95	2.17	65.9	55.6	65	100.4	69	0.107	0.327	21.57
1207	44.2	-0.7	194.034	0.161	1.25	95	2.04	65.8	55.5	65	101.1	68	0.108	0.329	21.17
1208	44.6	0.5	194.195	0.161	1.23	94	2.11	65.8	55.5	65	101.8	68	0.110	0.332	21.31
1209	44.9	0.3	194.356	0.161	1.25	95	2.15	65.8	55.6	65	101.0	68	0.111	0.333	21.45
1210	44.2	-0.7	194.517	0.161	1.24	95	2.04	65.7	55.6	65	99.5	67	0.120	0.346	21.92
1211	44.8	0.6	194.679	0.162	1.23	94	2.05	65.6	55.6	65	98.9	67	0.112	0.335	21.96
1212	44.5	-0.2	194.840	0.161	1.24	95	2.06	65.7	55.6	65	99.2	69	0.112	0.335	21.60
1213	44.6	0.1	195.001	0.161	1.24	94	2.05	65.6	55.6	65	100.1	68	0.112	0.335	21.60
1214	44.8	0.2	195.161	0.160	1.23	94	2.15	65.6	55.5	65	99.6	68	0.110	0.332	21.49
1215	44.2	-0.6	195.324	0.163	1.25	95	2.18	65.6	55.5	64	102.1	68	0.109	0.330	21.35
1216	45.0	0.8	195.485	0.161	1.23	95	2.04	65.5	55.5	64	100.8	68	0.113	0.336	21.50
1217	44.6	-0.4	195.646	0.161	1.23	95	2.08	65.5	55.5	65	100.0	68	0.113	0.336	21.69
1218	44.5	-0.1	195.806	0.160	1.23	95	2.05	65.4	55.5	65	98.5	68	0.117	0.342	21.89
1219	45.1	0.6	195.968	0.162	1.23	94	2.08	65.4	55.5	65	99.2	68	0.114	0.338	21.94
1220	44.3	-0.8	196.130	0.162	1.23	95	2.05	65.5	55.5	65	99.6	69	0.113	0.336	21.75
1221	44.9	0.6	196.291	0.161	1.24	94	2.07	65.5	55.5	65	99.6	69	0.113	0.336	21.71
1222	44.5	-0.3	196.451	0.160	1.23	94	2.06	65.5	55.5	65	99.0	70	0.114	0.338	21.77
1223	44.7	0.1	196.612	0.161	1.24	95	2.14	65.4	55.5	65	99.7	69	0.111	0.333	21.67
1224	44.9	0.3	196.774	0.162	1.27	94	2.03	65.4	55.5	65	100.9	70	0.111	0.333	21.53
1225	44.4	-0.6	196.936	0.162	1.25	94	2.18	65.5	55.4	65	100.6	69	0.117	0.342	21.82
1226	45.2	0.8	197.096	0.160	1.25	95	2.19	65.5	55.4	65	98.7	70	0.111	0.333	21.82
1227	44.4	-0.7	197.257	0.161	1.23	95	2.04	65.5	55.4	65	100.5	70	0.106	0.326	21.29
1228	44.9	0.5	197.418	0.161	1.25	95	2.05	65.5	55.4	65	100.9	70	0.118	0.344	21.63

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1229	44.8	-0.1	197.580	0.162	1.25	94	2.08	65.5	55.4	65	100.1	70	0.113	0.336	21.97
1230	44.6	-0.2	197.741	0.161	1.24	94	2.15	65.6	55.4	65	99.1	73	0.116	0.341	21.91
1231	45.1	0.5	197.901	0.160	1.22	95	2.07	65.6	55.4	65	98.7	70	0.112	0.335	21.86
1232	44.6	-0.4	198.062	0.161	1.24	94	2.03	65.6	55.4	65	99.9	70	0.110	0.332	21.54
1233	44.3	-0.4	198.225	0.163	1.24	95	2.11	65.5	55.5	65	102.2	69	0.109	0.330	21.38
1234	44.6	0.4	198.386	0.161	1.24	94	2.15	65.5	55.4	65	100.6	69	0.115	0.339	21.61
1235	44.8	0.2	198.546	0.160	1.24	94	2.15	65.5	55.5	65	99.0	68	0.113	0.336	21.79
1236	44.9	0.1	198.707	0.161	1.23	94	2.03	65.4	55.4	65	99.1	68	0.116	0.341	21.83
1237	44.8	-0.1	198.869	0.162	1.25	95	2.19	65.4	55.4	64	99.1	68	0.117	0.342	22.02
1238	44.6	-0.2	199.030	0.161	1.23	94	2.15	65.4	55.4	65	98.6	67	0.110	0.332	21.73
1239	44.8	0.2	199.191	0.161	1.24	94	2.01	65.3	55.4	64	99.4	67	0.116	0.341	21.68
1240	45.2	0.4	199.352	0.161	1.24	95	2.03	65.1	55.4	64	98.6	67	0.118	0.344	22.05
1241	44.6	-0.6	199.513	0.161	1.26	95	2.05	65.1	55.4	64	97.8	67	0.115	0.339	22.00
1242	44.8	0.2	199.675	0.162	1.25	95	2.17	65	55.4	64	99.1	68	0.113	0.336	21.77
1243	44.6	-0.2	199.836	0.161	1.24	95	2.14	65.1	55.4	64	99.2	68	0.114	0.338	21.74
1244	44.6	0.0	199.997	0.161	1.24	95	2.07	65.4	55.4	64	99.6	74	0.114	0.338	21.85
1245	44.4	-0.2	200.157	0.160	1.24	94	2.17	65.1	55.4	64	99.0	68	0.112	0.335	21.75
1246	44.3	-0.1	200.320	0.163	1.24	94	2.05	64.9	55.4	65	101.4	67	0.107	0.327	21.34
1247	44.6	0.2	200.482	0.162	1.24	95	2.07	65	55.5	64	101.6	68	0.113	0.336	21.39
1248	44.6	0.1	200.643	0.161	1.26	95	2.16	64.9	55.4	64	99.9	68	0.116	0.341	21.83
1249	44.4	-0.2	200.803	0.160	1.25	95	2.19	64.9	55.4	64	98.0	68	0.115	0.339	21.92
1250	44.4	0.0	200.965	0.162	1.24	94	2.02	64.9	55.4	64	99.9	68	0.109	0.330	21.60
1251	44.9	0.6	201.127	0.162	1.24	95	2.08	64.9	55.4	65	100.8	69	0.114	0.338	21.56
1252	44.2	-0.7	201.288	0.161	1.22	94	2.11	64.9	55.4	64	100.1	69	0.111	0.333	21.66
1253	44.3	0.1	201.449	0.161	1.25	95	2.03	65	55.4	65	99.8	69	0.115	0.339	21.72
1254	45.0	0.6	201.609	0.160	1.23	94	2.16	65	55.4	64	99.0	69	0.112	0.335	21.76
1255	44.7	-0.3	201.772	0.163	1.24	95	2.06	65	55.3	65	100.7	71	0.117	0.342	21.88
1256	44.2	-0.4	201.933	0.161	1.27	94	2.14	65.2	55.4	65	99.5	71	0.110	0.332	21.81
1257	44.3	0.0	202.095	0.162	1.27	94	2.04	65.2	55.4	65	100.4	69	0.115	0.339	21.69
1258	44.3	0.0	202.255	0.160	1.24	95	2.04	65.1	55.4	65	99.1	69	0.111	0.333	21.72
1259	44.2	-0.1	202.416	0.161	1.24	95	2.19	65.1	55.4	65	99.6	68	0.115	0.339	21.70
1260	44.9	0.7	202.579	0.163	1.23	94	2.03	65	55.4	65	100.7	68	0.112	0.335	21.74
1261	44.6	-0.3	202.740	0.161	1.23	94	2.04	65	55.4	65	99.6	68	0.113	0.336	21.64
1262	44.4	-0.2	202.901	0.161	1.24	95	2.19	65	55.4	65	99.8	67	0.112	0.335	21.63
1263	44.9	0.5	203.061	0.160	1.24	95	2.11	65	55.5	65	99.8	67	0.106	0.326	21.29
1264	44.5	-0.4	203.224	0.163	1.26	95	2.10	64.9	55.4	65	102.9	67	0.109	0.330	21.13
1265	44.2	-0.4	203.385	0.161	1.24	94	2.04	64.9	55.5	65	100.9	67	0.115	0.339	21.57
1266	44.3	0.2	203.547	0.162	1.24	95	2.17	64.9	55.5	65	100.0	66	0.114	0.338	21.80
1267	44.4	0.1	203.707	0.160	1.25	94	2.08	64.8	55.5	65	98.2	66	0.115	0.339	21.80
1268	44.2	-0.2	203.868	0.161	1.23	95	2.04	64.8	55.5	65	98.9	66	0.113	0.336	21.75
1269	44.2	0.0	204.031	0.163	1.25	95	2.14	64.9	55.5	65	100.4	69	0.115	0.339	21.78
1270	44.8	0.6	204.192	0.161	1.25	94	2.19	64.9	55.4	65	99.4	67	0.111	0.333	21.69
1271	45.1	0.3	204.353	0.161	1.24	95	2.08	64.9	55.5	65	100.3	67	0.108	0.329	21.34
1272	44.5	-0.6	204.514	0.161	1.25	95	2.06	64.9	55.5	64	101.4	67	0.108	0.329	21.18

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
1273	44.7	0.2	204.676	0.162	1.24	94	2.16	64.8	55.5	64	101.9	67	0.112	0.335	21.38
1274	44.6	-0.1	204.838	0.162	1.25	94	2.18	64.8	55.5	64	101.0	67	0.113	0.336	21.63
1275	44.7	0.1	204.998	0.160	1.23	94	2.12	65.1	55.5	64	99.1	74	0.117	0.342	21.93
1276	44.2	-0.5	205.159	0.161	1.24	95	2.18	64.9	55.6	65	98.8	69	0.115	0.339	22.04
1277	44.6	0.4	205.320	0.161	1.23	94	2.03	64.8	55.5	65	98.3	68	0.116	0.341	21.94
1278	44.8	0.2	205.483	0.163	1.24	95	2.07	64.9	55.6	65	100.2	68	0.111	0.333	21.75
1279	44.9	0.0	205.644	0.161	1.25	95	2.18	64.9	55.6	64	99.2	72	0.120	0.346	21.98
1280	44.5	-0.4	205.805	0.161	1.24	94	2.12	65	55.6	65	98.6	69	0.113	0.336	22.08
1281	44.4	0.0	205.965	0.160	1.25	95	2.03	65	55.6	65	97.7	69	0.118	0.344	21.95
1282	44.6	0.2	206.127	0.162	1.26	94	2.03	65	55.6	65	99.1	68	0.113	0.336	21.94
1283	44.9	0.3	206.289	0.162	1.24	94	2.06	65	55.7	65	99.6	68	0.114	0.338	21.74
1284	44.7	-0.2	206.450	0.161	1.26	95	2.20	65	55.6	65	99.4	68	0.113	0.336	21.73
1285	44.2	-0.5	206.611	0.161	1.24	95	2.20	64.9	55.7	65	99.6	67	0.111	0.333	21.58
1286	44.4	0.1	206.771	0.160	1.23	95	2.15	64.9	55.6	65	99.4	67	0.112	0.335	21.53
1287	44.8	0.4	206.934	0.163	1.25	95	2.20	64.9	55.6	65	101.3	67	0.112	0.335	21.57
1288	44.0	-0.8	207.096	0.162	1.26	94	2.17	64.9	55.6	65	100.3	66	0.114	0.338	21.66
1289	44.7	0.7	207.257	0.161	1.25	94	2.20	64.8	55.6	65	99.4	66	0.113	0.336	21.71
1290	44.6	-0.1	207.417	0.160	1.23	94	2.02	64.8	55.6	65	98.1	66	0.119	0.345	21.94
1291	44.0	-0.6	207.579	0.162	1.25	94	2.06	65	55.7	65	98.9	72	0.116	0.341	22.14
1292	43.8	-0.3	207.740	0.161	1.25	94	2.14	65.2	55.7	65	98.7	74	0.116	0.341	22.08
1293	43.4	-0.4	207.901	0.161	1.26	94	2.19	65.3	55.8	65	99.7	76	0.111	0.333	21.88
1294	43.0	-0.4	208.061	0.160	1.23	94	2.04	65.5	55.8	65	100.4	79	0.111	0.333	21.69
1295	42.6	-0.3	208.222	0.161	1.25	94	2.11	65.8	55.8	65	101.0	83	0.119	0.345	22.15
1296	41.9	-0.7	208.387	0.165	1.25	95	2.16	66.1	55.9	65	102.7	84	0.112	0.335	22.25
1297	40.7	-1.3	208.548	0.161	1.24	94	2.18	66.3	56	65	101.0	83	0.110	0.332	21.81
1298	40.2	-0.5	208.705	0.157	1.24	94	2.20	66.4	56	65	99.4	84	0.113	0.336	21.86
1299	39.9	-0.3	208.865	0.160	1.24	94	2.20	66.5	56	65	101.4	84	0.108	0.329	21.77
1300	39.5	-0.4	209.027	0.162	1.23	94	2.14	66.5	56.1	64	102.5	84	0.117	0.342	21.97
1301	38.9	-0.6	209.188	0.161	1.24	95	2.18	66.7	56.2	64	100.2	85	0.119	0.345	22.51
1302	38.5	-0.4	209.348	0.160	1.24	94	2.20	66.8	56.2	64	98.8	86	0.114	0.338	22.39
1303	37.5	-1.0	209.508	0.160	1.25	94	2.04	67	56.2	65	99.4	86	0.117	0.342	22.30
1304	36.7	-0.8	209.670	0.162	1.23	94	2.15	67.2	56.4	65	101.2	87	0.112	0.335	22.22
1305	35.4	-1.2	209.830	0.160	1.24	95	2.19	67.3	56.4	64	100.5	88	0.114	0.338	22.09
1306	35.0	-0.4	209.993	0.163	1.24	94	2.05	67.6	56.5	65	102.6	90	0.115	0.339	22.27
1307	34.9	-0.1	210.153	0.160	1.23	94	2.08	67.6	56.5	65	100.2	87	0.115	0.339	22.31
1308	34.1	-0.8	210.312	0.159	1.25	94	2.18	67.7	56.6	64	99.6	88	0.112	0.335	22.14
1309	33.0	-1.1	210.472	0.160	1.23	95	2.20	67.8	56.7	64	100.7	85	0.113	0.336	22.02
1310	32.3	-0.7	210.632	0.160	1.24	95	2.06	67.8	56.7	64	101.1	86	0.109	0.330	21.85
1311	31.4	-0.9	210.792	0.160	1.23	95	2.16	67.8	56.7	64	101.3	87	0.116	0.341	22.02
1312	31.6	0.2	210.954	0.162	1.24	95	2.04	67.8	56.7	64	101.5	87	0.116	0.341	22.37
1313	30.4	-1.2	211.114	0.160	1.25	95	2.05	67.9	56.8	64	99.9	86	0.111	0.333	22.11
1314	30.0	-0.4	211.274	0.160	1.24	94	2.16	67.9	56.9	65	100.7	84	0.112	0.335	21.90
1315	28.7	-1.4	211.434	0.160	1.23	95	2.06	67.9	56.9	64	101.4	85	0.109	0.330	21.79
1316	28.2	-0.5	211.599	0.165	1.22	95	2.05	68	56.9	64	104.9	86	0.112	0.335	21.80

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Test Start Time: 11:03

Test Length: 1579 min

Recording Interval: 1 min

Pre-test 0 cfm @ 14.78 in. Hg

Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1317	28.4	0.3	211.759	0.160	1.24	95	2.18	67.6	56.9	64	100.8	73	0.110	0.332	21.74
1318	27.5	-0.9	211.920	0.161	1.24	94	2.10	67.3	56.9	65	100.7	72	0.111	0.333	21.54
1319	27.2	-0.4	212.077	0.157	1.22	95	2.07	67.1	56.8	65	98.3	72	0.112	0.335	21.63
1320	26.9	-0.2	212.240	0.163	1.24	94	2.18	67	56.9	66	101.6	72	0.114	0.338	21.78
1321	26.6	-0.3	212.400	0.160	1.23	94	2.09	66.9	56.9	65	99.2	70	0.112	0.335	21.75
1322	26.5	0.0	212.561	0.161	1.24	95	2.16	66.8	56.9	64	99.9	69	0.112	0.335	21.63
1323	26.3	-0.2	212.721	0.160	1.23	94	2.19	66.6	56.9	64	99.3	69	0.114	0.338	21.72
1324	26.3	0.0	212.884	0.163	1.23	94	2.10	66.5	56.9	64	101.2	69	0.111	0.333	21.67
1325	26.4	0.1	213.045	0.161	1.24	95	2.06	66.5	56.9	64	100.1	70	0.113	0.336	21.62
1326	26.9	0.5	213.208	0.163	1.24	94	2.04	66.3	56.9	65	101.2	69	0.113	0.336	21.72
1327	26.7	-0.1	213.369	0.161	1.24	94	2.19	66.3	56.9	65	100.1	69	0.110	0.332	21.57
1328	26.2	-0.5	213.529	0.160	1.24	94	2.14	66.3	56.8	64	99.5	72	0.118	0.344	21.84
1329	26.0	-0.2	213.689	0.160	1.24	94	2.19	66.4	56.9	65	98.9	70	0.110	0.332	21.85
1330	26.6	0.6	213.850	0.161	1.24	95	2.18	66.3	56.9	65	99.9	69	0.112	0.335	21.53
1331	26.1	-0.5	214.010	0.160	1.25	94	2.18	66.2	56.9	65	99.5	69	0.114	0.338	21.71
1332	26.1	0.0	214.171	0.161	1.24	94	2.14	66.2	56.9	65	99.3	68	0.115	0.339	21.85
1333	26.3	0.2	214.333	0.162	1.26	94	2.18	66	56.8	65	100.5	68	0.106	0.326	21.45
1334	25.9	-0.3	214.494	0.161	1.25	94	2.13	66	56.9	65	101.3	68	0.110	0.332	21.21
1335	26.2	0.3	214.655	0.161	1.24	94	2.19	65.9	56.9	65	101.0	68	0.114	0.338	21.59
1336	26.1	-0.2	214.818	0.163	1.24	94	2.07	65.9	56.9	65	101.4	67	0.109	0.330	21.54
1337	25.8	-0.3	214.979	0.161	1.23	94	2.13	65.8	56.8	65	100.5	67	0.112	0.335	21.44
1338	26.3	0.5	215.141	0.162	1.25	94	2.02	65.8	56.9	65	100.7	67	0.115	0.339	21.72
1339	26.1	-0.2	215.302	0.161	1.24	94	2.15	65.7	56.9	64	99.3	67	0.112	0.335	21.72
1340	26.1	0.0	215.460	0.158	1.26	94	2.17	65.6	56.9	65	97.9	67	0.111	0.333	21.53
1341	25.9	-0.2	215.621	0.161	1.23	94	2.19	65.6	56.8	65	99.5	67	0.118	0.344	21.81
1342	26.2	0.2	215.783	0.162	1.23	94	2.07	65.6	56.9	65	99.8	67	0.109	0.330	21.72
1343	26.4	0.2	215.944	0.161	1.24	95	2.16	65.5	56.8	65	100.2	67	0.110	0.332	21.33
1344	26.1	-0.3	216.104	0.160	1.24	94	2.02	65.5	56.8	65	100.2	70	0.113	0.336	21.55
1345	25.9	-0.2	216.265	0.161	1.24	94	2.01	65.5	56.8	65	100.2	68	0.112	0.335	21.66
1346	26.5	0.7	216.427	0.162	1.25	94	2.04	65.5	56.9	65	100.6	67	0.111	0.333	21.54
1347	25.8	-0.7	216.591	0.164	1.25	94	2.20	65.3	56.8	64	101.4	67	0.118	0.344	21.82
1348	26.2	0.4	216.752	0.161	1.25	94	2.11	65.3	56.7	64	99.1	67	0.109	0.330	21.72
1349	26.2	0.0	216.912	0.160	1.24	94	2.01	65.2	56.7	64	99.0	68	0.116	0.341	21.63
1350	25.8	-0.4	217.071	0.159	1.23	94	2.19	65.2	56.7	64	98.0	68	0.115	0.339	21.93
1351	25.8	0.0	217.232	0.161	1.24	95	2.08	65.3	56.8	65	99.0	68	0.112	0.335	21.74
1352	25.8	0.0	217.393	0.161	1.22	94	2.11	65.2	56.7	65	99.7	69	0.113	0.336	21.66
1353	25.8	0.0	217.554	0.161	1.23	95	2.06	65.3	56.7	67	99.7	72	0.116	0.341	21.89
1354	25.9	0.1	217.715	0.161	1.24	94	2.11	65.4	56.7	65	99.6	69	0.110	0.332	21.75
1355	26.2	0.3	217.877	0.162	1.26	94	2.20	65.3	56.7	65	100.7	69	0.113	0.336	21.57
1356	26.4	0.2	218.040	0.163	1.24	95	2.08	65.3	56.7	65	101.1	68	0.114	0.338	21.75
1357	26.0	-0.4	218.201	0.161	1.23	95	2.09	65.3	56.7	65	99.1	68	0.115	0.339	21.83
1358	26.3	0.3	218.361	0.160	1.24	95	2.03	65.3	56.7	65	98.4	68	0.113	0.336	21.79
1359	26.1	-0.2	218.523	0.162	1.25	95	2.03	65.3	56.7	65	99.6	68	0.116	0.341	21.83
1360	26.3	0.2	218.682	0.159	1.23	95	2.01	65.3	56.7	65	98.1	67	0.109	0.330	21.63

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 11:03
Test Length: 1579 min
Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel				
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs	
1361	25.9	-0.4	218.842	0.160	1.24	95	2.03	65.2	56.7	65	99.1	67	0.116	0.341	21.63	
1362	26.5	0.6	219.002	0.160	1.23	94	2.04	65.1	56.7	65	98.5	67	0.115	0.339	21.91	
1363	26.4	0.0	219.165	0.163	1.24	94	2.04	65.1	56.7	65	100.7	67	0.107	0.327	21.48	
1364	26.1	-0.4	219.326	0.161	1.24	94	2.04	65.2	56.7	65	100.8	67	0.112	0.335	21.33	
1365	26.3	0.2	219.487	0.161	1.24	94	2.20	65.1	56.6	65	100.8	67	0.110	0.332	21.48	
1366	26.5	0.3	219.650	0.163	1.27	95	2.14	65.1	56.6	65	101.6	67	0.112	0.335	21.47	
1367	26.5	0.0	219.810	0.160	1.23	95	2.02	65.1	56.6	65	99.5	67	0.112	0.335	21.57	
1368	26.6	0.1	219.973	0.163	1.25	94	2.07	65.1	56.6	65	101.6	67	0.108	0.329	21.37	
1369	26.4	-0.2	220.134	0.161	1.26	94	2.06	65	56.6	65	100.9	66	0.112	0.335	21.37	
1370	26.0	-0.4	220.295	0.161	1.23	94	2.11	65	56.7	65	100.3	67	0.113	0.336	21.61	
1371	26.7	0.7	220.452	0.157	1.24	94	2.20	65	56.6	65	97.3	66	0.112	0.335	21.61	
1372	26.3	-0.4	220.615	0.163	1.24	95	2.20	65	56.7	65	101.2	66	0.111	0.333	21.51	
1373	26.2	-0.1	220.776	0.161	1.24	94	2.16	65	56.7	65	100.1	66	0.112	0.335	21.51	
1374	26.7	0.5	220.936	0.160	1.26	94	2.06	64.9	56.7	65	99.4	66	0.112	0.335	21.56	
1375	26.2	-0.5	221.097	0.161	1.25	94	2.20	65	56.7	65	99.9	66	0.112	0.335	21.56	
1376	26.6	0.5	221.259	0.162	1.24	95	2.14	64.9	56.7	65	100.0	66	0.117	0.342	21.80	
1377	26.3	-0.3	221.423	0.164	1.22	94	2.01	64.9	56.7	65	100.5	66	0.113	0.336	21.85	
1378	26.2	-0.1	221.584	0.161	1.24	94	2.21	64.8	56.7	65	98.5	66	0.118	0.344	21.89	
1379	26.2	0.1	221.744	0.160	1.23	95	2.21	64.8	56.6	65	97.4	66	0.116	0.341	22.03	
1380	26.3	0.1	221.905	0.161	1.23	94	2.13	64.8	56.6	65	98.2	66	0.113	0.336	21.79	
1381	26.3	0.0	222.065	0.160	1.24	94	2.05	64.8	56.6	65	98.5	69	0.116	0.341	21.83	
1382	26.2	-0.1	222.225	0.160	1.25	94	2.21	64.9	56.7	64	98.7	68	0.111	0.333	21.75	
1383	26.3	0.1	222.386	0.161	1.23	95	2.03	64.8	56.6	65	100.3	67	0.107	0.327	21.29	
1384	26.9	0.6	222.547	0.161	1.24	94	2.03	64.8	56.6	64	100.2	67	0.120	0.346	21.71	
1385	26.1	-0.8	222.709	0.162	1.24	95	2.15	64.8	56.6	65	99.0	67	0.115	0.339	22.09	
1386	26.7	0.6	222.870	0.161	1.24	94	2.05	65	56.7	64	98.6	72	0.114	0.338	21.86	
1387	26.3	-0.4	223.034	0.164	1.25	94	2.04	64.9	56.7	65	100.7	68	0.119	0.345	22.07	
1388	26.7	0.5	223.194	0.160	1.24	94	2.03	64.9	56.7	65	97.7	68	0.111	0.333	21.88	
1389	26.1	-0.7	223.355	0.161	1.24	95	2.05	64.8	56.7	65	99.5	68	0.112	0.335	21.55	
1390	26.6	0.6	223.517	0.162	1.25	94	2.05	64.8	56.7	65	100.8	69	0.113	0.336	21.65	
1391	26.3	-0.4	223.678	0.161	1.27	94	2.19	64.9	56.7	65	99.6	69	0.115	0.339	21.80	
1392	26.1	-0.2	223.836	0.158	1.25	94	2.07	64.9	56.7	65	97.0	69	0.117	0.342	22.00	
1393	26.6	0.5	223.997	0.161	1.24	95	2.04	65	56.7	65	98.7	73	0.115	0.339	22.04	
1394	26.9	0.3	224.159	0.162	1.24	94	2.19	65.2	56.7	65	99.5	70	0.115	0.339	21.95	
1395	26.6	-0.3	224.320	0.161	1.24	94	2.19	65.2	56.7	66	99.3	69	0.111	0.333	21.73	
1396	26.3	-0.3	224.481	0.161	1.25	94	2.06	65.1	56.7	65	100.6	69	0.107	0.327	21.32	
1397	26.1	-0.2	224.644	0.163	1.24	94	2.18	65.1	56.7	65	102.3	69	0.115	0.339	21.51	
1398	26.1	-0.1	224.806	0.162	1.24	94	2.08	65.1	56.7	65	100.4	68	0.114	0.338	21.84	
1399	26.1	0.1	224.967	0.161	1.24	94	2.09	65.1	56.7	65	99.5	68	0.110	0.332	21.60	
1400	26.1	-0.1	225.128	0.161	1.25	94	2.20	65.1	56.7	65	100.3	68	0.112	0.335	21.49	
1401	26.1	0.0	225.286	0.158	1.24	95	2.17	65.1	56.7	65	98.4	68	0.112	0.335	21.59	
1402	26.1	0.0	225.448	0.162	1.24	95	2.20	65.1	56.8	65	100.5	67	0.113	0.336	21.63	
1403	26.1	0.1	225.609	0.161	1.25	95	2.03	65.1	56.8	65	99.8	67	0.111	0.333	21.58	
1404	26.0	-0.1	225.770	0.161	1.25	95	2.03	65.1	56.8	65	100.3	67	0.110	0.332	21.43	

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1405	26.2	0.2	225.931	0.161	1.24	94	2.05	65	56.8	65	100.7	67	0.111	0.333	21.43
1406	26.3	0.0	226.094	0.163	1.25	94	2.13	65	56.8	65	101.7	67	0.112	0.335	21.52
1407	26.5	0.2	226.256	0.162	1.24	94	2.03	65	56.8	65	100.6	67	0.113	0.336	21.62
1408	26.8	0.3	226.417	0.161	1.24	94	2.09	65	56.8	65	99.4	67	0.115	0.339	21.76
1409	26.9	0.1	226.578	0.161	1.22	94	2.02	65	56.8	65	99.6	67	0.109	0.330	21.57
1410	26.5	-0.5	226.739	0.161	1.23	94	2.12	65	56.8	65	100.0	67	0.115	0.339	21.57
1411	26.3	-0.2	226.898	0.159	1.24	94	2.03	65	56.8	66	98.5	66	0.111	0.333	21.66
1412	26.8	0.5	227.059	0.161	1.25	94	2.03	65	56.8	66	99.3	66	0.117	0.342	21.75
1413	26.3	-0.5	227.220	0.161	1.23	94	2.19	65	56.9	65	99.0	66	0.112	0.335	21.80
1414	26.5	0.2	227.381	0.161	1.22	95	2.18	64.9	56.8	64	99.4	66	0.112	0.335	21.56
1415	26.8	0.3	227.544	0.163	1.25	94	2.11	64.9	56.8	64	100.8	66	0.115	0.339	21.70
1416	26.3	-0.5	227.707	0.163	1.25	95	2.17	64.9	56.8	64	100.2	66	0.114	0.338	21.79
1417	26.3	0.0	227.868	0.161	1.22	94	2.20	65	56.8	64	99.6	71	0.111	0.333	21.65
1418	26.8	0.5	228.028	0.160	1.26	95	2.12	64.9	57	64	99.4	66	0.113	0.336	21.61
1419	26.6	-0.2	228.189	0.161	1.24	95	2.14	64.8	56.9	64	99.5	66	0.113	0.336	21.66
1420	26.7	0.1	228.350	0.161	1.24	94	2.03	64.7	56.9	65	99.3	66	0.114	0.338	21.70
1421	26.5	-0.2	228.510	0.160	1.24	95	2.20	64.7	56.9	65	98.9	66	0.110	0.332	21.55
1422	26.7	0.2	228.670	0.160	1.24	94	2.20	64.7	56.9	65	99.9	66	0.108	0.329	21.26
1423	26.3	-0.4	228.831	0.161	1.24	94	2.20	64.6	56.9	65	101.5	66	0.108	0.329	21.16
1424	26.5	0.2	228.993	0.162	1.24	94	2.17	64.6	56.9	65	102.0	66	0.111	0.333	21.31
1425	26.2	-0.3	229.157	0.164	1.23	95	2.05	64.7	56.9	65	102.4	71	0.115	0.339	21.70
1426	25.8	-0.4	229.317	0.160	1.25	94	2.10	64.8	56.9	64	99.0	73	0.116	0.341	22.01
1427	25.5	-0.3	229.478	0.161	1.24	95	2.04	65.1	56.9	65	99.6	76	0.112	0.335	21.92
1428	24.8	-0.7	229.638	0.160	1.24	95	2.13	65.3	56.9	65	100.4	79	0.108	0.329	21.59
1429	24.0	-0.8	229.800	0.162	1.25	94	2.19	65.5	57	65	103.5	80	0.106	0.326	21.34
1430	23.7	-0.3	229.961	0.161	1.24	94	2.19	65.7	57	65	103.6	81	0.109	0.330	21.41
1431	23.3	-0.4	230.118	0.157	1.24	94	2.19	65.9	57.1	65	100.5	82	0.110	0.332	21.63
1432	22.3	-1.0	230.278	0.160	1.24	95	2.13	66	57.1	65	101.9	83	0.109	0.330	21.64
1433	22.1	-0.1	230.440	0.162	1.25	94	2.20	66.1	57.1	65	103.4	83	0.109	0.330	21.60
1434	21.7	-0.4	230.600	0.160	1.23	94	2.08	66.3	57.1	65	102.3	83	0.109	0.330	21.61
1435	20.6	-1.1	230.763	0.163	1.24	94	2.15	66.4	57.2	65	104.0	84	0.111	0.333	21.71
1436	20.3	-0.3	230.923	0.160	1.23	94	2.20	66.5	57.2	65	101.2	84	0.115	0.339	22.01
1437	19.6	-0.8	231.085	0.162	1.24	94	2.09	66.6	57.2	65	101.5	84	0.114	0.338	22.17
1438	19.1	-0.5	231.246	0.161	1.24	94	2.20	66.7	57.2	65	100.9	85	0.112	0.335	22.03
1439	18.6	-0.5	231.405	0.159	1.23	94	2.13	66.9	57.4	65	100.2	86	0.113	0.336	21.99
1440	17.4	-1.2	231.565	0.160	1.23	95	2.04	66.9	57.4	65	101.2	85	0.109	0.330	21.85
1441	16.9	-0.5	231.727	0.162	1.22	94	2.16	67	57.4	65	103.7	83	0.104	0.322	21.38
1442	16.4	-0.5	231.885	0.158	1.21	95	2.05	67.1	57.5	65	102.4	84	0.107	0.327	21.27
1443	16.3	-0.1	232.044	0.159	1.23	94	2.06	67.1	57.6	65	102.7	83	0.110	0.332	21.57
1444	15.5	-0.8	232.205	0.161	1.25	94	2.15	67.2	57.5	65	102.5	84	0.113	0.336	21.87
1445	14.8	-0.7	232.369	0.164	1.24	94	2.10	67.3	57.5	65	103.8	85	0.110	0.332	21.89
1446	14.2	-0.6	232.529	0.160	1.26	94	2.18	67.4	57.6	65	101.8	86	0.110	0.332	21.76
1447	13.6	-0.6	232.688	0.159	1.23	94	2.10	67.4	57.7	65	101.4	86	0.111	0.333	21.82
1448	12.7	-1.0	232.849	0.161	1.22	94	2.04	67.5	57.7	65	102.0	85	0.114	0.338	22.01

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1449	11.6	-1.1	233.010	0.161	1.23	94	2.05	67.6	57.8	65	101.5	86	0.111	0.333	22.00
1450	11.6	0.0	233.170	0.160	1.23	94	2.05	67.6	57.8	65	101.4	86	0.109	0.330	21.76
1451	10.9	-0.7	233.330	0.160	1.23	94	2.19	67.4	57.8	66	101.0	73	0.112	0.335	21.68
1452	11.0	0.1	233.489	0.159	1.24	94	2.16	67	57.8	66	99.4	71	0.110	0.332	21.58
1453	10.1	-0.9	233.650	0.161	1.25	94	2.14	66.8	57.8	66	101.0	70	0.110	0.332	21.45
1454	10.3	0.1	233.810	0.160	1.22	94	2.19	66.6	57.8	66	100.6	69	0.109	0.330	21.39
1455	10.4	0.1	233.973	0.163	1.24	94	2.15	66.6	57.8	65	102.8	68	0.108	0.329	21.27
1456	10.4	0.0	234.133	0.160	1.23	94	2.16	66.4	57.8	65	100.4	68	0.115	0.339	21.55
1457	10.5	0.2	234.295	0.162	1.24	94	2.13	66.4	57.8	65	100.1	68	0.116	0.341	21.93
1458	10.1	-0.4	234.456	0.161	1.25	94	2.17	66.3	57.8	65	98.9	68	0.112	0.335	21.78
1459	9.7	-0.4	234.616	0.160	1.24	94	2.04	66.2	57.8	65	98.8	68	0.114	0.338	21.69
1460	10.0	0.4	234.776	0.160	1.22	94	2.11	66	57.8	65	98.6	67	0.116	0.341	21.87
1461	9.8	-0.2	234.938	0.162	1.24	94	2.19	66	57.8	65	99.7	67	0.111	0.333	21.71
1462	10.0	0.2	235.099	0.161	1.25	94	2.03	65.9	57.8	65	99.6	67	0.114	0.338	21.62
1463	9.7	-0.3	235.256	0.157	1.24	94	2.16	65.8	57.8	65	97.4	67	0.110	0.332	21.57
1464	10.1	0.3	235.418	0.162	1.28	94	2.08	65.8	57.8	65	101.0	67	0.111	0.333	21.42
1465	9.8	-0.3	235.582	0.164	1.24	94	2.15	65.7	57.8	65	102.1	67	0.114	0.338	21.61
1466	9.5	-0.3	235.743	0.161	1.24	94	2.19	65.6	57.9	65	99.5	66	0.114	0.338	21.76
1467	9.8	0.4	235.903	0.160	1.23	94	2.21	65.6	57.8	65	98.8	67	0.111	0.333	21.61
1468	10.2	0.3	236.063	0.160	1.23	94	2.21	65.5	57.8	65	99.6	67	0.110	0.332	21.42
1469	10.0	-0.2	236.225	0.162	1.23	94	2.04	65.4	57.8	65	101.6	67	0.108	0.329	21.27
1470	10.1	0.1	236.386	0.161	1.23	94	2.17	65.4	57.8	65	100.9	66	0.114	0.338	21.47
1471	10.0	-0.1	236.547	0.161	1.25	94	2.18	65.3	57.8	65	99.4	66	0.118	0.344	21.94
1472	10.0	0.0	236.707	0.160	1.23	94	2.13	65.3	57.8	65	98.3	66	0.108	0.329	21.66
1473	10.0	0.0	236.866	0.159	1.24	94	2.20	65.3	57.8	65	98.8	66	0.113	0.336	21.42
1474	10.0	0.0	237.027	0.161	1.25	94	2.02	65.2	57.8	65	99.5	66	0.118	0.344	21.90
1475	9.8	-0.2	237.190	0.163	1.23	94	2.19	65.2	57.8	65	99.7	66	0.113	0.336	21.90
1476	9.4	-0.4	237.350	0.160	1.25	94	2.10	65.2	57.8	65	98.2	66	0.115	0.339	21.76
1477	10.0	0.6	237.512	0.162	1.24	94	2.19	65.1	57.8	65	99.4	66	0.116	0.341	21.90
1478	9.5	-0.5	237.673	0.161	1.23	94	2.06	65.1	57.8	65	98.6	66	0.113	0.336	21.80
1479	10.0	0.5	237.834	0.161	1.24	95	2.04	65	57.8	65	98.9	67	0.115	0.339	21.76
1480	9.7	-0.4	237.994	0.160	1.22	94	2.15	65	57.8	65	98.7	66	0.111	0.333	21.66
1481	10.1	0.5	238.155	0.161	1.25	94	2.14	64.9	57.7	65	100.0	66	0.111	0.333	21.47
1482	9.7	-0.5	238.317	0.162	1.24	94	2.03	64.9	57.7	65	101.2	66	0.110	0.332	21.42
1483	9.8	0.2	238.475	0.158	1.23	94	2.19	64.9	57.7	65	98.0	66	0.118	0.344	21.75
1484	10.2	0.4	238.638	0.163	1.24	94	2.19	64.8	57.7	65	100.4	66	0.109	0.330	21.70
1485	9.8	-0.4	238.798	0.160	1.23	94	2.05	64.8	57.7	65	99.2	66	0.113	0.336	21.46
1486	9.6	-0.2	238.961	0.163	1.23	94	2.19	64.8	57.7	65	101.4	66	0.112	0.335	21.61
1487	9.9	0.3	239.122	0.161	1.24	94	2.19	64.8	57.7	65	100.5	66	0.106	0.326	21.27
1488	10.3	0.4	239.282	0.160	1.25	94	2.03	64.8	57.7	65	100.3	66	0.115	0.339	21.41
1489	9.9	-0.4	239.442	0.160	1.23	94	2.03	64.7	57.7	65	99.8	66	0.108	0.329	21.51
1490	9.6	-0.3	239.604	0.162	1.24	94	2.03	64.7	57.6	65	101.2	66	0.112	0.335	21.36
1491	9.8	0.2	239.765	0.161	1.23	94	2.18	64.8	57.6	65	100.7	66	0.110	0.332	21.46
1492	10.4	0.6	239.923	0.158	1.23	94	2.18	64.7	57.7	65	98.7	66	0.111	0.333	21.41

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 11:03
 Test Length: 1579 min
 Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg
 Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1493	9.9	-0.5	240.083	0.160	1.24	94	2.11	64.7	57.7	66	100.1	66	0.109	0.330	21.37
1494	9.8	-0.1	240.247	0.164	1.24	94	2.04	64.7	57.7	65	102.1	66	0.116	0.341	21.61
1495	10.3	0.5	240.409	0.162	1.25	94	2.03	64.7	57.6	65	100.3	66	0.109	0.330	21.60
1496	10.0	-0.4	240.570	0.161	1.24	94	2.09	64.6	57.6	65	100.2	66	0.112	0.335	21.41
1497	10.2	0.3	240.730	0.160	1.23	94	2.04	64.6	57.6	65	99.9	66	0.110	0.332	21.46
1498	10.1	-0.1	240.891	0.161	1.24	94	2.05	64.6	57.6	65	100.6	66	0.110	0.332	21.36
1499	9.8	-0.3	241.053	0.162	1.24	94	2.03	64.6	57.6	65	100.8	66	0.116	0.341	21.65
1500	10.4	0.6	241.213	0.160	1.24	94	2.03	64.6	57.6	65	98.5	66	0.114	0.338	21.84
1501	9.8	-0.6	241.374	0.161	1.23	94	2.09	64.6	57.6	65	99.1	66	0.112	0.335	21.65
1502	10.5	0.7	241.534	0.160	1.24	94	2.15	64.6	57.5	65	98.7	66	0.116	0.341	21.75
1503	9.8	-0.7	241.694	0.160	1.25	94	2.11	64.6	57.5	65	98.6	66	0.111	0.333	21.70
1504	10.4	0.6	241.857	0.163	1.24	94	2.20	64.6	57.5	65	100.9	66	0.113	0.336	21.56
1505	9.8	-0.6	242.018	0.161	1.24	94	2.14	64.6	57.6	65	99.5	66	0.115	0.339	21.75
1506	10.4	0.6	242.178	0.160	1.23	94	2.05	64.6	57.5	65	98.9	66	0.109	0.330	21.56
1507	10.0	-0.4	242.340	0.162	1.25	94	2.06	64.6	57.6	65	101.2	66	0.110	0.332	21.31
1508	10.3	0.3	242.501	0.161	1.24	94	2.04	64.6	57.6	65	101.0	66	0.109	0.330	21.31
1509	10.1	-0.2	242.662	0.161	1.27	94	2.16	64.6	57.6	65	101.2	66	0.109	0.330	21.27
1510	10.2	0.0	242.822	0.160	1.24	94	2.14	64.6	57.6	65	100.2	66	0.113	0.336	21.46
1511	10.1	0.0	242.983	0.161	1.22	94	2.05	64.6	57.5	65	100.0	66	0.112	0.335	21.60
1512	10.1	0.0	243.145	0.162	1.24	94	2.04	64.5	57.5	65	100.5	66	0.111	0.333	21.51
1513	10.3	0.1	243.305	0.160	1.23	94	2.05	64.6	57.6	65	99.7	66	0.111	0.333	21.46
1514	10.1	-0.1	243.466	0.161	1.23	94	2.19	64.6	57.5	65	100.3	66	0.112	0.335	21.51
1515	10.3	0.2	243.627	0.161	1.24	94	2.18	64.5	57.5	65	100.1	66	0.112	0.335	21.56
1516	10.3	0.0	243.788	0.161	1.24	94	2.20	64.6	57.5	65	100.0	66	0.112	0.335	21.56
1517	10.3	0.0	243.949	0.161	1.25	94	2.09	64.5	57.5	65	99.8	66	0.113	0.336	21.60
1518	10.0	-0.4	244.109	0.160	1.23	94	2.17	64.6	57.5	65	99.5	66	0.108	0.329	21.41
1519	10.5	0.6	244.270	0.161	1.24	94	2.17	64.5	57.5	65	100.4	66	0.115	0.339	21.51
1520	10.0	-0.5	244.432	0.162	1.24	94	2.13	64.7	57.5	65	101.3	70	0.107	0.327	21.50
1521	10.2	0.1	244.593	0.161	1.25	94	2.15	64.7	57.6	65	100.9	68	0.113	0.336	21.42
1522	9.8	-0.4	244.753	0.160	1.24	94	2.04	64.6	57.6	65	99.2	66	0.116	0.341	21.81
1523	10.3	0.4	244.913	0.160	1.23	95	2.04	64.5	57.6	65	98.0	66	0.115	0.339	21.89
1524	10.1	-0.2	245.075	0.162	1.24	95	2.21	64.6	57.6	65	98.9	66	0.116	0.341	21.89
1525	9.8	-0.2	245.236	0.161	1.26	94	2.01	64.5	57.6	65	98.9	66	0.110	0.332	21.65
1526	10.3	0.5	245.396	0.160	1.23	94	2.08	64.5	57.6	65	99.7	66	0.109	0.330	21.31
1527	10.4	0.0	245.556	0.160	1.25	94	2.03	64.6	57.5	65	100.3	66	0.111	0.333	21.36
1528	9.9	-0.5	245.718	0.162	1.23	94	2.01	64.5	57.5	65	101.0	66	0.113	0.336	21.55
1529	9.9	0.0	245.879	0.161	1.25	94	2.03	64.5	57.5	65	99.6	66	0.114	0.338	21.70
1530	10.1	0.2	246.039	0.160	1.23	94	2.02	64.5	57.5	65	98.7	66	0.113	0.336	21.70
1531	10.3	0.2	246.199	0.160	1.23	94	2.18	64.5	57.5	65	99.1	66	0.110	0.332	21.51
1532	10.4	0.1	246.361	0.162	1.23	94	2.17	64.5	57.5	65	101.2	66	0.109	0.330	21.31
1533	10.5	0.0	246.522	0.161	1.23	94	2.04	64.5	57.6	65	100.4	66	0.116	0.341	21.60
1534	10.2	-0.2	246.683	0.161	1.22	94	2.04	64.5	57.5	65	99.5	66	0.111	0.333	21.70
1535	10.0	-0.3	246.843	0.160	1.22	94	2.08	64.5	57.6	65	99.0	66	0.112	0.335	21.51
1536	9.9	-0.1	247.004	0.161	1.25	94	2.04	64.5	57.6	65	100.1	66	0.111	0.333	21.51

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 3

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Start Time: 11:03

Test Length: 1579 min

Recording Interval: 1 min

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 14.78 in. Hg

Post-Test 0.001 cfm @ 5.62 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1537	9.9	0.1	247.165	0.161	1.23	94	2.12	64.4	57.6	65	100.1	66	0.112	0.335	21.51
1538	10.1	0.1	247.326	0.161	1.23	94	2.18	64.5	57.6	65	99.9	66	0.113	0.336	21.60
1539	10.4	0.3	247.486	0.160	1.23	94	2.05	64.5	57.6	65	98.9	66	0.114	0.338	21.70
1540	10.8	0.4	247.647	0.161	1.24	95	2.04	64.4	57.5	65	99.0	66	0.115	0.339	21.79
1541	10.7	-0.1	247.809	0.162	1.24	94	2.19	64.5	57.6	65	99.6	66	0.112	0.335	21.70
1542	10.4	-0.3	247.970	0.161	1.23	94	2.05	64.4	57.6	65	99.7	66	0.111	0.333	21.51
1543	10.2	-0.3	248.130	0.160	1.23	94	2.19	64.4	57.6	65	99.4	66	0.113	0.336	21.56
1544	10.1	-0.1	248.290	0.160	1.23	94	2.12	64.4	57.6	65	99.6	66	0.109	0.330	21.46
1545	10.3	0.2	248.452	0.162	1.25	94	2.16	64.4	57.5	65	101.2	66	0.111	0.333	21.36
1546	10.6	0.3	248.613	0.161	1.23	94	2.13	64.4	57.6	65	100.7	66	0.110	0.332	21.41
1547	10.5	-0.1	248.773	0.160	1.24	94	2.03	64.4	57.5	65	99.5	66	0.115	0.339	21.60
1548	9.9	-0.5	248.934	0.161	1.23	94	2.04	64.4	57.5	65	99.5	66	0.112	0.335	21.70
1549	10.2	0.3	249.096	0.162	1.24	94	2.05	64.4	57.6	65	100.1	66	0.113	0.336	21.60
1550	10.8	0.6	249.256	0.160	1.23	94	2.04	64.4	57.5	65	98.9	66	0.114	0.338	21.70
1551	10.3	-0.5	249.417	0.161	1.22	94	2.17	64.6	57.6	65	99.5	70	0.114	0.338	21.79
1552	9.8	-0.6	249.577	0.160	1.24	94	2.12	64.6	57.6	65	99.1	67	0.110	0.332	21.60
1553	10.5	0.8	249.739	0.162	1.24	94	2.18	64.5	57.6	65	100.6	66	0.113	0.336	21.51
1554	9.7	-0.8	249.900	0.161	1.24	94	2.10	64.5	57.6	65	99.5	66	0.116	0.341	21.80
1555	10.5	0.8	250.060	0.160	1.24	94	2.06	64.5	57.6	65	97.8	66	0.118	0.344	22.03
1556	10.3	-0.2	250.220	0.160	1.25	94	2.12	64.5	57.6	65	97.3	66	0.115	0.339	21.98
1557	10.2	-0.1	250.382	0.162	1.24	94	2.12	64.5	57.6	65	99.6	66	0.108	0.329	21.51
1558	10.4	0.2	250.543	0.161	1.22	94	2.18	64.5	57.6	65	100.4	66	0.113	0.336	21.41
1559	10.0	-0.4	250.704	0.161	1.24	94	2.10	64.5	57.6	65	99.9	66	0.114	0.338	21.70
1560	10.6	0.6	250.864	0.160	1.22	94	2.05	64.5	57.6	65	98.6	66	0.113	0.336	21.70
1561	10.2	-0.4	251.026	0.162	1.25	94	2.18	64.5	57.6	65	100.2	66	0.111	0.333	21.55
1562	10.3	0.1	251.187	0.161	1.26	94	2.04	64.7	57.7	65	100.2	72	0.115	0.339	21.71
1563	9.7	-0.6	251.347	0.160	1.24	95	2.15	64.9	57.7	65	98.9	74	0.118	0.344	22.13
1564	8.9	-0.8	251.507	0.160	1.24	94	2.19	65.1	57.6	65	98.6	77	0.113	0.336	22.09
1565	8.8	-0.1	251.668	0.161	1.23	94	2.17	65.3	57.7	65	99.9	79	0.116	0.341	22.05
1566	7.6	-1.1	251.829	0.161	1.23	94	2.13	65.5	57.7	65	100.4	81	0.111	0.333	21.99
1567	7.2	-0.4	251.989	0.160	1.24	94	2.19	65.7	57.8	65	100.6	81	0.111	0.333	21.76
1568	6.9	-0.3	252.149	0.160	1.23	94	2.15	65.9	57.7	65	101.0	82	0.113	0.336	21.88
1569	6.6	-0.3	252.310	0.161	1.22	94	2.05	66.1	57.8	65	101.3	83	0.112	0.335	21.94
1570	5.8	-0.8	252.470	0.160	1.24	94	2.17	66.2	57.9	65	101.0	83	0.110	0.332	21.80
1571	5.6	-0.1	252.630	0.160	1.22	94	2.15	66.3	57.8	65	101.3	83	0.113	0.336	21.85
1572	4.7	-0.9	252.789	0.159	1.23	94	2.13	66.5	57.9	65	100.6	84	0.110	0.332	21.86
1573	3.7	-1.0	252.950	0.161	1.23	94	2.05	66.6	57.9	65	102.3	84	0.109	0.330	21.67
1574	3.6	-0.1	253.110	0.160	1.23	94	2.11	66.7	57.9	65	101.8	84	0.113	0.336	21.83
1575	3.0	-0.6	253.269	0.159	1.23	94	2.21	66.9	58	66	100.7	84	0.110	0.332	21.88
1576	2.2	-0.8	253.429	0.160	1.22	95	2.04	67	58	65	101.3	85	0.113	0.336	21.89
1577	1.9	-0.3	253.590	0.161	1.22	94	2.09	67.1	58	65	101.8	85	0.111	0.333	21.94
1578	1.8	-0.1	253.749	0.159	1.23	94	2.09	67.2	58.1	65	100.5	85	0.113	0.336	21.94
1579	0.0	-1.8	253.908	0.159	1.23	94	2.05	67.3	58.1	65	100.2	85	0.114	0.338	22.09

Train B - Particulate Sampling

ASTM E2515

Run: 3Test Date: 2/26/25Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044EMeter Box Y Regression Offset: 1.0244Meter Box Y Regression Slope: 0Meter Box Dynamic Y: 1.024Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. HgPost-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	256.450	0.162	1.25	89.8	2.25	65.36	48.12	100.0
Minimum	0.000	0.139	0.07	66	0.02	63	39	89.4
Max	256.450	0.166	1.29	92	2.35	68	56	104.9
0	0.000		0.07	66	0.02	62.6	58.2	
1	0.139	0.139	1.27	66	2.29	62.8	56.1	89.4
2	0.301	0.162	1.25	66	2.24	62.8	55.9	104.9
3	0.461	0.160	1.24	66	2.32	63.4	56	103.7
4	0.620	0.159	1.24	66	2.31	63.5	56	104.0
5	0.779	0.159	1.24	66	2.39	63.5	56	103.3
6	0.939	0.160	1.22	66	2.25	63.6	56.1	103.1
7	1.097	0.158	1.23	66	2.36	63.6	56.2	102.3
8	1.255	0.158	1.23	66	2.27	63.8	56.2	102.4
9	1.415	0.160	1.22	66	2.26	63.8	56.2	102.9
10	1.572	0.157	1.21	66	2.34	64	56.3	100.7
11	1.729	0.157	1.21	67	2.31	64.2	56.4	101.6
12	1.889	0.160	1.23	67	2.29	64.2	56.5	104.6
13	2.046	0.157	1.22	67	2.30	64.4	56.6	102.2
14	2.202	0.156	1.20	67	2.26	64.4	56.6	101.1
15	2.362	0.160	1.21	67	2.31	64.6	56.7	104.2
16	2.518	0.156	1.22	67	2.27	64.7	56.8	101.8
17	2.676	0.158	1.20	68	2.30	64.8	56.9	103.4
18	2.836	0.160	1.27	68	2.32	64.9	57	104.4
19	2.995	0.159	1.25	68	2.35	65.1	57.1	102.9
20	3.154	0.159	1.23	69	2.31	65.1	57.3	102.7
21	3.316	0.162	1.22	69	2.32	65.3	57.4	104.3
22	3.476	0.160	1.25	69	2.30	65	56.8	102.8
23	3.635	0.159	1.24	69	2.31	65	56.1	101.6
24	3.795	0.160	1.25	70	2.30	64.9	55.5	101.4
25	3.957	0.162	1.25	70	2.30	64.9	54.8	102.5
26	4.117	0.160	1.25	70	2.30	64.8	54.2	101.6
27	4.277	0.160	1.24	71	2.29	64.7	53.5	101.7
28	4.437	0.160	1.24	71	2.28	64.7	52.9	101.6
29	4.599	0.162	1.24	71	2.29	64.6	52.3	102.8
30	4.759	0.160	1.24	71	2.30	64.5	51.7	100.8
31	4.919	0.160	1.26	72	2.30	64.5	51.2	99.7
32	5.079	0.160	1.23	72	2.31	64.4	50.8	99.7
33	5.240	0.161	1.25	72	2.33	64.4	50.2	101.2
34	5.401	0.161	1.24	73	2.23	64.3	49.7	101.2
35	5.561	0.160	1.24	73	2.33	64.2	49.3	100.8
36	5.721	0.160	1.25	73	2.25	64.2	48.9	101.3
37	5.882	0.161	1.25	73	2.32	64.1	48.5	101.7
38	6.043	0.161	1.25	74	2.27	64	48.1	101.2
39	6.203	0.160	1.26	74	2.25	63.9	47.7	99.7
40	6.363	0.160	1.25	74	2.25	63.9	47.4	99.6

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
41	6.524	0.161	1.24	75	2.27	63.9	47.1	100.2
42	6.686	0.162	1.25	75	2.28	63.8	46.8	100.3
43	6.847	0.161	1.26	75	2.29	63.7	46.4	100.5
44	7.007	0.160	1.25	75	2.27	63.7	46.2	100.5
45	7.168	0.161	1.26	76	2.27	63.6	46	100.9
46	7.330	0.162	1.25	76	2.28	63.6	45.7	101.3
47	7.491	0.161	1.25	76	2.29	63.6	45.5	100.7
48	7.652	0.161	1.24	76	2.30	63.5	45.3	101.1
49	7.812	0.160	1.24	77	2.29	63.5	45.2	101.1
50	7.973	0.161	1.26	77	2.23	63.5	45.1	101.6
51	8.136	0.163	1.25	77	2.23	63.4	44.9	102.3
52	8.297	0.161	1.25	78	2.21	63.4	44.7	101.2
53	8.458	0.161	1.25	78	2.23	63.3	44.5	101.0
54	8.618	0.160	1.25	78	2.25	63.3	44.4	99.3
55	8.780	0.162	1.25	78	2.32	63.3	44.2	100.8
56	8.942	0.162	1.24	78	2.18	63.2	44	102.3
57	9.103	0.161	1.25	79	2.20	63.1	43.9	101.7
58	9.264	0.161	1.26	79	2.31	63.1	43.7	101.2
59	9.424	0.160	1.26	79	2.25	63	43.6	100.7
60	9.587	0.163	1.25	79	2.32	63	43.6	102.9
61	9.749	0.162	1.26	79	2.21	63.1	43.6	102.7
62	9.910	0.161	1.25	80	2.24	63.2	42.4	101.4
63	10.070	0.160	1.24	80	2.28	63.2	40.2	99.7
64	10.232	0.162	1.24	80	2.22	63.2	39.9	101.5
65	10.394	0.162	1.26	80	2.28	63.2	39.8	103.0
66	10.556	0.162	1.25	80	2.21	63.3	39.8	103.4
67	10.718	0.162	1.25	81	2.22	63.2	39.8	102.1
68	10.878	0.160	1.26	81	2.24	63.3	39.8	99.4
69	11.040	0.162	1.25	81	2.21	63.3	39.8	100.7
70	11.202	0.162	1.25	81	2.26	63.3	39.8	101.1
71	11.365	0.163	1.25	81	2.26	63.3	39.8	101.2
72	11.526	0.161	1.26	81	2.28	63.4	39.7	100.3
73	11.687	0.161	1.26	82	2.24	63.4	39.4	100.6
74	11.849	0.162	1.25	82	2.28	63.4	39.2	101.1
75	12.010	0.161	1.25	82	2.25	63.5	39.3	100.8
76	12.174	0.164	1.25	82	2.28	63.6	39.4	103.3
77	12.336	0.162	1.25	82	2.26	63.6	39.5	102.0
78	12.497	0.161	1.26	82	2.23	63.7	39.6	100.2
79	12.659	0.162	1.29	83	2.26	63.7	39.6	100.0
80	12.821	0.162	1.25	83	2.31	63.7	39.7	100.9
81	12.983	0.162	1.26	83	2.30	63.7	39.8	101.6
82	13.147	0.164	1.26	83	2.21	63.8	39.9	102.2
83	13.308	0.161	1.26	83	2.30	63.8	40	100.5
84	13.469	0.161	1.26	83	2.30	63.9	40.1	101.1

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
85	13.631	0.162	1.28	84	2.21	63.9	40.2	100.9
86	13.793	0.162	1.26	84	2.22	64	40.2	100.5
87	13.956	0.163	1.26	84	2.23	64	40.3	101.8
88	14.119	0.163	1.26	84	2.25	64.1	40.4	102.4
89	14.281	0.162	1.25	84	2.29	64.1	40.5	101.3
90	14.442	0.161	1.27	84	2.29	64.2	40.5	99.9
91	14.604	0.162	1.24	84	2.29	64.4	40.6	101.4
92	14.766	0.162	1.26	85	2.23	64.3	40.8	102.0
93	14.929	0.163	1.26	85	2.20	64.4	40.8	102.3
94	15.092	0.163	1.26	85	2.32	64.5	40.8	101.9
95	15.253	0.161	1.29	85	2.22	64.6	41	100.1
96	15.415	0.162	1.26	85	2.29	64.6	41	101.2
97	15.577	0.162	1.26	85	2.22	64.6	41	101.3
98	15.739	0.162	1.25	85	2.23	64.7	41.1	101.2
99	15.903	0.164	1.27	85	2.29	64.7	41.2	102.9
100	16.065	0.162	1.26	85	2.27	64.8	41.3	101.3
101	16.227	0.162	1.29	85	2.20	64.8	41.3	100.4
102	16.389	0.162	1.26	86	2.23	64.9	41.4	100.1
103	16.551	0.162	1.25	86	2.31	64.9	41.4	100.4
104	16.713	0.162	1.26	86	2.28	65	41.4	100.8
105	16.877	0.164	1.26	86	2.28	65	41.5	102.2
106	17.039	0.162	1.25	86	2.21	65.1	41.6	101.2
107	17.202	0.163	1.25	86	2.18	65.1	41.6	101.8
108	17.363	0.161	1.26	86	2.23	65.2	41.6	100.1
109	17.525	0.162	1.24	86	2.22	65.2	41.7	100.9
110	17.688	0.163	1.26	86	2.28	65.3	41.8	102.1
111	17.851	0.163	1.25	87	2.28	65.3	41.8	101.5
112	18.014	0.163	1.25	87	2.19	65.3	41.8	101.2
113	18.176	0.162	1.26	87	2.22	65.4	41.9	100.6
114	18.338	0.162	1.25	87	2.24	65.4	42	100.3
115	18.500	0.162	1.25	87	2.27	65.5	42	100.4
116	18.663	0.163	1.24	87	2.19	65.5	42	101.2
117	18.825	0.162	1.26	87	2.29	65.5	42.1	100.2
118	18.989	0.164	1.27	87	2.26	65.6	42.1	101.1
119	19.152	0.163	1.26	88	2.26	65.6	42.2	100.7
120	19.314	0.162	1.26	88	2.29	65.7	42.2	100.8
121	19.476	0.162	1.26	88	2.19	65.7	42.3	100.9
122	19.638	0.162	1.24	88	2.27	65.9	42.3	101.2
123	19.800	0.162	1.26	88	2.20	65.8	42.4	101.6
124	19.964	0.164	1.24	88	2.20	65.9	42.4	104.1
125	20.126	0.162	1.26	88	2.30	66	42.5	103.7
126	20.288	0.162	1.26	88	2.20	66.2	42.6	102.2
127	20.449	0.161	1.25	88	2.31	66.4	42.7	100.8
128	20.611	0.162	1.25	88	2.25	66.5	42.8	102.0

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
129	20.773	0.162	1.25	88	2.22	66.7	42.8	102.5
130	20.936	0.163	1.25	88	2.31	66.8	42.9	103.3
131	21.097	0.161	1.26	88	2.23	66.8	43	101.5
132	21.258	0.161	1.25	89	2.33	66.9	43.1	101.0
133	21.419	0.161	1.25	89	2.32	67	43.2	101.1
134	21.581	0.162	1.24	89	2.19	67.1	43.3	101.9
135	21.744	0.163	1.24	89	2.31	67.2	43.4	102.5
136	21.905	0.161	1.25	89	2.28	67.3	43.5	100.8
137	22.066	0.161	1.25	89	2.22	67.3	43.5	100.3
138	22.227	0.161	1.22	89	2.33	67.3	43.6	99.8
139	22.389	0.162	1.24	89	2.27	67.4	43.7	100.5
140	22.552	0.163	1.24	89	2.19	67.4	43.8	101.8
141	22.713	0.161	1.26	89	2.30	67.4	43.9	100.7
142	22.873	0.160	1.25	89	2.33	67.5	44	99.7
143	23.034	0.161	1.24	89	2.19	67.6	44	101.1
144	23.195	0.161	1.24	89	2.22	67.5	44.2	101.6
145	23.358	0.163	1.25	89	2.19	67.6	44.3	102.1
146	23.519	0.161	1.26	89	2.32	67.7	44.3	101.2
147	23.680	0.161	1.24	89	2.33	67.8	44.5	102.0
148	23.841	0.161	1.23	89	2.20	67.8	44.6	101.3
149	24.002	0.161	1.25	89	2.26	67.8	44.6	100.6
150	24.165	0.163	1.25	90	2.23	67.8	44.7	101.6
151	24.326	0.161	1.28	90	2.29	67.7	44.7	99.7
152	24.487	0.161	1.24	90	2.33	67.7	44.8	100.1
153	24.648	0.161	1.25	90	2.26	67.5	44.8	100.2
154	24.810	0.162	1.26	90	2.26	67.4	44.9	100.4
155	24.974	0.164	1.25	90	2.19	67.3	44.8	102.0
156	25.136	0.162	1.25	90	2.27	67.2	44.8	100.2
157	25.299	0.163	1.24	90	2.17	67	44.9	100.2
158	25.461	0.162	1.25	90	2.20	67	44.9	99.4
159	25.623	0.162	1.25	90	2.26	66.9	44.9	99.1
160	25.786	0.163	1.25	90	2.26	66.8	44.9	99.4
161	25.949	0.163	1.26	90	2.30	66.7	44.9	100.0
162	26.113	0.164	1.24	90	2.21	66.6	44.8	101.5
163	26.275	0.162	1.25	90	2.30	66.5	44.8	100.3
164	26.438	0.163	1.25	90	2.17	66.4	44.8	100.1
165	26.600	0.162	1.25	90	2.21	66.3	44.8	99.3
166	26.762	0.162	1.26	90	2.18	66.3	44.7	99.6
167	26.925	0.163	1.26	90	2.29	66.2	44.7	100.3
168	27.089	0.164	1.25	90	2.16	66	44.6	101.4
169	27.253	0.164	1.24	90	2.27	65.9	44.5	102.5
170	27.415	0.162	1.25	90	2.25	66	44.5	101.8
171	27.577	0.162	1.25	90	2.22	66	44.5	100.5
172	27.740	0.163	1.26	90	2.29	65.8	44.5	99.4

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
173	27.902	0.162	1.26	90	2.17	65.7	44.4	98.3
174	28.065	0.163	1.24	90	2.28	65.6	44.4	99.0
175	28.229	0.164	1.26	90	2.20	65.7	44.4	99.4
176	28.392	0.163	1.25	90	2.26	65.7	44.3	98.4
177	28.555	0.163	1.25	90	2.28	65.6	44.3	99.1
178	28.717	0.162	1.26	90	2.20	65.6	44.2	100.0
179	28.880	0.163	1.26	90	2.27	65.6	44.2	101.4
180	29.042	0.162	1.25	90	2.19	65.6	44.2	100.7
181	29.205	0.163	1.25	90	2.27	65.6	44.2	101.0
182	29.369	0.164	1.25	90	2.26	65.5	44.1	101.1
183	29.532	0.163	1.25	90	2.22	65.5	44.1	100.4
184	29.695	0.163	1.26	90	2.17	65.5	44.1	100.1
185	29.857	0.162	1.26	90	2.27	65.4	44	98.9
186	30.019	0.162	1.26	90	2.21	65.4	44	99.2
187	30.182	0.163	1.26	90	2.20	65.5	44.1	100.3
188	30.345	0.163	1.26	91	2.25	65.4	44.1	100.1
189	30.509	0.164	1.27	91	2.23	65.4	44.1	101.1
190	30.672	0.163	1.24	91	2.23	65.4	44.1	100.7
191	30.835	0.163	1.26	91	2.19	65.4	44.1	100.4
192	30.997	0.162	1.26	91	2.26	65.3	44	99.2
193	31.160	0.163	1.26	91	2.30	65.3	44	99.5
194	31.322	0.162	1.26	91	2.18	65.3	44	99.3
195	31.485	0.163	1.25	91	2.26	65.2	44	99.8
196	31.649	0.164	1.25	91	2.29	65.2	44	100.2
197	31.813	0.164	1.26	91	2.21	65.2	44	100.5
198	31.976	0.163	1.26	91	2.18	65.2	44	99.6
199	32.138	0.162	1.26	91	2.19	65.2	44	99.1
200	32.301	0.163	1.27	91	2.26	65.1	43.9	99.9
201	32.463	0.162	1.26	91	2.29	65	43.9	98.6
202	32.626	0.163	1.25	91	2.26	65	43.9	99.8
203	32.789	0.163	1.24	91	2.16	65	43.9	100.3
204	32.954	0.165	1.26	91	2.25	65	43.9	100.8
205	33.117	0.163	1.27	91	2.23	65	43.9	99.5
206	33.279	0.162	1.26	91	2.27	64.9	43.8	99.6
207	33.442	0.163	1.26	91	2.17	64.9	43.9	100.0
208	33.604	0.162	1.26	91	2.27	64.8	43.9	99.6
209	33.767	0.163	1.26	91	2.22	64.8	43.8	101.2
210	33.930	0.163	1.26	91	2.29	64.8	43.8	100.9
211	34.094	0.164	1.26	91	2.25	64.8	43.8	101.0
212	34.258	0.164	1.27	91	2.17	64.7	43.9	101.2
213	34.420	0.162	1.25	91	2.27	64.7	43.9	99.5
214	34.583	0.163	1.26	91	2.26	64.7	43.8	99.1
215	34.746	0.163	1.26	91	2.25	64.7	43.8	99.4
216	34.908	0.162	1.25	91	2.30	64.6	43.8	99.1

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
217	35.071	0.163	1.26	91	2.18	64.6	43.8	98.8
218	35.235	0.164	1.25	91	2.16	64.6	43.8	99.0
219	35.399	0.164	1.26	91	2.22	64.6	43.8	99.9
220	35.562	0.163	1.26	91	2.25	64.6	43.8	99.7
221	35.725	0.163	1.26	91	2.29	64.5	43.8	99.1
222	35.887	0.162	1.24	91	2.28	64.8	43.7	98.6
223	36.049	0.162	1.26	91	2.16	64.6	43.8	98.1
224	36.212	0.163	1.26	91	2.18	64.5	43.8	98.1
225	36.375	0.163	1.25	91	2.20	64.6	43.8	98.3
226	36.540	0.165	1.25	91	2.28	64.6	43.7	99.5
227	36.702	0.162	1.27	91	2.21	64.5	43.7	98.5
228	36.865	0.163	1.26	91	2.19	64.5	43.8	100.0
229	37.028	0.163	1.26	91	2.27	64.5	43.7	99.8
230	37.190	0.162	1.27	91	2.22	64.5	43.8	99.4
231	37.353	0.163	1.26	91	2.25	64.5	43.8	101.0
232	37.516	0.163	1.26	91	2.18	64.5	43.8	100.8
233	37.680	0.164	1.27	91	2.29	64.5	43.8	100.1
234	37.844	0.164	1.26	91	2.28	64.6	43.7	100.0
235	38.006	0.162	1.26	91	2.30	64.6	43.8	99.5
236	38.169	0.163	1.25	91	2.17	64.7	43.7	99.9
237	38.331	0.162	1.24	91	2.19	64.7	43.7	99.2
238	38.494	0.163	1.26	91	2.18	64.7	43.8	100.5
239	38.657	0.163	1.27	91	2.20	64.8	43.8	100.7
240	38.821	0.164	1.24	91	2.22	64.7	43.7	101.1
241	38.984	0.163	1.26	91	2.22	64.8	43.7	100.8
242	39.147	0.163	1.26	91	2.30	64.8	43.7	101.0
243	39.310	0.163	1.25	91	2.16	64.8	43.8	99.9
244	39.472	0.162	1.26	91	2.22	64.8	43.7	98.8
245	39.634	0.162	1.28	91	2.16	64.8	43.8	99.0
246	39.798	0.164	1.24	91	2.21	64.8	43.7	100.5
247	39.961	0.163	1.26	91	2.17	64.8	43.7	100.2
248	40.125	0.164	1.27	91	2.18	64.8	43.8	100.2
249	40.288	0.163	1.27	91	2.28	64.9	43.8	99.3
250	40.451	0.163	1.26	91	2.26	64.8	43.8	99.9
251	40.613	0.162	1.27	91	2.22	64.8	43.7	99.2
252	40.776	0.163	1.26	91	2.18	64.8	43.8	99.6
253	40.938	0.162	1.24	91	2.20	64.9	43.8	99.9
254	41.104	0.166	1.28	91	2.25	64.9	43.9	102.1
255	41.266	0.162	1.25	91	2.27	64.8	43.8	99.5
256	41.429	0.163	1.26	91	2.21	64.8	43.8	100.5
257	41.592	0.163	1.26	91	2.26	64.8	43.8	99.2
258	41.754	0.162	1.27	91	2.18	64.8	43.9	99.0
259	41.917	0.163	1.24	91	2.19	64.8	43.8	100.2
260	42.080	0.163	1.26	91	2.29	64.8	43.8	99.3

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
261	42.243	0.163	1.26	91	2.30	64.8	43.9	99.3
262	42.407	0.164	1.25	91	2.28	64.8	43.8	100.0
263	42.571	0.164	1.28	91	2.27	64.7	43.8	99.7
264	42.736	0.165	1.26	91	2.27	64.7	43.8	100.5
265	42.896	0.160	1.25	91	2.27	64.8	43.8	97.2
266	43.058	0.162	1.28	91	2.23	64.8	43.9	98.8
267	43.220	0.162	1.26	91	2.24	65	43.9	99.6
268	43.383	0.163	1.26	91	2.27	65.1	43.9	99.8
269	43.546	0.163	1.26	91	2.24	65.2	44	100.0
270	43.709	0.163	1.24	91	2.27	65.3	44	101.1
271	43.871	0.162	1.26	91	2.31	65.4	44	100.9
272	44.033	0.162	1.25	91	2.22	65.6	44.1	100.9
273	44.195	0.162	1.26	91	2.22	65.7	44.1	101.2
274	44.360	0.165	1.25	91	2.30	65.9	44.1	103.3
275	44.520	0.160	1.25	91	2.18	65.9	44.2	99.9
276	44.683	0.163	1.24	91	2.30	66.1	44.3	102.2
277	44.845	0.162	1.24	91	2.20	66.3	44.3	102.0
278	45.006	0.161	1.25	91	2.28	66.4	44.4	101.4
279	45.167	0.161	1.24	91	2.17	66.4	44.3	100.5
280	45.329	0.162	1.24	91	2.29	66.5	44.5	100.2
281	45.493	0.164	1.25	91	2.16	66.7	44.5	101.4
282	45.655	0.162	1.25	91	2.30	66.7	44.6	100.6
283	45.819	0.164	1.25	91	2.31	66.8	44.6	102.6
284	45.981	0.162	1.26	91	2.28	66.7	44.6	101.3
285	46.139	0.158	1.25	91	2.30	66.8	44.7	98.8
286	46.302	0.163	1.26	91	2.32	66.9	44.8	102.8
287	46.465	0.163	1.25	91	2.26	66.9	44.9	103.0
288	46.627	0.162	1.25	91	2.25	67	44.9	101.6
289	46.788	0.161	1.27	91	2.17	67	45	100.7
290	46.949	0.161	1.25	91	2.21	67.2	45	101.1
291	47.111	0.162	1.25	91	2.26	67.2	45.1	101.8
292	47.274	0.163	1.25	91	2.19	67.2	45.1	102.2
293	47.439	0.165	1.25	91	2.18	67.4	45.2	103.5
294	47.601	0.162	1.25	91	2.30	67.4	45.2	101.5
295	47.759	0.158	1.25	91	2.30	67.2	45.2	98.7
296	47.921	0.162	1.26	91	2.29	67.1	45.3	100.4
297	48.084	0.163	1.25	91	2.17	67.1	45.3	99.7
298	48.248	0.164	1.24	91	2.30	67.1	45.3	99.7
299	48.410	0.162	1.25	91	2.20	67	45.4	98.7
300	48.573	0.163	1.26	91	2.27	66.9	45.4	99.7
301	48.735	0.162	1.26	91	2.28	67	45.4	99.4
302	48.897	0.162	1.24	91	2.27	66.8	45.3	98.9
303	49.062	0.165	1.25	91	2.16	66.8	45.3	100.2
304	49.225	0.163	1.26	91	2.16	66.7	45.3	99.4

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
305	49.389	0.164	1.26	91	2.29	66.7	45.3	100.3
306	49.550	0.161	1.26	91	2.30	66.6	45.3	97.7
307	49.712	0.162	1.26	91	2.20	66.5	45.2	98.2
308	49.874	0.162	1.27	91	2.25	66.5	45.1	99.1
309	50.037	0.163	1.25	91	2.18	66.4	45.1	100.3
310	50.200	0.163	1.26	91	2.27	66.3	45.1	100.7
311	50.363	0.163	1.25	91	2.22	66.3	45.1	100.5
312	50.527	0.164	1.26	92	2.28	66.2	45	100.8
313	50.693	0.166	1.26	91	2.21	66.1	45	102.0
314	50.855	0.162	1.25	92	2.25	66.1	45	98.9
315	51.018	0.163	1.25	92	2.24	66.1	45	99.4
316	51.177	0.159	1.27	91	2.27	66	44.9	97.7
317	51.340	0.163	1.25	91	2.26	65.9	44.9	100.1
318	51.503	0.163	1.25	91	2.30	65.9	44.9	99.7
319	51.667	0.164	1.26	92	2.16	65.9	44.8	100.0
320	51.830	0.163	1.25	91	2.14	65.8	44.8	99.8
321	51.992	0.162	1.26	92	2.16	65.7	44.8	100.0
322	52.155	0.163	1.24	91	2.29	65.7	44.8	99.5
323	52.320	0.165	1.26	92	2.25	65.6	44.7	99.5
324	52.482	0.162	1.22	91	2.29	65.6	44.7	97.8
325	52.645	0.163	1.25	91	2.22	65.7	44.7	99.1
326	52.809	0.164	1.26	91	2.26	65.7	44.7	99.9
327	52.969	0.160	1.25	91	2.25	65.7	44.6	97.3
328	53.132	0.163	1.25	91	2.28	65.7	44.6	99.8
329	53.294	0.162	1.24	91	2.28	65.7	44.5	99.4
330	53.457	0.163	1.25	91	2.28	65.6	44.5	100.1
331	53.620	0.163	1.26	91	2.29	65.7	44.5	101.0
332	53.783	0.163	1.26	91	2.29	65.6	44.5	100.8
333	53.948	0.165	1.25	91	2.29	65.6	44.4	101.8
334	54.112	0.164	1.23	91	2.28	65.6	44.4	101.8
335	54.275	0.163	1.25	91	2.22	65.6	44.4	100.5
336	54.437	0.162	1.27	91	2.17	65.6	44.4	98.6
337	54.597	0.160	1.26	91	2.25	65.6	44.4	96.8
338	54.760	0.163	1.25	91	2.19	65.6	44.4	99.1
339	54.923	0.163	1.25	91	2.20	65.6	44.4	100.6
340	55.087	0.164	1.26	91	2.19	65.6	44.3	102.4
341	55.249	0.162	1.24	91	2.27	65.6	44.3	101.7
342	55.412	0.163	1.26	91	2.26	65.6	44.3	101.5
343	55.578	0.166	1.25	92	2.25	65.5	44.3	102.0
344	55.740	0.162	1.26	91	2.24	65.5	44.3	99.0
345	55.902	0.162	1.26	91	2.17	65.5	44.3	99.2
346	56.065	0.163	1.25	91	2.16	65.5	44.3	100.1
347	56.228	0.163	1.27	91	2.30	65.5	44.3	99.9
348	56.390	0.162	1.24	91	2.28	65.5	44.3	99.6

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
349	56.552	0.162	1.26	91	2.25	65.4	44.2	99.8
350	56.715	0.163	1.26	91	2.17	65.4	44.2	100.3
351	56.877	0.162	1.25	91	2.17	65.4	44.2	100.2
352	57.040	0.163	1.25	92	2.29	65.4	44.2	100.9
353	57.206	0.166	1.29	91	2.26	65.4	44.2	101.6
354	57.369	0.163	1.24	91	2.28	65.3	44.2	99.0
355	57.533	0.164	1.26	91	2.19	65.4	44.2	99.4
356	57.696	0.163	1.26	91	2.25	65.3	44.2	98.2
357	57.858	0.162	1.26	92	2.19	65.3	44.2	98.2
358	58.017	0.159	1.26	92	2.17	65.3	44.2	97.8
359	58.180	0.163	1.25	92	2.28	65.3	44.2	100.3
360	58.343	0.163	1.26	92	2.25	65.2	44.2	99.7
361	58.507	0.164	1.26	92	2.15	65.3	44.2	100.7
362	58.671	0.164	1.25	92	2.29	65.2	44.2	100.1
363	58.836	0.165	1.27	92	2.15	65.2	44.1	99.9
364	58.999	0.163	1.26	92	2.27	65.2	44.2	99.3
365	59.161	0.162	1.26	92	2.28	65.1	44.2	98.9
366	59.323	0.162	1.26	91	2.29	65.1	44.2	97.9
367	59.486	0.163	1.27	92	2.22	65.1	44.2	97.9
368	59.649	0.163	1.27	92	2.18	65.1	44.1	98.9
369	59.811	0.162	1.23	92	2.19	65.1	44.1	99.5
370	59.974	0.163	1.26	92	2.26	65.1	44.1	99.8
371	60.136	0.162	1.25	92	2.16	65.1	44.2	98.7
372	60.299	0.163	1.25	92	2.29	65.1	44.1	99.9
373	60.464	0.165	1.27	92	2.17	65.1	44.1	101.4
374	60.627	0.163	1.24	92	2.26	65.1	44.2	100.5
375	60.790	0.163	1.25	92	2.24	65	44.1	100.2
376	60.954	0.164	1.26	92	2.19	65.1	44.1	100.0
377	61.118	0.164	1.25	92	2.16	65.1	44.2	99.9
378	61.281	0.163	1.27	92	2.23	65	44.2	99.1
379	61.440	0.159	1.25	92	2.19	65	44.1	97.2
380	61.603	0.163	1.25	92	2.30	65	44.1	99.8
381	61.766	0.163	1.26	92	2.28	65	44.2	98.9
382	61.929	0.163	1.25	92	2.28	65	44.2	98.9
383	62.093	0.164	1.26	92	2.25	65	44.1	99.9
384	62.259	0.166	1.24	92	2.26	65	44.2	101.4
385	62.422	0.163	1.26	92	2.21	65	44.2	99.5
386	62.585	0.163	1.26	92	2.29	65	44.2	99.5
387	62.747	0.162	1.26	92	2.26	65	44.1	98.3
388	62.910	0.163	1.26	92	2.27	65	44.1	97.9
389	63.073	0.163	1.27	92	2.16	64.9	44.1	98.0
390	63.234	0.161	1.26	92	2.17	64.8	44.1	97.7
391	63.398	0.164	1.27	92	2.30	64.9	44.1	99.6
392	63.561	0.163	1.25	92	2.26	64.8	44.1	99.2

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
393	63.724	0.163	1.26	92	2.27	64.8	44.1	99.7
394	63.890	0.166	1.25	92	2.26	64.8	44.1	101.5
395	64.052	0.162	1.26	92	2.20	64.9	44	98.8
396	64.214	0.162	1.26	92	2.18	64.7	44.1	98.0
397	64.377	0.163	1.25	92	2.18	64.8	44.1	98.3
398	64.541	0.164	1.26	92	2.19	64.8	44	98.9
399	64.705	0.164	1.27	92	2.17	64.8	44.1	98.5
400	64.868	0.163	1.26	92	2.20	64.7	44	98.8
401	65.028	0.160	1.25	92	2.28	64.7	44.1	97.6
402	65.190	0.162	1.26	91	2.27	64.6	44	98.6
403	65.353	0.163	1.26	91	2.25	64.6	44.1	99.1
404	65.519	0.166	1.26	92	2.29	64.6	44	101.0
405	65.682	0.163	1.24	91	2.27	64.6	44	99.7
406	65.846	0.164	1.25	92	2.30	64.7	44.1	101.3
407	66.010	0.164	1.25	91	2.19	64.7	44	101.2
408	66.173	0.163	1.26	91	2.27	64.5	44	99.9
409	66.335	0.162	1.26	91	2.31	64.7	44	99.7
410	66.498	0.163	1.26	91	2.16	64.7	44.1	100.4
411	66.660	0.162	1.25	91	2.25	64.8	44.1	98.9
412	66.820	0.160	1.26	91	2.18	64.9	44.2	98.4
413	66.984	0.164	1.26	91	2.28	65.1	44.2	102.7
414	67.146	0.162	1.25	91	2.33	65.3	44.3	101.6
415	67.311	0.165	1.25	91	2.30	65.5	44.3	103.2
416	67.473	0.162	1.23	91	2.19	65.6	44.3	101.6
417	67.634	0.161	1.25	91	2.18	65.9	44.4	101.5
418	67.796	0.162	1.26	91	2.16	66	44.4	102.4
419	67.959	0.163	1.26	91	2.30	66.2	44.4	102.0
420	68.122	0.163	1.25	91	2.18	66.2	44.5	100.9
421	68.284	0.162	1.23	91	2.32	66.3	44.6	101.0
422	68.445	0.161	1.25	91	2.17	66.5	44.6	101.9
423	68.604	0.159	1.25	91	2.28	66.6	44.7	100.9
424	68.767	0.163	1.24	91	2.20	66.7	44.8	102.2
425	68.932	0.165	1.25	91	2.32	66.8	44.8	102.1
426	69.094	0.162	1.25	91	2.30	66.9	44.9	100.3
427	69.256	0.162	1.25	91	2.27	67	45	100.6
428	69.417	0.161	1.27	91	2.29	67.1	45	99.5
429	69.579	0.162	1.24	91	2.30	67.2	45.1	100.5
430	69.741	0.162	1.25	91	2.18	67.2	45.2	100.9
431	69.904	0.163	1.24	91	2.17	67.3	45.2	101.7
432	70.066	0.162	1.24	91	2.33	67.4	45.2	101.1
433	70.227	0.161	1.25	91	2.17	67.5	45.3	99.8
434	70.386	0.159	1.25	91	2.21	67.5	45.4	98.6
435	70.548	0.162	1.24	91	2.33	67.5	45.4	100.4
436	70.713	0.165	1.22	91	2.17	67.6	45.5	102.6

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
437	70.875	0.162	1.25	91	2.26	67.6	45.5	101.2
438	71.037	0.162	1.25	91	2.29	67.7	45.6	100.6
439	71.199	0.162	1.23	91	2.17	67.5	45.6	99.0
440	71.361	0.162	1.26	91	2.20	67.4	45.6	98.0
441	71.523	0.162	1.25	91	2.18	67.2	45.6	98.4
442	71.687	0.164	1.25	91	2.22	67.2	45.6	100.2
443	71.850	0.163	1.26	91	2.32	67.1	45.6	99.8
444	72.009	0.159	1.25	91	2.30	67	45.5	97.2
445	72.171	0.162	1.27	91	2.22	66.9	45.5	99.0
446	72.337	0.166	1.26	91	2.31	66.8	45.5	101.9
447	72.500	0.163	1.27	91	2.27	66.7	45.4	99.9
448	72.663	0.163	1.26	91	2.29	66.6	45.4	99.3
449	72.827	0.164	1.24	91	2.27	66.5	45.3	99.1
450	72.990	0.163	1.25	91	2.26	66.4	45.3	98.2
451	73.153	0.163	1.26	91	2.26	66.3	45.2	99.4
452	73.315	0.162	1.26	91	2.28	66.3	45.2	99.7
453	73.478	0.163	1.26	91	2.18	66.2	45	99.7
454	73.641	0.163	1.27	91	2.28	66.1	45	98.7
455	73.804	0.163	1.26	91	2.27	66	45	98.2
456	73.966	0.162	1.25	91	2.21	65.9	44.9	97.4
457	74.129	0.163	1.27	91	2.21	65.9	44.9	98.4
458	74.294	0.165	1.26	91	2.20	65.9	44.9	100.8
459	74.457	0.163	1.24	91	2.19	65.9	44.9	100.7
460	74.619	0.162	1.26	91	2.19	65.9	44.8	100.2
461	74.782	0.163	1.25	91	2.18	65.9	44.8	100.4
462	74.945	0.163	1.27	91	2.30	66	44.8	100.2
463	75.108	0.163	1.26	91	2.26	65.9	44.8	99.7
464	75.273	0.165	1.28	91	2.27	65.9	44.8	100.5
465	75.435	0.162	1.27	91	2.26	65.9	44.7	98.8
466	75.598	0.163	1.27	91	2.19	65.8	44.8	99.6
467	75.757	0.159	1.25	91	2.18	65.8	44.8	97.1
468	75.923	0.166	1.25	91	2.28	65.8	44.7	101.4
469	76.086	0.163	1.26	91	2.29	65.8	44.7	100.0
470	76.249	0.163	1.26	91	2.20	65.7	44.7	100.3
471	76.413	0.164	1.24	91	2.21	65.7	44.7	101.4
472	76.576	0.163	1.26	91	2.18	65.7	44.7	101.3
473	76.739	0.163	1.27	91	2.26	65.7	44.7	101.4
474	76.901	0.162	1.25	91	2.27	65.7	44.7	100.5
475	77.064	0.163	1.26	91	2.22	65.7	44.7	101.0
476	77.227	0.163	1.25	91	2.21	65.6	44.6	100.6
477	77.390	0.163	1.25	91	2.26	65.6	44.6	99.7
478	77.554	0.164	1.25	91	2.28	65.6	44.6	100.1
479	77.717	0.163	1.27	91	2.25	65.5	44.5	99.5
480	77.880	0.163	1.26	91	2.27	65.5	44.5	98.8

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
481	78.043	0.163	1.26	91	2.29	65.4	44.5	99.3
482	78.205	0.162	1.22	91	2.23	65.4	44.4	99.7
483	78.368	0.163	1.24	91	2.19	65.3	44.4	100.0
484	78.531	0.163	1.26	91	2.24	65.3	44.4	99.8
485	78.694	0.163	1.28	91	2.26	65.3	44.4	99.8
486	78.858	0.164	1.24	91	2.20	65.3	44.4	100.3
487	79.021	0.163	1.26	91	2.20	65.3	44.4	100.1
488	79.184	0.163	1.27	91	2.21	65.3	44.4	99.8
489	79.347	0.163	1.25	91	2.20	65.2	44.3	99.5
490	79.509	0.162	1.26	91	2.25	65.2	44.3	99.4
491	79.672	0.163	1.27	91	2.21	65.3	44.3	100.6
492	79.835	0.163	1.25	91	2.21	65.3	44.3	100.7
493	79.999	0.164	1.26	91	2.27	65.4	44.3	100.4
494	80.163	0.164	1.26	91	2.23	65.4	44.3	99.8
495	80.325	0.162	1.26	91	2.26	65.4	44.3	99.0
496	80.488	0.163	1.25	91	2.30	65.4	44.3	99.8
497	80.651	0.163	1.26	91	2.24	65.3	44.3	99.0
498	80.813	0.162	1.28	91	2.16	65.4	44.3	98.4
499	80.976	0.163	1.24	91	2.26	65.4	44.4	100.1
500	81.140	0.164	1.26	91	2.22	65.4	44.4	100.8
501	81.304	0.164	1.26	91	2.23	65.4	44.4	100.7
502	81.467	0.163	1.26	91	2.23	65.4	44.4	99.3
503	81.629	0.162	1.26	91	2.29	65.4	44.4	97.8
504	81.792	0.163	1.26	91	2.20	65.4	44.4	98.9
505	81.954	0.162	1.25	91	2.25	65.4	44.3	98.7
506	82.117	0.163	1.26	91	2.21	65.4	44.3	99.9
507	82.281	0.164	1.26	91	2.27	65.4	44.3	101.3
508	82.445	0.164	1.24	91	2.29	65.6	44.2	101.6
509	82.607	0.162	1.26	91	2.21	65.2	44.3	100.2
510	82.770	0.163	1.27	91	2.18	65.3	44.2	100.7
511	82.933	0.163	1.24	91	2.25	65.2	44.2	101.1
512	83.095	0.162	1.26	91	2.21	65.1	44.2	99.9
513	83.258	0.163	1.27	91	2.24	65.1	44.1	99.7
514	83.421	0.163	1.25	91	2.25	65.1	44.1	99.8
515	83.586	0.165	1.27	91	2.21	65.1	44.1	101.0
516	83.749	0.163	1.26	91	2.26	65.1	44.1	99.8
517	83.912	0.163	1.27	91	2.25	65.1	44.1	100.3
518	84.075	0.163	1.26	91	2.26	65.1	44.1	99.7
519	84.238	0.163	1.26	91	2.27	65	44.1	98.8
520	84.400	0.162	1.27	91	2.26	65	44.1	99.0
521	84.563	0.163	1.25	91	2.20	65	44.1	100.2
522	84.727	0.164	1.27	91	2.26	64.9	44.1	100.5
523	84.891	0.164	1.26	91	2.21	64.9	44.2	100.8
524	85.054	0.163	1.27	91	2.24	65	44.2	100.6

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
525	85.217	0.163	1.26	91	2.19	65	44.2	100.7
526	85.379	0.162	1.26	91	2.28	65.2	44.3	100.3
527	85.542	0.163	1.26	91	2.21	65.2	44.3	101.1
528	85.705	0.163	1.26	91	2.27	65.2	44.3	101.6
529	85.868	0.163	1.26	91	2.24	65.2	44.3	102.0
530	86.032	0.164	1.26	91	2.21	65.2	44.3	101.4
531	86.196	0.164	1.26	91	2.27	65.2	44.3	99.9
532	86.359	0.163	1.26	91	2.21	65.3	44.3	99.1
533	86.522	0.163	1.26	91	2.27	65.3	44.3	98.2
534	86.685	0.163	1.26	91	2.24	65.3	44.4	97.2
535	86.847	0.162	1.25	91	2.17	65.3	44.4	97.3
536	87.010	0.163	1.26	91	2.16	65.3	44.4	98.8
537	87.173	0.163	1.27	91	2.29	65.3	44.4	99.7
538	87.337	0.164	1.26	91	2.17	65.2	44.3	101.4
539	87.500	0.163	1.25	92	2.19	65.4	44.3	101.6
540	87.663	0.163	1.25	91	2.30	65.2	44.4	100.7
541	87.825	0.162	1.25	91	2.22	65.2	44.3	98.8
542	87.988	0.163	1.26	91	2.29	65.1	44.2	99.5
543	88.151	0.163	1.26	91	2.23	65.1	44.2	99.3
544	88.314	0.163	1.25	91	2.28	65	44.1	99.0
545	88.478	0.164	1.26	91	2.22	65	44.2	99.8
546	88.641	0.163	1.27	91	2.19	65	44.1	100.2
547	88.804	0.163	1.27	91	2.27	65	44.2	101.6
548	88.967	0.163	1.27	91	2.30	65	44.2	100.7
549	89.129	0.162	1.26	91	2.24	64.9	44.1	98.9
550	89.292	0.163	1.26	91	2.20	64.9	44.2	99.5
551	89.455	0.163	1.26	91	2.23	64.9	44.2	99.7
552	89.618	0.163	1.25	91	2.17	65	44.2	99.9
553	89.783	0.165	1.26	91	2.29	65	44.2	100.4
554	89.945	0.162	1.26	91	2.24	65	44.3	97.8
555	90.108	0.163	1.28	91	2.26	65.2	44.3	98.4
556	90.271	0.163	1.26	91	2.18	65.2	44.3	98.5
557	90.433	0.162	1.24	91	2.29	65.3	44.3	99.3
558	90.595	0.162	1.26	91	2.17	65.4	44.4	101.3
559	90.758	0.163	1.26	91	2.31	65.6	44.4	102.2
560	90.922	0.164	1.27	91	2.28	65.7	44.5	101.8
561	91.084	0.162	1.25	91	2.21	65.9	44.5	99.6
562	91.246	0.162	1.26	91	2.29	66	44.5	99.7
563	91.408	0.162	1.24	91	2.29	66.2	44.6	100.6
564	91.570	0.162	1.25	91	2.21	66.4	44.7	100.4
565	91.732	0.162	1.24	91	2.29	66.4	44.7	99.9
566	91.896	0.164	1.25	91	2.26	66.5	44.7	101.8
567	92.058	0.162	1.24	91	2.30	66.6	44.8	100.6
568	92.219	0.161	1.27	91	2.17	66.6	44.7	99.7

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
569	92.380	0.161	1.25	91	2.27	66.7	44.8	100.1
570	92.542	0.162	1.27	91	2.29	66.7	44.8	100.4
571	92.705	0.163	1.24	91	2.28	66.8	44.8	100.8
572	92.868	0.163	1.25	91	2.24	66.8	44.8	100.7
573	93.030	0.162	1.23	91	2.32	66.8	44.9	99.9
574	93.191	0.161	1.24	91	2.25	66.9	45	99.7
575	93.352	0.161	1.25	91	2.31	67	45	99.9
576	93.514	0.162	1.23	91	2.33	67.1	45.1	101.1
577	93.678	0.164	1.25	91	2.31	67.1	45.1	102.3
578	93.840	0.162	1.25	91	2.20	67.2	45.2	99.6
579	94.001	0.161	1.24	91	2.32	67.2	45.2	99.4
580	94.162	0.161	1.25	91	2.29	67.2	45.3	100.8
581	94.324	0.162	1.24	91	2.29	67.3	45.4	101.6
582	94.487	0.163	1.25	91	2.30	67.4	45.5	102.0
583	94.649	0.162	1.23	91	2.32	67.5	45.6	101.0
584	94.811	0.162	1.26	91	2.30	67.5	45.7	101.1
585	94.972	0.161	1.25	91	2.19	67.7	45.7	100.8
586	95.134	0.162	1.24	91	2.18	67.7	45.8	101.4
587	95.296	0.162	1.24	91	2.20	67.5	45.8	100.2
588	95.459	0.163	1.25	91	2.24	67.5	45.8	100.4
589	95.622	0.163	1.25	91	2.31	67.4	45.9	101.0
590	95.784	0.162	1.27	91	2.19	67.4	45.9	100.1
591	95.946	0.162	1.22	91	2.16	67.4	45.9	100.0
592	96.108	0.162	1.26	91	2.32	67.3	45.8	100.0
593	96.271	0.163	1.25	91	2.20	67.2	45.8	100.5
594	96.434	0.163	1.26	91	2.27	67.2	45.8	100.3
595	96.598	0.164	1.24	91	2.20	67.1	45.8	100.6
596	96.760	0.162	1.25	91	2.27	67	45.7	99.8
597	96.922	0.162	1.25	91	2.21	66.9	45.7	99.8
598	97.085	0.163	1.27	91	2.30	66.8	45.6	99.7
599	97.247	0.162	1.26	91	2.18	66.7	45.5	99.7
600	97.410	0.163	1.26	91	2.30	66.6	45.5	100.6
601	97.574	0.164	1.24	91	2.31	66.5	45.4	100.4
602	97.737	0.163	1.25	91	2.25	66.4	45.3	99.8
603	97.900	0.163	1.24	91	2.26	66.3	45.3	99.0
604	98.062	0.162	1.26	91	2.32	66.2	45.2	98.0
605	98.224	0.162	1.26	91	2.29	66.1	45.2	98.9
606	98.387	0.163	1.24	91	2.16	66.1	45.2	100.2
607	98.549	0.162	1.26	91	2.28	65.9	45.2	99.6
608	98.713	0.164	1.25	91	2.20	65.9	45.1	100.3
609	98.877	0.164	1.25	91	2.31	65.9	45.1	99.9
610	99.039	0.162	1.26	91	2.29	65.8	45.2	98.5
611	99.201	0.162	1.27	91	2.29	65.9	45.2	98.9
612	99.364	0.163	1.26	91	2.22	65.9	45.2	100.1

Train B - Particulate Sampling

ASTM E2515

Run: 3Test Date: 2/26/25Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044EMeter Box Y Regression Offset: 1.0244Meter Box Y Regression Slope: 0Meter Box Dynamic Y: 1.024Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. HgPost-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
613	99.526	0.162	1.27	91	2.31	66	45.2	99.7
614	99.689	0.163	1.26	91	2.24	65.9	45.1	99.7
615	99.853	0.164	1.26	91	2.25	65.9	45.1	99.7
616	100.016	0.163	1.25	91	2.32	65.9	45.1	100.0
617	100.179	0.163	1.26	91	2.15	65.8	45.1	100.7
618	100.341	0.162	1.28	91	2.21	65.8	45.1	99.9
619	100.503	0.162	1.27	91	2.28	65.8	45.1	99.6
620	100.666	0.163	1.26	91	2.20	65.7	45	99.7
621	100.829	0.163	1.26	91	2.17	65.8	45	99.0
622	100.993	0.164	1.26	91	2.29	65.7	45	99.8
623	101.156	0.163	1.26	91	2.17	65.6	45	99.2
624	101.319	0.163	1.25	91	2.24	65.6	45	98.9
625	101.481	0.162	1.26	91	2.24	65.6	44.9	98.7
626	101.643	0.162	1.25	91	2.30	65.5	44.9	100.1
627	101.806	0.163	1.26	91	2.31	65.5	44.8	101.8
628	101.968	0.162	1.25	91	2.32	65.4	44.8	99.9
629	102.133	0.165	1.25	91	2.21	65.4	44.8	100.0
630	102.296	0.163	1.26	91	2.15	65.3	44.7	98.9
631	102.458	0.162	1.25	91	2.31	65.2	44.7	99.2
632	102.620	0.162	1.25	91	2.28	65.2	44.7	99.0
633	102.783	0.163	1.26	91	2.31	65.2	44.7	98.8
634	102.945	0.162	1.25	91	2.18	65.2	44.7	98.3
635	103.108	0.163	1.26	91	2.32	65.1	44.6	99.8
636	103.272	0.164	1.26	91	2.20	65.1	44.6	100.5
637	103.436	0.164	1.26	91	2.19	65.1	44.6	100.2
638	103.598	0.162	1.27	91	2.22	65	44.6	99.1
639	103.761	0.163	1.26	91	2.28	65.1	44.6	100.1
640	103.923	0.162	1.29	91	2.20	65.1	44.7	100.0
641	104.086	0.163	1.26	91	2.19	65.2	44.7	100.9
642	104.249	0.163	1.25	91	2.28	65.2	44.7	100.3
643	104.413	0.164	1.27	91	2.17	65.2	44.7	100.4
644	104.576	0.163	1.26	91	2.30	65.2	44.7	99.9
645	104.739	0.163	1.26	91	2.19	65.3	44.7	99.8
646	104.901	0.162	1.26	91	2.18	65.3	44.7	99.4
647	105.064	0.163	1.27	91	2.26	65.3	44.7	99.7
648	105.226	0.162	1.26	91	2.30	65.3	44.7	98.3
649	105.389	0.163	1.25	91	2.19	65.3	44.7	99.3
650	105.553	0.164	1.25	91	2.31	65.3	44.7	100.7
651	105.717	0.164	1.26	91	2.23	65.3	44.7	100.2
652	105.879	0.162	1.25	91	2.27	65.2	44.7	98.3
653	106.042	0.163	1.26	91	2.17	65.2	44.6	99.1
654	106.204	0.162	1.25	91	2.22	65.2	44.6	99.0
655	106.367	0.163	1.27	91	2.17	65.1	44.6	100.0
656	106.529	0.162	1.28	91	2.28	65.4	44.6	100.2

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
657	106.693	0.164	1.26	91	2.31	65.1	44.6	102.0
658	106.857	0.164	1.27	91	2.30	65.1	44.6	101.0
659	107.019	0.162	1.28	91	2.29	65.1	44.5	99.3
660	107.182	0.163	1.26	91	2.29	65.1	44.5	100.4
661	107.344	0.162	1.27	91	2.30	65.1	44.6	99.4
662	107.507	0.163	1.26	91	2.30	65	44.5	99.0
663	107.670	0.163	1.27	91	2.18	65	44.5	98.6
664	107.833	0.163	1.26	91	2.31	65.1	44.6	98.7
665	107.997	0.164	1.25	91	2.19	65.1	44.6	100.3
666	108.160	0.163	1.26	91	2.18	65.1	44.6	100.4
667	108.323	0.163	1.26	91	2.29	65.2	44.7	100.0
668	108.485	0.162	1.25	91	2.27	65.2	44.6	99.4
669	108.648	0.163	1.26	91	2.23	65.2	44.6	101.0
670	108.811	0.163	1.25	91	2.28	65.2	44.7	100.7
671	108.974	0.163	1.26	91	2.20	65.2	44.7	99.9
672	109.138	0.164	1.25	91	2.26	65.2	44.7	100.8
673	109.301	0.163	1.26	91	2.17	65.3	44.7	100.4
674	109.464	0.163	1.24	91	2.17	65.3	44.8	99.1
675	109.626	0.162	1.26	91	2.28	65.3	44.7	97.6
676	109.788	0.162	1.26	91	2.23	65.3	44.7	98.8
677	109.951	0.163	1.27	91	2.28	65.3	44.7	100.1
678	110.114	0.163	1.25	91	2.19	65.2	44.7	98.8
679	110.278	0.164	1.27	91	2.23	65.1	44.6	98.2
680	110.442	0.164	1.26	91	2.19	65.1	44.6	98.9
681	110.605	0.163	1.27	91	2.17	65.1	44.6	99.3
682	110.767	0.162	1.26	91	2.26	65	44.6	98.2
683	110.930	0.163	1.25	91	2.20	65	44.6	98.6
684	111.092	0.162	1.26	91	2.26	65	44.5	98.5
685	111.255	0.163	1.26	91	2.19	65	44.6	98.9
686	111.419	0.164	1.26	91	2.20	65	44.5	99.3
687	111.583	0.164	1.27	91	2.29	65.2	44.5	99.6
688	111.745	0.162	1.25	91	2.28	64.9	44.6	98.9
689	111.908	0.163	1.25	91	2.27	64.9	44.5	99.9
690	112.071	0.163	1.25	91	2.18	64.9	44.6	99.4
691	112.233	0.162	1.26	91	2.18	65	44.6	98.3
692	112.396	0.163	1.27	91	2.23	65	44.6	99.7
693	112.559	0.163	1.26	91	2.24	65.1	44.6	101.0
694	112.724	0.165	1.27	91	2.31	65.1	44.6	101.3
695	112.886	0.162	1.27	91	2.27	65.1	44.6	98.1
696	113.049	0.163	1.25	91	2.27	65.1	44.6	99.9
697	113.212	0.163	1.26	91	2.22	65.2	44.7	100.6
698	113.374	0.162	1.26	91	2.26	65.1	44.7	98.7
699	113.537	0.163	1.27	91	2.29	65.2	44.7	99.5
700	113.700	0.163	1.25	91	2.28	65.2	44.7	100.8

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
701	113.864	0.164	1.26	91	2.19	65.2	44.7	101.5
702	114.027	0.163	1.25	91	2.19	65.2	44.7	100.8
703	114.190	0.163	1.25	91	2.24	65.4	44.8	101.4
704	114.352	0.162	1.23	91	2.18	65.4	44.8	100.4
705	114.514	0.162	1.25	91	2.20	65.5	44.8	99.8
706	114.676	0.162	1.26	91	2.18	65.6	44.8	100.3
707	114.839	0.163	1.25	91	2.18	65.7	44.8	101.4
708	115.002	0.163	1.25	91	2.21	65.8	44.8	101.6
709	115.164	0.162	1.25	91	2.25	66	44.9	101.0
710	115.326	0.162	1.23	91	2.25	66	44.9	101.0
711	115.487	0.161	1.26	91	2.29	66	44.9	100.3
712	115.649	0.162	1.26	91	2.30	66.1	44.9	100.7
713	115.812	0.163	1.26	91	2.27	66.1	45	102.0
714	115.975	0.163	1.26	91	2.21	66.3	45.1	102.1
715	116.137	0.162	1.25	91	2.28	66.5	45.2	100.7
716	116.299	0.162	1.26	91	2.24	66.5	45.2	100.6
717	116.460	0.161	1.24	91	2.23	66.6	45.3	100.1
718	116.622	0.162	1.27	91	2.19	66.6	45.4	101.1
719	116.785	0.163	1.24	91	2.22	66.9	45.5	101.5
720	116.947	0.162	1.24	91	2.21	67	45.5	100.6
721	117.109	0.162	1.25	91	2.19	67.1	45.6	101.2
722	117.270	0.161	1.25	91	2.30	67.2	45.7	100.6
723	117.432	0.162	1.25	91	2.25	67.2	45.8	101.1
724	117.594	0.162	1.25	91	2.22	67.3	45.8	100.7
725	117.758	0.164	1.25	91	2.22	67.2	45.9	101.4
726	117.919	0.161	1.26	91	2.25	67.3	45.9	99.5
727	118.080	0.161	1.25	91	2.29	67.4	46	99.8
728	118.242	0.162	1.26	91	2.26	67.5	46	100.8
729	118.404	0.162	1.25	91	2.31	67.4	46	100.3
730	118.567	0.163	1.24	91	2.22	67.4	46.1	100.9
731	118.729	0.162	1.24	91	2.20	67.5	46.1	100.6
732	118.891	0.162	1.27	91	2.31	67.3	46.1	100.0
733	119.053	0.162	1.25	91	2.19	67.2	46.2	99.4
734	119.215	0.162	1.25	91	2.28	67.1	46.2	99.3
735	119.377	0.162	1.26	91	2.21	67	46.2	99.4
736	119.541	0.164	1.25	91	2.20	66.9	46.2	100.3
737	119.704	0.163	1.25	91	2.28	66.9	46.2	99.7
738	119.866	0.162	1.23	91	2.28	66.9	46.2	99.9
739	120.028	0.162	1.26	91	2.21	66.9	46.2	99.9
740	120.190	0.162	1.26	91	2.24	66.8	46.1	99.7
741	120.353	0.163	1.26	91	2.20	66.7	46.1	99.8
742	120.516	0.163	1.26	91	2.31	66.7	46.1	99.4
743	120.680	0.164	1.26	91	2.27	66.6	46	100.4
744	120.843	0.163	1.27	91	2.19	66.5	46	100.2

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
745	121.006	0.163	1.25	91	2.18	66.5	46	100.3
746	121.168	0.162	1.24	91	2.28	66.5	46	99.9
747	121.330	0.162	1.26	91	2.29	66.4	45.9	99.3
748	121.493	0.163	1.25	91	2.29	66.4	45.9	99.0
749	121.655	0.162	1.25	91	2.27	66.3	45.8	98.5
750	121.820	0.165	1.26	91	2.27	66.2	45.8	100.1
751	121.982	0.162	1.26	91	2.28	66.1	45.7	98.2
752	122.145	0.163	1.27	91	2.19	66	45.7	98.7
753	122.307	0.162	1.25	91	2.31	66	45.7	97.7
754	122.470	0.163	1.25	91	2.26	65.9	45.7	98.7
755	122.632	0.162	1.25	91	2.22	65.8	45.6	98.5
756	122.795	0.163	1.25	91	2.27	65.7	45.6	99.7
757	122.959	0.164	1.26	91	2.21	65.6	45.5	100.3
758	123.122	0.163	1.26	91	2.28	65.6	45.5	99.4
759	123.285	0.163	1.24	91	2.20	65.5	45.5	99.1
760	123.447	0.162	1.26	91	2.19	65.4	45.5	98.6
761	123.610	0.163	1.25	91	2.19	65.4	45.5	99.4
762	123.773	0.163	1.26	91	2.26	65.4	45.4	99.1
763	123.935	0.162	1.26	91	2.21	65.4	45.4	98.8
764	124.099	0.164	1.28	91	2.22	65.4	45.4	100.3
765	124.262	0.163	1.26	91	2.27	65.4	45.5	99.9
766	124.425	0.163	1.26	91	2.20	65.5	45.5	100.0
767	124.587	0.162	1.26	91	2.24	65.4	45.5	98.7
768	124.750	0.163	1.26	91	2.23	65.4	45.4	99.0
769	124.913	0.163	1.25	91	2.27	65.4	45.4	99.5
770	125.075	0.162	1.26	91	2.18	65.4	45.5	99.3
771	125.240	0.165	1.25	91	2.29	65.4	45.5	100.8
772	125.403	0.163	1.27	91	2.22	65.4	45.4	99.6
773	125.565	0.162	1.25	91	2.20	65.4	45.5	99.0
774	125.727	0.162	1.26	91	2.24	65.4	45.4	98.6
775	125.890	0.163	1.23	91	2.22	65.4	45.4	99.4
776	126.055	0.165	1.26	91	2.20	65.3	45.4	101.2
777	126.215	0.160	1.27	91	2.27	65.2	45.3	97.9
778	126.380	0.165	1.26	91	2.27	65.2	45.3	100.4
779	126.543	0.163	1.25	91	2.20	65.1	45.2	99.6
780	126.705	0.162	1.26	91	2.30	65.1	45.2	99.3
781	126.867	0.162	1.27	91	2.22	65	45.2	98.4
782	127.030	0.163	1.26	91	2.25	65	45.1	98.6
783	127.192	0.162	1.25	91	2.27	64.9	45.1	98.4
784	127.355	0.163	1.27	91	2.27	64.9	45.1	99.0
785	127.519	0.164	1.26	91	2.18	65	45.1	99.4
786	127.685	0.166	1.26	91	2.22	64.9	45.1	100.9
787	127.845	0.160	1.27	91	2.18	64.8	45.1	97.1
788	128.007	0.162	1.25	91	2.20	64.7	45.1	98.0

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
789	128.169	0.162	1.24	91	2.23	64.8	45.1	99.0
790	128.332	0.163	1.26	91	2.31	64.7	45.1	100.6
791	128.495	0.163	1.26	91	2.29	64.8	45.1	100.7
792	128.659	0.164	1.26	91	2.29	64.8	45.1	100.6
793	128.822	0.163	1.26	91	2.22	64.8	45.1	99.5
794	128.985	0.163	1.26	91	2.29	64.9	45.1	99.5
795	129.147	0.162	1.26	91	2.27	64.9	45.1	99.0
796	129.313	0.166	1.27	91	2.23	64.9	45.1	102.1
797	129.475	0.162	1.23	91	2.20	64.9	45.1	99.7
798	129.635	0.160	1.27	91	2.28	64.9	45.1	97.9
799	129.799	0.164	1.26	91	2.31	64.9	45.1	100.2
800	129.962	0.163	1.24	91	2.28	64.9	45.1	99.7
801	130.125	0.163	1.26	91	2.29	65	45.1	100.0
802	130.286	0.161	1.25	91	2.29	64.9	45.2	99.2
803	130.449	0.163	1.26	91	2.23	65	45.2	100.1
804	130.612	0.163	1.26	91	2.19	64.9	45.1	99.4
805	130.775	0.163	1.24	91	2.28	64.9	45.1	99.3
806	130.940	0.165	1.26	91	2.28	64.8	45	101.3
807	131.105	0.165	1.25	91	2.20	64.9	45	101.6
808	131.264	0.159	1.26	91	2.24	64.8	45	96.6
809	131.427	0.163	1.27	91	2.19	64.8	45	98.4
810	131.589	0.162	1.25	91	2.20	64.8	45	98.6
811	131.752	0.163	1.26	91	2.26	64.7	45	99.2
812	131.915	0.163	1.26	91	2.23	64.7	45	99.0
813	132.079	0.164	1.27	91	2.23	64.7	45	100.3
814	132.242	0.163	1.27	91	2.30	64.8	45.1	99.9
815	132.405	0.163	1.27	91	2.21	64.8	45.1	99.6
816	132.571	0.166	1.26	91	2.30	64.9	45.1	101.9
817	132.733	0.162	1.25	91	2.18	64.9	45.1	99.3
818	132.895	0.162	1.26	91	2.26	64.9	45.1	98.9
819	133.055	0.160	1.26	91	2.17	64.9	45.1	97.6
820	133.219	0.164	1.26	91	2.19	64.9	45.1	99.5
821	133.383	0.164	1.25	91	2.21	65	45.2	99.5
822	133.545	0.162	1.26	91	2.27	65	45.2	98.9
823	133.708	0.163	1.27	91	2.20	65	45.1	99.4
824	133.870	0.162	1.25	91	2.20	65	45.2	98.2
825	134.033	0.163	1.26	91	2.26	65	45.2	99.0
826	134.199	0.166	1.27	91	2.23	64.9	45.1	101.1
827	134.361	0.162	1.26	91	2.26	64.9	45.1	98.5
828	134.525	0.164	1.26	91	2.22	64.9	45.1	100.7
829	134.686	0.161	1.26	91	2.25	64.9	45.1	99.2
830	134.849	0.163	1.26	91	2.23	64.8	45	99.5
831	135.011	0.162	1.25	91	2.26	64.8	45	98.7
832	135.173	0.162	1.26	91	2.20	64.9	45	98.7

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
833	135.336	0.163	1.28	91	2.28	64.7	45	98.6
834	135.500	0.164	1.26	91	2.22	64.7	45	99.9
835	135.666	0.166	1.26	91	2.26	64.7	45	101.5
836	135.829	0.163	1.26	91	2.21	64.7	45	98.7
837	135.992	0.163	1.26	91	2.23	64.6	45	98.2
838	136.155	0.163	1.25	91	2.21	64.6	45	98.2
839	136.314	0.159	1.26	91	2.24	64.6	45.1	96.6
840	136.477	0.163	1.26	91	2.22	64.6	45	99.5
841	136.640	0.163	1.25	91	2.21	64.6	45	98.8
842	136.805	0.165	1.27	91	2.28	64.6	45.1	99.9
843	136.967	0.162	1.24	91	2.21	64.7	45.1	99.5
844	137.130	0.163	1.27	91	2.20	64.9	45.2	101.9
845	137.295	0.165	1.25	91	2.31	65	45.2	103.3
846	137.457	0.162	1.27	91	2.29	65.1	45.3	100.8
847	137.619	0.162	1.27	91	2.23	65.2	45.2	100.8
848	137.781	0.162	1.26	91	2.26	65.4	45.3	100.3
849	137.942	0.161	1.25	91	2.28	65.6	45.4	99.1
850	138.104	0.162	1.25	91	2.29	65.7	45.4	99.9
851	138.266	0.162	1.26	91	2.30	65.9	45.4	100.1
852	138.428	0.162	1.24	91	2.22	66	45.5	100.3
853	138.590	0.162	1.26	91	2.20	66.1	45.6	101.1
854	138.753	0.163	1.25	91	2.20	66.3	45.7	102.5
855	138.918	0.165	1.25	91	2.30	66.3	45.7	103.3
856	139.080	0.162	1.25	91	2.22	66.4	45.8	100.8
857	139.241	0.161	1.26	91	2.31	66.4	45.7	100.5
858	139.403	0.162	1.24	91	2.28	66.4	45.7	100.9
859	139.562	0.159	1.24	91	2.32	66.5	45.8	98.4
860	139.726	0.164	1.25	91	2.28	66.4	45.8	101.4
861	139.887	0.161	1.26	91	2.24	66.5	45.9	99.3
862	140.048	0.161	1.25	91	2.28	66.5	46	99.1
863	140.209	0.161	1.24	91	2.29	66.7	46.1	99.6
864	140.371	0.162	1.25	91	2.30	66.6	46.1	101.0
865	140.536	0.165	1.25	91	2.24	66.8	46.2	103.1
866	140.699	0.163	1.25	91	2.23	66.8	46.2	101.3
867	140.861	0.162	1.25	91	2.33	66.9	46.3	99.8
868	141.021	0.160	1.25	91	2.29	67	46.4	98.3
869	141.183	0.162	1.25	91	2.29	67.1	46.5	99.7
870	141.342	0.159	1.24	91	2.29	67.1	46.6	98.4
871	141.505	0.163	1.25	91	2.29	67.2	46.7	101.9
872	141.666	0.161	1.26	91	2.24	67.3	46.7	100.9
873	141.827	0.161	1.26	91	2.26	67.4	46.8	100.7
874	141.988	0.161	1.26	91	2.29	67.4	46.9	101.1
875	142.153	0.165	1.24	91	2.24	67.2	47	103.4
876	142.315	0.162	1.25	91	2.30	67.2	47	99.8

Train B - Particulate Sampling

ASTM E2515

Run: 3

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Date: 2/26/25

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
877	142.479	0.164	1.26	91	2.23	67.1	47	100.3
878	142.641	0.162	1.25	91	2.29	67	47	99.5
879	142.803	0.162	1.26	91	2.27	67	47.1	99.4
880	142.962	0.159	1.25	91	2.31	66.9	47.1	97.0
881	143.124	0.162	1.27	91	2.22	66.8	47	98.3
882	143.288	0.164	1.25	91	2.21	66.7	47	99.7
883	143.451	0.163	1.24	91	2.26	66.7	47	100.1
884	143.613	0.162	1.26	91	2.22	66.5	46.9	100.3
885	143.779	0.166	1.26	91	2.28	66.4	46.9	102.6
886	143.941	0.162	1.25	91	2.22	66.3	46.8	99.0
887	144.103	0.162	1.26	91	2.27	66.3	46.8	98.1
888	144.266	0.163	1.26	91	2.20	66.2	46.8	98.8
889	144.429	0.163	1.25	91	2.22	66.2	46.8	98.8
890	144.590	0.161	1.26	91	2.22	66.2	46.8	97.1
891	144.752	0.162	1.24	91	2.26	66.2	46.8	97.8
892	144.915	0.163	1.23	91	2.27	66.2	46.7	99.4
893	145.077	0.162	1.25	91	2.23	66.1	46.7	98.9
894	145.240	0.163	1.26	91	2.26	66.1	46.7	99.8
895	145.405	0.165	1.26	91	2.28	66.1	46.6	101.7
896	145.569	0.164	1.25	91	2.22	66	46.6	101.1
897	145.732	0.163	1.26	91	2.27	66	46.6	100.4
898	145.894	0.162	1.26	91	2.30	65.9	46.7	99.6
899	146.056	0.162	1.23	91	2.30	65.9	46.7	99.6
900	146.219	0.163	1.26	91	2.28	65.9	46.7	100.7
901	146.379	0.160	1.26	91	2.24	65.8	46.7	97.9
902	146.542	0.163	1.25	91	2.22	65.7	46.6	98.6
903	146.706	0.164	1.27	91	2.23	65.7	46.6	99.9
904	146.871	0.165	1.26	91	2.23	65.6	46.6	100.9
905	147.034	0.163	1.26	91	2.27	65.5	46.5	99.4
906	147.196	0.162	1.26	91	2.22	65.4	46.5	98.3
907	147.358	0.162	1.26	91	2.22	65.3	46.5	97.5
908	147.521	0.163	1.25	91	2.21	65.3	46.5	98.5
909	147.684	0.163	1.26	91	2.28	65.3	46.5	99.1
910	147.845	0.161	1.26	91	2.29	65.2	46.4	97.8
911	148.008	0.163	1.26	91	2.28	65.1	46.4	99.0
912	148.169	0.161	1.27	91	2.21	65.1	46.4	97.7
913	148.332	0.163	1.26	91	2.28	65	46.4	98.8
914	148.497	0.165	1.26	91	2.20	65	46.4	100.5
915	148.660	0.163	1.25	91	2.26	65	46.5	99.6
916	148.823	0.163	1.25	91	2.27	65	46.4	99.5
917	148.987	0.164	1.26	91	2.20	65	46.5	100.0
918	149.150	0.163	1.24	91	2.21	65	46.5	99.8
919	149.312	0.162	1.24	91	2.23	65.1	46.5	99.9
920	149.471	0.159	1.25	91	2.30	65.1	46.5	97.4

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
921	149.634	0.163	1.26	91	2.26	65.1	46.5	99.5
922	149.797	0.163	1.26	91	2.20	65.1	46.5	99.9
923	149.963	0.166	1.26	91	2.25	65.1	46.5	101.7
924	150.127	0.164	1.26	91	2.28	65	46.5	100.4
925	150.289	0.162	1.27	91	2.26	65	46.5	98.8
926	150.452	0.163	1.27	91	2.25	65.1	46.6	99.1
927	150.614	0.162	1.26	91	2.21	65.1	46.6	98.8
928	150.776	0.162	1.27	91	2.26	65.1	46.6	99.1
929	150.939	0.163	1.25	91	2.28	65	46.6	99.7
930	151.101	0.162	1.26	91	2.23	65	46.6	99.4
931	151.263	0.162	1.25	91	2.25	64.9	46.6	99.3
932	151.426	0.163	1.26	91	2.29	64.9	46.6	99.5
933	151.591	0.165	1.26	91	2.25	64.9	46.6	101.3
934	151.754	0.163	1.27	91	2.25	64.8	46.6	100.1
935	151.916	0.162	1.27	91	2.20	64.8	46.6	98.9
936	152.079	0.163	1.26	91	2.30	64.7	46.6	99.0
937	152.242	0.163	1.26	91	2.29	64.7	46.6	99.2
938	152.406	0.164	1.25	91	2.29	64.7	46.6	100.4
939	152.568	0.162	1.26	91	2.24	64.7	46.7	99.2
940	152.728	0.160	1.26	91	2.21	64.7	46.7	97.4
941	152.890	0.162	1.26	91	2.28	64.7	46.7	97.7
942	153.053	0.163	1.26	91	2.27	64.8	46.7	98.8
943	153.218	0.165	1.25	91	2.27	64.8	46.8	100.8
944	153.382	0.164	1.26	91	2.21	64.8	46.8	100.8
945	153.545	0.163	1.24	91	2.24	64.7	46.9	101.0
946	153.707	0.162	1.27	91	2.26	64.8	46.9	99.9
947	153.869	0.162	1.25	91	2.22	64.8	47	99.5
948	154.032	0.163	1.26	91	2.21	64.8	47	101.0
949	154.195	0.163	1.26	91	2.23	64.8	47	101.0
950	154.357	0.162	1.26	91	2.21	64.8	47	99.1
951	154.519	0.162	1.26	91	2.24	64.8	47.1	98.6
952	154.682	0.163	1.25	91	2.21	64.8	47.1	99.6
953	154.847	0.165	1.26	91	2.18	64.7	47.1	101.0
954	155.010	0.163	1.26	91	2.19	64.8	47.2	99.7
955	155.172	0.162	1.27	91	2.29	64.7	47.1	98.9
956	155.335	0.163	1.26	91	2.28	64.7	47.1	99.8
957	155.497	0.162	1.27	91	2.28	64.6	47.2	99.2
958	155.662	0.165	1.26	91	2.29	64.6	47.2	100.6
959	155.825	0.163	1.24	91	2.26	64.6	47.3	98.4
960	155.988	0.163	1.26	91	2.21	64.6	47.3	98.2
961	156.147	0.159	1.24	91	2.26	64.5	47.3	96.5
962	156.309	0.162	1.26	91	2.20	64.5	47.4	98.5
963	156.475	0.166	1.26	91	2.26	64.6	47.4	101.0
964	156.638	0.163	1.26	91	2.20	64.6	47.5	99.3

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
965	156.802	0.164	1.27	91	2.27	64.6	47.6	99.5
966	156.965	0.163	1.28	91	2.21	64.7	47.6	98.8
967	157.128	0.163	1.26	91	2.21	64.7	47.6	99.5
968	157.290	0.162	1.25	91	2.30	64.7	47.7	99.5
969	157.453	0.163	1.24	91	2.24	64.6	47.7	100.1
970	157.615	0.162	1.26	91	2.25	64.7	47.8	99.5
971	157.776	0.161	1.27	91	2.30	64.7	47.8	99.3
972	157.940	0.164	1.26	91	2.20	64.7	47.8	101.3
973	158.105	0.165	1.27	91	2.17	64.7	47.9	100.9
974	158.267	0.162	1.25	91	2.27	64.7	47.9	98.3
975	158.430	0.163	1.25	91	2.17	64.7	47.9	99.0
976	158.592	0.162	1.25	91	2.20	64.6	48	98.1
977	158.754	0.162	1.26	91	2.30	64.6	48.1	98.6
978	158.917	0.163	1.25	91	2.28	64.6	48	100.2
979	159.081	0.164	1.26	91	2.21	64.7	48	100.4
980	159.244	0.163	1.25	91	2.29	64.6	48	99.0
981	159.407	0.163	1.25	91	2.17	64.5	48	99.4
982	159.565	0.158	1.25	91	2.30	64.5	48.1	96.3
983	159.731	0.166	1.25	91	2.30	64.4	48.1	100.9
984	159.894	0.163	1.27	91	2.25	64.5	48.1	99.2
985	160.056	0.162	1.25	91	2.30	64.4	48.2	98.6
986	160.220	0.164	1.26	91	2.29	64.5	48.3	99.6
987	160.383	0.163	1.26	91	2.29	64.5	48.3	99.3
988	160.546	0.163	1.25	91	2.18	64.6	48.3	99.5
989	160.708	0.162	1.25	91	2.27	64.6	48.3	98.6
990	160.870	0.162	1.26	91	2.20	64.6	48.4	98.9
991	161.033	0.163	1.24	91	2.22	64.6	48.4	100.4
992	161.196	0.163	1.26	91	2.25	64.7	48.4	100.7
993	161.360	0.164	1.25	91	2.27	64.7	48.5	100.5
994	161.523	0.163	1.24	91	2.29	64.8	48.6	100.0
995	161.685	0.162	1.25	91	2.31	64.9	48.6	100.1
996	161.847	0.162	1.25	91	2.32	65	48.6	99.4
997	162.008	0.161	1.26	91	2.28	65.1	48.6	98.9
998	162.171	0.163	1.26	91	2.17	65.3	48.7	101.6
999	162.334	0.163	1.27	91	2.25	65.4	48.8	101.9
1000	162.497	0.163	1.26	91	2.26	65.6	48.8	101.5
1001	162.659	0.162	1.26	91	2.22	65.7	48.9	100.6
1002	162.820	0.161	1.27	91	2.20	65.9	49	99.7
1003	162.982	0.162	1.24	91	2.33	66	49	100.6
1004	163.144	0.162	1.27	91	2.22	66.1	49.1	101.3
1005	163.307	0.163	1.25	91	2.21	66.2	49.2	101.8
1006	163.469	0.162	1.24	91	2.30	66.3	49.2	100.7
1007	163.630	0.161	1.25	91	2.23	66.3	49.2	99.8
1008	163.791	0.161	1.25	91	2.30	66.4	49.3	99.8

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1009	163.953	0.162	1.24	91	2.22	66.5	49.4	100.7
1010	164.116	0.163	1.25	91	2.34	66.5	49.4	101.3
1011	164.277	0.161	1.24	91	2.31	66.5	49.5	100.2
1012	164.438	0.161	1.24	91	2.27	66.6	49.6	100.0
1013	164.599	0.161	1.25	91	2.31	66.7	49.6	99.3
1014	164.761	0.162	1.25	91	2.31	66.8	49.8	100.3
1015	164.924	0.163	1.25	91	2.32	66.9	49.9	101.7
1016	165.086	0.162	1.23	91	2.31	67	50	101.3
1017	165.247	0.161	1.25	91	2.26	67.1	50	100.4
1018	165.408	0.161	1.24	91	2.30	67.2	50.2	100.4
1019	165.569	0.161	1.25	91	2.32	67.2	50.2	100.8
1020	165.731	0.162	1.24	91	2.28	67.3	50.4	100.8
1021	165.893	0.162	1.25	91	2.24	67.4	50.5	99.8
1022	166.055	0.162	1.25	91	2.35	67.5	50.6	100.2
1023	166.215	0.160	1.25	91	2.33	67.5	50.6	99.4
1024	166.377	0.162	1.26	91	2.18	67.3	50.7	99.7
1025	166.539	0.162	1.25	91	2.29	67.3	50.7	99.3
1026	166.703	0.164	1.25	91	2.30	67.1	50.8	101.1
1027	166.865	0.162	1.25	91	2.22	67	50.7	100.1
1028	167.026	0.161	1.24	91	2.19	66.9	50.7	98.4
1029	167.188	0.162	1.25	91	2.18	66.8	50.7	98.5
1030	167.350	0.162	1.26	91	2.28	66.7	50.7	99.1
1031	167.513	0.163	1.25	91	2.26	66.7	50.7	99.5
1032	167.676	0.163	1.25	91	2.17	66.5	50.7	98.9
1033	167.838	0.162	1.25	91	2.25	66.4	50.7	98.4
1034	168.000	0.162	1.25	91	2.17	66.3	50.6	99.2
1035	168.162	0.162	1.23	91	2.27	66.2	50.6	99.1
1036	168.324	0.162	1.24	91	2.33	66.1	50.6	98.0
1037	168.487	0.163	1.25	91	2.21	66.1	50.7	98.7
1038	168.651	0.164	1.24	91	2.32	66.1	50.7	99.3
1039	168.813	0.162	1.23	91	2.31	66.1	50.7	98.7
1040	168.975	0.162	1.25	91	2.17	66	50.8	100.3
1041	169.137	0.162	1.25	91	2.21	66	50.8	99.7
1042	169.299	0.162	1.24	91	2.30	65.9	50.8	98.4
1043	169.461	0.162	1.24	91	2.16	65.9	50.8	98.9
1044	169.625	0.164	1.25	91	2.28	65.8	50.8	101.7
1045	169.788	0.163	1.24	91	2.25	65.8	50.8	101.4
1046	169.950	0.162	1.24	91	2.30	65.7	50.8	99.7
1047	170.112	0.162	1.25	91	2.18	65.7	50.8	99.5
1048	170.273	0.161	1.25	91	2.19	65.6	50.8	98.9
1049	170.436	0.163	1.25	91	2.33	65.6	50.8	99.7
1050	170.599	0.163	1.25	91	2.16	65.6	50.7	100.1
1051	170.762	0.163	1.25	91	2.16	65.4	50.7	100.5
1052	170.925	0.163	1.24	91	2.20	65.4	50.7	100.2

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1053	171.086	0.161	1.25	91	2.31	65.3	50.6	98.7
1054	171.248	0.162	1.24	91	2.32	65.3	50.7	99.3
1055	171.411	0.163	1.24	91	2.20	65.2	50.6	100.2
1056	171.574	0.163	1.25	91	2.19	65.2	50.6	100.3
1057	171.737	0.163	1.26	91	2.32	65.2	50.6	100.4
1058	171.899	0.162	1.25	91	2.27	65.2	50.6	100.0
1059	172.061	0.162	1.24	91	2.33	65.3	50.7	100.4
1060	172.223	0.162	1.24	91	2.17	65.2	50.6	100.0
1061	172.385	0.162	1.25	91	2.18	65.2	50.6	98.4
1062	172.548	0.163	1.24	91	2.17	65.2	50.6	98.3
1063	172.712	0.164	1.25	91	2.16	65.1	50.6	100.0
1064	172.874	0.162	1.24	91	2.32	65.2	50.6	99.2
1065	173.036	0.162	1.24	91	2.27	65.1	50.6	98.6
1066	173.198	0.162	1.25	91	2.30	65.1	50.6	98.7
1067	173.360	0.162	1.25	91	2.18	65.1	50.6	99.3
1068	173.522	0.162	1.27	91	2.28	65	50.6	99.6
1069	173.686	0.164	1.25	91	2.33	65	50.6	100.1
1070	173.849	0.163	1.26	91	2.32	64.9	50.5	98.9
1071	174.011	0.162	1.25	91	2.21	64.9	50.5	98.7
1072	174.173	0.162	1.26	91	2.23	64.9	50.5	99.3
1073	174.335	0.162	1.25	91	2.32	64.8	50.5	99.7
1074	174.497	0.162	1.26	91	2.32	64.8	50.5	99.2
1075	174.660	0.163	1.25	91	2.33	64.7	50.5	99.3
1076	174.824	0.164	1.25	91	2.28	64.7	50.5	99.4
1077	174.986	0.162	1.23	91	2.24	64.7	50.5	97.8
1078	175.147	0.161	1.26	91	2.15	64.7	50.5	97.5
1079	175.309	0.162	1.27	91	2.18	64.8	50.6	98.4
1080	175.472	0.163	1.25	91	2.32	64.8	50.6	99.7
1081	175.635	0.163	1.26	91	2.21	64.9	50.6	100.2
1082	175.798	0.163	1.23	91	2.21	64.8	50.6	99.9
1083	175.960	0.162	1.26	91	2.20	64.8	50.6	99.1
1084	176.122	0.162	1.27	91	2.20	64.9	50.6	99.0
1085	176.285	0.163	1.27	91	2.22	64.8	50.6	99.3
1086	176.447	0.162	1.26	91	2.23	64.8	50.6	98.7
1087	176.609	0.162	1.26	91	2.29	64.8	50.7	98.8
1088	176.773	0.164	1.26	91	2.23	64.8	50.7	99.7
1089	176.936	0.163	1.24	91	2.21	64.7	50.6	98.7
1090	177.099	0.163	1.26	91	2.20	64.8	50.7	98.3
1091	177.260	0.161	1.25	91	2.32	64.8	50.7	97.1
1092	177.422	0.162	1.26	91	2.20	64.7	50.6	99.0
1093	177.584	0.162	1.24	91	2.20	65.1	50.6	100.2
1094	177.748	0.164	1.24	91	2.20	64.7	50.7	100.8
1095	177.911	0.163	1.27	91	2.28	64.6	50.7	99.4
1096	178.074	0.163	1.27	91	2.17	64.6	50.6	99.3

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1097	178.236	0.162	1.27	91	2.28	64.6	50.7	99.1
1098	178.398	0.162	1.26	91	2.24	64.6	50.7	99.2
1099	178.561	0.163	1.26	91	2.16	64.6	50.8	98.6
1100	178.723	0.162	1.25	91	2.17	64.7	50.8	97.8
1101	178.887	0.164	1.27	91	2.27	64.7	50.8	99.8
1102	179.050	0.163	1.26	91	2.16	64.8	50.8	99.8
1103	179.213	0.163	1.26	91	2.18	64.7	50.8	99.7
1104	179.375	0.162	1.26	91	2.29	64.7	50.8	98.7
1105	179.537	0.162	1.28	91	2.20	64.8	50.9	99.1
1106	179.699	0.162	1.25	91	2.16	64.7	50.9	99.5
1107	179.862	0.163	1.27	91	2.28	64.7	50.9	99.0
1108	180.026	0.164	1.26	91	2.29	64.7	50.9	98.7
1109	180.189	0.163	1.25	91	2.31	64.7	50.9	99.0
1110	180.351	0.162	1.27	91	2.25	64.7	51	98.8
1111	180.513	0.162	1.25	91	2.18	64.7	50.9	98.3
1112	180.675	0.162	1.27	91	2.29	64.7	50.9	98.3
1113	180.838	0.163	1.26	91	2.25	64.6	50.9	99.1
1114	181.001	0.163	1.24	91	2.29	64.6	50.9	99.5
1115	181.165	0.164	1.25	91	2.25	64.6	50.9	100.3
1116	181.327	0.162	1.26	91	2.29	64.5	50.9	98.6
1117	181.489	0.162	1.26	91	2.16	64.5	50.9	98.3
1118	181.652	0.163	1.27	91	2.22	64.4	50.9	99.2
1119	181.814	0.162	1.25	91	2.29	64.3	50.9	99.1
1120	181.977	0.163	1.24	91	2.29	64.3	50.9	99.7
1121	182.141	0.164	1.25	91	2.25	64.4	50.9	100.3
1122	182.304	0.163	1.27	91	2.29	64.4	51	99.4
1123	182.466	0.162	1.27	91	2.27	64.4	51	98.3
1124	182.628	0.162	1.25	91	2.20	64.6	51	98.9
1125	182.790	0.162	1.25	91	2.29	64.6	51.1	99.0
1126	182.953	0.163	1.26	91	2.18	64.6	51.1	99.2
1127	183.115	0.162	1.25	91	2.31	64.5	51.1	99.2
1128	183.279	0.164	1.25	91	2.29	64.5	51.1	101.1
1129	183.442	0.163	1.26	91	2.31	64.5	51.1	100.5
1130	183.604	0.162	1.26	91	2.29	64.5	51.2	99.5
1131	183.766	0.162	1.27	91	2.24	64.5	51.1	99.8
1132	183.928	0.162	1.26	91	2.24	64.5	51.1	99.5
1133	184.091	0.163	1.26	91	2.28	64.5	51.1	98.9
1134	184.255	0.164	1.27	91	2.31	64.5	51.1	99.6
1135	184.418	0.163	1.26	91	2.22	64.4	51.1	99.7
1136	184.581	0.163	1.27	91	2.18	64.3	51.1	99.8
1137	184.743	0.162	1.27	91	2.30	64.4	51.2	98.6
1138	184.905	0.162	1.27	91	2.20	64.4	51.2	98.0
1139	185.067	0.162	1.27	91	2.26	64.4	51.2	97.6
1140	185.230	0.163	1.25	91	2.27	64.4	51.3	98.9

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1141	185.394	0.164	1.26	91	2.20	64.4	51.3	101.3
1142	185.557	0.163	1.26	91	2.30	64.4	51.3	100.8
1143	185.719	0.162	1.28	91	2.21	64.4	51.2	99.6
1144	185.881	0.162	1.25	91	2.31	64.5	51.3	100.0
1145	186.043	0.162	1.26	91	2.23	64.5	51.3	99.9
1146	186.206	0.163	1.25	91	2.25	64.5	51.3	99.9
1147	186.369	0.163	1.26	91	2.19	64.7	51.4	99.9
1148	186.532	0.163	1.25	91	2.18	64.8	51.5	100.2
1149	186.694	0.162	1.27	90	2.23	64.9	51.5	100.3
1150	186.856	0.162	1.26	91	2.27	65.1	51.6	101.2
1151	187.018	0.162	1.26	91	2.31	65.2	51.5	101.3
1152	187.180	0.162	1.25	91	2.17	65.3	51.6	101.3
1153	187.342	0.162	1.24	91	2.27	65.5	51.6	101.1
1154	187.506	0.164	1.25	91	2.30	65.7	51.6	102.2
1155	187.667	0.161	1.25	91	2.31	65.8	51.6	101.3
1156	187.828	0.161	1.25	91	2.24	65.9	51.7	101.9
1157	187.989	0.161	1.24	91	2.33	66	51.8	101.5
1158	188.151	0.162	1.24	91	2.19	66.1	51.8	101.5
1159	188.314	0.163	1.24	91	2.20	66.1	51.9	101.2
1160	188.476	0.162	1.25	91	2.32	66.2	51.9	100.2
1161	188.637	0.161	1.25	91	2.20	66.3	52	100.6
1162	188.798	0.161	1.23	91	2.30	66.4	52.1	101.3
1163	188.959	0.161	1.24	91	2.20	66.4	52.2	101.0
1164	189.122	0.163	1.25	91	2.25	66.5	52.2	101.8
1165	189.284	0.162	1.23	91	2.30	66.6	52.3	101.3
1166	189.445	0.161	1.24	90	2.34	66.6	52.3	100.0
1167	189.606	0.161	1.25	91	2.32	66.7	52.4	99.6
1168	189.768	0.162	1.24	91	2.19	66.8	52.5	101.4
1169	189.930	0.162	1.25	91	2.32	66.9	52.5	101.8
1170	190.092	0.162	1.25	91	2.34	66.9	52.6	102.0
1171	190.253	0.161	1.26	91	2.20	67	52.7	102.2
1172	190.414	0.161	1.22	91	2.34	67.1	52.8	102.5
1173	190.576	0.162	1.25	91	2.34	67.1	52.9	102.6
1174	190.738	0.162	1.25	91	2.19	67.2	52.9	101.9
1175	190.901	0.163	1.26	91	2.17	67	52.9	100.9
1176	191.063	0.162	1.26	91	2.17	66.9	53	99.4
1177	191.224	0.161	1.25	91	2.23	66.9	53	99.3
1178	191.385	0.161	1.24	90	2.32	66.9	53	99.8
1179	191.547	0.162	1.25	90	2.26	66.8	53	100.9
1180	191.711	0.164	1.25	90	2.29	66.7	53	101.6
1181	191.873	0.162	1.24	91	2.20	66.7	53	99.3
1182	192.035	0.162	1.26	91	2.28	66.6	53.1	99.3
1183	192.197	0.162	1.26	91	2.25	66.5	53.1	99.8
1184	192.359	0.162	1.26	91	2.32	66.5	53.2	100.2

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1185	192.521	0.162	1.25	91	2.32	66.4	53.1	99.8
1186	192.685	0.164	1.24	91	2.26	66.3	53.2	100.7
1187	192.848	0.163	1.22	91	2.29	66.2	53.1	99.4
1188	193.010	0.162	1.23	91	2.21	66.1	53.2	98.5
1189	193.172	0.162	1.24	91	2.25	66.1	53.2	99.7
1190	193.334	0.162	1.24	91	2.31	66	53.2	99.7
1191	193.496	0.162	1.24	91	2.29	65.9	53.1	99.3
1192	193.659	0.163	1.24	91	2.18	65.8	53.2	100.6
1193	193.822	0.163	1.23	91	2.24	65.8	53.1	100.6
1194	193.984	0.162	1.24	91	2.21	65.8	53.1	99.6
1195	194.146	0.162	1.24	91	2.31	65.7	53.1	99.7
1196	194.308	0.162	1.23	91	2.30	65.6	53.1	99.3
1197	194.471	0.163	1.24	91	2.29	65.6	53.1	98.8
1198	194.633	0.162	1.24	91	2.19	65.6	53.1	97.8
1199	194.797	0.164	1.23	91	2.21	65.5	53.1	99.2
1200	194.959	0.162	1.24	91	2.22	65.5	53	98.5
1201	195.121	0.162	1.24	91	2.29	65.6	53	99.8
1202	195.283	0.162	1.24	91	2.25	65.5	53	100.6
1203	195.445	0.162	1.23	91	2.32	65.6	53	100.3
1204	195.608	0.163	1.24	91	2.32	65.6	53	100.4
1205	195.771	0.163	1.25	91	2.30	65.5	53	99.9
1206	195.934	0.163	1.24	91	2.26	65.5	52.9	100.1
1207	196.096	0.162	1.25	91	2.29	65.4	52.9	100.9
1208	196.258	0.162	1.24	91	2.22	65.4	52.9	101.4
1209	196.420	0.162	1.25	91	2.21	65.3	52.8	100.7
1210	196.582	0.162	1.24	91	2.31	65.3	52.8	99.2
1211	196.746	0.164	1.26	91	2.29	65.2	52.7	99.2
1212	196.908	0.162	1.25	91	2.30	65.2	52.8	98.9
1213	197.071	0.163	1.26	91	2.27	65.1	52.7	100.4
1214	197.233	0.162	1.27	91	2.30	65.1	52.7	99.9
1215	197.394	0.161	1.25	91	2.31	65.1	52.7	99.8
1216	197.557	0.163	1.24	91	2.20	65	52.6	101.1
1217	197.720	0.163	1.25	91	2.17	65	52.7	100.3
1218	197.883	0.163	1.25	91	2.32	65	52.7	99.5
1219	198.045	0.162	1.23	91	2.29	65	52.7	98.3
1220	198.207	0.162	1.25	91	2.32	65	52.7	98.7
1221	198.369	0.162	1.27	91	2.23	65	52.7	99.2
1222	198.531	0.162	1.25	91	2.21	65	52.7	99.3
1223	198.694	0.163	1.25	91	2.17	65	52.7	100.0
1224	198.858	0.164	1.27	91	2.28	65	52.7	101.2
1225	199.020	0.162	1.26	91	2.19	65.1	52.7	99.6
1226	199.182	0.162	1.25	91	2.17	65	52.7	99.0
1227	199.344	0.162	1.25	91	2.31	65	52.7	100.2
1228	199.506	0.162	1.25	91	2.33	65	52.7	100.7

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1229	199.668	0.162	1.25	91	2.32	65	52.7	99.1
1230	199.832	0.164	1.26	91	2.31	65.1	52.7	100.0
1231	199.994	0.162	1.27	91	2.19	65.1	52.7	99.0
1232	200.156	0.162	1.28	91	2.22	65.1	52.7	99.6
1233	200.318	0.162	1.26	91	2.31	65.1	52.7	100.6
1234	200.480	0.162	1.26	91	2.22	65.1	52.7	100.3
1235	200.643	0.163	1.25	91	2.24	65.1	52.7	99.9
1236	200.806	0.163	1.22	91	2.16	65	52.7	99.3
1237	200.969	0.163	1.26	91	2.31	65	52.7	98.7
1238	201.131	0.162	1.25	91	2.26	65	52.7	98.3
1239	201.293	0.162	1.26	91	2.25	65	52.8	99.1
1240	201.455	0.162	1.26	91	2.30	64.9	52.8	98.3
1241	201.617	0.162	1.25	91	2.20	64.9	52.8	97.5
1242	201.781	0.164	1.26	91	2.17	64.8	52.8	99.4
1243	201.944	0.163	1.26	91	2.16	64.8	52.8	99.5
1244	202.106	0.162	1.24	91	2.18	65.1	52.7	99.3
1245	202.268	0.162	1.24	91	2.30	64.6	52.8	99.3
1246	202.430	0.162	1.25	91	2.16	64.6	52.8	99.8
1247	202.592	0.162	1.26	91	2.20	64.5	52.7	100.6
1248	202.755	0.163	1.24	91	2.18	64.5	52.8	100.2
1249	202.919	0.164	1.25	91	2.23	64.5	52.7	99.6
1250	203.081	0.162	1.25	91	2.22	64.5	52.7	99.0
1251	203.243	0.162	1.25	91	2.16	64.5	52.7	99.9
1252	203.406	0.163	1.26	91	2.17	64.6	52.8	100.4
1253	203.568	0.162	1.26	91	2.16	64.6	52.8	99.5
1254	203.730	0.162	1.26	91	2.33	64.6	52.8	99.3
1255	203.894	0.164	1.26	91	2.29	64.6	52.8	100.3
1256	204.057	0.163	1.28	91	2.21	64.7	52.8	99.8
1257	204.219	0.162	1.26	91	2.17	64.7	52.8	99.4
1258	204.381	0.162	1.24	91	2.21	64.7	52.8	99.4
1259	204.543	0.162	1.25	91	2.25	64.7	52.8	99.3
1260	204.706	0.163	1.26	91	2.16	64.7	52.7	99.8
1261	204.869	0.163	1.25	91	2.15	64.7	52.8	99.8
1262	205.032	0.163	1.27	91	2.31	64.7	52.8	100.0
1263	205.194	0.162	1.26	91	2.27	64.7	52.9	100.2
1264	205.356	0.162	1.27	91	2.25	64.7	52.9	101.3
1265	205.519	0.163	1.27	91	2.24	64.7	52.9	101.2
1266	205.681	0.162	1.26	91	2.29	64.6	52.9	99.0
1267	205.843	0.162	1.26	91	2.31	64.6	52.9	98.5
1268	206.007	0.164	1.24	91	2.31	64.6	52.9	99.8
1269	206.170	0.163	1.26	91	2.26	64.6	52.9	99.4
1270	206.333	0.163	1.26	91	2.28	64.6	52.8	99.7
1271	206.495	0.162	1.27	91	2.18	64.5	52.8	99.9
1272	206.657	0.162	1.25	91	2.18	64.5	52.8	101.1

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1273	206.819	0.162	1.26	91	2.30	64.5	52.8	101.0
1274	206.982	0.163	1.27	91	2.16	64.5	52.8	100.6
1275	207.146	0.164	1.25	91	2.19	64.7	52.9	100.5
1276	207.308	0.162	1.26	91	2.25	64.5	52.9	98.5
1277	207.470	0.162	1.26	91	2.18	64.5	52.9	98.0
1278	207.632	0.162	1.27	91	2.18	64.6	52.9	98.7
1279	207.794	0.162	1.26	91	2.22	64.7	53	98.9
1280	207.957	0.163	1.25	91	2.26	64.7	53	98.8
1281	208.120	0.163	1.28	91	2.27	64.7	53	98.6
1282	208.283	0.163	1.26	91	2.22	64.7	53	98.8
1283	208.445	0.162	1.27	91	2.17	64.7	53	98.6
1284	208.607	0.162	1.26	91	2.17	64.7	53	99.0
1285	208.769	0.162	1.26	91	2.18	64.7	53	99.3
1286	208.932	0.163	1.26	91	2.16	64.7	53.1	100.3
1287	209.095	0.163	1.26	91	2.32	64.7	53.1	100.3
1288	209.258	0.163	1.26	91	2.17	64.6	53.1	99.9
1289	209.421	0.163	1.25	91	2.17	64.7	53.1	99.6
1290	209.582	0.161	1.24	91	2.25	64.7	53.1	97.7
1291	209.744	0.162	1.25	91	2.28	64.7	53.1	97.9
1292	209.907	0.163	1.26	91	2.28	64.8	53.2	98.9
1293	210.069	0.162	1.26	91	2.30	64.9	53.2	99.2
1294	210.232	0.163	1.26	91	2.25	65	53.2	101.2
1295	210.394	0.162	1.25	91	2.31	65.1	53.3	100.6
1296	210.559	0.165	1.26	91	2.33	65.3	53.3	101.7
1297	210.720	0.161	1.26	91	2.30	65.3	53.3	100.0
1298	210.879	0.159	1.26	91	2.32	65.5	53.3	99.6
1299	211.042	0.163	1.26	91	2.22	65.5	53.4	102.3
1300	211.204	0.162	1.25	91	2.22	65.7	53.4	101.4
1301	211.366	0.162	1.24	91	2.20	65.8	53.4	99.9
1302	211.527	0.161	1.26	91	2.34	65.9	53.5	98.5
1303	211.688	0.161	1.23	91	2.19	66	53.6	99.1
1304	211.851	0.163	1.24	91	2.25	66.1	53.6	100.8
1305	212.014	0.163	1.25	91	2.33	66.3	53.7	101.4
1306	212.178	0.164	1.25	91	2.18	66.4	53.7	102.2
1307	212.339	0.161	1.24	91	2.22	66.5	53.7	99.8
1308	212.497	0.158	1.25	91	2.29	66.6	53.8	98.0
1309	212.659	0.162	1.24	91	2.33	66.6	53.9	100.9
1310	212.822	0.163	1.26	91	2.18	66.7	54	102.0
1311	212.984	0.162	1.25	91	2.19	66.7	54	101.6
1312	213.145	0.161	1.23	91	2.31	66.8	54.1	99.9
1313	213.306	0.161	1.24	91	2.19	66.8	54.2	99.6
1314	213.468	0.162	1.24	91	2.16	66.8	54.1	101.0
1315	213.631	0.163	1.24	91	2.26	66.9	54.2	102.3
1316	213.796	0.165	1.24	91	2.19	66.9	54.2	103.9

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1317	213.957	0.161	1.26	91	2.17	66.7	54.3	100.5
1318	214.119	0.162	1.25	91	2.33	66.6	54.2	100.4
1319	214.278	0.159	1.26	91	2.28	66.5	54.2	98.7
1320	214.440	0.162	1.27	91	2.31	66.4	54.3	100.0
1321	214.604	0.164	1.26	91	2.27	66.3	54.3	100.7
1322	214.766	0.162	1.26	91	2.19	66.2	54.3	99.6
1323	214.928	0.162	1.26	91	2.32	66.1	54.3	99.6
1324	215.090	0.162	1.24	91	2.18	66.1	54.3	99.5
1325	215.252	0.162	1.27	91	2.30	66	54.4	99.8
1326	215.417	0.165	1.23	91	2.20	66	54.4	101.5
1327	215.580	0.163	1.26	91	2.32	66	54.4	100.3
1328	215.743	0.163	1.24	91	2.17	65.9	54.4	100.4
1329	215.902	0.159	1.25	91	2.17	66	54.4	97.3
1330	216.064	0.162	1.25	91	2.33	65.9	54.4	99.6
1331	216.226	0.162	1.25	90	2.28	65.8	54.4	99.8
1332	216.388	0.162	1.26	91	2.29	65.8	54.4	99.0
1333	216.552	0.164	1.24	91	2.18	65.7	54.3	100.7
1334	216.715	0.163	1.25	91	2.31	65.7	54.3	101.6
1335	216.877	0.162	1.25	91	2.26	65.7	54.3	100.6
1336	217.042	0.165	1.24	91	2.32	65.6	54.3	101.6
1337	217.204	0.162	1.25	91	2.33	65.6	54.3	100.1
1338	217.365	0.161	1.25	91	2.16	65.5	54.3	99.0
1339	217.528	0.163	1.25	91	2.16	65.5	54.3	99.6
1340	217.689	0.161	1.27	91	2.19	65.4	54.3	98.8
1341	217.851	0.162	1.26	91	2.24	65.4	54.2	99.2
1342	218.013	0.162	1.25	91	2.16	65.3	54.2	98.7
1343	218.175	0.162	1.26	91	2.18	65.2	54.2	99.8
1344	218.337	0.162	1.25	90	2.25	65.2	54.1	100.5
1345	218.500	0.163	1.25	91	2.16	65.1	54	100.5
1346	218.663	0.163	1.25	91	2.29	65.1	54.1	100.2
1347	218.828	0.165	1.25	91	2.28	64.9	54	101.0
1348	218.990	0.162	1.27	91	2.25	64.9	54	98.8
1349	219.152	0.162	1.26	91	2.30	64.9	54.1	99.3
1350	219.311	0.159	1.24	91	2.17	64.9	54	97.0
1351	219.474	0.163	1.25	91	2.32	64.9	54	99.3
1352	219.637	0.163	1.25	91	2.25	64.9	54	100.0
1353	219.799	0.162	1.26	91	2.34	65	54	99.4
1354	219.961	0.162	1.25	91	2.34	65	54.1	99.2
1355	220.122	0.161	1.26	90	2.34	65	54.1	99.0
1356	220.287	0.165	1.26	91	2.29	65	54	101.4
1357	220.450	0.163	1.26	91	2.15	64.9	54	99.4
1358	220.613	0.163	1.25	91	2.16	65	54	99.3
1359	220.776	0.163	1.25	91	2.29	64.9	54	99.3
1360	220.935	0.159	1.25	91	2.15	64.9	54	97.2

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1361	221.096	0.161	1.26	91	2.33	64.8	53.9	98.8
1362	221.259	0.163	1.25	91	2.31	64.9	54	99.4
1363	221.421	0.162	1.27	90	2.21	64.8	54	99.1
1364	221.585	0.164	1.26	91	2.31	64.9	54	101.7
1365	221.747	0.162	1.26	91	2.32	64.9	54	100.4
1366	221.912	0.165	1.25	90	2.24	64.8	54	101.9
1367	222.074	0.162	1.23	91	2.19	64.8	54	99.8
1368	222.235	0.161	1.26	90	2.18	64.8	54	99.4
1369	222.398	0.163	1.25	91	2.32	64.7	54	101.1
1370	222.561	0.163	1.26	91	2.16	64.7	54	100.5
1371	222.721	0.160	1.26	91	2.24	64.7	54	98.1
1372	222.883	0.162	1.25	91	2.22	64.7	54	99.6
1373	223.045	0.162	1.23	91	2.34	64.7	54	99.8
1374	223.207	0.162	1.25	91	2.33	64.6	54	99.7
1375	223.369	0.162	1.23	91	2.23	64.6	54	99.6
1376	223.533	0.164	1.25	91	2.18	64.5	54	100.3
1377	223.699	0.166	1.25	91	2.26	64.6	54	100.8
1378	223.860	0.161	1.21	91	2.19	64.5	54	97.5
1379	224.022	0.162	1.26	91	2.33	64.5	54	97.7
1380	224.184	0.162	1.25	91	2.33	64.4	54	97.9
1381	224.343	0.159	1.22	91	2.17	64.5	54	96.9
1382	224.507	0.164	1.26	91	2.22	64.6	54.1	100.2
1383	224.670	0.163	1.26	91	2.23	64.5	54.1	100.5
1384	224.832	0.162	1.25	91	2.34	64.4	54.1	99.9
1385	224.994	0.162	1.25	91	2.19	64.4	54.1	98.1
1386	225.155	0.161	1.25	91	2.34	64.7	54.1	97.6
1387	225.320	0.165	1.27	91	2.18	64.5	54.1	100.3
1388	225.483	0.163	1.24	91	2.28	64.5	54.1	98.6
1389	225.647	0.164	1.26	91	2.31	64.5	54.1	100.4
1390	225.809	0.162	1.25	90	2.19	64.5	54.1	99.8
1391	225.971	0.162	1.25	91	2.17	64.5	54.1	99.3
1392	226.130	0.159	1.25	91	2.26	64.5	54.1	96.7
1393	226.292	0.162	1.25	90	2.22	64.6	54.1	98.4
1394	226.455	0.163	1.26	91	2.33	64.7	54.2	99.2
1395	226.618	0.163	1.26	91	2.25	64.7	54.2	99.6
1396	226.781	0.163	1.26	90	2.32	64.7	54.2	100.9
1397	226.946	0.165	1.27	91	2.23	64.7	54.2	102.5
1398	227.107	0.161	1.26	91	2.14	64.7	54.2	98.8
1399	227.269	0.162	1.24	91	2.19	64.8	54.2	99.2
1400	227.431	0.162	1.26	90	2.33	64.8	54.2	99.9
1401	227.593	0.162	1.26	90	2.30	64.8	54.3	99.9
1402	227.755	0.162	1.24	91	2.25	64.8	54.2	99.6
1403	227.917	0.162	1.27	91	2.17	64.8	54.2	99.5
1404	228.079	0.162	1.26	91	2.32	64.8	54.3	100.0

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1405	228.241	0.162	1.25	91	2.17	64.8	54.3	100.3
1406	228.406	0.165	1.26	91	2.22	64.8	54.3	101.9
1407	228.569	0.163	1.26	91	2.16	64.8	54.3	100.2
1408	228.732	0.163	1.26	91	2.32	64.8	54.3	99.7
1409	228.894	0.162	1.25	91	2.22	64.8	54.4	99.1
1410	229.056	0.162	1.25	91	2.18	64.8	54.4	99.6
1411	229.215	0.159	1.24	91	2.17	64.8	54.4	97.5
1412	229.378	0.163	1.24	91	2.20	64.8	54.4	99.5
1413	229.541	0.163	1.26	91	2.16	64.8	54.4	99.2
1414	229.704	0.163	1.27	91	2.15	64.7	54.4	99.6
1415	229.869	0.165	1.25	91	2.16	64.7	54.4	101.0
1416	230.031	0.162	1.26	91	2.20	64.7	54.4	98.7
1417	230.192	0.161	1.25	91	2.30	64.8	54.5	98.6
1418	230.355	0.163	1.26	91	2.25	64.6	54.5	100.3
1419	230.517	0.162	1.25	91	2.32	64.5	54.4	99.2
1420	230.681	0.164	1.24	91	2.16	64.5	54.5	100.2
1421	230.841	0.160	1.25	91	2.32	64.5	54.5	98.0
1422	231.002	0.161	1.26	91	2.32	64.4	54.4	99.6
1423	231.164	0.162	1.26	91	2.34	64.4	54.4	101.1
1424	231.327	0.163	1.25	91	2.32	64.4	54.5	101.6
1425	231.491	0.164	1.25	91	2.35	64.4	54.4	101.4
1426	231.655	0.164	1.25	91	2.26	64.5	54.5	100.5
1427	231.817	0.162	1.24	91	2.23	64.6	54.5	99.2
1428	231.978	0.161	1.25	91	2.35	64.7	54.6	100.1
1429	232.140	0.162	1.25	91	2.21	64.9	54.6	102.5
1430	232.302	0.162	1.26	90	2.24	65	54.6	103.2
1431	232.462	0.160	1.24	91	2.24	65.1	54.7	101.4
1432	232.624	0.162	1.26	91	2.32	65.2	54.6	102.2
1433	232.785	0.161	1.24	91	2.17	65.3	54.7	101.8
1434	232.947	0.162	1.27	91	2.19	65.4	54.7	102.6
1435	233.111	0.164	1.23	91	2.24	65.5	54.7	103.6
1436	233.273	0.162	1.26	90	2.34	65.6	54.8	101.5
1437	233.436	0.163	1.25	91	2.24	65.7	54.9	101.1
1438	233.598	0.162	1.24	91	2.33	65.8	54.8	100.5
1439	233.759	0.161	1.25	91	2.33	65.9	54.9	100.4
1440	233.920	0.161	1.25	91	2.22	66	54.9	100.9
1441	234.082	0.162	1.26	91	2.18	66	54.9	102.7
1442	234.242	0.160	1.23	91	2.21	66.1	54.9	102.7
1443	234.404	0.162	1.25	90	2.35	66.1	55	103.6
1444	234.565	0.161	1.24	91	2.23	66.2	55.1	101.5
1445	234.729	0.164	1.24	91	2.20	66.3	55.1	102.8
1446	234.890	0.161	1.26	91	2.34	66.4	55.1	101.4
1447	235.052	0.162	1.24	91	2.33	66.5	55.2	102.3
1448	235.215	0.163	1.25	91	2.17	66.6	55.3	102.2

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1449	235.376	0.161	1.25	91	2.33	66.6	55.3	100.5
1450	235.537	0.161	1.25	91	2.33	66.6	55.3	101.1
1451	235.699	0.162	1.25	91	2.30	66.5	55.4	101.3
1452	235.859	0.160	1.25	90	2.30	66.4	55.4	99.1
1453	236.022	0.163	1.26	90	2.34	66.3	55.4	101.2
1454	236.183	0.161	1.23	91	2.18	66.2	55.4	100.3
1455	236.348	0.165	1.26	91	2.19	66.2	55.5	103.0
1456	236.509	0.161	1.25	91	2.32	66.1	55.5	100.0
1457	236.671	0.162	1.24	90	2.34	66	55.5	99.1
1458	236.834	0.163	1.25	90	2.33	66	55.5	99.1
1459	236.997	0.163	1.25	91	2.27	65.9	55.6	99.7
1460	237.159	0.162	1.25	90	2.22	65.8	55.6	98.8
1461	237.320	0.161	1.25	90	2.34	65.7	55.5	98.0
1462	237.482	0.162	1.25	91	2.33	65.7	55.5	99.2
1463	237.642	0.160	1.25	91	2.27	65.6	55.5	98.2
1464	237.805	0.163	1.25	91	2.32	65.6	55.6	100.5
1465	237.970	0.165	1.25	91	2.19	65.5	55.6	101.7
1466	238.132	0.162	1.26	90	2.32	65.5	55.6	99.1
1467	238.294	0.162	1.24	90	2.18	65.4	55.5	99.1
1468	238.455	0.161	1.24	90	2.32	65.4	55.5	99.2
1469	238.618	0.163	1.26	91	2.24	65.3	55.5	101.2
1470	238.781	0.163	1.25	90	2.19	65.3	55.5	101.1
1471	238.943	0.162	1.24	91	2.32	65.2	55.4	98.9
1472	239.105	0.162	1.25	91	2.25	65.1	55.4	98.5
1473	239.264	0.159	1.26	91	2.22	65.1	55.4	97.9
1474	239.426	0.162	1.25	91	2.16	65	55.4	99.1
1475	239.591	0.165	1.25	91	2.19	65	55.4	99.9
1476	239.754	0.163	1.24	91	2.17	65	55.4	99.0
1477	239.917	0.163	1.26	90	2.32	64.9	55.3	99.0
1478	240.079	0.162	1.25	90	2.26	64.9	55.3	98.3
1479	240.241	0.162	1.26	90	2.31	64.8	55.3	98.6
1480	240.402	0.161	1.26	90	2.34	64.8	55.3	98.3
1481	240.564	0.162	1.25	90	2.19	64.8	55.3	99.6
1482	240.728	0.164	1.26	90	2.18	64.7	55.3	101.4
1483	240.887	0.159	1.26	90	2.18	64.7	55.3	97.6
1484	241.052	0.165	1.27	91	2.20	64.7	55.3	100.6
1485	241.214	0.162	1.26	91	2.19	64.7	55.3	99.5
1486	241.375	0.161	1.26	90	2.25	64.7	55.3	99.1
1487	241.538	0.163	1.25	91	2.27	64.6	55.3	100.8
1488	241.701	0.163	1.26	90	2.18	64.6	55.2	101.2
1489	241.864	0.163	1.26	90	2.34	64.6	55.3	100.6
1490	242.026	0.162	1.25	91	2.16	64.6	55.3	100.1
1491	242.187	0.161	1.26	90	2.25	64.6	55.3	99.6
1492	242.346	0.159	1.26	91	2.30	64.6	55.3	98.3

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1493	242.509	0.163	1.25	90	2.30	64.5	55.3	101.0
1494	242.675	0.166	1.25	91	2.33	64.5	55.3	102.4
1495	242.837	0.162	1.23	90	2.22	64.5	55.3	99.3
1496	242.999	0.162	1.26	91	2.33	64.5	55.3	99.8
1497	243.161	0.162	1.26	90	2.31	64.5	55.3	100.1
1498	243.322	0.161	1.26	90	2.32	64.5	55.3	99.6
1499	243.484	0.162	1.24	90	2.22	64.5	55.3	99.8
1500	243.648	0.164	1.25	91	2.16	64.5	55.3	99.9
1501	243.811	0.163	1.25	90	2.32	64.4	55.3	99.3
1502	243.973	0.162	1.28	91	2.26	64.5	55.3	98.9
1503	244.131	0.158	1.25	90	2.23	64.4	55.3	96.4
1504	244.296	0.165	1.27	90	2.26	64.4	55.3	101.1
1505	244.458	0.162	1.25	90	2.30	64.5	55.3	99.1
1506	244.622	0.164	1.26	90	2.33	64.4	55.3	100.4
1507	244.784	0.162	1.25	91	2.31	64.4	55.3	100.1
1508	244.946	0.162	1.25	90	2.16	64.4	55.3	100.7
1509	245.108	0.162	1.26	90	2.18	64.4	55.3	100.8
1510	245.270	0.162	1.25	90	2.25	64.4	55.3	100.5
1511	245.432	0.162	1.25	90	2.16	64.4	55.3	99.7
1512	245.595	0.163	1.25	90	2.18	64.4	55.3	100.2
1513	245.758	0.163	1.25	91	2.31	64.4	55.3	100.5
1514	245.919	0.161	1.25	90	2.29	64.3	55.3	99.3
1515	246.081	0.162	1.25	90	2.29	64.4	55.3	99.7
1516	246.243	0.162	1.24	90	2.16	64.3	55.3	99.6
1517	246.405	0.162	1.25	90	2.16	64.3	55.3	99.5
1518	246.569	0.164	1.24	91	2.27	64.3	55.3	101.0
1519	246.731	0.162	1.26	90	2.32	64.3	55.3	100.0
1520	246.893	0.162	1.25	90	2.25	64.5	55.4	100.2
1521	247.054	0.161	1.25	91	2.33	64.4	55.4	99.9
1522	247.216	0.162	1.26	91	2.17	64.4	55.4	99.4
1523	247.378	0.162	1.25	90	2.34	64.3	55.3	98.2
1524	247.542	0.164	1.26	90	2.19	64.3	55.3	99.3
1525	247.704	0.162	1.27	91	2.16	64.3	55.3	98.6
1526	247.865	0.161	1.26	90	2.19	64.3	55.4	99.3
1527	248.027	0.162	1.24	90	2.31	64.3	55.4	100.6
1528	248.189	0.162	1.25	91	2.18	64.3	55.4	100.0
1529	248.352	0.163	1.26	90	2.32	64.3	55.4	99.8
1530	248.515	0.163	1.27	91	2.33	64.3	55.4	99.5
1531	248.676	0.161	1.26	91	2.25	64.4	55.4	98.7
1532	248.838	0.162	1.25	90	2.18	64.3	55.4	100.2
1533	249.000	0.162	1.24	91	2.32	64.4	55.5	100.0
1534	249.162	0.162	1.25	90	2.21	64.3	55.5	99.1
1535	249.325	0.163	1.25	91	2.29	64.3	55.5	99.9
1536	249.488	0.163	1.24	91	2.29	64.3	55.5	100.4

Train B - Particulate Sampling

ASTM E2515

Run: 3

Test Date: 2/26/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 14.5 in. Hg

Post-Test 0.002 cfm @ 5.77 in. Hg

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1537	249.650	0.162	1.26	90	2.22	64.3	55.5	99.8
1538	249.811	0.161	1.24	90	2.21	64.3	55.5	99.0
1539	249.973	0.162	1.25	91	2.22	64.3	55.5	99.1
1540	250.135	0.162	1.25	91	2.21	64.3	55.4	98.7
1541	250.298	0.163	1.25	90	2.19	64.3	55.5	99.3
1542	250.461	0.163	1.25	90	2.34	64.3	55.5	100.0
1543	250.623	0.162	1.26	90	2.29	64.3	55.5	99.7
1544	250.784	0.161	1.26	91	2.27	64.3	55.5	99.2
1545	250.946	0.162	1.24	90	2.19	64.3	55.5	100.2
1546	251.108	0.162	1.25	91	2.23	64.3	55.5	100.3
1547	251.271	0.163	1.26	91	2.27	64.3	55.5	100.4
1548	251.434	0.163	1.25	91	2.17	64.3	55.5	99.7
1549	251.596	0.162	1.25	90	2.25	64.3	55.5	99.1
1550	251.757	0.161	1.25	91	2.33	64.3	55.5	98.5
1551	251.919	0.162	1.23	90	2.22	64.4	55.5	99.1
1552	252.081	0.162	1.25	91	2.25	64.4	55.6	99.4
1553	252.245	0.164	1.25	91	2.24	64.3	55.6	100.8
1554	252.407	0.162	1.25	91	2.32	64.4	55.6	99.1
1555	252.569	0.162	1.25	91	2.19	64.4	55.6	97.9
1556	252.731	0.162	1.24	91	2.17	64.4	55.6	97.5
1557	252.892	0.161	1.26	91	2.21	64.4	55.6	98.1
1558	253.055	0.163	1.24	91	2.32	64.3	55.6	100.6
1559	253.218	0.163	1.25	91	2.17	64.4	55.6	100.1
1560	253.380	0.162	1.25	91	2.28	64.4	55.6	98.9
1561	253.542	0.162	1.25	91	2.32	64.4	55.6	99.2
1562	253.704	0.162	1.25	91	2.23	64.5	55.7	99.7
1563	253.865	0.161	1.25	91	2.27	64.5	55.7	98.6
1564	254.028	0.163	1.24	91	2.23	64.7	55.7	99.4
1565	254.191	0.163	1.25	91	2.29	64.8	55.7	100.1
1566	254.352	0.161	1.25	90	2.20	64.9	55.7	99.4
1567	254.513	0.161	1.27	91	2.23	65.1	55.7	100.3
1568	254.674	0.161	1.24	91	2.33	65.2	55.8	100.7
1569	254.836	0.162	1.25	91	2.27	65.3	55.8	101.0
1570	254.999	0.163	1.25	90	2.22	65.4	55.8	101.9
1571	255.160	0.161	1.25	91	2.26	65.5	55.8	100.9
1572	255.321	0.161	1.24	91	2.34	65.7	55.9	100.8
1573	255.482	0.161	1.23	91	2.19	65.8	55.9	101.3
1574	255.643	0.161	1.25	91	2.19	65.9	56	101.4
1575	255.806	0.163	1.25	91	2.32	66	56	102.2
1576	255.967	0.161	1.24	91	2.30	66.1	56	100.9
1577	256.128	0.161	1.24	91	2.34	66.2	56	100.8
1578	256.288	0.160	1.24	91	2.18	66.4	56.1	100.1
1579	256.450	0.162	1.25	91	2.26	66.4	56.1	101.0

Train C - First Hour Particulate Sampling

Run:	3	Test Date:	2/26/25
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	<u>1.0056</u>
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	<u>0</u>
Tracking No.:	2501	Meter Box Dynamic Y:	<u>1.006</u>
Project No.:	0117WB044E	Sample Box ID:	<u>336</u>
Start Time:	<u>11:03</u>	Sample Train Leak Checks	
Total Sampling Time:	60 min	Pre-test	<u>0.001</u> cfm @ <u>16.4</u> in. Hg
Recording Interval:	1 min	Post-Test	<u>0.001</u> cfm @ <u>11.9</u> in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	9.588	0.160	1.05	69.4	2.77	65.7	62.0	100.0
Minimum	0.000	0.148	1.04	66	2.67	64	56	93.2
Max	9.588	0.162	1.08	73	2.86	67	65	102.6
0	0.000		0.00	66	0.04	64.1	63	
1	0.148	0.148	1.08	66	2.83	64.3	63.1	93.2
2	0.309	0.161	1.08	66	2.83	64.4	63	102.0
3	0.470	0.161	1.07	66	2.83	64.8	63.1	102.2
4	0.630	0.160	1.06	66	2.84	65	63.1	102.5
5	0.789	0.159	1.06	66	2.83	65.1	63.1	101.2
6	0.950	0.161	1.06	66	2.84	65.3	63.2	101.6
7	1.109	0.159	1.06	66	2.82	65.5	63.4	100.8
8	1.269	0.160	1.06	67	2.83	65.7	63.4	101.6
9	1.428	0.159	1.05	67	2.82	65.8	63.5	100.2
10	1.587	0.159	1.05	67	2.74	66.1	63.6	100.0
11	1.747	0.160	1.05	67	2.86	66.3	63.7	101.5
12	1.905	0.158	1.05	67	2.74	66.4	63.9	101.3
13	2.065	0.160	1.05	67	2.85	66.6	64.1	102.2
14	2.223	0.158	1.05	67	2.73	66.7	64.2	100.4
15	2.382	0.159	1.05	67	2.84	66.8	64.4	101.6
16	2.542	0.160	1.04	67	2.84	66.9	64.5	102.5
17	2.700	0.158	1.05	67	2.81	67	64.6	101.5
18	2.860	0.160	1.05	68	2.72	67.1	64.8	102.6
19	3.018	0.158	1.04	68	2.79	67.2	65	100.5
20	3.177	0.159	1.04	68	2.77	67.3	65.2	101.0
21	3.336	0.159	1.04	68	2.77	67.4	62.6	100.8
22	3.495	0.159	1.05	68	2.78	67.2	59.5	100.5
23	3.655	0.160	1.05	68	2.76	67	58	100.7
24	3.814	0.159	1.05	69	2.81	66.9	56.5	99.2
25	3.975	0.161	1.05	69	2.72	66.7	55.7	100.3
26	4.134	0.159	1.05	69	2.70	66.6	55.5	99.4
27	4.294	0.160	1.05	69	2.73	66.5	56.1	100.2
28	4.455	0.161	1.05	69	2.79	66.4	57.3	100.8
29	4.614	0.159	1.05	69	2.76	66.3	58.4	99.5
30	4.774	0.160	1.05	69	2.81	66.3	59.4	99.4
31	4.935	0.161	1.05	70	2.72	66.1	60.1	98.9
32	5.094	0.159	1.05	70	2.72	66	60.7	97.7

Train C - First Hour Particulate Sampling

Run:	<u>3</u>	Test Date:	<u>2/26/25</u>
Manufacturer:	<u>Central Boiler</u>	Meter Box Y Regression Offset:	<u>1.0056</u>
Model:	<u>Classic Edge 760.1</u>	Meter Box Y Regression Factor:	<u>0</u>
Tracking No.:	<u>2501</u>	Meter Box Dynamic Y:	<u>1.006</u>
Project No.:	<u>0117WB044E</u>	Sample Box ID:	<u>336</u>
Start Time:	<u>11:03</u>	Sample Train Leak Checks	
Total Sampling Time:	<u>60</u> min	Pre-test	<u>0.001</u> cfm @ <u>16.4</u> in. Hg
Recording Interval:	<u>1</u> min	Post-Test	<u>0.001</u> cfm @ <u>11.9</u> in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
33	5.255	0.161	1.05	70	2.69	65.9	61.2	99.7
34	5.415	0.160	1.05	70	2.80	65.8	61.7	99.1
35	5.575	0.160	1.05	70	2.69	65.7	62.1	99.3
36	5.736	0.161	1.06	70	2.81	65.6	62.3	100.4
37	5.895	0.159	1.05	71	2.79	65.5	62.5	99.0
38	6.055	0.160	1.05	71	2.79	65.5	62.7	99.1
39	6.216	0.161	1.05	71	2.72	65.3	62.8	98.8
40	6.376	0.160	1.05	71	2.76	65.2	62.9	98.1
41	6.536	0.160	1.05	71	2.77	65.2	62.9	98.1
42	6.698	0.162	1.05	71	2.81	65.1	63	98.8
43	6.858	0.160	1.06	71	2.75	65.1	63	98.4
44	7.018	0.160	1.05	71	2.76	65	62.9	99.0
45	7.179	0.161	1.05	72	2.74	65	62.9	99.3
46	7.339	0.160	1.05	72	2.72	64.9	62.8	98.6
47	7.500	0.161	1.06	72	2.81	64.9	62.8	99.2
48	7.660	0.160	1.05	72	2.79	64.9	62.7	99.0
49	7.820	0.160	1.06	72	2.79	64.8	62.6	99.6
50	7.982	0.162	1.06	72	2.77	64.8	62.4	100.7
51	8.142	0.160	1.05	72	2.68	64.7	62.3	99.0
52	8.303	0.161	1.06	72	2.71	64.7	62.2	99.8
53	8.464	0.161	1.06	72	2.82	64.6	62	99.6
54	8.624	0.160	1.05	73	2.72	64.6	61.9	98.0
55	8.785	0.161	1.06	72	2.67	64.6	61.9	98.9
56	8.946	0.161	1.06	72	2.76	64.5	61.7	100.3
57	9.106	0.160	1.05	72	2.72	64.5	61.5	99.7
58	9.266	0.160	1.05	73	2.71	64.4	61.4	99.3
59	9.428	0.162	1.05	73	2.75	64.5	61.3	100.7
60	9.588	0.160	1.05	73	2.78	64.5	61.2	99.8

Train D - Ambient Background and Flue Gas Data**Run:** 3**Test Date:** 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
Tot / Avg	245.100	0.155	1.10	76.6	1.96	173.22	-0.020	535.0	0.62	6.76
Minimum	0.000	0.151	0.00	67	0.04	103.90	-0.060	69.0	-0.01	0.18
Max	245.100	0.159	1.14	78	2.00	315.10	-0.002	547.0	5.48	20.70
0	0.000		0.00	67	0.04	277	-0.039	547.0	0.05	17.01
1	0.152	0.152	1.13	67	1.94	244.2	-0.032	547.0	0.42	3.30
2	0.309	0.157	1.14	67	1.96	225.6	-0.030	547.0	0.30	2.85
3	0.463	0.154	1.12	67	1.98	257.5	-0.027	547.0	0.20	18.65
4	0.617	0.154	1.11	67	1.94	279.1	-0.036	547.0	0.11	17.57
5	0.772	0.155	1.11	67	1.94	280.7	-0.048	547.0	0.11	17.45
6	0.925	0.153	1.11	67	1.96	281.9	-0.034	547.0	0.12	17.47
7	1.078	0.153	1.11	67	2.00	282.9	-0.028	547.0	0.12	17.10
8	1.232	0.154	1.09	68	1.98	284	-0.054	547.0	0.12	16.65
9	1.386	0.154	1.10	68	1.93	285.2	-0.040	547.0	0.12	16.06
10	1.538	0.152	1.09	68	1.94	287.1	-0.035	547.0	0.13	16.33
11	1.690	0.152	1.09	68	1.95	288.7	-0.036	547.0	0.14	16.72
12	1.843	0.153	1.09	68	1.96	289.3	-0.034	547.0	0.13	16.10
13	1.997	0.154	1.09	68	1.94	289.4	-0.032	547.0	0.13	15.92
14	2.150	0.153	1.09	68	1.94	289.6	-0.054	547.0	0.12	15.75
15	2.301	0.151	1.09	68	1.94	290.9	-0.034	547.0	0.12	15.80
16	2.454	0.153	1.09	68	1.94	291.6	-0.051	547.0	0.12	15.81
17	2.607	0.153	1.08	68	1.95	292.5	-0.034	547.0	0.11	15.87
18	2.761	0.154	1.10	69	1.95	293.3	-0.040	547.0	0.11	15.86
19	2.913	0.152	1.10	69	1.94	294.8	-0.040	547.0	0.11	16.13
20	3.067	0.154	1.10	69	1.94	296.1	-0.028	547.0	0.11	16.09
21	3.221	0.154	1.10	69	1.95	296.7	-0.043	547.0	0.11	15.85
22	3.375	0.154	1.10	69	1.95	266.7	-0.029	547.0	0.07	9.66
23	3.527	0.152	1.10	69	1.94	247.6	-0.034	516.0	0.05	7.17
24	3.681	0.154	1.09	69	1.94	235	-0.033	547.0	0.06	6.24
25	3.835	0.154	1.10	70	1.95	225.8	-0.030	547.0	0.07	5.29
26	3.989	0.154	1.10	70	1.95	221.2	-0.027	547.0	0.08	4.02
27	4.142	0.153	1.10	70	1.94	216.5	-0.026	547.0	0.06	4.91
28	4.296	0.154	1.10	70	1.94	212	-0.027	547.0	0.06	4.48
29	4.450	0.154	1.10	70	1.95	208.4	-0.027	547.0	0.05	3.92
30	4.603	0.153	1.10	70	1.94	204.9	-0.027	547.0	0.06	3.83
31	4.756	0.153	1.10	70	1.94	204.4	-0.022	495.0	0.05	3.33
32	4.910	0.154	1.09	70	1.95	203	-0.023	435.0	0.05	2.48

Train D - Ambient Background and Flue Gas Data**Run:** 3**Test Date:** 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
33	5.064	0.154	1.10	71	1.95	200.6	-0.021	547.0	0.09	2.27
34	5.218	0.154	1.10	71	1.96	197.8	-0.022	547.0	0.17	2.56
35	5.371	0.153	1.10	71	1.96	194.6	-0.023	547.0	0.23	2.88
36	5.525	0.154	1.09	71	1.94	191.6	-0.019	547.0	0.35	3.59
37	5.679	0.154	1.09	71	1.94	188.8	-0.022	547.0	0.49	4.41
38	5.832	0.153	1.09	71	1.95	185.8	-0.020	547.0	0.60	4.77
39	5.986	0.154	1.10	71	1.95	183	-0.014	547.0	0.78	5.41
40	6.141	0.155	1.10	71	1.95	180	-0.022	547.0	0.72	4.71
41	6.295	0.154	1.10	71	1.95	177.2	-0.019	547.0	0.88	5.28
42	6.448	0.153	1.10	72	1.95	174.7	-0.022	547.0	0.96	5.44
43	6.602	0.154	1.09	72	1.95	172.4	-0.021	547.0	0.96	5.25
44	6.756	0.154	1.10	72	1.96	170.1	-0.018	547.0	0.98	5.18
45	6.910	0.154	1.10	72	1.95	167.9	-0.022	547.0	1.03	5.28
46	7.064	0.154	1.10	72	1.94	165.4	-0.017	547.0	1.01	5.04
47	7.218	0.154	1.09	72	1.93	163.3	-0.019	547.0	0.99	4.91
48	7.373	0.155	1.10	72	1.94	161.3	-0.020	547.0	1.02	4.97
49	7.526	0.153	1.10	72	1.94	159.4	-0.019	547.0	1.01	4.83
50	7.680	0.154	1.10	72	1.94	157.2	-0.019	547.0	1.06	4.98
51	7.835	0.155	1.10	72	1.96	155	-0.017	547.0	1.02	4.77
52	7.989	0.154	1.10	72	1.96	153.9	-0.017	547.0	1.05	4.85
53	8.143	0.154	1.10	72	1.93	152.1	-0.009	547.0	1.05	4.80
54	8.297	0.154	1.09	72	1.93	150.4	-0.017	547.0	0.99	4.54
55	8.452	0.155	1.10	73	1.95	149	-0.016	547.0	0.91	4.15
56	8.605	0.153	1.10	73	1.97	147.1	-0.015	547.0	0.90	4.09
57	8.759	0.154	1.09	73	1.96	145.8	-0.015	547.0	0.98	4.45
58	8.914	0.155	1.10	73	1.95	144.5	-0.019	547.0	0.94	4.25
59	9.068	0.154	1.10	73	1.96	143.6	-0.013	547.0	0.91	4.09
60	9.222	0.154	1.10	73	1.94	141.8	-0.015	547.0	0.89	4.02
61	9.376	0.154	1.09	73	1.95	140.4	-0.016	547.0	0.91	4.10
62	9.531	0.155	1.10	73	1.95	139.2	-0.011	547.0	0.90	4.07
63	9.685	0.154	1.10	73	1.96	137.8	-0.015	547.0	0.87	3.92
64	9.839	0.154	1.09	73	1.95	136.6	-0.014	547.0	0.83	3.75
65	9.994	0.155	1.10	73	1.95	135.3	-0.016	547.0	0.82	3.67
66	10.148	0.154	1.10	73	1.94	133.5	-0.012	547.0	0.82	3.70
67	10.301	0.153	1.10	73	1.94	133.1	-0.014	547.0	0.81	3.64
68	10.456	0.155	1.09	73	1.95	132.1	-0.014	547.0	0.80	3.61

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
69	10.610	0.154	1.10	73	1.96	131.4	-0.009	547.0	0.79	3.58
70	10.764	0.154	1.10	74	1.93	130.8	-0.014	547.0	0.77	3.48
71	10.918	0.154	1.10	74	1.94	130.4	-0.014	547.0	0.76	3.44
72	11.073	0.155	1.10	74	1.94	128.5	-0.014	547.0	0.76	3.46
73	11.227	0.154	1.10	74	1.95	127.3	-0.008	547.0	0.73	3.29
74	11.381	0.154	1.10	74	1.95	126.6	-0.016	547.0	0.73	3.26
75	11.535	0.154	1.09	74	1.94	125.3	-0.009	547.0	0.72	3.22
76	11.690	0.155	1.10	74	1.95	124.4	-0.014	547.0	0.76	3.45
77	11.843	0.153	1.10	74	1.94	124.3	-0.013	547.0	0.74	3.36
78	11.998	0.155	1.09	74	1.96	123.3	-0.011	547.0	0.75	3.42
79	12.153	0.155	1.10	74	1.95	122	-0.009	547.0	0.71	3.22
80	12.307	0.154	1.10	74	1.95	121.3	-0.011	547.0	0.69	3.14
81	12.461	0.154	1.09	74	1.95	120.7	-0.014	547.0	0.73	3.31
82	12.615	0.154	1.09	74	1.95	120.2	-0.008	547.0	0.72	3.29
83	12.770	0.155	1.10	74	1.96	120	-0.010	547.0	0.71	3.25
84	12.923	0.153	1.10	74	1.96	119.8	-0.013	547.0	0.69	3.14
85	13.077	0.154	1.09	74	1.97	117.6	-0.012	547.0	0.70	3.18
86	13.232	0.155	1.10	74	1.95	117.1	-0.010	547.0	0.71	3.21
87	13.385	0.153	1.10	74	1.95	116.5	-0.007	547.0	0.71	3.24
88	13.539	0.154	1.09	74	1.94	116.3	-0.010	547.0	0.70	3.14
89	13.694	0.155	1.09	74	1.97	115.5	-0.009	547.0	0.70	3.18
90	13.849	0.155	1.10	74	1.95	115.1	-0.011	547.0	0.67	3.06
91	14.002	0.153	1.10	74	1.96	156	-0.024	547.0	2.09	8.76
92	14.157	0.155	1.09	75	1.97	148.9	-0.017	547.0	1.64	9.15
93	14.312	0.155	1.09	75	1.96	138	-0.011	547.0	1.39	7.76
94	14.465	0.153	1.09	75	1.96	130.8	-0.013	547.0	1.19	6.69
95	14.619	0.154	1.09	75	1.96	126.2	-0.007	547.0	1.05	5.86
96	14.774	0.155	1.09	75	1.96	123.6	-0.013	547.0	0.93	5.24
97	14.929	0.155	1.09	75	1.95	121.4	-0.011	547.0	0.80	4.54
98	15.082	0.153	1.10	75	1.95	118.9	-0.012	547.0	0.71	4.04
99	15.237	0.155	1.09	75	1.95	117.2	-0.007	547.0	0.68	3.86
100	15.391	0.154	1.09	75	1.96	116.2	-0.009	547.0	0.70	3.98
101	15.545	0.154	1.10	75	1.95	115.7	-0.010	547.0	0.62	3.53
102	15.699	0.154	1.09	75	1.96	115	-0.012	547.0	0.59	3.36
103	15.854	0.155	1.09	75	1.95	113.9	-0.008	547.0	0.55	3.18
104	16.009	0.155	1.10	75	1.97	113.6	-0.021	547.0	0.57	3.31

Train D - Ambient Background and Flue Gas Data**Run:** 3**Test Date:** 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
105	16.162	0.153	1.09	75	1.96	112.7	-0.010	547.0	0.54	3.15
106	16.317	0.155	1.09	75	1.94	112.1	-0.007	547.0	0.55	3.26
107	16.471	0.154	1.09	75	1.95	112	-0.012	547.0	0.55	3.26
108	16.625	0.154	1.09	75	1.96	111.9	-0.008	547.0	0.51	3.03
109	16.779	0.154	1.09	75	1.96	110.8	-0.007	547.0	0.53	3.21
110	16.934	0.155	1.09	75	1.97	110.9	-0.013	547.0	0.50	3.02
111	17.088	0.154	1.10	75	1.96	110	-0.006	547.0	0.51	3.12
112	17.241	0.153	1.09	75	1.95	109.8	-0.008	547.0	0.46	2.84
113	17.396	0.155	1.09	75	1.96	109.5	-0.013	547.0	0.49	2.99
114	17.551	0.155	1.09	76	1.95	108.4	-0.007	547.0	0.47	2.94
115	17.704	0.153	1.09	76	1.98	108.6	-0.011	547.0	0.47	2.95
116	17.858	0.154	1.09	76	1.96	108.2	-0.009	547.0	0.47	2.98
117	18.013	0.155	1.09	76	1.97	108.2	-0.012	547.0	0.46	2.94
118	18.168	0.155	1.09	76	1.95	107.8	-0.011	547.0	0.48	3.02
119	18.321	0.153	1.09	76	1.95	107.3	-0.008	547.0	0.46	2.89
120	18.475	0.154	1.08	76	1.97	107.2	-0.010	547.0	0.47	3.01
121	18.630	0.155	1.09	76	1.96	106.4	-0.008	547.0	0.43	2.75
122	18.784	0.154	1.09	76	1.96	150.3	-0.023	547.0	1.16	8.38
123	18.938	0.154	1.09	76	1.95	138.4	-0.014	547.0	1.49	8.74
124	19.093	0.155	1.09	76	1.97	162.3	-0.020	547.0	1.21	8.16
125	19.247	0.154	1.09	76	1.95	204.1	-0.018	547.0	0.88	14.63
126	19.401	0.154	1.09	76	1.98	237.8	-0.044	547.0	0.10	15.45
127	19.555	0.154	1.08	76	1.97	260.3	-0.035	547.0	0.08	15.80
128	19.710	0.155	1.09	76	1.97	275.1	-0.017	547.0	0.07	16.05
129	19.863	0.153	1.09	76	1.94	287.2	-0.037	547.0	0.07	16.83
130	20.018	0.155	1.09	76	1.97	294.7	-0.049	547.0	0.07	17.34
131	20.173	0.155	1.09	76	1.97	289	-0.035	547.0	0.07	16.72
132	20.327	0.154	1.09	76	1.96	286.9	-0.040	547.0	0.08	17.10
133	20.481	0.154	1.09	76	1.96	287.6	-0.028	547.0	0.08	17.40
134	20.636	0.155	1.09	76	1.97	289.8	-0.035	547.0	0.09	17.61
135	20.791	0.155	1.09	76	1.96	292.1	-0.032	547.0	0.10	17.84
136	20.944	0.153	1.09	76	1.95	294.1	-0.043	547.0	0.09	17.79
137	21.099	0.155	1.09	76	1.96	293	-0.026	547.0	0.07	16.59
138	21.254	0.155	1.09	76	1.97	295.1	-0.021	547.0	0.09	17.71
139	21.408	0.154	1.09	76	1.97	296.7	-0.021	547.0	0.08	17.71
140	21.562	0.154	1.09	76	1.95	295.3	-0.031	547.0	0.07	16.23

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
141	21.717	0.155	1.09	76	1.96	295.6	-0.033	547.0	0.07	17.43
142	21.872	0.155	1.09	76	1.98	296.3	-0.041	547.0	0.07	17.26
143	22.026	0.154	1.09	76	1.98	299.1	-0.038	547.0	0.07	16.98
144	22.180	0.154	1.09	76	1.96	296.4	-0.035	547.0	0.06	17.10
145	22.335	0.155	1.09	76	1.97	295.9	-0.042	547.0	0.05	17.13
146	22.489	0.154	1.09	76	1.95	298.9	-0.021	547.0	0.05	16.83
147	22.644	0.155	1.09	76	1.95	296.7	-0.031	505.0	0.04	14.09
148	22.799	0.155	1.09	76	1.95	301	-0.026	497.0	0.04	16.67
149	22.953	0.154	1.09	76	1.96	299.1	-0.058	367.0	0.03	13.90
150	23.107	0.154	1.09	76	1.97	297.9	-0.043	397.0	0.03	15.31
151	23.262	0.155	1.09	76	1.96	298.1	-0.040	377.0	0.03	16.53
152	23.417	0.155	1.09	76	1.95	299.4	-0.036	368.0	0.03	16.42
153	23.571	0.154	1.10	76	1.98	266.8	-0.034	196.0	0.01	10.60
154	23.726	0.155	1.09	77	1.94	248.8	-0.031	172.0	0.01	9.61
155	23.881	0.155	1.10	76	1.96	237	-0.029	215.0	0.02	9.44
156	24.034	0.153	1.10	76	1.94	227.8	-0.032	256.0	0.02	7.84
157	24.190	0.156	1.09	77	1.93	223.3	-0.028	547.0	0.07	7.50
158	24.345	0.155	1.09	77	1.97	218.3	-0.028	482.0	0.04	7.74
159	24.499	0.154	1.10	77	1.95	213.6	-0.032	332.0	0.03	6.43
160	24.653	0.154	1.09	77	1.97	210	-0.028	472.0	0.04	5.52
161	24.809	0.156	1.10	77	1.96	206.6	-0.027	547.0	0.05	4.97
162	24.963	0.154	1.10	77	1.95	207	-0.029	534.0	0.05	3.97
163	25.117	0.154	1.09	77	1.93	205.8	-0.027	505.0	0.05	3.62
164	25.272	0.155	1.09	77	1.97	203.7	-0.027	547.0	0.27	4.11
165	25.428	0.156	1.10	77	1.94	200.5	-0.021	547.0	0.46	4.96
166	25.581	0.153	1.10	77	1.95	197.2	-0.024	547.0	0.56	4.92
167	25.736	0.155	1.09	77	1.96	194.2	-0.024	547.0	0.65	4.98
168	25.892	0.156	1.09	77	1.95	191.2	-0.024	547.0	0.84	5.68
169	26.045	0.153	1.10	77	1.97	188.1	-0.023	547.0	0.85	5.48
170	26.201	0.156	1.10	77	1.96	185.3	-0.026	547.0	0.79	4.99
171	26.356	0.155	1.09	77	1.94	182.5	-0.022	547.0	0.73	4.52
172	26.510	0.154	1.10	77	1.95	179.7	-0.023	547.0	0.77	4.73
173	26.665	0.155	1.09	77	1.97	177	-0.018	547.0	0.68	4.18
174	26.820	0.155	1.10	77	1.95	174.9	-0.019	547.0	0.70	4.33
175	26.975	0.155	1.10	77	1.97	172.4	-0.019	547.0	0.64	3.93
176	27.129	0.154	1.09	77	1.96	169.8	-0.025	547.0	0.55	3.43

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
177	27.284	0.155	1.09	77	1.95	167.7	-0.021	547.0	0.49	3.09
178	27.439	0.155	1.10	77	1.95	165.6	-0.017	547.0	0.54	3.42
179	27.593	0.154	1.09	77	1.94	163.3	-0.020	547.0	0.50	3.20
180	27.747	0.154	1.09	77	1.96	161.7	-0.017	547.0	0.42	2.69
181	27.903	0.156	1.09	77	1.96	159.8	-0.015	547.0	0.40	2.61
182	28.056	0.153	1.10	77	1.98	157.9	-0.016	547.0	0.38	2.48
183	28.211	0.155	1.09	77	1.95	156.2	-0.016	547.0	0.40	2.63
184	28.366	0.155	1.10	77	1.95	154.6	-0.017	547.0	0.32	2.13
185	28.521	0.155	1.09	77	1.94	152.7	-0.018	547.0	0.34	2.25
186	28.675	0.154	1.09	77	1.94	150.6	-0.016	547.0	0.29	2.03
187	28.830	0.155	1.09	77	1.94	149.4	-0.018	547.0	0.30	2.08
188	28.985	0.155	1.10	77	1.95	147.5	-0.019	547.0	0.24	1.69
189	29.139	0.154	1.09	77	1.94	146	-0.015	547.0	0.25	1.78
190	29.294	0.155	1.09	77	1.97	144.6	-0.015	547.0	0.26	1.83
191	29.449	0.155	1.10	77	1.95	143.2	-0.010	547.0	0.24	1.70
192	29.603	0.154	1.10	77	1.94	141.8	-0.017	547.0	0.21	1.53
193	29.758	0.155	1.09	77	1.98	140.8	-0.013	547.0	0.21	1.53
194	29.913	0.155	1.09	77	1.97	140.4	-0.018	547.0	0.21	1.52
195	30.067	0.154	1.10	77	1.97	138.6	-0.019	547.0	0.20	1.43
196	30.222	0.155	1.09	77	1.96	137	-0.014	547.0	0.20	1.49
197	30.378	0.156	1.10	77	1.95	136.1	-0.013	547.0	0.18	1.34
198	30.532	0.154	1.09	77	1.97	135.2	-0.010	547.0	0.19	1.33
199	30.686	0.154	1.09	77	1.96	134.7	-0.012	547.0	0.17	1.29
200	30.842	0.156	1.09	77	1.95	132.9	-0.017	547.0	0.17	1.28
201	30.997	0.155	1.10	77	1.96	131.8	-0.012	547.0	0.16	1.13
202	31.151	0.154	1.10	77	1.97	131.4	-0.017	547.0	0.16	1.18
203	31.306	0.155	1.09	77	1.97	130.2	-0.011	547.0	0.16	1.16
204	31.461	0.155	1.10	77	1.95	129.8	-0.010	547.0	0.17	1.21
205	31.615	0.154	1.10	77	1.95	128.6	-0.016	547.0	0.16	1.14
206	31.770	0.155	1.09	77	1.94	127.7	-0.014	547.0	0.15	1.13
207	31.925	0.155	1.09	77	1.97	126.4	-0.016	547.0	0.15	1.16
208	32.079	0.154	1.10	77	1.96	125.5	-0.013	547.0	0.16	1.18
209	32.234	0.155	1.10	77	1.97	125.3	-0.012	547.0	0.15	1.08
210	32.390	0.156	1.10	77	1.95	124	-0.009	547.0	0.14	1.07
211	32.544	0.154	1.10	77	1.96	123	-0.014	547.0	0.15	1.14
212	32.698	0.154	1.09	77	1.95	122.4	-0.011	547.0	0.15	1.13

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
213	32.854	0.156	1.09	77	1.94	121.2	-0.012	547.0	0.14	1.07
214	33.009	0.155	1.10	77	1.97	121.3	-0.012	547.0	0.14	1.05
215	33.163	0.154	1.10	77	1.96	121	-0.010	547.0	0.15	1.11
216	33.318	0.155	1.09	77	1.96	121.2	-0.011	547.0	0.14	1.07
217	33.474	0.156	1.10	77	1.96	119.2	-0.010	547.0	0.15	1.12
218	33.628	0.154	1.10	77	1.94	119.2	-0.011	547.0	0.14	1.09
219	33.783	0.155	1.09	77	1.95	117.8	-0.010	547.0	0.14	1.05
220	33.938	0.155	1.10	77	1.97	117.1	-0.009	547.0	0.16	1.24
221	34.092	0.154	1.10	77	1.94	117	-0.013	547.0	0.15	1.15
222	34.247	0.155	1.10	77	1.94	167.7	-0.023	547.0	1.04	8.04
223	34.403	0.156	1.09	77	1.95	153	-0.012	547.0	1.56	8.48
224	34.557	0.154	1.10	77	1.95	142.3	-0.012	547.0	1.39	7.75
225	34.712	0.155	1.10	77	1.95	135.3	-0.014	547.0	1.20	6.96
226	34.867	0.155	1.10	77	1.95	130.3	-0.021	547.0	0.94	5.62
227	35.022	0.155	1.09	77	1.95	126.8	-0.012	547.0	0.83	5.06
228	35.176	0.154	1.09	77	1.96	123.8	-0.011	547.0	0.69	4.36
229	35.332	0.156	1.10	77	1.94	121.4	-0.013	547.0	0.64	4.04
230	35.487	0.155	1.10	77	1.95	119.2	-0.014	547.0	0.52	3.30
231	35.641	0.154	1.10	77	1.97	117.7	-0.009	547.0	0.48	3.07
232	35.796	0.155	1.09	77	1.96	116.8	-0.011	547.0	0.47	3.03
233	35.951	0.155	1.10	77	1.95	116.5	-0.013	547.0	0.44	2.85
234	36.105	0.154	1.10	77	1.95	115.4	-0.010	547.0	0.40	2.66
235	36.260	0.155	1.09	77	1.95	114.1	-0.012	547.0	0.37	2.42
236	36.415	0.155	1.09	77	1.95	113.6	-0.011	547.0	0.35	2.34
237	36.569	0.154	1.10	77	1.97	112.4	-0.010	547.0	0.31	2.09
238	36.724	0.155	1.10	77	1.96	112.7	-0.007	547.0	0.30	2.01
239	36.880	0.156	1.09	77	1.97	112.9	-0.009	547.0	0.28	1.95
240	37.034	0.154	1.10	77	1.97	111.6	-0.009	547.0	0.28	1.97
241	37.188	0.154	1.09	77	1.97	111.2	-0.011	547.0	0.27	1.88
242	37.344	0.156	1.10	77	1.97	110.5	-0.012	547.0	0.26	1.89
243	37.499	0.155	1.09	77	1.95	109.7	-0.009	547.0	0.24	1.74
244	37.652	0.153	1.10	77	1.97	108.8	-0.008	547.0	0.24	1.74
245	37.808	0.156	1.09	77	1.97	108.2	-0.008	547.0	0.23	1.66
246	37.963	0.155	1.10	77	1.95	107.7	-0.008	547.0	0.22	1.64
247	38.117	0.154	1.10	77	1.96	107	-0.008	547.0	0.22	1.66
248	38.272	0.155	1.09	77	1.95	106.7	-0.006	547.0	0.21	1.60

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
249	38.427	0.155	1.10	77	1.96	106.4	-0.012	547.0	0.20	1.56
250	38.581	0.154	1.10	77	1.97	106.4	-0.010	547.0	0.19	1.50
251	38.736	0.155	1.10	77	1.95	106.8	-0.010	547.0	0.19	1.46
252	38.891	0.155	1.09	77	1.95	105.7	-0.008	547.0	0.19	1.47
253	39.046	0.155	1.10	77	1.97	154.9	-0.015	547.0	0.81	7.40
254	39.203	0.157	1.09	77	1.97	140.5	-0.015	547.0	1.39	7.75
255	39.356	0.153	1.09	77	1.96	131.7	-0.016	547.0	1.20	6.87
256	39.511	0.155	1.10	77	1.95	125.3	-0.013	547.0	1.02	5.98
257	39.665	0.154	1.10	77	1.96	121.6	-0.010	547.0	0.90	5.43
258	39.820	0.155	1.09	77	1.97	119.3	-0.012	547.0	0.73	4.58
259	39.976	0.156	1.10	77	1.96	115.9	-0.011	547.0	0.63	3.99
260	40.129	0.153	1.10	77	1.95	113.9	-0.009	547.0	0.53	3.43
261	40.284	0.155	1.09	77	1.95	112.9	-0.011	547.0	0.48	3.12
262	40.440	0.156	1.10	77	1.95	111.8	-0.007	547.0	0.43	2.84
263	40.594	0.154	1.10	77	1.95	111	-0.010	547.0	0.40	2.65
264	40.752	0.158	1.09	77	1.96	108.4	-0.008	547.0	0.35	2.36
265	40.904	0.152	1.09	77	1.96	136	-0.024	547.0	0.33	2.31
266	41.058	0.154	1.10	77	1.96	171.4	-0.025	547.0	1.45	9.48
267	41.213	0.155	1.09	77	1.95	206.1	-0.028	547.0	0.68	15.06
268	41.369	0.156	1.10	77	1.97	239.4	-0.027	547.0	0.06	16.49
269	41.523	0.154	1.09	77	1.95	263.3	-0.031	473.0	0.04	15.86
270	41.678	0.155	1.10	77	1.95	276.3	-0.034	427.0	0.03	16.38
271	41.833	0.155	1.10	77	1.97	285	-0.037	502.0	0.04	16.23
272	41.988	0.155	1.10	77	1.97	292.1	-0.040	513.0	0.04	16.43
273	42.142	0.154	1.10	77	1.97	295.8	-0.031	526.0	0.04	16.27
274	42.300	0.158	1.10	77	1.95	291.5	-0.040	547.0	0.05	16.46
275	42.453	0.153	1.10	77	1.97	290	-0.039	547.0	0.05	16.69
276	42.607	0.154	1.10	77	1.97	287.5	-0.043	547.0	0.05	16.59
277	42.761	0.154	1.09	77	1.95	287.2	-0.037	547.0	0.05	16.58
278	42.917	0.156	1.09	77	1.95	287.9	-0.035	544.0	0.04	16.70
279	43.070	0.153	1.09	77	1.96	289.6	-0.043	547.0	0.04	16.90
280	43.225	0.155	1.09	77	1.96	291.2	-0.038	532.0	0.04	17.10
281	43.380	0.155	1.09	77	1.99	293.3	-0.037	538.0	0.04	17.42
282	43.535	0.155	1.09	77	1.97	292.7	-0.027	404.0	0.03	15.65
283	43.692	0.157	1.09	77	1.96	290.8	-0.043	447.0	0.03	15.93
284	43.846	0.154	1.09	77	1.98	290.9	-0.036	547.0	0.05	17.41

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time: 1579 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
285	43.998	0.152	1.10	77	1.92	294.8	-0.048	524.0	0.04	17.33
286	44.152	0.154	1.10	77	1.97	293.6	-0.029	366.0	0.02	14.74
287	44.307	0.155	1.09	77	1.94	296.4	-0.036	416.0	0.03	17.05
288	44.462	0.155	1.10	77	1.95	296.9	-0.038	367.0	0.03	16.70
289	44.616	0.154	1.09	77	1.96	296	-0.047	336.0	0.02	16.73
290	44.771	0.155	1.09	77	1.94	298.8	-0.036	343.0	0.03	16.77
291	44.926	0.155	1.09	77	1.96	296.6	-0.035	303.0	0.02	15.61
292	45.080	0.154	1.09	77	1.94	300.9	-0.038	322.0	0.02	16.52
293	45.238	0.158	1.09	77	1.97	300	-0.031	433.0	0.05	15.88
294	45.393	0.155	1.09	77	1.98	299.2	-0.037	486.0	0.02	14.35
295	45.545	0.152	1.10	77	1.94	287.9	-0.034	536.0	0.04	16.10
296	45.699	0.154	1.09	77	1.94	260.7	-0.033	229.0	0.02	10.64
297	45.854	0.155	1.10	77	1.95	244.8	-0.029	220.0	0.02	9.23
298	46.010	0.156	1.10	77	1.94	233.8	-0.031	278.0	0.02	9.85
299	46.163	0.153	1.10	77	1.94	226.8	-0.031	231.0	0.02	8.28
300	46.318	0.155	1.09	77	1.96	221.7	-0.030	547.0	0.07	9.45
301	46.474	0.156	1.10	77	1.97	216.8	-0.030	547.0	0.05	8.73
302	46.628	0.154	1.10	77	1.96	212.5	-0.030	495.0	0.04	7.29
303	46.786	0.158	1.09	77	1.95	208.9	-0.028	501.0	0.04	6.56
304	46.941	0.155	1.10	77	1.95	206.9	-0.029	499.0	0.05	5.69
305	47.095	0.154	1.09	77	1.98	206.9	-0.027	432.0	0.05	4.18
306	47.247	0.152	1.09	77	1.96	205.2	-0.028	547.0	0.22	4.69
307	47.403	0.156	1.10	77	1.95	202.4	-0.022	547.0	0.52	5.91
308	47.557	0.154	1.10	77	1.95	199.6	-0.026	547.0	0.83	6.98
309	47.711	0.154	1.09	77	1.94	196.4	-0.027	547.0	1.02	7.08
310	47.867	0.156	1.10	77	1.96	193.2	-0.022	547.0	1.14	7.10
311	48.022	0.155	1.09	77	1.95	190.2	-0.022	547.0	1.14	6.68
312	48.176	0.154	1.09	77	1.97	187.2	-0.023	547.0	1.19	6.68
313	48.334	0.158	1.09	77	1.96	184.4	-0.020	547.0	1.25	6.68
314	48.489	0.155	1.10	77	1.95	181.9	-0.023	547.0	1.21	6.30
315	48.643	0.154	1.09	77	1.97	179.6	-0.023	547.0	1.20	6.13
316	48.795	0.152	1.09	77	1.98	176.9	-0.024	547.0	1.21	6.21
317	48.951	0.156	1.09	77	1.92	174.4	-0.020	547.0	1.08	5.49
318	49.104	0.153	1.10	77	1.93	171.9	-0.019	547.0	0.97	4.99
319	49.260	0.156	1.09	77	1.95	169.7	-0.017	547.0	0.95	4.86
320	49.415	0.155	1.09	77	1.93	167.5	-0.022	547.0	0.94	4.82

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
321	49.569	0.154	1.10	77	1.97	165.1	-0.017	547.0	0.86	4.49
322	49.723	0.154	1.10	77	1.95	163.3	-0.022	547.0	0.83	4.40
323	49.882	0.159	1.09	77	1.97	161.3	-0.019	547.0	0.74	3.95
324	50.036	0.154	1.09	77	1.96	159.2	-0.022	547.0	0.72	3.88
325	50.190	0.154	1.09	77	1.96	157.3	-0.020	547.0	0.67	3.65
326	50.346	0.156	1.09	77	1.95	155.5	-0.022	547.0	0.65	3.52
327	50.498	0.152	1.10	77	1.97	154.2	-0.020	547.0	0.62	3.38
328	50.652	0.154	1.09	77	1.96	152.4	-0.021	547.0	0.55	3.09
329	50.807	0.155	1.09	77	1.94	151.2	-0.017	547.0	0.50	2.89
330	50.962	0.155	1.09	77	1.95	149.5	-0.021	547.0	0.53	2.95
331	51.116	0.154	1.09	77	1.97	148.3	-0.010	547.0	0.52	2.96
332	51.271	0.155	1.09	77	1.95	147	-0.016	547.0	0.51	2.92
333	51.428	0.157	1.09	77	1.94	145.1	-0.017	547.0	0.49	2.85
334	51.582	0.154	1.09	77	1.95	143.4	-0.018	547.0	0.44	2.48
335	51.737	0.155	1.09	77	1.94	142	-0.016	547.0	0.43	2.56
336	51.892	0.155	1.09	77	1.96	140.4	-0.015	547.0	0.41	2.48
337	52.045	0.153	1.09	77	1.97	139.8	-0.015	547.0	0.42	2.57
338	52.198	0.153	1.09	77	1.95	138.4	-0.018	547.0	0.39	2.31
339	52.353	0.155	1.09	77	1.94	137.2	-0.012	547.0	0.37	2.37
340	52.509	0.156	1.09	77	1.96	135.9	-0.010	547.0	0.40	2.52
341	52.663	0.154	1.09	77	1.94	135.2	-0.015	547.0	0.39	2.46
342	52.818	0.155	1.09	77	1.96	134.8	-0.015	547.0	0.36	2.32
343	52.976	0.158	1.10	77	1.95	133.3	-0.015	547.0	0.35	2.24
344	53.130	0.154	1.09	77	1.94	132	-0.014	547.0	0.33	2.23
345	53.284	0.154	1.09	77	1.97	131.2	-0.013	547.0	0.32	2.25
346	53.440	0.156	1.09	77	1.97	130.2	-0.007	547.0	0.35	2.35
347	53.593	0.153	1.10	77	1.98	129.1	-0.014	547.0	0.36	2.41
348	53.745	0.152	1.09	77	1.94	128.7	-0.013	547.0	0.33	2.29
349	53.901	0.156	1.09	77	1.94	127	-0.013	547.0	0.32	2.25
350	54.056	0.155	1.09	77	1.98	126.2	-0.010	547.0	0.32	2.30
351	54.210	0.154	1.09	77	1.93	125.7	-0.015	547.0	0.32	2.20
352	54.365	0.155	1.09	77	1.98	125.7	-0.016	547.0	0.33	2.33
353	54.523	0.158	1.09	77	1.98	124.5	-0.008	547.0	0.28	2.10
354	54.676	0.153	1.09	77	1.93	123.5	-0.012	547.0	0.29	2.13
355	54.832	0.156	1.09	77	1.97	123.2	-0.015	547.0	0.31	2.13
356	54.987	0.155	1.10	77	1.95	122.6	-0.014	547.0	0.32	2.40

Train D - Ambient Background and Flue Gas Data

Run:	3	Test Date:	2/26/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:03		
Total Sampling Time	1579 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
357	55.141	0.154	1.10	77	1.95	121.6	-0.010	547.0	0.29	2.10
358	55.293	0.152	1.09	77	1.97	121.1	-0.014	547.0	0.29	2.26
359	55.449	0.156	1.10	77	1.94	120.1	-0.013	547.0	0.30	2.23
360	55.603	0.154	1.10	77	1.94	119.6	-0.011	547.0	0.28	2.17
361	55.758	0.155	1.09	78	1.94	119.9	-0.010	547.0	0.31	2.36
362	55.913	0.155	1.09	77	1.96	118.4	-0.012	547.0	0.29	2.26
363	56.070	0.157	1.09	77	1.95	117.7	-0.010	547.0	0.30	2.36
364	56.225	0.155	1.09	78	1.98	136.4	-0.029	547.0	0.29	2.33
365	56.381	0.156	1.10	78	1.98	164.6	-0.021	547.0	1.59	9.74
366	56.535	0.154	1.09	78	1.97	150.5	-0.015	547.0	1.75	9.39
367	56.689	0.154	1.09	78	1.97	140.8	-0.013	547.0	1.63	8.76
368	56.845	0.156	1.09	78	1.96	134.1	-0.013	547.0	1.38	7.65
369	56.997	0.152	1.09	77	1.93	128.8	-0.014	547.0	1.17	6.65
370	57.151	0.154	1.10	78	1.96	125.6	-0.017	547.0	1.00	5.83
371	57.307	0.156	1.09	78	1.92	124.1	-0.011	547.0	0.84	4.92
372	57.462	0.155	1.09	78	1.94	121.6	-0.013	547.0	0.76	4.53
373	57.619	0.157	1.10	78	1.96	120.4	-0.015	547.0	0.67	4.03
374	57.774	0.155	1.09	78	1.95	119	-0.011	547.0	0.64	3.91
375	57.929	0.155	1.09	78	1.95	117.5	-0.010	547.0	0.56	3.47
376	58.083	0.154	1.10	78	1.93	116.7	-0.009	547.0	0.52	3.27
377	58.239	0.156	1.09	78	1.97	116.5	-0.009	547.0	0.46	2.90
378	58.394	0.155	1.09	77	1.97	116.3	-0.010	547.0	0.46	2.91
379	58.546	0.152	1.09	78	1.97	114.8	-0.011	547.0	0.44	2.80
380	58.700	0.154	1.09	78	1.97	114.2	-0.006	547.0	0.41	2.63
381	58.856	0.156	1.09	78	1.95	114.3	-0.010	547.0	0.37	2.52
382	59.011	0.155	1.10	78	1.95	112.7	-0.011	547.0	0.34	2.34
383	59.165	0.154	1.09	78	1.97	112.2	-0.009	547.0	0.33	2.25
384	59.323	0.158	1.10	78	1.96	111.9	-0.010	547.0	0.29	2.08
385	59.478	0.155	1.10	78	1.97	111	-0.009	547.0	0.29	2.06
386	59.633	0.155	1.09	78	1.96	110.6	-0.009	547.0	0.28	1.99
387	59.788	0.155	1.10	78	1.96	109.9	-0.012	547.0	0.28	2.13
388	59.944	0.156	1.10	78	1.96	109.6	-0.009	547.0	0.26	1.98
389	60.098	0.154	1.09	78	1.96	109.4	-0.010	547.0	0.24	1.91
390	60.250	0.152	1.09	78	1.96	109	-0.010	547.0	0.23	1.83
391	60.406	0.156	1.09	78	1.96	108.3	-0.011	547.0	0.23	1.92
392	60.560	0.154	1.10	77	1.94	107.8	-0.011	547.0	0.21	1.66

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
393	60.715	0.155	1.10	77	1.96	107.7	-0.004	547.0	0.19	1.72
394	60.873	0.158	1.09	77	1.96	108.1	-0.007	547.0	0.20	1.71
395	61.027	0.154	1.10	77	1.97	139.2	-0.031	547.0	0.21	1.74
396	61.183	0.156	1.09	78	1.94	150.9	-0.013	547.0	1.38	8.29
397	61.338	0.155	1.09	78	1.95	138.4	-0.012	547.0	1.39	7.37
398	61.492	0.154	1.10	78	1.97	130.3	-0.013	547.0	1.22	6.78
399	61.648	0.156	1.09	78	1.95	124.8	-0.010	547.0	1.01	5.89
400	61.803	0.155	1.09	78	1.95	120.7	-0.008	547.0	0.87	5.20
401	61.956	0.153	1.10	77	1.95	118.4	-0.012	547.0	0.75	4.62
402	62.110	0.154	1.10	78	1.96	115.5	-0.011	547.0	0.58	3.73
403	62.265	0.155	1.09	77	1.96	114.9	-0.013	547.0	0.56	3.63
404	62.423	0.158	1.10	77	1.94	113.3	-0.013	547.0	0.49	3.17
405	62.577	0.154	1.09	77	1.94	112	-0.011	547.0	0.48	3.26
406	62.733	0.156	1.10	77	1.97	110.8	-0.013	547.0	0.41	2.81
407	62.888	0.155	1.10	77	1.95	109.8	-0.005	547.0	0.40	2.80
408	63.042	0.154	1.10	77	1.97	109.2	-0.010	547.0	0.34	2.43
409	63.198	0.156	1.09	77	1.98	138	-0.020	547.0	0.33	2.36
410	63.353	0.155	1.10	77	1.94	174.5	-0.025	547.0	1.88	9.15
411	63.507	0.154	1.09	77	1.95	201	-0.028	547.0	1.55	13.38
412	63.660	0.153	1.09	77	1.93	231.6	-0.025	547.0	0.45	15.23
413	63.815	0.155	1.09	77	1.96	254.4	-0.028	547.0	0.12	15.34
414	63.969	0.154	1.10	77	1.93	268.3	-0.029	547.0	0.06	15.21
415	64.127	0.158	1.09	77	1.97	278.5	-0.041	547.0	0.07	15.74
416	64.283	0.156	1.09	77	1.98	285.2	-0.038	547.0	0.07	15.84
417	64.437	0.154	1.09	77	1.96	290.7	-0.034	547.0	0.07	16.02
418	64.592	0.155	1.09	77	1.96	295.1	-0.034	547.0	0.07	16.11
419	64.747	0.155	1.09	77	1.95	297.4	-0.041	547.0	0.08	16.12
420	64.902	0.155	1.10	77	1.96	291.1	-0.031	547.0	0.08	16.29
421	65.056	0.154	1.09	77	1.94	292.5	-0.050	547.0	0.09	16.26
422	65.212	0.156	1.10	77	1.94	289.6	-0.038	547.0	0.08	16.36
423	65.365	0.153	1.10	77	1.96	289.6	-0.040	547.0	0.06	16.48
424	65.519	0.154	1.10	77	1.97	290.4	-0.038	547.0	0.06	16.63
425	65.677	0.158	1.09	77	1.98	291.6	-0.036	547.0	0.06	16.70
426	65.832	0.155	1.10	77	1.96	292.6	-0.027	547.0	0.07	16.62
427	65.986	0.154	1.09	77	1.93	293	-0.029	547.0	0.06	16.64
428	66.141	0.155	1.09	77	1.98	294.8	-0.036	547.0	0.07	16.70

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
429	66.296	0.155	1.10	77	1.97	296.5	-0.040	547.0	0.06	16.94
430	66.450	0.154	1.10	77	1.97	297.1	-0.047	547.0	0.07	16.89
431	66.606	0.156	1.09	77	1.94	298.5	-0.020	547.0	0.07	16.85
432	66.761	0.155	1.09	77	1.95	299.9	-0.052	547.0	0.06	17.11
433	66.915	0.154	1.10	77	1.98	299.3	-0.040	547.0	0.07	16.92
434	67.067	0.152	1.09	77	1.97	298.3	-0.028	536.0	0.03	14.72
435	67.223	0.156	1.10	77	1.95	301.9	-0.044	547.0	0.06	16.93
436	67.380	0.157	1.10	77	1.96	300.5	-0.015	547.0	0.05	15.42
437	67.535	0.155	1.09	77	1.97	302.7	-0.040	547.0	0.04	16.36
438	67.690	0.155	1.09	77	1.98	303.2	-0.028	528.0	0.05	16.22
439	67.845	0.155	1.10	77	1.98	278.7	-0.031	490.0	0.03	13.88
440	67.999	0.154	1.09	77	1.95	256.1	-0.033	322.0	0.02	11.01
441	68.155	0.156	1.10	77	1.97	242	-0.031	375.0	0.03	9.69
442	68.310	0.155	1.10	77	1.95	232	-0.032	453.0	0.04	9.55
443	68.464	0.154	1.09	77	1.98	226	-0.031	508.0	0.05	7.54
444	68.617	0.153	1.09	77	1.94	220.9	-0.034	547.0	0.11	8.82
445	68.772	0.155	1.10	77	1.95	216	-0.032	547.0	0.06	7.29
446	68.929	0.157	1.10	78	1.97	212	-0.033	547.0	0.08	6.11
447	69.084	0.155	1.09	77	1.95	208.5	-0.029	547.0	0.08	5.58
448	69.239	0.155	1.10	77	1.98	208	-0.029	547.0	0.08	4.71
449	69.393	0.154	1.10	78	1.97	207.4	-0.023	547.0	0.09	3.62
450	69.549	0.156	1.09	78	1.94	205.3	-0.026	547.0	0.19	3.76
451	69.704	0.155	1.09	78	1.95	202.5	-0.020	547.0	0.35	4.54
452	69.858	0.154	1.10	77	1.97	199.6	-0.022	547.0	0.48	5.32
453	70.014	0.156	1.09	78	1.98	196.5	-0.023	547.0	0.56	5.49
454	70.169	0.155	1.09	77	1.95	193.6	-0.019	547.0	0.60	5.58
455	70.323	0.154	1.10	78	1.98	190.5	-0.024	547.0	0.67	5.89
456	70.476	0.153	1.09	78	1.94	187.8	-0.019	547.0	0.67	5.67
457	70.631	0.155	1.09	77	1.95	184.7	-0.021	547.0	0.64	5.33
458	70.788	0.157	1.10	77	1.96	181.8	-0.021	547.0	0.67	5.31
459	70.943	0.155	1.09	77	1.96	179.2	-0.022	547.0	0.64	5.07
460	71.099	0.156	1.10	78	1.95	176.7	-0.019	547.0	0.59	4.78
461	71.254	0.155	1.10	78	1.96	174	-0.019	547.0	0.50	4.19
462	71.408	0.154	1.09	78	1.95	171.5	-0.022	547.0	0.55	4.45
463	71.563	0.155	1.09	77	1.96	169.1	-0.014	547.0	0.48	4.03
464	71.718	0.155	1.10	78	1.98	166.9	-0.014	547.0	0.44	3.80

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
465	71.872	0.154	1.10	78	1.96	165.1	-0.017	547.0	0.40	3.45
466	72.027	0.155	1.09	78	1.97	163.2	-0.018	547.0	0.37	3.29
467	72.180	0.153	1.09	78	1.96	160.7	-0.014	547.0	0.36	3.16
468	72.337	0.157	1.09	78	1.97	158.8	-0.017	547.0	0.33	3.18
469	72.492	0.155	1.09	78	1.94	157.2	-0.021	547.0	0.31	2.86
470	72.647	0.155	1.09	78	1.95	155	-0.015	547.0	0.31	2.90
471	72.801	0.154	1.10	78	1.96	153.6	-0.017	547.0	0.29	2.72
472	72.957	0.156	1.09	78	1.97	151.5	-0.015	547.0	0.26	2.55
473	73.112	0.155	1.09	78	1.97	150.1	-0.016	547.0	0.24	2.40
474	73.266	0.154	1.10	78	1.97	148.7	-0.015	547.0	0.23	2.44
475	73.421	0.155	1.10	78	1.94	147	-0.010	547.0	0.22	2.25
476	73.577	0.156	1.10	78	1.96	146.2	-0.012	547.0	0.21	2.18
477	73.732	0.155	1.10	78	1.96	144.7	-0.017	547.0	0.20	2.18
478	73.886	0.154	1.09	78	1.98	143.1	-0.022	547.0	0.21	2.14
479	74.042	0.156	1.10	78	1.96	141.5	-0.015	547.0	0.20	2.13
480	74.197	0.155	1.10	78	1.97	140.1	-0.014	547.0	0.17	1.90
481	74.351	0.154	1.09	78	1.96	139	-0.013	547.0	0.17	1.96
482	74.506	0.155	1.09	78	1.97	137.5	-0.016	547.0	0.16	1.86
483	74.662	0.156	1.10	78	1.95	136.6	-0.012	547.0	0.15	1.80
484	74.816	0.154	1.10	78	1.96	135	-0.013	547.0	0.14	1.67
485	74.971	0.155	1.09	78	1.95	134.3	-0.017	547.0	0.14	1.60
486	75.127	0.156	1.10	78	1.95	132.8	-0.014	547.0	0.13	1.52
487	75.281	0.154	1.10	78	1.97	132.1	-0.013	547.0	0.12	1.50
488	75.436	0.155	1.09	78	1.96	131.6	-0.013	547.0	0.12	1.52
489	75.592	0.156	1.10	78	1.96	130.8	-0.012	547.0	0.11	1.59
490	75.746	0.154	1.10	78	1.96	129.7	-0.013	547.0	0.12	1.49
491	75.901	0.155	1.09	78	1.97	128.7	-0.016	547.0	0.12	1.42
492	76.057	0.156	1.09	78	1.96	127.9	-0.012	547.0	0.10	1.28
493	76.211	0.154	1.10	78	1.96	127.2	-0.010	547.0	0.10	1.33
494	76.366	0.155	1.10	78	1.98	126.7	-0.012	547.0	0.11	1.42
495	76.521	0.155	1.10	78	1.98	124.5	-0.009	547.0	0.11	1.30
496	76.676	0.155	1.10	78	1.98	124.2	-0.014	547.0	0.11	1.33
497	76.830	0.154	1.10	78	1.96	123.7	-0.014	547.0	0.11	1.43
498	76.986	0.156	1.10	78	1.94	123.3	-0.011	547.0	0.11	1.40
499	77.141	0.155	1.10	78	1.96	122.3	-0.012	547.0	0.11	1.36
500	77.295	0.154	1.09	78	1.97	121.4	-0.011	547.0	0.11	1.31

Train D - Ambient Background and Flue Gas Data

Run: 3 **Test Date:** 2/26/2025
Manufacturer: Central Boiler
Model: Classic Edge 760.1 **Meter Box Y Regression Offset:** 1.0074
Tracking No.: 2501 **Meter Box Y Regression Factor:** 0
Project No.: 0117WB044E **Meter Box Dynamic Y:** 1.007
Sample Box ID: 335

Test Start Time: 11:03
Total Sampling Time 1579 min
Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
501	77.451	0.156	1.10	78	1.99	120.3	-0.009	547.0	0.10	1.28
502	77.606	0.155	1.10	78	1.98	120.7	-0.012	547.0	0.10	1.25
503	77.760	0.154	1.09	78	1.96	119.8	-0.013	547.0	0.11	1.27
504	77.916	0.156	1.09	78	1.97	118.2	-0.010	547.0	0.11	1.30
505	78.071	0.155	1.10	78	1.95	118.3	-0.012	547.0	0.11	1.29
506	78.225	0.154	1.10	78	1.97	118	-0.010	547.0	0.12	1.30
507	78.380	0.155	1.09	78	1.96	117.4	-0.008	547.0	0.11	1.41
508	78.536	0.156	1.10	78	1.97	150.7	-0.031	547.0	0.11	1.36
509	78.690	0.154	1.10	78	1.95	158.1	-0.015	547.0	1.70	9.28
510	78.846	0.156	1.09	78	1.97	146.6	-0.014	547.0	1.45	8.06
511	79.001	0.155	1.09	78	1.96	138.5	-0.015	547.0	1.37	7.81
512	79.155	0.154	1.10	78	1.96	132.9	-0.014	547.0	1.15	6.81
513	79.311	0.156	1.10	78	1.96	128.6	-0.012	547.0	0.99	6.10
514	79.466	0.155	1.09	78	1.94	125.9	-0.007	547.0	0.76	4.78
515	79.621	0.155	1.10	78	1.97	123.8	-0.011	547.0	0.68	4.39
516	79.776	0.155	1.10	78	1.96	122.3	-0.013	547.0	0.62	4.00
517	79.932	0.156	1.10	78	1.96	120.1	-0.012	547.0	0.58	3.60
518	80.086	0.154	1.10	78	1.96	118.4	-0.015	547.0	0.50	3.25
519	80.241	0.155	1.10	78	1.96	117.5	-0.014	547.0	0.44	2.88
520	80.397	0.156	1.10	78	1.95	116.6	-0.013	547.0	0.43	2.85
521	80.552	0.155	1.09	78	1.96	115.2	-0.012	547.0	0.38	2.47
522	80.706	0.154	1.09	78	1.95	114.5	-0.007	547.0	0.37	2.45
523	80.862	0.156	1.10	78	1.97	114.4	-0.012	547.0	0.36	2.42
524	81.017	0.155	1.10	78	1.95	114	-0.011	547.0	0.31	2.11
525	81.171	0.154	1.09	78	1.95	112.3	-0.007	547.0	0.28	1.96
526	81.327	0.156	1.09	78	1.98	111.8	-0.007	547.0	0.27	1.86
527	81.482	0.155	1.10	78	1.98	112.4	-0.011	547.0	0.28	2.07
528	81.637	0.155	1.09	78	1.96	111.1	-0.009	547.0	0.25	1.78
529	81.792	0.155	1.09	78	1.96	110.3	-0.011	547.0	0.23	1.66
530	81.948	0.156	1.10	78	1.96	109.8	-0.009	547.0	0.23	1.62
531	82.102	0.154	1.10	78	1.97	109.1	-0.010	547.0	0.21	1.63
532	82.257	0.155	1.09	78	1.98	108.9	-0.010	547.0	0.21	1.53
533	82.413	0.156	1.10	78	1.95	109	-0.009	547.0	0.18	1.50
534	82.567	0.154	1.10	78	1.96	108.8	-0.012	547.0	0.18	1.40
535	82.722	0.155	1.09	78	1.95	108.6	-0.008	547.0	0.19	1.46
536	82.878	0.156	1.10	78	1.95	107.5	-0.011	547.0	0.17	1.34

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
537	83.032	0.154	1.10	78	1.95	107.3	-0.007	547.0	0.18	1.37
538	83.188	0.156	1.09	78	1.99	106.6	-0.008	547.0	0.16	1.29
539	83.343	0.155	1.10	78	1.97	143.6	-0.026	547.0	0.30	2.30
540	83.497	0.154	1.10	78	1.94	145.9	-0.015	547.0	1.52	7.87
541	83.653	0.156	1.10	78	1.98	135.7	-0.013	547.0	1.29	6.81
542	83.808	0.155	1.10	78	1.95	128.5	-0.016	547.0	1.15	6.23
543	83.963	0.155	1.10	78	1.97	123.6	-0.015	547.0	0.98	5.55
544	84.118	0.155	1.10	78	1.97	120.1	-0.006	547.0	0.89	5.20
545	84.274	0.156	1.10	78	1.97	117.6	-0.008	547.0	0.73	4.41
546	84.428	0.154	1.10	78	1.97	115.9	-0.011	547.0	0.62	3.76
547	84.583	0.155	1.10	78	1.97	113.4	-0.011	547.0	0.53	3.41
548	84.739	0.156	1.10	78	1.97	112.4	-0.014	547.0	0.48	3.05
549	84.894	0.155	1.10	78	1.94	111.7	-0.012	547.0	0.43	2.74
550	85.049	0.155	1.10	78	1.97	110.5	-0.010	547.0	0.39	2.64
551	85.205	0.156	1.10	78	1.98	109.7	-0.009	547.0	0.34	2.14
552	85.360	0.155	1.10	78	1.96	109.4	-0.008	547.0	0.31	2.09
553	85.514	0.154	1.10	78	1.96	108.4	-0.011	547.0	0.31	2.15
554	85.670	0.156	1.10	78	1.98	107	-0.009	547.0	0.28	1.94
555	85.825	0.155	1.10	78	1.94	107.4	-0.009	547.0	0.30	2.06
556	85.979	0.154	1.09	78	1.96	127.4	-0.025	547.0	0.28	1.97
557	86.135	0.156	1.10	78	1.98	167.9	-0.025	547.0	1.49	8.83
558	86.290	0.155	1.10	78	1.97	198.2	-0.024	547.0	3.38	11.71
559	86.444	0.154	1.10	78	1.96	230.7	-0.026	547.0	0.70	15.38
560	86.600	0.156	1.10	78	1.97	253.2	-0.029	547.0	0.17	14.94
561	86.756	0.156	1.10	78	1.96	269.5	-0.042	547.0	0.07	14.86
562	86.910	0.154	1.10	78	1.95	279.6	-0.036	546.0	0.05	15.32
563	87.065	0.155	1.09	78	1.97	288.2	-0.042	516.0	0.04	15.91
564	87.221	0.156	1.10	78	1.95	295.5	-0.033	547.0	0.05	16.42
565	87.375	0.154	1.10	78	1.96	288.8	-0.047	547.0	0.06	16.27
566	87.530	0.155	1.09	78	1.96	286.7	-0.037	547.0	0.05	16.31
567	87.686	0.156	1.10	78	1.98	287	-0.044	547.0	0.06	16.44
568	87.840	0.154	1.10	78	1.97	288.5	-0.049	547.0	0.05	16.70
569	87.996	0.156	1.09	78	1.94	291	-0.043	547.0	0.05	16.93
570	88.151	0.155	1.09	78	1.96	293.9	-0.030	547.0	0.06	17.35
571	88.305	0.154	1.10	78	1.95	293.5	-0.028	547.0	0.06	17.56
572	88.461	0.156	1.10	78	1.96	294.2	-0.035	547.0	0.06	16.68

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
573	88.616	0.155	1.09	78	1.98	295.6	-0.029	547.0	0.07	16.62
574	88.771	0.155	1.10	78	1.97	294.7	-0.039	479.0	0.05	15.32
575	88.926	0.155	1.10	78	1.96	294.2	-0.043	495.0	0.04	14.06
576	89.082	0.156	1.10	78	1.97	295.1	-0.054	547.0	0.04	13.95
577	89.236	0.154	1.10	78	1.94	295.6	-0.027	547.0	0.04	15.08
578	89.391	0.155	1.10	78	1.96	296.3	-0.048	547.0	0.02	15.03
579	89.547	0.156	1.10	78	1.96	299.1	-0.057	547.0	0.03	15.02
580	89.702	0.155	1.10	78	1.96	299.2	-0.031	547.0	0.04	16.28
581	89.856	0.154	1.10	78	1.95	297.2	-0.046	547.0	0.04	15.38
582	90.013	0.157	1.10	78	1.95	297.2	-0.043	534.0	0.04	15.35
583	90.168	0.155	1.10	78	1.98	297.6	-0.029	510.0	0.03	15.47
584	90.322	0.154	1.09	78	1.96	296.3	-0.036	501.0	0.02	15.97
585	90.478	0.156	1.10	78	1.95	298.5	-0.037	409.0	0.02	14.49
586	90.633	0.155	1.10	78	1.98	301.1	-0.036	325.0	0.03	14.38
587	90.787	0.154	1.10	78	1.96	276.8	-0.038	263.0	0.01	13.47
588	90.942	0.155	1.09	78	1.97	255.1	-0.031	500.0	0.04	13.01
589	91.098	0.156	1.10	78	1.97	241.6	-0.035	495.0	0.04	11.93
590	91.252	0.154	1.10	78	1.95	231.6	-0.034	547.0	0.08	12.70
591	91.407	0.155	1.09	78	1.97	225.1	-0.032	464.0	0.04	10.55
592	91.563	0.156	1.10	78	1.95	219.9	-0.030	547.0	0.18	12.37
593	91.717	0.154	1.10	78	1.95	215.2	-0.029	547.0	0.09	10.41
594	91.873	0.156	1.09	78	1.98	211.1	-0.032	547.0	0.06	8.73
595	92.028	0.155	1.10	78	1.96	207.5	-0.028	547.0	0.07	7.87
596	92.183	0.155	1.10	78	1.98	206.5	-0.028	547.0	0.08	6.68
597	92.338	0.155	1.10	78	1.97	206.1	-0.025	547.0	0.10	5.13
598	92.494	0.156	1.10	78	1.93	204.2	-0.026	547.0	0.42	5.95
599	92.648	0.154	1.10	78	1.99	201.4	-0.025	547.0	0.86	7.26
600	92.803	0.155	1.10	78	1.95	198.5	-0.024	547.0	1.20	8.06
601	92.959	0.156	1.09	78	1.97	195.5	-0.025	547.0	1.37	8.14
602	93.113	0.154	1.10	78	1.98	192.6	-0.021	547.0	1.51	8.29
603	93.269	0.156	1.10	78	1.99	189.7	-0.028	547.0	1.44	7.64
604	93.425	0.156	1.10	78	1.99	186.7	-0.023	547.0	1.45	7.60
605	93.579	0.154	1.10	78	1.99	183.8	-0.028	547.0	1.38	7.07
606	93.734	0.155	1.10	78	1.95	181.3	-0.020	547.0	1.26	6.51
607	93.890	0.156	1.10	78	1.96	178.6	-0.022	547.0	1.25	6.45
608	94.045	0.155	1.10	78	1.99	176.4	-0.018	547.0	1.29	6.56

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
609	94.200	0.155	1.10	78	1.95	173.9	-0.022	547.0	1.18	6.11
610	94.356	0.156	1.10	78	1.94	171.1	-0.021	547.0	1.11	5.84
611	94.510	0.154	1.10	78	1.94	168.6	-0.020	547.0	0.91	4.83
612	94.665	0.155	1.10	78	1.98	166.4	-0.019	547.0	0.84	4.55
613	94.821	0.156	1.10	78	1.98	164.4	-0.021	547.0	0.85	4.63
614	94.976	0.155	1.10	78	1.98	162.6	-0.019	547.0	0.76	4.23
615	95.130	0.154	1.10	78	1.96	160.7	-0.019	547.0	0.63	3.57
616	95.286	0.156	1.10	78	1.98	158.7	-0.019	547.0	0.61	3.58
617	95.441	0.155	1.10	78	1.95	156.6	-0.017	547.0	0.55	3.26
618	95.595	0.154	1.10	78	1.98	154.9	-0.017	547.0	0.54	3.25
619	95.751	0.156	1.10	78	1.97	153.3	-0.018	547.0	0.50	3.06
620	95.907	0.156	1.10	78	1.95	151.7	-0.019	547.0	0.45	2.75
621	96.061	0.154	1.10	78	1.98	150.1	-0.014	547.0	0.42	2.64
622	96.217	0.156	1.10	78	1.97	148.4	-0.021	547.0	0.40	2.52
623	96.372	0.155	1.10	78	1.98	146.6	-0.014	547.0	0.34	2.22
624	96.527	0.155	1.10	78	1.98	144.9	-0.015	547.0	0.34	2.23
625	96.682	0.155	1.10	78	1.96	143.5	-0.011	547.0	0.34	2.24
626	96.838	0.156	1.10	78	1.96	142.4	-0.016	547.0	0.32	2.16
627	96.992	0.154	1.10	78	1.96	140.4	-0.012	547.0	0.30	2.03
628	97.148	0.156	1.09	78	1.98	139	-0.019	547.0	0.28	1.92
629	97.304	0.156	1.10	78	1.95	137.9	-0.013	547.0	0.26	1.80
630	97.458	0.154	1.10	78	1.95	137	-0.013	547.0	0.27	1.89
631	97.613	0.155	1.10	78	1.96	135.6	-0.016	547.0	0.24	1.72
632	97.769	0.156	1.10	78	1.97	135.3	-0.015	547.0	0.23	1.61
633	97.923	0.154	1.10	78	1.97	134.7	-0.018	547.0	0.23	1.61
634	98.079	0.156	1.10	78	1.98	133.7	-0.012	547.0	0.21	1.49
635	98.235	0.156	1.10	78	1.96	132.4	-0.012	547.0	0.22	1.55
636	98.389	0.154	1.11	78	1.96	131.1	-0.015	547.0	0.20	1.43
637	98.545	0.156	1.10	78	1.99	130	-0.015	547.0	0.19	1.36
638	98.701	0.156	1.10	78	1.96	128.8	-0.014	547.0	0.17	1.27
639	98.855	0.154	1.10	78	1.96	127.9	-0.015	547.0	0.20	1.36
640	99.011	0.156	1.10	78	1.97	127.4	-0.013	547.0	0.18	1.32
641	99.166	0.155	1.10	78	1.97	126.9	-0.011	547.0	0.18	1.33
642	99.321	0.155	1.10	78	1.98	126.2	-0.012	547.0	0.19	1.37
643	99.476	0.155	1.10	78	1.98	125	-0.011	547.0	0.19	1.35
644	99.632	0.156	1.10	78	1.97	123.4	-0.010	547.0	0.18	1.31

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
645	99.786	0.154	1.10	78	1.99	123.3	-0.012	547.0	0.19	1.34
646	99.942	0.156	1.10	78	1.97	122.4	-0.009	547.0	0.18	1.34
647	100.098	0.156	1.10	78	1.98	122.3	-0.012	547.0	0.17	1.34
648	100.252	0.154	1.11	78	1.98	121.6	-0.011	547.0	0.20	1.38
649	100.408	0.156	1.10	78	1.95	120.5	-0.010	547.0	0.20	1.40
650	100.563	0.155	1.10	78	1.98	120.1	-0.011	547.0	0.19	1.34
651	100.718	0.155	1.10	78	1.99	118.7	-0.012	547.0	0.19	1.38
652	100.873	0.155	1.10	78	1.97	118.7	-0.011	547.0	0.20	1.37
653	101.029	0.156	1.10	78	1.95	118	-0.009	547.0	0.19	1.36
654	101.184	0.155	1.10	78	1.95	117.7	-0.011	547.0	0.19	1.52
655	101.339	0.155	1.10	78	1.95	117.4	-0.007	547.0	0.20	1.43
656	101.495	0.156	1.10	78	1.97	149.2	-0.029	547.0	0.20	1.38
657	101.649	0.154	1.10	78	1.97	159.7	-0.016	547.0	1.31	8.82
658	101.805	0.156	1.10	78	1.94	148.2	-0.022	547.0	1.10	7.66
659	101.960	0.155	1.10	78	1.98	139.8	-0.017	547.0	1.04	7.25
660	102.115	0.155	1.11	78	1.97	133.3	-0.013	547.0	0.92	6.51
661	102.270	0.155	1.10	78	1.95	129.3	-0.017	547.0	0.74	5.33
662	102.426	0.156	1.11	78	1.97	125.7	-0.016	547.0	0.64	4.63
663	102.581	0.155	1.10	78	1.98	123.6	-0.012	547.0	0.57	4.19
664	102.736	0.155	1.10	78	1.98	122.3	-0.015	547.0	0.49	3.68
665	102.892	0.156	1.10	78	1.98	119.8	-0.013	547.0	0.47	3.49
666	103.047	0.155	1.10	78	1.98	118.6	-0.013	547.0	0.43	3.19
667	103.202	0.155	1.10	78	1.99	117.4	-0.006	547.0	0.39	2.85
668	103.358	0.156	1.10	78	1.95	115.8	-0.012	547.0	0.37	2.73
669	103.513	0.155	1.10	78	1.96	115.5	-0.010	547.0	0.34	2.58
670	103.667	0.154	1.10	78	1.98	114.5	-0.012	547.0	0.35	2.56
671	103.823	0.156	1.10	78	1.97	113.6	-0.012	547.0	0.31	2.31
672	103.979	0.156	1.10	78	1.98	112.5	-0.012	547.0	0.30	2.43
673	104.133	0.154	1.10	78	1.97	112.3	-0.008	547.0	0.30	2.33
674	104.289	0.156	1.10	78	1.98	111.2	-0.009	547.0	0.27	2.19
675	104.444	0.155	1.11	78	1.98	110.8	-0.011	547.0	0.28	2.16
676	104.599	0.155	1.10	78	1.98	110.2	-0.013	547.0	0.24	1.92
677	104.755	0.156	1.10	78	1.96	110.3	-0.009	547.0	0.23	1.88
678	104.910	0.155	1.10	78	1.95	109.3	-0.011	547.0	0.23	1.84
679	105.065	0.155	1.10	78	1.96	109.4	-0.009	547.0	0.23	1.87
680	105.221	0.156	1.10	78	1.96	109	-0.010	547.0	0.21	1.75

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
681	105.376	0.155	1.11	78	1.98	108.5	-0.008	547.0	0.19	1.67
682	105.531	0.155	1.10	78	1.97	108.8	-0.010	547.0	0.20	1.64
683	105.687	0.156	1.11	78	1.96	108.3	-0.008	547.0	0.21	1.72
684	105.842	0.155	1.11	78	1.97	107.1	-0.007	547.0	0.20	1.72
685	105.997	0.155	1.10	78	1.98	106.5	-0.006	547.0	0.19	1.68
686	106.153	0.156	1.11	78	1.95	105.8	-0.012	547.0	0.18	1.61
687	106.308	0.155	1.11	78	1.97	140.4	-0.026	547.0	0.20	1.67
688	106.463	0.155	1.11	78	1.97	147.4	-0.016	547.0	1.46	8.02
689	106.619	0.156	1.10	78	1.99	136.8	-0.018	547.0	1.24	6.90
690	106.774	0.155	1.11	78	1.96	129.6	-0.012	547.0	1.06	6.18
691	106.929	0.155	1.10	78	1.97	124.6	-0.010	547.0	0.90	5.48
692	107.085	0.156	1.10	78	1.97	121.3	-0.011	547.0	0.76	4.83
693	107.240	0.155	1.11	78	1.95	118.9	-0.012	547.0	0.64	4.19
694	107.395	0.155	1.10	78	1.96	116.5	-0.010	547.0	0.50	3.41
695	107.551	0.156	1.10	78	1.96	115.3	-0.008	547.0	0.48	3.32
696	107.706	0.155	1.11	78	1.97	113.7	-0.013	547.0	0.46	3.19
697	107.861	0.155	1.10	78	1.97	111.5	-0.011	547.0	0.40	2.81
698	108.016	0.155	1.10	78	1.97	110.4	-0.010	547.0	0.34	2.42
699	108.172	0.156	1.10	78	1.99	109	-0.012	547.0	0.33	2.35
700	108.326	0.154	1.10	78	1.99	109.5	-0.010	547.0	0.31	2.30
701	108.482	0.156	1.10	78	1.97	108.3	-0.010	547.0	0.31	2.34
702	108.638	0.156	1.11	78	1.96	128.6	-0.017	547.0	0.28	2.05
703	108.792	0.154	1.10	78	1.95	166.6	-0.027	547.0	1.16	8.64
704	108.948	0.156	1.10	78	1.97	198.8	-0.021	547.0	1.44	11.74
705	109.104	0.156	1.11	78	1.96	231.3	-0.030	547.0	0.47	13.86
706	109.258	0.154	1.10	78	1.97	258.5	-0.030	547.0	0.06	15.45
707	109.414	0.156	1.10	78	1.98	278.2	-0.032	543.0	0.04	16.62
708	109.570	0.156	1.11	78	1.96	284.7	-0.031	476.0	0.04	16.72
709	109.725	0.155	1.11	78	1.94	284.7	-0.039	498.0	0.04	16.30
710	109.880	0.155	1.10	78	1.98	285.1	-0.036	547.0	0.05	16.66
711	110.036	0.156	1.11	78	1.98	286.6	-0.042	547.0	0.04	17.09
712	110.190	0.154	1.11	78	1.94	288.7	-0.040	547.0	0.06	17.50
713	110.346	0.156	1.10	78	1.97	284.1	-0.014	547.0	0.06	17.58
714	110.502	0.156	1.11	78	1.95	290.7	-0.041	547.0	0.05	17.29
715	110.656	0.154	1.10	78	1.98	290.2	-0.058	547.0	0.03	14.97
716	110.812	0.156	1.10	78	1.96	289.1	-0.018	547.0	0.07	17.55

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
717	110.968	0.156	1.11	78	1.98	288.1	-0.032	547.0	0.07	17.32
718	111.122	0.154	1.10	78	1.97	290.8	-0.035	547.0	0.06	17.37
719	111.278	0.156	1.10	78	1.96	296.3	-0.048	547.0	0.09	17.43
720	111.434	0.156	1.11	78	1.98	297.4	-0.035	547.0	0.09	17.19
721	111.588	0.154	1.10	78	1.94	297.5	-0.048	547.0	0.09	17.34
722	111.744	0.156	1.10	78	1.98	297.4	-0.039	524.0	0.06	15.77
723	111.900	0.156	1.11	78	1.97	297	-0.032	547.0	0.03	14.77
724	112.054	0.154	1.11	78	1.97	296.2	-0.043	547.0	0.06	16.89
725	112.209	0.155	1.10	78	1.95	295	-0.041	547.0	0.06	16.99
726	112.365	0.156	1.11	78	1.97	300.1	-0.036	547.0	0.06	16.92
727	112.520	0.155	1.11	78	1.96	301.8	-0.039	547.0	0.05	17.35
728	112.675	0.155	1.10	78	1.98	301.8	-0.031	444.0	0.02	14.36
729	112.831	0.156	1.11	78	1.97	301.8	-0.026	391.0	0.02	14.25
730	112.986	0.155	1.10	78	1.95	302	-0.056	518.0	0.03	14.75
731	113.141	0.155	1.10	78	1.98	304.1	-0.046	547.0	0.05	15.89
732	113.297	0.156	1.10	78	1.99	284.2	-0.031	397.0	0.01	13.95
733	113.452	0.155	1.10	78	1.96	260	-0.034	495.0	0.04	14.42
734	113.607	0.155	1.10	78	1.95	245.4	-0.032	547.0	0.05	13.66
735	113.763	0.156	1.10	78	1.95	234.8	-0.030	547.0	0.08	14.72
736	113.918	0.155	1.11	78	1.97	227.5	-0.033	547.0	0.05	12.41
737	114.073	0.155	1.10	78	1.98	222.2	-0.032	547.0	0.13	14.18
738	114.229	0.156	1.11	78	1.97	217	-0.033	547.0	0.10	12.22
739	114.384	0.155	1.11	78	1.96	212.8	-0.026	547.0	0.06	10.16
740	114.539	0.155	1.10	78	1.95	209.1	-0.031	547.0	0.06	9.26
741	114.695	0.156	1.10	78	1.95	207.4	-0.029	547.0	0.05	7.96
742	114.849	0.154	1.11	78	1.97	207.1	-0.028	547.0	0.09	6.05
743	115.005	0.156	1.10	78	1.96	205.3	-0.028	547.0	0.63	7.30
744	115.161	0.156	1.10	78	1.96	202.8	-0.025	547.0	1.32	8.94
745	115.315	0.154	1.10	78	1.96	199.8	-0.023	547.0	1.78	9.59
746	115.471	0.156	1.10	78	1.98	196.6	-0.027	547.0	2.15	10.14
747	115.627	0.156	1.10	78	1.96	193.5	-0.023	547.0	2.29	10.10
748	115.781	0.154	1.11	78	1.98	190.5	-0.026	547.0	2.24	9.57
749	115.937	0.156	1.10	78	1.98	187.6	-0.028	547.0	2.47	10.25
750	116.093	0.156	1.10	78	1.96	184.9	-0.021	547.0	2.32	9.48
751	116.248	0.155	1.11	78	1.98	181.9	-0.021	547.0	2.17	8.86
752	116.403	0.155	1.10	78	1.98	179.5	-0.021	547.0	1.96	8.03

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
753	116.559	0.156	1.11	78	1.96	176.9	-0.021	547.0	1.97	8.04
754	116.714	0.155	1.11	78	1.94	174.4	-0.023	547.0	1.90	7.81
755	116.869	0.155	1.10	78	1.98	172	-0.022	547.0	1.68	6.93
756	117.025	0.156	1.10	78	1.97	169.9	-0.021	547.0	1.61	6.71
757	117.180	0.155	1.11	78	1.96	167.6	-0.020	547.0	1.39	5.92
758	117.336	0.156	1.10	78	1.96	165.5	-0.020	547.0	1.40	6.01
759	117.492	0.156	1.10	78	1.98	163.3	-0.018	547.0	1.24	5.39
760	117.646	0.154	1.11	78	1.96	161	-0.016	547.0	1.14	4.99
761	117.802	0.156	1.10	78	1.98	159.3	-0.019	547.0	1.10	4.90
762	117.958	0.156	1.11	78	1.95	157	-0.018	547.0	0.96	4.36
763	118.112	0.154	1.11	78	1.97	155.2	-0.017	547.0	0.90	4.17
764	118.268	0.156	1.10	78	1.98	153.4	-0.019	547.0	0.83	3.90
765	118.424	0.156	1.10	78	1.96	151.9	-0.017	547.0	0.82	3.92
766	118.578	0.154	1.11	78	1.97	150.7	-0.014	547.0	0.72	3.47
767	118.734	0.156	1.10	78	1.97	149	-0.017	547.0	0.83	3.91
768	118.890	0.156	1.11	78	1.95	148.1	-0.019	547.0	0.73	3.59
769	119.044	0.154	1.11	78	1.96	146.1	-0.017	547.0	0.61	2.97
770	119.200	0.156	1.10	78	1.98	144.5	-0.013	547.0	0.58	2.87
771	119.356	0.156	1.11	78	1.96	143.3	-0.017	547.0	0.59	3.02
772	119.511	0.155	1.11	78	1.98	142.2	-0.020	547.0	0.54	2.74
773	119.666	0.155	1.10	78	1.96	140.9	-0.016	547.0	0.52	2.65
774	119.822	0.156	1.11	77	1.97	139.4	-0.015	547.0	0.51	2.61
775	119.977	0.155	1.11	78	1.97	138.2	-0.015	547.0	0.48	2.50
776	120.135	0.158	1.10	78	1.97	137.3	-0.015	547.0	0.45	2.31
777	120.288	0.153	1.10	78	1.97	136.5	-0.015	547.0	0.44	2.30
778	120.443	0.155	1.11	78	1.94	134.6	-0.013	547.0	0.40	2.13
779	120.599	0.156	1.10	78	1.99	133.5	-0.012	547.0	0.42	2.18
780	120.754	0.155	1.10	77	1.96	132	-0.010	547.0	0.39	2.04
781	120.909	0.155	1.11	78	1.99	131.6	-0.012	547.0	0.39	2.08
782	121.065	0.156	1.10	77	1.98	130.5	-0.014	547.0	0.35	1.85
783	121.221	0.156	1.10	77	1.97	129.1	-0.015	547.0	0.36	1.92
784	121.375	0.154	1.11	78	1.98	128.5	-0.015	547.0	0.37	1.92
785	121.531	0.156	1.10	77	1.96	127.9	-0.014	547.0	0.35	1.85
786	121.690	0.159	1.11	77	1.96	127.6	-0.011	547.0	0.33	1.79
787	121.841	0.151	1.11	77	1.98	126.4	-0.011	547.0	0.34	1.90
788	121.997	0.156	1.10	78	1.95	125	-0.015	547.0	0.34	1.85

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
789	122.153	0.156	1.11	77	1.96	124.4	-0.017	547.0	0.33	1.79
790	122.308	0.155	1.11	77	1.96	123.5	-0.014	547.0	0.32	1.77
791	122.464	0.156	1.10	77	1.95	121.7	-0.014	547.0	0.31	1.69
792	122.620	0.156	1.11	77	1.97	121.4	-0.014	547.0	0.34	1.81
793	122.774	0.154	1.11	77	1.98	121.1	-0.012	547.0	0.32	1.74
794	122.930	0.156	1.10	77	1.97	120	-0.014	547.0	0.30	1.72
795	123.086	0.156	1.11	77	1.98	119.8	-0.012	547.0	0.31	1.74
796	123.243	0.157	1.10	77	1.98	118.4	-0.010	547.0	0.32	1.76
797	123.399	0.156	1.10	77	1.96	118.9	-0.010	547.0	0.31	1.70
798	123.552	0.153	1.11	77	1.98	118.4	-0.012	547.0	0.33	1.83
799	123.707	0.155	1.11	77	1.99	117.3	-0.014	547.0	0.32	1.76
800	123.862	0.155	1.10	77	1.97	116.6	-0.014	547.0	0.33	1.80
801	124.018	0.156	1.11	77	1.95	147.4	-0.027	547.0	0.33	1.79
802	124.173	0.155	1.11	77	1.96	161.8	-0.020	547.0	1.41	8.33
803	124.328	0.155	1.10	77	1.96	149.8	-0.019	547.0	1.23	7.56
804	124.485	0.157	1.11	77	1.96	141.1	-0.021	547.0	1.14	7.24
805	124.639	0.154	1.11	77	1.97	134.9	-0.016	547.0	0.99	6.41
806	124.798	0.159	1.11	77	1.96	130.6	-0.015	547.0	0.86	5.58
807	124.953	0.155	1.11	77	1.96	126.5	-0.012	547.0	0.72	4.80
808	125.106	0.153	1.11	77	1.95	124.3	-0.008	547.0	0.60	4.02
809	125.261	0.155	1.10	77	1.97	122.3	-0.013	547.0	0.53	3.57
810	125.417	0.156	1.11	77	1.97	120.6	-0.010	547.0	0.50	3.41
811	125.572	0.155	1.11	77	1.97	118.4	-0.012	547.0	0.46	3.11
812	125.727	0.155	1.10	77	1.95	117.7	-0.010	547.0	0.41	2.77
813	125.884	0.157	1.11	77	1.98	116.5	-0.013	547.0	0.40	2.70
814	126.038	0.154	1.11	77	1.98	116	-0.009	547.0	0.39	2.59
815	126.194	0.156	1.10	77	1.98	114.6	-0.011	547.0	0.35	2.34
816	126.352	0.158	1.11	77	1.99	114.5	-0.013	547.0	0.33	2.29
817	126.507	0.155	1.11	77	1.98	113	-0.010	547.0	0.32	2.20
818	126.663	0.156	1.11	77	1.96	112.2	-0.013	547.0	0.30	2.07
819	126.816	0.153	1.11	77	1.98	111.3	-0.010	547.0	0.28	1.99
820	126.971	0.155	1.11	77	1.96	110.7	-0.003	547.0	0.30	2.10
821	127.126	0.155	1.10	77	1.96	111	-0.010	547.0	0.26	1.71
822	127.282	0.156	1.11	77	1.98	109.1	-0.015	547.0	0.25	1.78
823	127.437	0.155	1.11	77	1.96	109.3	-0.009	547.0	0.25	1.68
824	127.593	0.156	1.10	77	1.96	108.9	-0.011	547.0	0.24	1.75

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time: 1579 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
825	127.749	0.156	1.11	77	1.97	107.9	-0.009	547.0	0.21	1.54
826	127.905	0.156	1.11	77	1.96	107.3	-0.008	547.0	0.23	1.63
827	128.062	0.157	1.11	77	1.95	106.9	-0.008	547.0	0.23	1.61
828	128.217	0.155	1.11	77	1.94	106.6	-0.008	547.0	0.22	1.58
829	128.369	0.152	1.10	77	1.98	106.3	-0.008	547.0	0.20	1.55
830	128.525	0.156	1.10	77	1.97	106.2	-0.011	547.0	0.21	1.60
831	128.681	0.156	1.11	77	1.97	105.1	-0.011	547.0	0.21	1.54
832	128.836	0.155	1.11	77	1.97	138.2	-0.025	547.0	0.19	1.51
833	128.992	0.156	1.11	77	1.97	147.3	-0.017	547.0	1.06	6.51
834	129.148	0.156	1.11	77	1.95	136.8	-0.014	547.0	0.97	5.71
835	129.305	0.157	1.11	77	1.95	129.5	-0.009	547.0	0.84	5.27
836	129.461	0.156	1.10	77	1.98	124.2	-0.016	547.0	0.72	4.77
837	129.616	0.155	1.11	77	1.97	120.4	-0.007	547.0	0.61	4.10
838	129.772	0.156	1.11	77	1.96	117.3	-0.011	547.0	0.52	3.63
839	129.925	0.153	1.11	77	1.98	115.2	-0.010	547.0	0.46	3.31
840	130.080	0.155	1.11	77	1.97	113	-0.013	547.0	0.41	2.94
841	130.235	0.155	1.11	77	1.96	112	-0.008	547.0	0.35	2.58
842	130.392	0.157	1.11	77	1.96	110.6	-0.013	547.0	0.31	2.33
843	130.547	0.155	1.10	77	1.97	135.5	-0.023	547.0	0.32	2.39
844	130.702	0.155	1.11	77	1.97	169.8	-0.017	547.0	1.34	7.46
845	130.861	0.159	1.11	77	1.98	196.1	-0.024	547.0	2.12	9.62
846	131.015	0.154	1.11	77	1.98	221.2	-0.031	547.0	1.45	11.64
847	131.171	0.156	1.10	77	1.96	246.4	-0.025	547.0	0.69	13.14
848	131.327	0.156	1.11	77	1.96	265.7	-0.035	547.0	0.17	14.92
849	131.479	0.152	1.11	77	1.95	278.6	-0.033	547.0	0.07	15.73
850	131.634	0.155	1.11	77	1.99	285.2	-0.030	547.0	0.08	15.27
851	131.791	0.157	1.10	77	1.95	291.4	-0.032	547.0	0.06	15.35
852	131.946	0.155	1.11	77	1.96	297.2	-0.032	547.0	0.07	15.86
853	132.101	0.155	1.11	77	1.96	297.3	-0.029	547.0	0.09	15.92
854	132.257	0.156	1.11	77	1.98	293.8	-0.041	547.0	0.07	15.98
855	132.414	0.157	1.11	77	1.97	291.7	-0.046	547.0	0.09	16.21
856	132.570	0.156	1.11	77	1.97	291.7	-0.053	547.0	0.09	16.47
857	132.726	0.156	1.11	77	1.98	292.9	-0.025	547.0	0.10	16.92
858	132.880	0.154	1.11	77	1.95	294.8	-0.035	547.0	0.10	17.05
859	133.033	0.153	1.11	77	1.97	296.5	-0.037	547.0	0.11	16.82
860	133.189	0.156	1.11	77	1.96	294.5	-0.035	547.0	0.13	16.99

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
861	133.344	0.155	1.11	77	1.96	295	-0.033	547.0	0.14	17.28
862	133.500	0.156	1.11	77	1.96	290	-0.033	547.0	0.23	18.12
863	133.656	0.156	1.11	77	1.98	293.3	-0.040	547.0	0.13	16.99
864	133.811	0.155	1.11	77	1.95	293.8	-0.042	547.0	0.11	17.16
865	133.969	0.158	1.10	77	1.98	296.9	-0.038	547.0	0.09	16.06
866	134.125	0.156	1.11	77	1.97	297.4	-0.038	547.0	0.09	17.01
867	134.279	0.154	1.11	77	1.98	298.5	-0.034	547.0	0.08	15.97
868	134.435	0.156	1.10	77	1.98	298.9	-0.034	547.0	0.09	15.80
869	134.591	0.156	1.11	77	1.97	303.8	-0.053	547.0	0.11	16.51
870	134.743	0.152	1.11	77	1.96	302.9	-0.028	547.0	0.07	14.60
871	134.899	0.156	1.10	77	1.97	302.4	-0.042	547.0	0.07	14.55
872	135.055	0.156	1.11	77	1.98	302.3	-0.039	547.0	0.04	13.95
873	135.209	0.154	1.11	77	1.97	302.2	-0.039	547.0	0.05	14.82
874	135.365	0.156	1.10	77	1.97	302.6	-0.035	547.0	0.05	14.72
875	135.524	0.159	1.11	77	1.97	289	-0.036	547.0	0.03	13.70
876	135.678	0.154	1.11	77	1.98	262.5	-0.035	348.0	0.03	13.32
877	135.834	0.156	1.10	77	1.97	247.2	-0.033	474.0	0.04	12.98
878	135.990	0.156	1.11	77	1.97	236.2	-0.038	547.0	0.06	14.55
879	136.144	0.154	1.11	77	1.97	228.5	-0.031	547.0	0.06	12.30
880	136.297	0.153	1.10	77	1.97	223.2	-0.030	547.0	0.19	14.09
881	136.453	0.156	1.11	77	1.96	218	-0.031	547.0	0.13	12.83
882	136.608	0.155	1.11	77	1.97	213.7	-0.033	547.0	0.04	10.84
883	136.764	0.156	1.11	77	1.97	209.9	-0.030	472.0	0.04	9.77
884	136.920	0.156	1.10	77	1.97	207.7	-0.025	442.0	0.04	8.49
885	137.077	0.157	1.11	77	1.97	208.1	-0.023	482.0	0.06	6.39
886	137.233	0.156	1.10	77	1.98	206.5	-0.027	547.0	0.52	7.27
887	137.389	0.156	1.11	77	1.99	203.9	-0.029	547.0	1.27	9.24
888	137.543	0.154	1.11	77	1.97	200.9	-0.024	547.0	1.76	9.81
889	137.699	0.156	1.10	77	1.95	197.8	-0.029	547.0	2.08	10.15
890	137.852	0.153	1.11	77	1.98	195	-0.026	547.0	2.36	10.62
891	138.007	0.155	1.11	77	1.97	191.9	-0.027	547.0	2.35	10.12
892	138.163	0.156	1.10	77	1.96	188.8	-0.023	547.0	2.44	10.18
893	138.318	0.155	1.11	77	1.97	186	-0.019	547.0	2.39	9.84
894	138.473	0.155	1.11	77	1.97	183.1	-0.022	547.0	2.36	9.61
895	138.631	0.158	1.10	77	1.99	180.5	-0.022	547.0	2.20	8.88
896	138.787	0.156	1.11	77	1.97	177.9	-0.020	547.0	2.17	8.75

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
897	138.942	0.155	1.10	77	1.96	175.4	-0.023	547.0	1.94	7.88
898	139.097	0.155	1.10	77	1.98	173.2	-0.026	547.0	1.92	7.79
899	139.254	0.157	1.11	77	1.96	170.7	-0.022	547.0	1.64	6.74
900	139.408	0.154	1.11	77	1.98	168.3	-0.022	547.0	1.59	6.64
901	139.561	0.153	1.10	77	1.97	166.4	-0.023	547.0	1.55	6.44
902	139.717	0.156	1.10	77	1.98	164.1	-0.018	547.0	1.39	5.82
903	139.872	0.155	1.11	77	1.97	162.2	-0.019	547.0	1.33	5.68
904	140.030	0.158	1.10	77	1.98	160.2	-0.020	547.0	1.26	5.42
905	140.186	0.156	1.11	77	1.96	158.3	-0.019	547.0	1.15	5.02
906	140.341	0.155	1.10	77	1.97	156.2	-0.018	547.0	1.12	4.98
907	140.497	0.156	1.11	77	1.98	154.8	-0.020	547.0	1.04	4.67
908	140.652	0.155	1.11	77	1.97	153	-0.018	547.0	0.86	3.93
909	140.807	0.155	1.10	77	1.98	151.3	-0.020	547.0	0.86	3.94
910	140.960	0.153	1.10	77	1.97	149.4	-0.017	547.0	0.81	3.74
911	141.116	0.156	1.11	77	1.97	147.9	-0.018	547.0	0.81	3.81
912	141.271	0.155	1.11	77	1.97	146.5	-0.018	547.0	0.78	3.65
913	141.427	0.156	1.10	77	1.98	144.9	-0.015	547.0	0.70	3.35
914	141.585	0.158	1.11	77	1.99	143.7	-0.014	547.0	0.67	3.21
915	141.740	0.155	1.11	77	1.97	142.7	-0.020	547.0	0.64	3.15
916	141.896	0.156	1.11	77	1.96	141.4	-0.014	547.0	0.59	2.85
917	142.052	0.156	1.11	77	1.95	140.5	-0.015	547.0	0.61	3.01
918	142.206	0.154	1.11	77	1.98	138.6	-0.017	547.0	0.54	2.74
919	142.363	0.157	1.11	77	1.97	137.2	-0.016	547.0	0.57	2.88
920	142.516	0.153	1.11	77	1.97	136.2	-0.014	547.0	0.50	2.63
921	142.670	0.154	1.11	77	1.98	135.6	-0.015	547.0	0.51	2.63
922	142.826	0.156	1.10	77	1.98	134.2	-0.012	547.0	0.51	2.61
923	142.984	0.158	1.11	77	1.96	133.2	-0.016	547.0	0.44	2.30
924	143.139	0.155	1.11	77	1.96	132.5	-0.012	547.0	0.47	2.47
925	143.295	0.156	1.11	77	1.98	131.6	-0.015	547.0	0.40	2.24
926	143.450	0.155	1.11	77	1.99	130.8	-0.012	547.0	0.42	2.25
927	143.605	0.155	1.11	77	1.96	129.7	-0.013	547.0	0.43	2.24
928	143.762	0.157	1.11	77	1.97	128.9	-0.014	547.0	0.42	2.29
929	143.917	0.155	1.11	77	1.97	127.7	-0.015	547.0	0.40	2.14
930	144.069	0.152	1.11	77	1.98	126.8	-0.011	547.0	0.36	2.06
931	144.226	0.157	1.11	77	1.97	126.2	-0.011	547.0	0.40	2.21
932	144.381	0.155	1.11	77	1.96	124.9	-0.017	547.0	0.38	2.09

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time: 1579 min

Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
933	144.539	0.158	1.11	77	1.97	123.5	-0.011	547.0	0.39	2.12
934	144.695	0.156	1.11	77	1.98	123.3	-0.012	547.0	0.37	2.00
935	144.850	0.155	1.11	77	1.97	122.4	-0.012	547.0	0.38	2.08
936	145.005	0.155	1.11	77	1.97	121.6	-0.012	547.0	0.35	1.96
937	145.161	0.156	1.10	77	1.97	120.9	-0.018	547.0	0.36	2.01
938	145.316	0.155	1.11	77	1.97	119.8	-0.013	547.0	0.37	2.03
939	145.472	0.156	1.11	77	1.97	120	-0.013	547.0	0.38	2.01
940	145.625	0.153	1.11	77	1.98	119.4	-0.012	547.0	0.35	1.94
941	145.781	0.156	1.11	77	1.96	118.1	-0.019	547.0	0.36	2.01
942	145.935	0.154	1.10	77	1.97	117.8	-0.010	547.0	0.35	1.94
943	146.094	0.159	1.10	77	1.95	117.3	-0.013	547.0	0.36	2.02
944	146.249	0.155	1.11	77	1.97	123.9	-0.025	547.0	0.36	1.99
945	146.405	0.156	1.10	77	1.99	164.8	-0.019	547.0	1.57	9.07
946	146.561	0.156	1.11	77	1.96	151.8	-0.021	547.0	1.38	8.90
947	146.715	0.154	1.11	77	1.95	142.6	-0.019	547.0	1.38	8.70
948	146.871	0.156	1.10	77	1.95	136.1	-0.015	547.0	1.27	8.04
949	147.027	0.156	1.10	77	1.96	131.8	-0.014	547.0	1.05	6.65
950	147.182	0.155	1.11	77	1.96	128.7	-0.013	547.0	0.88	5.64
951	147.335	0.153	1.11	77	1.95	125.6	-0.013	547.0	0.72	4.66
952	147.491	0.156	1.11	77	1.97	122.7	-0.017	547.0	0.66	4.11
953	147.648	0.157	1.11	77	1.98	120.6	-0.006	547.0	0.63	4.10
954	147.804	0.156	1.10	77	1.95	119.2	-0.007	547.0	0.51	3.41
955	147.960	0.156	1.11	77	1.97	118	-0.010	547.0	0.50	3.32
956	148.115	0.155	1.11	77	1.96	116.9	-0.010	547.0	0.47	3.09
957	148.271	0.156	1.10	77	1.95	116.3	-0.007	547.0	0.42	2.81
958	148.427	0.156	1.11	77	1.96	116.2	-0.014	547.0	0.38	2.52
959	148.582	0.155	1.11	77	1.96	115.3	-0.012	547.0	0.38	2.52
960	148.737	0.155	1.10	77	1.95	114.5	-0.010	547.0	0.35	2.33
961	148.891	0.154	1.10	77	1.95	113	-0.010	547.0	0.33	2.23
962	149.046	0.155	1.11	77	1.97	112.8	-0.009	547.0	0.31	2.22
963	149.204	0.158	1.10	77	1.98	112.2	-0.013	547.0	0.34	2.22
964	149.360	0.156	1.11	77	1.97	111.1	-0.007	547.0	0.30	2.06
965	149.515	0.155	1.11	77	1.98	110.9	-0.009	547.0	0.29	2.03
966	149.670	0.155	1.10	77	1.96	110.2	-0.010	547.0	0.25	1.78
967	149.827	0.157	1.11	77	1.95	109.6	-0.010	547.0	0.27	1.94
968	149.981	0.154	1.11	77	1.94	109.5	-0.008	547.0	0.27	1.84

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
969	150.137	0.156	1.10	77	1.97	108.8	-0.009	547.0	0.24	1.70
970	150.293	0.156	1.11	77	1.95	107.7	-0.005	547.0	0.23	1.64
971	150.445	0.152	1.11	77	1.94	107.3	-0.009	547.0	0.23	1.66
972	150.601	0.156	1.10	77	1.98	107.1	-0.009	547.0	0.21	1.50
973	150.759	0.158	1.11	77	1.97	106.1	-0.010	547.0	0.21	1.52
974	150.914	0.155	1.11	77	1.95	106.7	-0.007	547.0	0.23	1.68
975	151.070	0.156	1.11	77	1.97	137.4	-0.027	547.0	0.21	1.51
976	151.226	0.156	1.11	77	1.96	150.4	-0.016	547.0	1.24	7.43
977	151.381	0.155	1.11	77	1.95	139.1	-0.015	547.0	1.24	6.79
978	151.537	0.156	1.11	77	1.97	131.4	-0.015	547.0	1.08	6.47
979	151.692	0.155	1.11	77	1.97	126.3	-0.014	547.0	0.97	5.87
980	151.847	0.155	1.11	77	1.97	122.2	-0.011	547.0	0.81	5.21
981	152.003	0.156	1.11	77	1.99	119.5	-0.011	547.0	0.69	4.60
982	152.157	0.154	1.11	77	1.95	116.5	-0.011	547.0	0.59	4.04
983	152.314	0.157	1.11	77	1.98	114.4	-0.010	547.0	0.52	3.58
984	152.470	0.156	1.11	77	1.97	112.1	-0.013	547.0	0.46	3.09
985	152.625	0.155	1.11	77	1.99	111.3	-0.007	547.0	0.43	3.02
986	152.781	0.156	1.11	77	1.96	111	-0.010	547.0	0.38	2.80
987	152.937	0.156	1.11	77	1.99	109.6	-0.012	547.0	0.34	2.53
988	153.092	0.155	1.11	77	1.97	108.6	-0.009	547.0	0.31	2.41
989	153.247	0.155	1.11	77	1.97	107.7	-0.009	547.0	0.31	2.27
990	153.404	0.157	1.11	77	1.97	107.6	-0.011	547.0	0.29	2.16
991	153.558	0.154	1.11	77	1.96	106.6	-0.007	547.0	0.27	2.05
992	153.714	0.156	1.11	77	1.98	106.5	-0.011	547.0	0.26	1.97
993	153.870	0.156	1.10	77	1.98	106.5	-0.009	547.0	0.24	1.90
994	154.025	0.155	1.11	77	1.96	133.6	-0.019	547.0	0.25	1.88
995	154.181	0.156	1.11	77	1.96	169	-0.027	547.0	1.18	7.48
996	154.337	0.156	1.11	77	1.96	198.9	-0.025	547.0	1.21	11.23
997	154.491	0.154	1.11	77	1.98	228.1	-0.034	547.0	0.51	13.41
998	154.647	0.156	1.11	77	1.98	254.3	-0.030	547.0	0.14	14.51
999	154.803	0.156	1.11	77	1.97	271	-0.037	547.0	0.06	14.69
1000	154.958	0.155	1.11	77	1.98	280.6	-0.035	547.0	0.06	14.64
1001	155.114	0.156	1.10	77	1.98	286.7	-0.038	547.0	0.06	14.81
1002	155.270	0.156	1.11	77	1.96	291.8	-0.033	547.0	0.07	15.17
1003	155.424	0.154	1.11	77	1.98	296.2	-0.038	547.0	0.08	15.07
1004	155.580	0.156	1.11	77	1.98	298.6	-0.039	547.0	0.07	15.36

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1005	155.736	0.156	1.11	77	1.95	301.6	-0.041	547.0	0.07	15.39
1006	155.891	0.155	1.11	77	1.97	294.8	-0.038	547.0	0.08	15.66
1007	156.047	0.156	1.10	77	1.99	298.8	-0.033	547.0	0.10	16.15
1008	156.203	0.156	1.11	77	1.98	295.6	-0.041	547.0	0.09	16.35
1009	156.358	0.155	1.11	77	1.97	294.9	-0.051	547.0	0.10	16.17
1010	156.514	0.156	1.10	77	1.98	295.4	-0.034	547.0	0.10	16.42
1011	156.670	0.156	1.11	77	1.97	296.2	-0.048	547.0	0.10	16.34
1012	156.825	0.155	1.11	77	1.98	298.1	-0.033	547.0	0.10	16.45
1013	156.980	0.155	1.10	77	1.97	300	-0.039	547.0	0.09	16.51
1014	157.137	0.157	1.11	77	1.96	301.3	-0.039	547.0	0.11	16.60
1015	157.291	0.154	1.11	77	1.95	302.5	-0.030	547.0	0.10	16.55
1016	157.447	0.156	1.11	77	1.97	303.4	-0.042	547.0	0.11	16.65
1017	157.603	0.156	1.11	77	1.96	304.5	-0.041	547.0	0.12	16.68
1018	157.758	0.155	1.11	77	1.97	306.2	-0.033	547.0	0.10	16.88
1019	157.914	0.156	1.10	77	1.96	306.4	-0.044	547.0	0.12	17.01
1020	158.070	0.156	1.11	77	1.94	307.3	-0.023	547.0	0.13	17.49
1021	158.224	0.154	1.10	77	1.99	307.5	-0.043	547.0	0.09	14.63
1022	158.380	0.156	1.11	77	1.98	309.7	-0.037	547.0	0.10	16.31
1023	158.536	0.156	1.11	77	1.97	310.5	-0.037	547.0	0.10	16.30
1024	158.690	0.154	1.11	77	1.97	275.1	-0.036	547.0	0.06	13.36
1025	158.846	0.156	1.11	77	1.97	256.2	-0.038	547.0	0.10	17.04
1026	159.002	0.156	1.11	77	1.96	243.4	-0.028	547.0	0.52	20.24
1027	159.157	0.155	1.11	77	1.95	233.9	-0.040	547.0	0.35	19.42
1028	159.313	0.156	1.11	77	1.97	227.6	-0.033	547.0	1.48	19.53
1029	159.469	0.156	1.11	77	1.99	222	-0.030	547.0	1.68	20.70
1030	159.623	0.154	1.11	77	1.97	217.4	-0.034	547.0	0.69	19.15
1031	159.780	0.157	1.11	77	1.96	213.4	-0.030	547.0	0.56	17.38
1032	159.935	0.155	1.11	77	1.98	209.9	-0.025	547.0	0.45	15.68
1033	160.090	0.155	1.11	77	1.98	210	-0.025	547.0	0.28	11.79
1034	160.247	0.157	1.11	77	1.95	208.8	-0.025	547.0	2.15	13.26
1035	160.402	0.155	1.11	77	1.99	206.7	-0.031	547.0	4.18	15.59
1036	160.557	0.155	1.11	77	1.98	204	-0.030	547.0	5.23	16.62
1037	160.713	0.156	1.11	77	1.96	201	-0.025	547.0	5.48	16.91
1038	160.868	0.155	1.11	77	1.95	198	-0.027	547.0	5.48	16.67
1039	161.023	0.155	1.11	77	1.99	194.9	-0.026	547.0	5.48	16.67
1040	161.180	0.157	1.11	77	1.99	192	-0.021	547.0	5.48	16.10

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time: 1579 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1041	161.335	0.155	1.11	77	1.98	189.2	-0.025	547.0	5.48	15.47
1042	161.490	0.155	1.11	77	1.95	186.3	-0.027	547.0	5.28	14.52
1043	161.646	0.156	1.11	77	1.95	183.7	-0.026	547.0	5.32	14.73
1044	161.801	0.155	1.11	77	1.97	181.1	-0.022	547.0	4.75	13.16
1045	161.957	0.156	1.11	77	1.95	178.5	-0.023	547.0	4.63	12.95
1046	162.113	0.156	1.11	77	1.96	176.1	-0.023	547.0	4.55	12.86
1047	162.267	0.154	1.11	77	1.98	173.8	-0.023	547.0	4.14	11.78
1048	162.423	0.156	1.11	77	1.99	171.5	-0.021	547.0	3.56	10.34
1049	162.579	0.156	1.11	77	1.99	169.5	-0.022	547.0	3.57	10.48
1050	162.734	0.155	1.11	77	1.99	167.8	-0.021	547.0	3.40	10.10
1051	162.890	0.156	1.11	77	1.98	165.4	-0.019	547.0	3.05	9.18
1052	163.046	0.156	1.11	77	1.98	163.4	-0.021	547.0	3.00	9.12
1053	163.200	0.154	1.11	77	1.98	161.3	-0.016	547.0	2.84	8.78
1054	163.356	0.156	1.11	77	1.96	159.5	-0.024	547.0	2.55	7.99
1055	163.512	0.156	1.11	77	1.98	157.1	-0.014	547.0	2.40	7.62
1056	163.667	0.155	1.11	77	1.98	155	-0.018	547.0	2.40	7.74
1057	163.823	0.156	1.10	77	1.95	153.8	-0.018	547.0	2.33	7.60
1058	163.979	0.156	1.11	77	1.95	152.2	-0.017	547.0	2.18	7.25
1059	164.134	0.155	1.11	77	1.96	150.7	-0.017	547.0	1.93	6.54
1060	164.290	0.156	1.11	77	1.99	149.2	-0.020	547.0	1.80	6.19
1061	164.446	0.156	1.11	77	1.95	147.6	-0.015	547.0	1.88	6.55
1062	164.600	0.154	1.11	77	1.95	146.2	-0.015	547.0	1.74	6.07
1063	164.756	0.156	1.10	77	1.97	144.8	-0.013	547.0	1.68	5.96
1064	164.912	0.156	1.11	77	1.96	143.2	-0.015	547.0	1.55	5.61
1065	165.067	0.155	1.11	77	1.99	142.1	-0.017	547.0	1.53	5.65
1066	165.222	0.155	1.10	77	1.95	140.4	-0.017	547.0	1.51	5.58
1067	165.379	0.157	1.12	77	1.99	139.2	-0.016	547.0	1.41	5.28
1068	165.533	0.154	1.12	77	1.95	138.5	-0.014	547.0	1.38	5.20
1069	165.689	0.156	1.11	77	1.96	137	-0.017	547.0	1.28	4.91
1070	165.845	0.156	1.12	77	1.99	136.2	-0.015	547.0	1.31	5.03
1071	166.000	0.155	1.11	77	1.97	135	-0.016	547.0	1.31	5.03
1072	166.156	0.156	1.10	77	1.95	134	-0.014	547.0	1.12	4.44
1073	166.312	0.156	1.11	77	1.96	133.8	-0.017	547.0	1.15	4.52
1074	166.467	0.155	1.11	77	1.96	132.9	-0.016	547.0	1.19	4.75
1075	166.623	0.156	1.11	77	1.96	131.5	-0.022	547.0	1.19	4.67
1076	166.779	0.156	1.11	77	1.98	130.1	-0.012	547.0	1.09	4.36

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time: 1579 min
 Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1077	166.933	0.154	1.11	77	1.99	129.3	-0.017	547.0	1.07	4.27
1078	167.089	0.156	1.11	77	1.96	128.4	-0.008	547.0	0.99	4.01
1079	167.245	0.156	1.11	77	1.95	127	-0.012	547.0	0.99	4.00
1080	167.400	0.155	1.10	77	1.95	126.5	-0.012	547.0	0.86	3.53
1081	167.556	0.156	1.11	77	1.96	125.5	-0.015	547.0	1.03	4.18
1082	167.711	0.155	1.11	77	1.96	124.5	-0.015	547.0	0.97	3.92
1083	167.866	0.155	1.11	77	1.95	123.5	-0.011	547.0	0.93	3.75
1084	168.022	0.156	1.11	77	1.99	123.3	-0.012	547.0	0.87	3.55
1085	168.178	0.156	1.11	77	1.99	122.8	-0.009	547.0	0.93	3.76
1086	168.333	0.155	1.11	77	1.99	122.7	-0.010	547.0	0.86	3.53
1087	168.489	0.156	1.11	77	1.97	121.5	-0.016	547.0	0.85	3.49
1088	168.645	0.156	1.11	77	1.97	120.2	-0.010	547.0	0.80	3.33
1089	168.800	0.155	1.11	77	1.97	119.9	-0.012	547.0	0.79	3.23
1090	168.956	0.156	1.11	77	1.98	119.3	-0.014	547.0	0.85	3.40
1091	169.111	0.155	1.11	77	1.96	118.2	-0.010	547.0	0.83	3.32
1092	169.267	0.156	1.11	77	1.99	118	-0.011	547.0	0.83	3.27
1093	169.423	0.156	1.11	77	1.96	164.7	-0.042	547.0	3.45	11.87
1094	169.578	0.155	1.11	77	1.95	154.6	-0.020	547.0	1.48	7.26
1095	169.733	0.155	1.11	77	1.96	145.7	-0.016	547.0	1.44	7.15
1096	169.890	0.157	1.11	77	1.97	138.9	-0.017	547.0	1.35	6.63
1097	170.044	0.154	1.11	77	1.98	134.9	-0.018	547.0	1.21	5.89
1098	170.200	0.156	1.11	77	1.98	130.6	-0.017	547.0	1.09	5.33
1099	170.356	0.156	1.11	77	1.95	127.9	-0.014	547.0	0.90	4.42
1100	170.511	0.155	1.11	77	1.98	125.3	-0.011	547.0	0.81	4.07
1101	170.667	0.156	1.11	77	1.97	124.1	-0.011	547.0	0.70	3.45
1102	170.823	0.156	1.11	77	1.99	122.6	-0.011	547.0	0.72	3.62
1103	170.977	0.154	1.11	77	1.99	119.1	-0.014	547.0	0.62	3.17
1104	171.133	0.156	1.10	77	1.99	117.9	-0.015	547.0	0.58	2.89
1105	171.289	0.156	1.11	77	1.95	117.7	-0.008	547.0	0.55	2.79
1106	171.444	0.155	1.11	77	1.99	116.9	-0.011	547.0	0.54	2.77
1107	171.600	0.156	1.11	77	1.96	116.4	-0.014	547.0	0.52	2.62
1108	171.756	0.156	1.11	77	1.98	116.2	-0.014	547.0	0.50	2.57
1109	171.911	0.155	1.11	77	1.96	115.5	-0.011	547.0	0.49	2.53
1110	172.066	0.155	1.10	77	1.99	115.1	-0.014	547.0	0.47	2.42
1111	172.223	0.157	1.12	77	1.96	114.3	-0.008	547.0	0.46	2.40
1112	172.377	0.154	1.11	77	1.96	113.1	-0.012	547.0	0.43	2.26

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1113	172.533	0.156	1.11	77	1.99	112.4	-0.014	547.0	0.37	2.03
1114	172.690	0.157	1.12	77	1.99	111.2	-0.011	547.0	0.38	2.03
1115	172.844	0.154	1.11	77	2.00	111.4	-0.010	547.0	0.36	1.90
1116	173.000	0.156	1.11	77	1.98	110.8	-0.013	547.0	0.35	1.91
1117	173.156	0.156	1.11	77	1.97	109.7	-0.012	547.0	0.38	2.02
1118	173.311	0.155	1.11	77	1.96	109.1	-0.012	547.0	0.35	1.93
1119	173.467	0.156	1.11	77	1.95	109.3	-0.012	547.0	0.34	1.79
1120	173.623	0.156	1.12	77	1.96	108.3	-0.014	547.0	0.32	1.75
1121	173.778	0.155	1.11	77	1.98	107.4	-0.013	547.0	0.32	1.78
1122	173.934	0.156	1.11	77	1.96	107.4	-0.011	547.0	0.33	1.85
1123	174.090	0.156	1.12	77	1.98	106.2	-0.012	547.0	0.31	1.73
1124	174.244	0.154	1.11	77	1.98	150.7	-0.025	547.0	0.77	4.97
1125	174.401	0.157	1.11	77	2.00	139.5	-0.015	547.0	0.81	5.16
1126	174.556	0.155	1.11	77	1.99	132	-0.011	547.0	0.71	4.51
1127	174.711	0.155	1.11	77	1.98	126.3	-0.011	547.0	0.63	4.01
1128	174.868	0.157	1.11	77	1.99	122.4	-0.014	547.0	0.57	3.76
1129	175.023	0.155	1.11	77	1.99	119.5	-0.011	547.0	0.51	3.43
1130	175.178	0.155	1.11	77	1.97	118	-0.013	547.0	0.46	3.09
1131	175.335	0.157	1.11	77	1.97	115.8	-0.011	547.0	0.39	2.74
1132	175.489	0.154	1.11	77	1.97	113.7	-0.009	547.0	0.36	2.58
1133	175.645	0.156	1.11	77	1.99	112.7	-0.010	547.0	0.35	2.46
1134	175.801	0.156	1.11	77	1.96	112	-0.013	547.0	0.33	2.35
1135	175.956	0.155	1.12	77	1.96	110.2	-0.005	547.0	0.32	2.28
1136	176.112	0.156	1.11	77	1.99	110.3	-0.006	547.0	0.32	2.35
1137	176.269	0.157	1.11	77	2.00	109.7	-0.008	547.0	0.29	2.18
1138	176.423	0.154	1.12	77	1.97	108.5	-0.010	547.0	0.28	2.09
1139	176.579	0.156	1.11	77	1.95	107.6	-0.008	547.0	0.26	1.94
1140	176.736	0.157	1.12	77	1.98	107.7	-0.006	547.0	0.26	2.03
1141	176.890	0.154	1.12	77	1.97	106.9	-0.008	547.0	0.25	2.01
1142	177.046	0.156	1.10	77	1.97	106.2	-0.008	547.0	0.27	1.95
1143	177.203	0.157	1.12	77	1.97	105.4	-0.010	547.0	0.24	1.84
1144	177.357	0.154	1.11	77	1.96	105	-0.018	547.0	0.23	1.90
1145	177.513	0.156	1.11	77	1.99	103.9	-0.010	547.0	0.22	1.80
1146	177.669	0.156	1.12	77	1.98	124.3	-0.021	547.0	0.24	1.89
1147	177.824	0.155	1.11	77	1.97	157	-0.017	547.0	0.67	5.69
1148	177.980	0.156	1.11	77	1.96	184.9	-0.026	547.0	1.34	7.49

Train D - Ambient Background and Flue Gas Data

Run:	3	Test Date:	2/26/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:03		
Total Sampling Time	1579 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1149	178.136	0.156	1.12	77	1.95	206.9	-0.026	547.0	0.79	10.44
1150	178.291	0.155	1.11	77	2.00	231	-0.031	547.0	0.50	12.44
1151	178.447	0.156	1.11	77	1.97	250.1	-0.035	547.0	0.32	13.15
1152	178.603	0.156	1.11	77	1.96	261.6	-0.027	547.0	0.24	13.25
1153	178.757	0.154	1.11	77	1.97	269.5	-0.035	547.0	0.13	13.64
1154	178.914	0.157	1.11	77	1.98	277.4	-0.044	547.0	0.11	14.04
1155	179.069	0.155	1.11	77	1.96	288.1	-0.036	547.0	0.07	15.33
1156	179.224	0.155	1.11	77	1.96	294.7	-0.037	547.0	0.09	15.82
1157	179.381	0.157	1.11	77	1.99	299.9	-0.045	547.0	0.10	16.19
1158	179.536	0.155	1.11	77	1.98	302.8	-0.052	547.0	0.11	16.19
1159	179.691	0.155	1.11	77	1.98	304.1	-0.040	547.0	0.13	16.51
1160	179.847	0.156	1.11	77	1.98	304.6	-0.045	547.0	0.12	16.59
1161	180.002	0.155	1.12	77	1.95	304.2	-0.044	547.0	0.13	16.40
1162	180.158	0.156	1.11	77	1.96	299.1	-0.037	547.0	0.11	16.71
1163	180.314	0.156	1.11	77	1.96	296.5	-0.048	547.0	0.11	16.33
1164	180.469	0.155	1.11	77	1.96	300.5	-0.033	547.0	0.12	16.06
1165	180.625	0.156	1.11	77	1.97	302.1	-0.042	547.0	0.11	15.92
1166	180.781	0.156	1.11	77	2.00	301.5	-0.042	547.0	0.12	16.68
1167	180.936	0.155	1.11	77	1.95	301.5	-0.048	547.0	0.13	16.47
1168	181.092	0.156	1.11	77	1.97	302	-0.027	547.0	0.13	16.32
1169	181.248	0.156	1.11	77	1.95	302.7	-0.048	547.0	0.13	16.16
1170	181.403	0.155	1.11	77	1.96	303.8	-0.049	547.0	0.12	16.31
1171	181.559	0.156	1.11	77	1.99	305	-0.040	547.0	0.12	16.40
1172	181.715	0.156	1.11	77	1.96	306.3	-0.035	547.0	0.12	16.51
1173	181.870	0.155	1.12	77	1.97	307.7	-0.049	547.0	0.12	16.68
1174	182.026	0.156	1.11	77	1.98	309.2	-0.036	547.0	0.13	16.74
1175	182.182	0.156	1.11	77	1.98	281	-0.027	547.0	0.12	11.17
1176	182.336	0.154	1.12	77	1.98	259	-0.026	547.0	0.09	15.63
1177	182.492	0.156	1.11	77	1.98	244.9	-0.035	547.0	0.27	17.55
1178	182.649	0.157	1.11	77	1.99	235	-0.035	547.0	0.27	18.01
1179	182.803	0.154	1.11	77	1.96	228.8	-0.032	547.0	0.20	15.69
1180	182.959	0.156	1.11	77	1.97	222.9	-0.031	547.0	1.41	20.00
1181	183.115	0.156	1.11	77	1.96	218	-0.029	547.0	0.78	18.89
1182	183.270	0.155	1.11	77	1.97	213.9	-0.027	547.0	0.51	17.46
1183	183.426	0.156	1.11	77	1.97	210.2	-0.027	547.0	0.62	16.94
1184	183.582	0.156	1.11	77	1.97	209.4	-0.028	547.0	0.46	13.99

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1185	183.737	0.155	1.11	77	1.99	208.2	-0.033	547.0	2.30	14.49
1186	183.893	0.156	1.11	77	1.96	206.1	-0.026	547.0	4.95	17.52
1187	184.049	0.156	1.11	77	1.96	203.5	-0.033	547.0	5.48	19.90
1188	184.204	0.155	1.11	77	1.95	200.9	-0.031	547.0	5.48	20.68
1189	184.360	0.156	1.11	77	1.99	198.2	-0.028	547.0	5.48	20.14
1190	184.516	0.156	1.12	77	1.97	195.2	-0.027	547.0	5.48	19.96
1191	184.671	0.155	1.11	77	1.98	192.3	-0.031	547.0	5.48	20.31
1192	184.827	0.156	1.11	77	1.97	189.5	-0.025	547.0	5.48	19.15
1193	184.982	0.155	1.12	77	1.97	187	-0.027	547.0	5.48	19.04
1194	185.138	0.156	1.11	77	1.97	184.1	-0.028	547.0	5.48	18.91
1195	185.294	0.156	1.11	77	1.97	181.5	-0.027	547.0	5.48	17.39
1196	185.449	0.155	1.11	77	1.98	179	-0.029	547.0	5.48	15.68
1197	185.605	0.156	1.11	77	1.99	176.6	-0.020	547.0	5.48	15.59
1198	185.761	0.156	1.11	77	1.99	174.5	-0.024	547.0	5.48	14.34
1199	185.916	0.155	1.11	77	1.98	172.4	-0.027	547.0	5.04	13.11
1200	186.072	0.156	1.11	77	1.97	169.8	-0.021	547.0	5.10	13.39
1201	186.228	0.156	1.11	77	1.96	167.7	-0.026	547.0	4.78	12.56
1202	186.383	0.155	1.11	77	1.96	165.8	-0.022	547.0	4.68	12.42
1203	186.539	0.156	1.11	77	1.97	163	-0.019	547.0	4.30	11.46
1204	186.695	0.156	1.11	77	1.98	161.2	-0.022	547.0	4.00	10.85
1205	186.850	0.155	1.11	77	1.98	160.1	-0.027	547.0	3.75	10.22
1206	187.006	0.156	1.10	77	1.98	157.9	-0.021	547.0	3.47	9.62
1207	187.162	0.156	1.11	77	1.96	157.3	-0.021	547.0	3.47	9.67
1208	187.317	0.155	1.11	77	1.97	155.4	-0.021	547.0	3.03	8.61
1209	187.473	0.156	1.11	77	1.98	153.2	-0.019	547.0	3.09	8.78
1210	187.629	0.156	1.12	77	1.98	151.8	-0.019	547.0	2.98	8.53
1211	187.784	0.155	1.11	77	1.97	150.4	-0.017	547.0	2.87	8.23
1212	187.940	0.156	1.11	77	1.98	148.6	-0.021	547.0	2.57	7.50
1213	188.096	0.156	1.12	77	1.98	147.7	-0.017	547.0	2.59	7.58
1214	188.251	0.155	1.11	77	1.98	145.9	-0.017	547.0	2.34	6.92
1215	188.407	0.156	1.11	77	1.99	143.7	-0.016	547.0	2.22	6.62
1216	188.563	0.156	1.11	77	1.95	143.2	-0.016	547.0	2.05	6.15
1217	188.718	0.155	1.11	77	1.97	141.6	-0.013	547.0	2.00	6.01
1218	188.875	0.157	1.11	77	1.96	140.2	-0.018	547.0	1.96	6.02
1219	189.030	0.155	1.11	77	1.98	139	-0.017	547.0	1.84	5.61
1220	189.185	0.155	1.11	77	1.98	137.7	-0.014	547.0	1.82	5.59

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1221	189.342	0.157	1.11	77	1.97	136.4	-0.013	547.0	1.65	5.12
1222	189.497	0.155	1.11	77	1.97	135.8	-0.015	547.0	1.61	5.03
1223	189.652	0.155	1.11	77	1.98	134.3	-0.008	547.0	1.54	4.85
1224	189.809	0.157	1.11	77	1.96	134.1	-0.016	547.0	1.48	4.75
1225	189.963	0.154	1.12	77	1.99	132.7	-0.008	547.0	1.46	4.60
1226	190.119	0.156	1.11	77	1.98	131.4	-0.014	547.0	1.30	4.21
1227	190.275	0.156	1.11	77	1.98	130.5	-0.016	547.0	1.34	4.25
1228	190.430	0.155	1.11	77	1.98	129.3	-0.017	547.0	1.26	4.08
1229	190.586	0.156	1.11	77	1.97	128.7	-0.016	547.0	1.22	3.94
1230	190.742	0.156	1.11	77	1.99	127.7	-0.014	547.0	1.15	3.76
1231	190.897	0.155	1.11	77	1.99	127.3	-0.011	547.0	1.22	3.91
1232	191.053	0.156	1.11	77	1.97	126.8	-0.012	547.0	1.11	3.61
1233	191.209	0.156	1.11	77	1.97	125.5	-0.017	547.0	1.08	3.53
1234	191.364	0.155	1.11	77	1.98	124.3	-0.016	547.0	1.11	3.61
1235	191.520	0.156	1.11	77	2.00	123.1	-0.010	547.0	1.00	3.24
1236	191.676	0.156	1.11	77	1.96	123.5	-0.013	547.0	1.06	3.43
1237	191.831	0.155	1.11	77	1.98	122	-0.016	547.0	1.04	3.41
1238	191.986	0.155	1.11	77	1.96	120.1	-0.013	547.0	0.94	3.08
1239	192.143	0.157	1.12	77	1.98	120.4	-0.011	547.0	0.95	3.03
1240	192.298	0.155	1.12	77	1.97	120.1	-0.015	547.0	0.91	2.96
1241	192.454	0.156	1.11	77	1.96	119.1	-0.011	547.0	0.85	2.84
1242	192.610	0.156	1.12	77	1.97	118.8	-0.013	547.0	0.93	3.04
1243	192.765	0.155	1.11	77	1.98	117.8	-0.008	547.0	0.82	2.73
1244	192.922	0.157	1.12	77	1.98	153.7	-0.031	547.0	1.46	4.80
1245	193.077	0.155	1.11	77	1.95	155.7	-0.023	547.0	1.83	8.68
1246	193.233	0.156	1.11	77	1.98	146.3	-0.015	547.0	1.62	7.64
1247	193.389	0.156	1.12	77	1.99	139	-0.014	547.0	1.50	7.05
1248	193.544	0.155	1.11	77	1.96	133.8	-0.013	547.0	1.30	6.12
1249	193.700	0.156	1.11	77	1.97	129.8	-0.014	547.0	1.15	5.43
1250	193.856	0.156	1.11	77	1.99	126.5	-0.017	547.0	1.04	4.90
1251	194.011	0.155	1.12	76	1.98	124.6	-0.011	547.0	0.90	4.20
1252	194.167	0.156	1.11	77	1.95	123.3	-0.009	547.0	0.90	4.21
1253	194.323	0.156	1.11	77	2.00	120.3	-0.012	547.0	0.71	3.29
1254	194.478	0.155	1.11	77	1.96	119.4	-0.014	547.0	0.69	3.27
1255	194.634	0.156	1.11	76	1.96	117.9	-0.014	547.0	0.62	2.84
1256	194.790	0.156	1.11	76	1.99	117	-0.012	547.0	0.58	2.69

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1257	194.945	0.155	1.12	76	1.96	116.4	-0.011	547.0	0.58	2.76
1258	195.101	0.156	1.11	76	1.95	114.4	-0.013	547.0	0.51	2.47
1259	195.258	0.157	1.12	76	1.98	114.9	-0.009	547.0	0.52	2.46
1260	195.412	0.154	1.11	77	1.99	113.4	-0.011	547.0	0.47	2.25
1261	195.568	0.156	1.11	77	1.97	112.2	-0.009	547.0	0.43	2.03
1262	195.725	0.157	1.11	76	1.99	111.4	-0.013	547.0	0.43	2.06
1263	195.879	0.154	1.11	76	1.96	110.6	-0.015	547.0	0.42	2.02
1264	196.035	0.156	1.11	76	1.95	111.3	-0.011	547.0	0.38	1.87
1265	196.192	0.157	1.12	76	1.97	109.4	-0.007	547.0	0.38	1.78
1266	196.346	0.154	1.11	76	1.96	109.6	-0.012	547.0	0.37	1.81
1267	196.503	0.157	1.11	76	1.96	109.3	-0.009	547.0	0.37	1.76
1268	196.659	0.156	1.12	76	1.97	109.4	-0.008	547.0	0.36	1.73
1269	196.814	0.155	1.11	76	1.99	109	-0.010	547.0	0.33	1.66
1270	196.970	0.156	1.11	76	1.96	107.5	-0.013	547.0	0.33	1.60
1271	197.126	0.156	1.12	76	1.97	107.5	-0.006	547.0	0.30	1.50
1272	197.281	0.155	1.12	76	1.95	105.9	-0.008	547.0	0.26	1.40
1273	197.438	0.157	1.11	76	1.95	106.6	-0.011	547.0	0.30	1.52
1274	197.593	0.155	1.12	76	1.98	106.3	-0.008	547.0	0.28	1.39
1275	197.749	0.156	1.11	76	1.97	146.1	-0.021	547.0	0.87	4.31
1276	197.905	0.156	1.11	76	1.95	141.7	-0.014	547.0	1.20	6.94
1277	198.060	0.155	1.12	76	1.98	131.9	-0.013	547.0	0.98	5.83
1278	198.216	0.156	1.11	76	1.96	125.9	-0.013	547.0	0.82	4.84
1279	198.372	0.156	1.11	76	1.98	121.1	-0.011	547.0	0.72	4.33
1280	198.527	0.155	1.11	76	1.96	118	-0.009	547.0	0.65	3.93
1281	198.683	0.156	1.11	76	1.96	115.5	-0.012	547.0	0.56	3.44
1282	198.839	0.156	1.11	76	1.98	114	-0.009	547.0	0.50	3.05
1283	198.994	0.155	1.12	76	1.96	112.2	-0.010	547.0	0.41	2.60
1284	199.150	0.156	1.10	76	1.99	110.7	-0.010	547.0	0.38	2.37
1285	199.306	0.156	1.11	76	1.98	110.6	-0.007	547.0	0.34	2.18
1286	199.461	0.155	1.11	76	1.99	110	-0.008	547.0	0.31	2.02
1287	199.617	0.156	1.11	76	1.98	109.2	-0.011	547.0	0.31	1.99
1288	199.773	0.156	1.12	76	1.95	108.4	-0.009	547.0	0.30	1.94
1289	199.928	0.155	1.11	76	1.94	106.9	-0.006	547.0	0.29	1.81
1290	200.084	0.156	1.11	76	1.95	106	-0.010	547.0	0.27	1.84
1291	200.240	0.156	1.12	76	1.97	152.9	-0.024	547.0	0.82	7.35
1292	200.395	0.155	1.11	76	1.97	186.9	-0.026	547.0	1.08	9.74

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1293	200.551	0.156	1.12	76	1.96	219.4	-0.026	547.0	0.40	13.54
1294	200.707	0.156	1.11	76	1.98	246.1	-0.033	547.0	0.11	14.14
1295	200.862	0.155	1.11	76	1.98	263.4	-0.035	547.0	0.06	14.54
1296	201.021	0.159	1.11	76	1.98	272.5	-0.029	547.0	0.06	14.19
1297	201.176	0.155	1.12	76	1.98	277.8	-0.033	547.0	0.07	14.00
1298	201.329	0.153	1.11	76	1.97	282.5	-0.039	547.0	0.06	14.07
1299	201.486	0.157	1.12	76	1.99	287.5	-0.039	547.0	0.06	14.47
1300	201.640	0.154	1.12	76	1.95	291.2	-0.029	547.0	0.06	14.57
1301	201.796	0.156	1.11	76	1.97	294.6	-0.032	547.0	0.09	14.66
1302	201.953	0.157	1.11	76	1.97	298.6	-0.042	547.0	0.09	14.91
1303	202.108	0.155	1.12	76	1.95	301.7	-0.040	547.0	0.09	15.06
1304	202.264	0.156	1.11	76	1.96	304.7	-0.036	547.0	0.09	15.26
1305	202.420	0.156	1.11	76	1.97	306.4	-0.038	547.0	0.09	15.22
1306	202.577	0.157	1.11	76	1.98	308.3	-0.040	547.0	0.09	15.28
1307	202.733	0.156	1.11	77	1.99	308.3	-0.034	547.0	0.09	15.29
1308	202.887	0.154	1.12	76	1.96	309.6	-0.038	547.0	0.08	15.53
1309	203.042	0.155	1.12	76	1.95	304.1	-0.039	547.0	0.08	15.17
1310	203.198	0.156	1.11	76	1.96	305	-0.041	547.0	0.08	15.44
1311	203.354	0.156	1.12	76	1.96	310.8	-0.038	547.0	0.08	15.33
1312	203.509	0.155	1.11	76	1.96	309.8	-0.042	547.0	0.05	14.89
1313	203.665	0.156	1.11	76	1.98	310	-0.037	547.0	0.06	15.31
1314	203.821	0.156	1.12	76	1.99	307	-0.046	547.0	0.05	15.23
1315	203.976	0.155	1.11	76	1.98	307	-0.042	547.0	0.06	15.29
1316	204.135	0.159	1.11	76	1.98	309.5	-0.036	547.0	0.05	14.97
1317	204.290	0.155	1.12	76	1.96	284	-0.031	547.0	0.11	10.56
1318	204.446	0.156	1.12	76	1.96	259.8	-0.032	547.0	0.05	9.29
1319	204.600	0.154	1.11	76	1.97	245.2	-0.031	494.0	0.04	9.15
1320	204.755	0.155	1.12	76	1.98	234.7	-0.033	526.0	0.04	9.37
1321	204.911	0.156	1.12	76	1.96	228.7	-0.028	408.0	0.03	7.91
1322	205.067	0.156	1.11	76	1.98	223.7	-0.031	547.0	0.10	10.49
1323	205.222	0.155	1.12	76	1.97	218.8	-0.029	547.0	0.09	9.66
1324	205.378	0.156	1.11	76	1.98	214.6	-0.028	547.0	0.06	8.47
1325	205.535	0.157	1.12	76	1.96	211	-0.031	547.0	0.06	8.18
1326	205.692	0.157	1.11	76	1.97	210.7	-0.027	547.0	0.05	7.08
1327	205.849	0.157	1.11	76	1.96	210	-0.027	547.0	0.13	5.86
1328	206.005	0.156	1.12	76	1.96	207.8	-0.028	547.0	0.74	8.16

Train D - Ambient Background and Flue Gas Data

Run:	3	Test Date:	2/26/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:03		
Total Sampling Time	1579 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1329	206.157	0.152	1.12	76	1.98	205	-0.024	547.0	1.49	10.15
1330	206.313	0.156	1.11	76	1.98	202	-0.028	547.0	2.05	11.18
1331	206.469	0.156	1.12	76	1.96	198.8	-0.027	547.0	2.32	11.41
1332	206.624	0.155	1.12	76	1.96	195.7	-0.025	547.0	2.49	11.45
1333	206.780	0.156	1.11	76	1.98	192.8	-0.024	547.0	2.75	11.97
1334	206.936	0.156	1.12	76	1.98	189.6	-0.027	547.0	2.63	11.32
1335	207.091	0.155	1.11	76	1.96	186.6	-0.030	547.0	2.44	10.36
1336	207.250	0.159	1.11	76	2.00	183.7	-0.025	547.0	2.58	10.79
1337	207.405	0.155	1.11	76	1.96	181.2	-0.025	547.0	2.41	10.10
1338	207.561	0.156	1.11	76	2.00	178.6	-0.023	547.0	2.24	9.39
1339	207.717	0.156	1.11	76	1.96	176.1	-0.023	547.0	2.20	9.25
1340	207.870	0.153	1.12	76	1.99	174	-0.020	547.0	2.04	8.67
1341	208.025	0.155	1.11	76	1.97	171.5	-0.023	547.0	1.94	8.30
1342	208.181	0.156	1.11	76	1.99	169.3	-0.018	547.0	1.84	7.92
1343	208.337	0.156	1.11	76	1.97	167.2	-0.017	547.0	1.70	7.42
1344	208.492	0.155	1.11	76	1.98	165.1	-0.017	547.0	1.43	6.35
1345	208.649	0.157	1.11	76	1.96	162.9	-0.019	547.0	1.31	5.90
1346	208.804	0.155	1.12	76	1.96	160.8	-0.018	547.0	1.18	5.39
1347	208.962	0.158	1.11	76	1.98	158.8	-0.018	547.0	1.11	5.12
1348	209.118	0.156	1.11	76	1.95	156.3	-0.017	547.0	1.00	4.72
1349	209.273	0.155	1.11	76	1.97	154.9	-0.016	547.0	0.96	4.54
1350	209.426	0.153	1.11	76	1.94	152.9	-0.015	547.0	0.79	3.83
1351	209.582	0.156	1.11	76	1.97	151.3	-0.018	547.0	0.79	3.87
1352	209.737	0.155	1.11	76	1.99	149.3	-0.013	547.0	0.67	3.28
1353	209.893	0.156	1.11	76	1.96	148	-0.016	547.0	0.68	3.41
1354	210.049	0.156	1.11	76	1.96	146.4	-0.016	547.0	0.61	3.09
1355	210.204	0.155	1.12	76	1.98	145	-0.019	547.0	0.51	2.68
1356	210.363	0.159	1.11	76	1.96	143.5	-0.016	547.0	0.48	2.54
1357	210.518	0.155	1.11	76	1.99	142.5	-0.013	547.0	0.45	2.42
1358	210.673	0.155	1.11	76	1.94	141.1	-0.018	547.0	0.42	2.26
1359	210.830	0.157	1.11	76	1.95	140.1	-0.014	547.0	0.41	2.24
1360	210.983	0.153	1.12	76	1.95	138.5	-0.012	547.0	0.37	2.07
1361	211.138	0.155	1.11	76	1.96	137.1	-0.014	547.0	0.33	1.86
1362	211.293	0.155	1.11	76	1.96	135.7	-0.019	547.0	0.31	1.80
1363	211.450	0.157	1.12	76	1.98	135.5	-0.013	547.0	0.29	1.64
1364	211.604	0.154	1.11	76	1.96	133.7	-0.015	547.0	0.27	1.63

Train D - Ambient Background and Flue Gas Data

Run:	3	Test Date:	2/26/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:03		
Total Sampling Time	1579 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1365	211.760	0.156	1.11	76	1.96	132.4	-0.016	547.0	0.27	1.67
1366	211.918	0.158	1.12	76	1.98	131.6	-0.012	547.0	0.23	1.46
1367	212.074	0.156	1.11	76	1.95	131	-0.012	547.0	0.23	1.40
1368	212.230	0.156	1.11	76	1.97	129.7	-0.014	547.0	0.20	1.33
1369	212.385	0.155	1.11	76	1.95	128.3	-0.010	547.0	0.22	1.38
1370	212.541	0.156	1.11	76	1.96	127.1	-0.009	547.0	0.20	1.26
1371	212.695	0.154	1.12	76	1.99	126.1	-0.013	547.0	0.19	1.22
1372	212.850	0.155	1.11	76	1.98	125.1	-0.015	547.0	0.16	1.20
1373	213.005	0.155	1.11	76	1.95	124	-0.017	547.0	0.18	1.05
1374	213.162	0.157	1.12	76	1.98	123.4	-0.013	547.0	0.17	1.15
1375	213.317	0.155	1.11	76	1.97	123	-0.014	547.0	0.16	1.09
1376	213.473	0.156	1.11	76	1.96	122.2	-0.012	547.0	0.15	1.01
1377	213.632	0.159	1.11	76	1.96	121.6	-0.016	547.0	0.14	0.95
1378	213.787	0.155	1.12	76	1.98	120.9	-0.011	547.0	0.14	0.95
1379	213.943	0.156	1.11	76	1.97	120.2	-0.009	547.0	0.12	0.95
1380	214.099	0.156	1.12	76	1.95	120.2	-0.010	547.0	0.13	0.93
1381	214.251	0.152	1.12	76	1.99	119.7	-0.011	547.0	0.13	0.95
1382	214.407	0.156	1.11	76	1.97	119.3	-0.010	547.0	0.12	0.90
1383	214.564	0.157	1.12	76	1.98	118.7	-0.009	547.0	0.12	0.93
1384	214.718	0.154	1.12	76	1.99	117.2	-0.011	547.0	0.12	0.93
1385	214.874	0.156	1.11	76	1.99	117.2	-0.010	547.0	0.12	0.99
1386	215.031	0.157	1.12	76	1.98	151.2	-0.030	547.0	0.21	1.58
1387	215.188	0.157	1.11	76	1.98	154.3	-0.019	547.0	1.45	10.93
1388	215.345	0.157	1.12	76	1.96	142.5	-0.015	547.0	1.20	9.24
1389	215.500	0.155	1.12	76	1.98	134.6	-0.014	547.0	1.07	8.14
1390	215.655	0.155	1.11	76	1.97	129.1	-0.014	547.0	0.93	7.04
1391	215.812	0.157	1.11	76	1.95	125.8	-0.014	547.0	0.82	6.12
1392	215.964	0.152	1.12	76	1.99	122.9	-0.011	547.0	0.74	5.54
1393	216.119	0.155	1.11	76	2.00	121.4	-0.010	547.0	0.62	4.66
1394	216.275	0.156	1.11	76	1.96	119.1	-0.012	547.0	0.48	3.76
1395	216.431	0.156	1.11	76	1.94	118.2	-0.011	547.0	0.47	3.55
1396	216.586	0.155	1.11	76	1.96	117.4	-0.011	547.0	0.40	2.99
1397	216.745	0.159	1.11	76	1.99	116	-0.010	547.0	0.35	2.62
1398	216.900	0.155	1.11	76	1.99	115.2	-0.007	547.0	0.34	2.52
1399	217.055	0.155	1.11	76	1.99	114.2	-0.008	547.0	0.29	2.15
1400	217.212	0.157	1.11	76	1.99	113.6	-0.014	547.0	0.26	1.97

Train D - Ambient Background and Flue Gas Data**Run:** 3**Test Date:** 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1401	217.364	0.152	1.11	76	1.99	113.3	-0.013	547.0	0.26	2.01
1402	217.519	0.155	1.11	77	1.98	112.3	-0.012	547.0	0.25	1.92
1403	217.676	0.157	1.11	76	1.98	112.4	-0.008	547.0	0.26	1.95
1404	217.831	0.155	1.12	76	1.95	110.4	-0.011	547.0	0.26	1.95
1405	217.986	0.155	1.11	76	1.98	110.1	-0.007	547.0	0.25	1.95
1406	218.145	0.159	1.11	76	1.96	110.2	-0.012	547.0	0.25	1.89
1407	218.300	0.155	1.12	76	1.98	109.7	-0.008	547.0	0.27	2.06
1408	218.456	0.156	1.11	76	1.97	108.5	-0.009	547.0	0.24	1.87
1409	218.612	0.156	1.12	76	1.96	108.6	-0.010	547.0	0.27	2.10
1410	218.767	0.155	1.11	76	1.98	108	-0.008	547.0	0.26	1.97
1411	218.920	0.153	1.11	76	1.98	108.6	-0.011	547.0	0.23	1.79
1412	219.077	0.157	1.11	77	1.95	108.5	-0.007	547.0	0.22	1.70
1413	219.231	0.154	1.11	76	1.96	108.1	-0.005	547.0	0.22	1.74
1414	219.387	0.156	1.11	76	1.97	106.9	-0.004	547.0	0.22	1.65
1415	219.546	0.159	1.12	76	1.97	106.5	-0.008	547.0	0.20	1.53
1416	219.701	0.155	1.11	76	1.98	106.2	-0.008	547.0	0.21	1.59
1417	219.858	0.157	1.12	76	1.98	143.5	-0.024	547.0	0.66	4.22
1418	220.013	0.155	1.12	77	1.95	138.8	-0.010	547.0	1.40	7.88
1419	220.169	0.156	1.12	76	1.95	127.7	-0.013	547.0	1.13	6.56
1420	220.325	0.156	1.12	76	1.97	121.8	-0.008	547.0	1.00	5.91
1421	220.478	0.153	1.12	76	1.99	116.6	-0.010	547.0	0.80	4.85
1422	220.633	0.155	1.11	76	1.97	114.2	-0.013	547.0	0.73	4.50
1423	220.790	0.157	1.12	76	1.96	112.8	-0.011	547.0	0.59	3.69
1424	220.946	0.156	1.12	76	1.98	110.5	-0.013	547.0	0.52	3.27
1425	221.104	0.158	1.11	76	1.97	143.6	-0.024	547.0	0.69	4.55
1426	221.260	0.156	1.12	76	1.98	185.8	-0.023	547.0	2.10	13.04
1427	221.416	0.156	1.12	76	1.98	221.1	-0.027	547.0	0.17	16.44
1428	221.572	0.156	1.11	76	1.98	248.1	-0.037	547.0	0.06	15.43
1429	221.728	0.156	1.12	76	1.96	265.6	-0.030	547.0	0.05	15.12
1430	221.883	0.155	1.12	76	1.96	273.9	-0.033	547.0	0.05	14.59
1431	222.036	0.153	1.11	76	1.96	279.1	-0.026	547.0	0.05	14.39
1432	222.193	0.157	1.12	76	1.98	283.6	-0.040	547.0	0.06	14.34
1433	222.348	0.155	1.12	76	1.98	287.4	-0.029	547.0	0.06	14.35
1434	222.504	0.156	1.11	76	1.96	290.5	-0.035	547.0	0.07	14.55
1435	222.663	0.159	1.12	76	1.97	293.1	-0.034	547.0	0.07	14.54
1436	222.818	0.155	1.12	76	1.96	295.5	-0.045	547.0	0.08	14.63

Train D - Ambient Background and Flue Gas Data

Run:	3	Test Date:	2/26/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:03		
Total Sampling Time	1579	min	
Recording Interval	1	min	

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1437	222.975	0.157	1.12	76	1.99	299	-0.037	547.0	0.07	14.96
1438	223.130	0.155	1.12	76	1.97	302.8	-0.038	547.0	0.07	15.32
1439	223.286	0.156	1.12	76	1.98	307.5	-0.045	547.0	0.07	15.67
1440	223.442	0.156	1.11	76	1.96	310.2	-0.034	547.0	0.07	15.77
1441	223.597	0.155	1.12	76	1.96	303.3	-0.034	547.0	0.05	15.78
1442	223.751	0.154	1.12	76	1.98	304.6	-0.045	547.0	0.05	15.64
1443	223.907	0.156	1.11	76	1.98	305.9	-0.035	547.0	0.05	15.65
1444	224.063	0.156	1.12	76	1.98	310.1	-0.034	547.0	0.05	15.67
1445	224.221	0.158	1.11	76	1.95	312.4	-0.036	547.0	0.04	15.77
1446	224.378	0.157	1.12	76	1.98	313.8	-0.060	496.0	0.05	15.62
1447	224.532	0.154	1.11	76	1.95	314.2	-0.036	416.0	0.04	15.37
1448	224.689	0.157	1.11	76	1.97	314	-0.037	351.0	0.04	15.29
1449	224.845	0.156	1.12	76	1.97	314.4	-0.039	359.0	0.04	15.26
1450	225.000	0.155	1.12	76	1.97	315.1	-0.034	318.0	0.03	15.21
1451	225.157	0.157	1.12	76	1.98	287.5	-0.032	284.0	0.03	14.17
1452	225.310	0.153	1.12	76	1.98	262.6	-0.032	547.0	0.06	7.26
1453	225.465	0.155	1.12	76	1.98	247.6	-0.030	547.0	0.05	6.49
1454	225.621	0.156	1.12	76	1.97	236.6	-0.029	453.0	0.04	6.93
1455	225.779	0.158	1.12	76	1.96	230.7	-0.030	404.0	0.02	5.96
1456	225.935	0.156	1.12	76	1.97	225.9	-0.027	547.0	0.06	7.34
1457	226.092	0.157	1.11	76	1.96	221.1	-0.030	547.0	0.06	6.74
1458	226.247	0.155	1.12	76	1.96	217	-0.031	484.0	0.04	5.72
1459	226.403	0.156	1.11	76	1.96	213.2	-0.024	500.0	0.04	5.54
1460	226.559	0.156	1.12	76	1.97	212.3	-0.025	489.0	0.04	4.72
1461	226.714	0.155	1.12	76	1.96	211.7	-0.028	396.0	0.03	3.55
1462	226.870	0.156	1.11	76	1.98	209.9	-0.024	547.0	0.11	3.55
1463	227.024	0.154	1.11	76	1.97	207	-0.023	547.0	0.24	4.36
1464	227.179	0.155	1.12	76	1.96	204	-0.025	547.0	0.52	5.95
1465	227.338	0.159	1.11	76	1.96	200.8	-0.021	547.0	0.69	6.37
1466	227.494	0.156	1.12	76	1.99	197.6	-0.024	547.0	0.81	6.41
1467	227.649	0.155	1.12	76	1.95	194.6	-0.024	547.0	1.05	7.24
1468	227.805	0.156	1.12	76	1.96	191.5	-0.024	547.0	1.08	7.03
1469	227.961	0.156	1.12	76	1.95	188.4	-0.019	547.0	1.13	7.00
1470	228.116	0.155	1.12	76	1.95	185.9	-0.021	547.0	1.17	6.89
1471	228.273	0.157	1.12	76	1.98	183.1	-0.024	547.0	1.15	6.71
1472	228.428	0.155	1.12	76	1.94	180.4	-0.021	547.0	1.13	6.43

Train D - Ambient Background and Flue Gas Data

Run: 3
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/26/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 11:03
 Total Sampling Time 1579 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1473	228.581	0.153	1.12	76	1.94	177.6	-0.019	547.0	1.00	5.64
1474	228.738	0.157	1.12	76	1.99	175.1	-0.020	547.0	0.98	5.59
1475	228.895	0.157	1.12	76	1.99	172.9	-0.016	547.0	0.94	5.25
1476	229.051	0.156	1.12	76	1.96	170.5	-0.017	547.0	0.87	4.87
1477	229.208	0.157	1.12	76	1.98	168.2	-0.022	547.0	0.79	4.48
1478	229.363	0.155	1.12	76	1.96	166.2	-0.019	547.0	0.75	4.23
1479	229.519	0.156	1.11	76	1.97	164.1	-0.025	547.0	0.72	4.08
1480	229.676	0.157	1.12	76	1.97	162	-0.020	547.0	0.70	3.96
1481	229.831	0.155	1.11	76	1.98	160	-0.017	547.0	0.64	3.64
1482	229.987	0.156	1.11	76	1.97	157.4	-0.018	547.0	0.56	3.24
1483	230.140	0.153	1.12	76	1.98	155.6	-0.015	547.0	0.53	3.04
1484	230.298	0.158	1.12	76	1.97	154.1	-0.018	547.0	0.51	2.99
1485	230.455	0.157	1.12	76	1.98	152.4	-0.016	547.0	0.45	2.68
1486	230.610	0.155	1.12	76	1.96	150.8	-0.016	547.0	0.43	2.57
1487	230.766	0.156	1.12	76	1.97	149.1	-0.017	547.0	0.39	2.32
1488	230.922	0.156	1.12	76	1.97	147.1	-0.014	547.0	0.36	2.18
1489	231.077	0.155	1.12	76	1.98	146.3	-0.017	547.0	0.35	2.04
1490	231.233	0.156	1.12	76	1.98	144.6	-0.014	547.0	0.31	1.89
1491	231.390	0.157	1.12	76	1.99	143.4	-0.021	547.0	0.32	1.92
1492	231.543	0.153	1.12	76	1.96	141.6	-0.015	547.0	0.30	1.81
1493	231.698	0.155	1.12	76	1.97	140.5	-0.019	547.0	0.26	1.63
1494	231.857	0.159	1.11	76	1.97	139.2	-0.014	547.0	0.24	1.54
1495	232.012	0.155	1.12	76	1.95	137.6	-0.012	547.0	0.24	1.44
1496	232.168	0.156	1.11	76	1.95	136.5	-0.015	547.0	0.23	1.42
1497	232.325	0.157	1.12	76	1.98	134.8	-0.014	547.0	0.20	1.24
1498	232.480	0.155	1.12	76	1.97	134.3	-0.015	547.0	0.21	1.26
1499	232.636	0.156	1.11	76	1.99	133.3	-0.013	547.0	0.19	1.18
1500	232.792	0.156	1.12	76	1.96	132.6	-0.016	547.0	0.18	1.08
1501	232.947	0.155	1.11	76	1.97	131.2	-0.017	547.0	0.17	1.08
1502	233.104	0.157	1.11	76	1.98	130.5	-0.012	547.0	0.15	0.99
1503	233.257	0.153	1.12	76	1.97	129.8	-0.013	547.0	0.16	1.03
1504	233.414	0.157	1.12	76	1.97	128.4	-0.012	547.0	0.15	0.94
1505	233.571	0.157	1.12	76	1.97	127.6	-0.014	547.0	0.15	0.99
1506	233.727	0.156	1.12	76	1.97	126.6	-0.012	547.0	0.14	0.85
1507	233.882	0.155	1.12	76	1.98	125.7	-0.014	547.0	0.13	0.88
1508	234.039	0.157	1.12	76	1.97	124.8	-0.015	547.0	0.13	0.87

Train D - Ambient Background and Flue Gas Data

Run: 3

Test Date: 2/26/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 11:03

Total Sampling Time 1579 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1509	234.194	0.155	1.12	76	1.97	123.7	-0.011	547.0	0.14	0.91
1510	234.350	0.156	1.11	76	1.98	123.2	-0.015	547.0	0.14	0.95
1511	234.506	0.156	1.11	76	1.97	122.5	-0.007	547.0	0.14	1.00
1512	234.661	0.155	1.12	76	1.97	121.7	-0.006	547.0	0.14	0.92
1513	234.818	0.157	1.11	76	1.96	120.7	-0.009	547.0	0.15	0.92
1514	234.974	0.156	1.12	76	1.98	119.8	-0.010	547.0	0.13	0.90
1515	235.129	0.155	1.12	76	1.98	119.3	-0.007	547.0	0.12	0.92
1516	235.285	0.156	1.11	76	1.97	118.8	-0.011	547.0	0.15	0.96
1517	235.442	0.157	1.12	76	1.96	118.3	-0.013	547.0	0.15	0.97
1518	235.597	0.155	1.11	76	1.95	117.7	-0.009	547.0	0.14	0.93
1519	235.753	0.156	1.11	76	1.98	116.6	-0.012	547.0	0.13	0.95
1520	235.909	0.156	1.12	76	1.98	145.6	-0.026	547.0	0.13	0.89
1521	236.064	0.155	1.11	76	1.98	146.3	-0.014	547.0	1.49	9.41
1522	236.221	0.157	1.12	76	1.96	134.3	-0.011	69.0	0.00	0.22
1523	236.376	0.155	1.12	76	1.97	129.2	-0.017	380.0	0.04	0.42
1524	236.531	0.155	1.12	76	1.97	126.5	-0.008	547.0	0.06	0.65
1525	236.688	0.157	1.11	76	1.95	123.2	-0.012	547.0	0.07	0.76
1526	236.843	0.155	1.12	76	1.97	121.9	-0.013	547.0	0.07	0.76
1527	236.999	0.156	1.11	76	1.98	119.8	-0.012	547.0	0.06	0.68
1528	237.155	0.156	1.11	76	1.99	119.3	-0.005	547.0	0.06	0.62
1529	237.310	0.155	1.12	76	1.95	118.3	-0.013	542.0	0.06	0.55
1530	237.466	0.156	1.11	76	1.95	116.6	-0.019	470.0	0.04	0.49
1531	237.623	0.157	1.11	76	1.96	115.6	-0.011	401.0	0.03	0.43
1532	237.778	0.155	1.12	76	1.94	114.9	-0.010	380.0	0.03	0.41
1533	237.934	0.156	1.11	76	1.98	114.2	-0.009	314.0	0.02	0.37
1534	238.090	0.156	1.12	76	1.97	113.9	-0.009	294.0	0.02	0.27
1535	238.245	0.155	1.12	76	1.95	113.3	-0.010	270.0	0.02	0.28
1536	238.402	0.157	1.11	76	1.97	112.8	-0.011	238.0	0.01	0.28
1537	238.558	0.156	1.12	76	1.97	112	-0.006	207.0	0.01	0.25
1538	238.713	0.155	1.11	76	1.96	110.4	-0.007	203.0	0.00	0.30
1539	238.869	0.156	1.12	76	1.98	110.9	-0.003	193.0	0.02	0.25
1540	239.025	0.156	1.12	76	1.99	110.2	-0.007	182.0	0.01	0.26
1541	239.180	0.155	1.11	76	1.97	109.4	-0.011	172.0	0.01	0.23
1542	239.337	0.157	1.12	76	1.97	109.7	-0.011	162.0	0.01	0.21
1543	239.492	0.155	1.12	76	1.96	108.9	-0.010	157.0	0.02	0.19
1544	239.648	0.156	1.12	76	1.98	107.7	-0.015	153.0	0.02	0.18

Train D - Ambient Background and Flue Gas Data

Run:	3	Test Date:	2/26/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	11:03		
Total Sampling Time	1579 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1545	239.804	0.156	1.11	76	1.95	107.8	-0.008	151.0	0.01	0.20
1546	239.959	0.155	1.12	76	1.98	108.2	-0.002	146.0	0.01	0.20
1547	240.115	0.156	1.11	76	1.99	107.9	-0.006	144.0	0.01	0.18
1548	240.272	0.157	1.11	76	1.99	107.1	-0.005	150.0	0.01	0.19
1549	240.426	0.154	1.12	76	1.97	106.3	-0.007	137.0	-0.01	0.20
1550	240.583	0.157	1.11	76	1.96	106.1	-0.014	139.0	0.01	0.21
1551	240.739	0.156	1.12	76	1.95	136.3	-0.024	247.0	0.12	1.08
1552	240.894	0.155	1.11	76	1.98	139.5	-0.013	547.0	1.48	7.92
1553	241.050	0.156	1.11	76	1.96	128	-0.011	547.0	1.25	6.74
1554	241.207	0.157	1.12	76	1.96	121.4	-0.010	547.0	1.05	5.80
1555	241.362	0.155	1.11	76	1.98	117.4	-0.006	547.0	0.91	5.00
1556	241.518	0.156	1.12	76	1.98	114.4	-0.010	547.0	0.72	3.98
1557	241.674	0.156	1.12	76	1.98	112.5	-0.005	547.0	0.63	3.51
1558	241.829	0.155	1.11	76	1.99	111	-0.009	547.0	0.51	2.91
1559	241.986	0.157	1.12	76	1.95	110.2	-0.015	547.0	0.44	2.50
1560	242.141	0.155	1.11	76	1.99	108.9	-0.008	547.0	0.36	2.09
1561	242.297	0.156	1.11	76	1.95	108.1	-0.013	547.0	0.29	1.70
1562	242.453	0.156	1.12	76	1.97	156.1	-0.022	547.0	0.96	10.87
1563	242.608	0.155	1.12	76	1.96	190.4	-0.023	547.0	1.66	12.41
1564	242.764	0.156	1.11	76	1.96	222.8	-0.027	547.0	0.27	15.01
1565	242.920	0.156	1.11	76	1.97	246.4	-0.029	547.0	0.10	15.44
1566	243.075	0.155	1.12	76	1.97	261.5	-0.028	547.0	0.07	15.62
1567	243.232	0.157	1.11	76	1.95	269.3	-0.034	547.0	0.06	15.37
1568	243.388	0.156	1.11	76	1.97	274	-0.030	547.0	0.05	15.06
1569	243.543	0.155	1.11	76	1.96	277.3	-0.032	547.0	0.05	14.79
1570	243.699	0.156	1.11	76	1.96	280.5	-0.031	547.0	0.04	14.84
1571	243.855	0.156	1.12	76	1.96	283.3	-0.033	547.0	0.06	14.96
1572	244.010	0.155	1.11	76	1.98	286.6	-0.035	547.0	0.07	15.09
1573	244.166	0.156	1.11	76	1.98	289.5	-0.026	547.0	0.05	15.34
1574	244.322	0.156	1.12	76	1.97	292.9	-0.032	547.0	0.05	15.34
1575	244.477	0.155	1.11	76	1.98	293.3	-0.040	547.0	0.04	15.08
1576	244.633	0.156	1.11	76	1.98	295.4	-0.041	547.0	0.05	15.02
1577	244.789	0.156	1.11	76	1.98	298.3	-0.034	547.0	0.04	15.45
1578	244.944	0.155	1.11	76	1.99	298.4	-0.029	512.0	0.04	15.09
1579	245.100	0.156	1.11	76	1.98	300.4	-0.022	514.0	0.04	15.31

Water Flow Data

ASTM E2618-13

Run: 3Test Date: 2/26/2025Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044EBoiler Dry Weight, Lb. 2457Boiler Water Weight, Lb. 2711Test Start Time: 11:03 TI_{avg} - Initial Average Boiler Temp, °F 162.20Total Sampling Time 1579 min TF_{avg} - Final Average Boiler Temp, °F 171.87Recording Interval 1 min

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
Tot / Avg	169.4	171.9	2.47	50.8	171.7	120.92	0.935	1.0012	8.340	7.798	1487268.3
Minimum	156.3	158.8	1.55	48.9	158.6	107.38	0.662	1.0012	8.339	5.524	667.194
Max	180.5	182.9	2.99	52.2	182.8	132.36	1.104	1.0012	8.342	9.208	1099.245
0	160.9	163.5	2.57	48.9	163.1	114.19	1.007	1.0012	8.342	8.40	960.8
1	161.6	164.2	2.57	49.2	163.8	114.56	1.007	1.0012	8.342	8.40	963.9
2	162.4	165.0	2.62	49.4	164.7	115.31	1.007	1.0012	8.342	8.40	970.2
3	162.9	165.5	2.58	49.6	165.3	115.72	0.994	1.0012	8.342	8.29	960.3
4	163.2	165.9	2.62	49.7	165.5	115.84	1.007	1.0012	8.341	8.40	974.6
5	163.6	166.2	2.63	49.8	165.9	116.18	1.007	1.0012	8.341	8.40	977.4
6	164.5	167.1	2.56	49.9	166.9	117.03	1.007	1.0012	8.341	8.40	984.6
7	165.2	167.8	2.53	50.1	167.5	117.44	0.980	1.0012	8.341	8.17	961.0
8	166.3	168.7	2.45	50.1	168.4	118.28	0.952	1.0012	8.341	7.94	940.6
9	167.1	169.7	2.57	50.2	169.4	119.19	0.966	1.0012	8.341	8.06	961.5
10	167.9	170.5	2.63	50.3	170.2	119.86	0.980	1.0012	8.341	8.17	980.8
11	168.7	171.2	2.53	50.3	171.1	120.74	0.952	1.0012	8.341	7.94	960.1
12	169.6	172.1	2.59	50.1	171.7	121.61	0.938	1.0012	8.341	7.83	953.1
13	170.3	173.0	2.64	50.0	172.6	122.61	0.938	1.0012	8.341	7.83	960.9
14	171.2	173.8	2.59	49.8	173.6	123.79	0.952	1.0012	8.341	7.94	984.4
15	172.0	174.6	2.66	49.7	174.3	124.60	0.938	1.0012	8.341	7.83	976.5
16	172.9	175.5	2.65	49.7	175.3	125.55	0.952	1.0012	8.341	7.94	998.5
17	173.6	176.2	2.66	49.7	176.0	126.31	0.938	1.0012	8.341	7.83	989.9
18	174.6	177.1	2.55	49.7	176.8	127.16	0.911	1.0012	8.341	7.60	967.3
19	175.3	177.9	2.59	49.5	177.5	127.96	0.897	1.0012	8.342	7.48	958.6
20	176.2	178.8	2.55	49.6	178.6	128.99	0.883	1.0012	8.342	7.37	951.5
21	177.1	179.7	2.58	49.5	179.4	129.89	0.897	1.0012	8.342	7.48	973.1
22	178.0	180.6	2.59	49.6	180.3	130.69	0.897	1.0012	8.342	7.48	979.1
23	178.6	181.2	2.57	49.5	181.0	131.46	0.869	1.0012	8.342	7.25	954.6
24	178.6	181.1	2.57	49.5	181.0	131.50	0.869	1.0012	8.342	7.25	954.8
25	178.7	181.3	2.60	49.5	181.1	131.59	0.883	1.0012	8.342	7.37	970.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
26	178.6	181.2	2.56	49.5	181.1	131.62	0.883	1.0012	8.342	7.37	970.9
27	178.8	181.3	2.59	49.5	181.2	131.63	0.897	1.0012	8.342	7.48	986.1
28	178.7	181.3	2.58	49.5	181.1	131.69	0.883	1.0012	8.342	7.37	971.4
29	178.8	181.2	2.34	49.5	181.0	131.58	0.842	1.0012	8.342	7.02	925.1
30	178.7	181.1	2.46	49.5	181.0	131.53	0.828	1.0012	8.342	6.91	909.6
31	178.6	181.0	2.43	49.5	180.9	131.41	0.856	1.0012	8.342	7.14	939.1
32	178.5	180.9	2.46	49.5	180.8	131.32	0.856	1.0012	8.342	7.14	938.4
33	178.3	180.8	2.46	49.5	180.7	131.22	0.856	1.0012	8.342	7.14	937.7
34	178.2	180.7	2.51	49.5	180.5	131.05	0.869	1.0012	8.342	7.25	951.6
35	178.0	180.5	2.49	49.5	180.4	130.95	0.869	1.0012	8.342	7.25	950.9
36	178.0	180.4	2.44	49.5	180.3	130.87	0.856	1.0012	8.342	7.14	935.2
37	177.9	180.3	2.46	49.5	180.2	130.75	0.856	1.0012	8.342	7.14	934.3
38	177.7	180.2	2.49	49.5	180.0	130.58	0.869	1.0012	8.342	7.25	948.1
39	177.5	180.0	2.48	49.5	179.8	130.36	0.869	1.0012	8.342	7.25	946.6
40	177.4	179.9	2.44	49.4	179.7	130.29	0.869	1.0012	8.342	7.25	946.0
41	177.2	179.7	2.47	49.5	179.6	130.11	0.869	1.0012	8.342	7.25	944.8
42	177.0	179.4	2.45	49.4	179.4	129.96	0.869	1.0012	8.342	7.25	943.7
43	176.8	179.3	2.48	49.4	179.2	129.73	0.869	1.0012	8.342	7.25	942.0
44	176.7	179.1	2.35	49.5	179.0	129.49	0.856	1.0012	8.342	7.14	925.3
45	176.4	178.9	2.52	49.5	178.7	129.25	0.869	1.0012	8.342	7.25	938.5
46	176.2	178.7	2.45	49.5	178.6	129.10	0.883	1.0012	8.342	7.37	952.3
47	176.1	178.6	2.51	49.5	178.5	129.00	0.883	1.0012	8.342	7.37	951.5
48	175.8	178.3	2.47	49.5	178.2	128.76	0.883	1.0012	8.342	7.37	949.8
49	175.7	178.1	2.48	49.5	178.1	128.61	0.869	1.0012	8.342	7.25	933.9
50	175.6	178.0	2.39	49.5	177.8	128.34	0.883	1.0012	8.342	7.37	946.7
51	175.2	177.7	2.46	49.5	177.6	128.17	0.869	1.0012	8.342	7.25	930.7
52	175.1	177.6	2.45	49.4	177.5	128.04	0.883	1.0012	8.342	7.37	944.5
53	174.8	177.3	2.49	49.4	177.1	127.69	0.883	1.0012	8.342	7.37	941.9
54	174.6	177.1	2.48	49.5	177.0	127.53	0.883	1.0012	8.342	7.37	940.7
55	174.5	177.0	2.46	49.5	176.9	127.35	0.897	1.0012	8.342	7.48	954.0
56	174.2	176.6	2.45	49.8	176.6	126.76	0.883	1.0012	8.341	7.37	935.0
57	174.0	176.4	2.42	49.9	176.3	126.43	0.883	1.0012	8.341	7.37	932.5
58	173.8	176.2	2.44	50.1	176.1	126.02	0.883	1.0012	8.341	7.37	929.5
59	173.5	176.0	2.49	50.2	175.9	125.70	0.911	1.0012	8.341	7.60	956.1
60	173.4	175.9	2.47	50.3	175.8	125.46	0.911	1.0012	8.341	7.60	954.3
61	173.1	175.6	2.49	50.4	175.5	125.09	0.911	1.0012	8.341	7.60	951.4
62	172.9	175.3	2.45	50.5	175.3	124.82	0.911	1.0012	8.341	7.60	949.4
63	172.6	175.0	2.41	50.6	175.0	124.41	0.897	1.0012	8.341	7.48	931.9
64	172.5	174.9	2.47	50.5	174.8	124.30	0.911	1.0012	8.341	7.60	945.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
65	172.3	174.7	2.33	50.3	174.6	124.31	0.856	1.0012	8.341	7.14	888.2
66	172.0	174.5	2.45	50.2	174.3	124.18	0.897	1.0012	8.341	7.48	930.2
67	171.8	174.2	2.45	50.1	174.2	124.05	0.925	1.0012	8.341	7.71	957.9
68	171.5	173.9	2.41	50.3	173.9	123.57	0.897	1.0012	8.341	7.48	925.7
69	171.3	173.7	2.43	50.4	173.6	123.22	0.911	1.0012	8.341	7.60	937.2
70	171.1	173.5	2.38	50.7	173.4	122.65	0.869	1.0012	8.341	7.25	890.5
71	170.8	173.3	2.49	50.7	173.2	122.50	0.925	1.0012	8.341	7.71	945.8
72	170.4	172.9	2.52	51.0	172.9	121.93	0.938	1.0012	8.340	7.83	955.5
73	170.4	172.9	2.50	50.9	172.7	121.86	0.938	1.0012	8.340	7.83	954.9
74	170.0	172.5	2.49	50.9	172.5	121.63	0.938	1.0012	8.340	7.83	953.1
75	169.8	172.3	2.50	50.8	172.3	121.45	0.938	1.0012	8.340	7.83	951.7
76	169.5	172.0	2.51	50.9	171.9	121.00	0.938	1.0012	8.340	7.83	948.2
77	169.2	171.7	2.51	50.9	171.7	120.74	0.952	1.0012	8.340	7.94	960.0
78	169.0	171.5	2.46	51.0	171.5	120.46	0.938	1.0012	8.340	7.83	944.0
79	168.7	171.2	2.49	50.9	171.1	120.22	0.952	1.0012	8.340	7.94	955.9
80	168.6	171.0	2.46	51.0	170.9	119.86	0.938	1.0012	8.340	7.83	939.2
81	168.3	170.7	2.44	51.2	170.7	119.48	0.938	1.0012	8.340	7.83	936.2
82	167.9	170.4	2.50	51.1	170.4	119.21	0.966	1.0012	8.340	8.06	961.6
83	167.9	170.3	2.45	51.1	170.3	119.17	0.952	1.0012	8.340	7.94	947.5
84	167.5	170.0	2.48	51.1	169.9	118.79	0.952	1.0012	8.340	7.94	944.5
85	167.3	169.8	2.47	51.2	169.6	118.45	0.952	1.0012	8.340	7.94	941.8
86	167.0	169.5	2.49	51.2	169.4	118.19	0.966	1.0012	8.340	8.06	953.4
87	166.8	169.3	2.50	51.2	169.1	117.93	0.966	1.0012	8.340	8.06	951.3
88	166.5	168.9	2.47	51.2	168.8	117.58	0.952	1.0012	8.340	7.94	934.9
89	166.2	168.6	2.43	51.1	168.6	117.43	0.966	1.0012	8.340	8.06	947.3
90	166.0	168.4	2.41	51.2	168.4	117.20	0.966	1.0012	8.340	8.06	945.4
91	165.7	168.2	2.46	51.3	168.1	116.87	0.966	1.0012	8.340	8.06	942.7
92	165.4	167.9	2.46	51.2	167.9	116.67	0.980	1.0012	8.340	8.17	954.6
93	165.1	167.6	2.46	51.3	167.5	116.23	0.980	1.0012	8.340	8.17	950.9
94	165.1	167.5	2.44	51.3	167.5	116.15	0.952	1.0012	8.340	7.94	923.5
95	164.8	167.3	2.48	51.3	167.2	115.87	0.994	1.0012	8.340	8.29	961.4
96	164.6	167.1	2.48	51.3	167.0	115.64	0.966	1.0012	8.340	8.06	932.8
97	164.3	166.8	2.51	51.3	166.7	115.38	0.994	1.0012	8.340	8.29	957.2
98	164.0	166.5	2.48	51.4	166.4	115.03	0.994	1.0012	8.340	8.29	954.4
99	163.7	166.2	2.44	51.4	166.1	114.77	0.994	1.0012	8.340	8.29	952.2
100	163.5	166.0	2.46	51.3	165.9	114.52	0.994	1.0012	8.340	8.29	950.2
101	163.2	165.7	2.46	51.4	165.6	114.16	0.994	1.0012	8.340	8.29	947.2
102	163.0	165.5	2.42	51.4	165.4	114.02	0.994	1.0012	8.340	8.29	946.0
103	162.6	165.1	2.45	51.4	165.0	113.62	0.994	1.0012	8.340	8.29	942.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
104	162.4	164.9	2.41	51.4	164.8	113.44	0.994	1.0012	8.340	8.29	941.2
105	162.1	164.6	2.44	51.4	164.5	113.12	0.994	1.0012	8.340	8.29	938.5
106	162.0	164.4	2.43	51.5	164.3	112.85	0.994	1.0012	8.340	8.29	936.3
107	161.7	164.1	2.40	51.5	164.0	112.54	0.994	1.0012	8.340	8.29	933.7
108	161.4	163.8	2.42	51.4	163.7	112.27	1.007	1.0012	8.340	8.40	944.4
109	161.1	163.5	2.44	51.4	163.4	111.97	0.994	1.0012	8.340	8.29	929.0
110	160.9	163.4	2.48	51.5	163.3	111.78	1.021	1.0012	8.340	8.52	953.2
111	160.5	163.0	2.45	51.4	162.9	111.49	1.021	1.0012	8.340	8.52	950.7
112	160.4	162.8	2.47	51.5	162.7	111.27	1.021	1.0012	8.340	8.52	948.8
113	160.0	162.5	2.44	51.4	162.4	111.03	1.035	1.0012	8.340	8.63	959.6
114	159.7	162.2	2.50	51.4	162.1	110.65	1.035	1.0012	8.340	8.63	956.3
115	159.5	162.0	2.50	51.5	161.9	110.48	1.049	1.0012	8.340	8.75	967.5
116	159.2	161.7	2.48	51.4	161.6	110.28	1.035	1.0012	8.340	8.63	953.1
117	158.9	161.4	2.48	51.4	161.3	109.87	1.049	1.0012	8.340	8.75	962.2
118	158.6	161.1	2.46	51.3	161.0	109.69	1.049	1.0012	8.340	8.75	960.6
119	158.5	160.9	2.47	51.4	160.8	109.39	1.035	1.0012	8.340	8.63	945.4
120	158.3	160.7	2.44	51.4	160.6	109.20	1.049	1.0012	8.340	8.75	956.3
121	157.8	160.3	2.53	51.5	160.2	108.77	1.035	1.0012	8.340	8.63	940.0
122	157.4	159.9	2.50	51.5	159.8	108.36	1.076	1.0012	8.340	8.98	973.9
123	157.3	159.8	2.49	51.4	159.7	108.27	1.049	1.0012	8.340	8.75	948.2
124	157.0	159.5	2.48	51.2	159.4	108.21	1.021	1.0012	8.340	8.52	922.8
125	156.9	159.4	2.53	50.9	159.3	108.38	1.063	1.0012	8.340	8.86	961.7
126	156.6	159.2	2.58	50.7	159.1	108.34	1.090	1.0012	8.341	9.09	986.4
127	157.5	160.1	2.68	50.6	159.9	109.27	1.090	1.0012	8.341	9.09	994.8
128	157.9	160.6	2.64	50.5	160.4	109.91	1.090	1.0012	8.341	9.09	1000.6
129	158.5	161.2	2.68	50.4	161.1	110.66	1.090	1.0012	8.341	9.09	1007.4
130	159.1	161.9	2.76	50.4	161.5	111.17	1.076	1.0012	8.341	8.98	999.3
131	159.9	162.5	2.58	50.3	162.2	111.90	1.035	1.0012	8.341	8.63	967.2
132	160.7	163.3	2.58	50.3	163.0	112.75	1.035	1.0012	8.341	8.63	974.6
133	161.4	164.1	2.64	50.2	163.7	113.52	1.021	1.0012	8.341	8.52	968.1
134	162.2	164.8	2.52	50.2	164.4	114.21	1.007	1.0012	8.341	8.40	960.8
135	162.9	165.6	2.69	50.2	165.3	115.08	1.007	1.0012	8.341	8.40	968.2
136	164.0	166.6	2.68	50.1	166.3	116.18	1.021	1.0012	8.341	8.52	990.8
137	164.9	167.5	2.62	50.1	167.2	117.07	1.021	1.0012	8.341	8.52	998.4
138	165.5	168.1	2.69	50.1	167.8	117.74	0.994	1.0012	8.341	8.29	977.0
139	166.6	169.2	2.65	50.1	168.8	118.79	0.994	1.0012	8.341	8.29	985.7
140	167.3	170.0	2.75	50.0	169.7	119.70	1.007	1.0012	8.341	8.40	1007.0
141	168.1	170.9	2.79	50.0	170.5	120.49	1.021	1.0012	8.341	8.52	1027.6
142	169.1	171.7	2.57	50.0	171.4	121.45	0.980	1.0012	8.341	8.17	993.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
143	169.8	172.5	2.63	50.0	172.3	122.29	0.966	1.0012	8.341	8.06	986.6
144	170.7	173.3	2.65	50.0	173.1	123.13	0.952	1.0012	8.341	7.94	979.2
145	171.6	174.2	2.67	49.9	173.9	123.97	0.952	1.0012	8.341	7.94	985.8
146	172.7	175.4	2.62	50.0	174.9	124.89	0.938	1.0012	8.341	7.83	978.7
147	173.5	176.0	2.50	50.0	175.7	125.65	0.897	1.0012	8.341	7.48	941.3
148	174.2	176.8	2.62	50.0	176.5	126.55	0.925	1.0012	8.341	7.71	977.2
149	175.0	177.7	2.66	50.1	177.4	127.31	0.925	1.0012	8.341	7.71	983.1
150	175.8	178.5	2.66	50.0	178.3	128.25	0.925	1.0012	8.341	7.71	990.3
151	176.7	179.3	2.66	50.0	179.0	128.99	0.925	1.0012	8.341	7.71	996.1
152	177.7	180.3	2.60	50.0	180.0	129.99	0.897	1.0012	8.341	7.48	973.8
153	178.5	181.1	2.57	50.0	180.7	130.72	0.883	1.0012	8.341	7.37	964.2
154	179.0	181.6	2.55	50.0	181.3	131.31	0.883	1.0012	8.341	7.37	968.5
155	179.2	181.8	2.58	50.1	181.6	131.52	0.883	1.0012	8.341	7.37	970.1
156	179.4	181.9	2.51	50.1	181.9	131.82	0.869	1.0012	8.341	7.25	957.1
157	179.5	182.0	2.58	50.1	181.8	131.72	0.883	1.0012	8.341	7.37	971.5
158	179.6	182.1	2.52	50.1	182.0	131.90	0.869	1.0012	8.341	7.25	957.7
159	179.7	182.1	2.41	50.1	182.0	131.89	0.842	1.0012	8.341	7.02	927.2
160	179.8	182.2	2.41	50.1	182.0	131.94	0.842	1.0012	8.341	7.02	927.6
161	179.7	182.1	2.40	50.1	182.0	131.87	0.842	1.0012	8.341	7.02	927.1
162	179.6	182.0	2.41	50.1	182.0	131.84	0.842	1.0012	8.341	7.02	926.8
163	179.7	182.1	2.36	50.2	182.0	131.81	0.828	1.0012	8.341	6.91	911.5
164	179.4	182.0	2.64	50.2	181.9	131.75	0.883	1.0012	8.341	7.37	971.8
165	179.3	182.0	2.67	50.2	181.8	131.68	0.911	1.0012	8.341	7.60	1001.6
166	179.1	181.8	2.67	50.2	181.7	131.45	0.911	1.0012	8.341	7.60	999.8
167	178.9	181.6	2.67	50.1	181.5	131.36	0.911	1.0012	8.341	7.60	999.2
168	178.9	181.6	2.64	50.1	181.5	131.34	0.911	1.0012	8.341	7.60	999.1
169	178.7	181.3	2.64	50.1	181.3	131.15	0.911	1.0012	8.341	7.60	997.6
170	178.7	181.3	2.58	50.2	181.2	131.00	0.883	1.0012	8.341	7.37	966.2
171	178.6	181.2	2.54	50.2	181.1	130.88	0.883	1.0012	8.341	7.37	965.3
172	178.5	181.0	2.56	50.4	180.9	130.52	0.897	1.0012	8.341	7.48	977.7
173	178.4	180.8	2.47	50.6	180.8	130.15	0.869	1.0012	8.341	7.25	944.9
174	178.1	180.6	2.47	50.8	180.6	129.75	0.869	1.0012	8.340	7.25	942.0
175	178.0	180.4	2.46	51.0	180.4	129.38	0.883	1.0012	8.340	7.37	954.2
176	177.8	180.3	2.47	51.2	180.2	129.05	0.869	1.0012	8.340	7.25	936.9
177	177.8	180.2	2.45	51.2	180.1	128.93	0.869	1.0012	8.340	7.25	936.0
178	177.5	180.0	2.43	51.3	179.9	128.64	0.883	1.0012	8.340	7.37	948.7
179	177.3	179.8	2.45	51.5	179.8	128.27	0.869	1.0012	8.340	7.25	931.2
180	177.2	179.6	2.46	51.2	179.5	128.37	0.883	1.0012	8.340	7.37	946.7
181	177.1	179.5	2.46	51.0	179.4	128.43	0.869	1.0012	8.340	7.25	932.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
182	176.8	179.2	2.42	50.8	179.2	128.36	0.869	1.0012	8.340	7.25	931.9
183	176.6	179.1	2.49	50.8	179.1	128.32	0.897	1.0012	8.341	7.48	961.2
184	176.4	179.0	2.52	50.7	178.8	128.17	0.883	1.0012	8.341	7.37	945.3
185	176.2	178.7	2.49	50.7	178.6	127.98	0.897	1.0012	8.341	7.48	958.6
186	176.0	178.5	2.53	50.5	178.4	127.86	0.883	1.0012	8.341	7.37	943.1
187	175.9	178.4	2.49	50.6	178.3	127.69	0.897	1.0012	8.341	7.48	956.5
188	175.7	178.2	2.47	50.5	178.1	127.59	0.883	1.0012	8.341	7.37	941.0
189	175.4	177.9	2.47	50.5	177.8	127.36	0.897	1.0012	8.341	7.48	954.0
190	175.3	177.8	2.50	50.4	177.7	127.24	0.897	1.0012	8.341	7.48	953.2
191	175.1	177.6	2.43	50.4	177.5	127.13	0.883	1.0012	8.341	7.37	937.7
192	174.8	177.3	2.45	50.4	177.3	126.88	0.897	1.0012	8.341	7.48	950.4
193	174.6	177.1	2.46	50.4	177.0	126.57	0.897	1.0012	8.341	7.48	948.1
194	174.4	176.9	2.46	50.4	176.8	126.43	0.883	1.0012	8.341	7.37	932.5
195	174.2	176.7	2.47	50.4	176.6	126.21	0.897	1.0012	8.341	7.48	945.4
196	173.9	176.3	2.48	50.4	176.3	125.89	0.897	1.0012	8.341	7.48	943.0
197	173.8	176.2	2.48	50.4	176.1	125.62	0.911	1.0012	8.341	7.60	955.5
198	173.5	176.0	2.48	50.4	175.9	125.53	0.911	1.0012	8.341	7.60	954.8
199	173.3	175.8	2.47	50.4	175.7	125.28	0.897	1.0012	8.341	7.48	938.4
200	173.1	175.5	2.48	50.3	175.5	125.14	0.911	1.0012	8.341	7.60	951.8
201	172.9	175.4	2.47	50.4	175.3	124.92	0.911	1.0012	8.341	7.60	950.2
202	172.6	175.1	2.46	50.4	175.0	124.67	0.911	1.0012	8.341	7.60	948.3
203	172.4	174.8	2.43	50.3	174.8	124.48	0.911	1.0012	8.341	7.60	946.8
204	172.2	174.7	2.44	50.3	174.6	124.32	0.911	1.0012	8.341	7.60	945.6
205	172.0	174.4	2.47	50.3	174.3	123.99	0.911	1.0012	8.341	7.60	943.1
206	171.9	174.2	2.31	50.3	174.1	123.78	0.883	1.0012	8.341	7.37	913.0
207	171.5	173.9	2.45	50.3	173.8	123.50	0.911	1.0012	8.341	7.60	939.3
208	171.3	173.7	2.45	50.3	173.6	123.31	0.911	1.0012	8.341	7.60	937.9
209	171.0	173.4	2.44	50.4	173.4	123.02	0.925	1.0012	8.341	7.71	949.9
210	170.8	173.2	2.43	50.3	173.1	122.78	0.911	1.0012	8.341	7.60	933.9
211	170.5	173.0	2.43	50.3	172.8	122.55	0.911	1.0012	8.341	7.60	932.2
212	170.3	172.7	2.41	50.3	172.6	122.29	0.911	1.0012	8.341	7.60	930.1
213	170.1	172.5	2.40	50.3	172.3	122.02	0.911	1.0012	8.341	7.60	928.1
214	169.9	172.3	2.41	50.3	172.2	121.86	0.911	1.0012	8.341	7.60	926.9
215	169.6	172.0	2.41	50.3	171.9	121.62	0.925	1.0012	8.341	7.71	939.1
216	169.3	171.8	2.42	50.3	171.7	121.34	0.911	1.0012	8.341	7.60	923.0
217	169.1	171.5	2.38	50.3	171.4	121.13	0.911	1.0012	8.341	7.60	921.3
218	169.0	171.3	2.36	50.2	171.3	121.01	0.925	1.0012	8.341	7.71	934.4
219	168.6	170.9	2.36	50.3	170.9	120.57	0.911	1.0012	8.341	7.60	917.1
220	168.4	170.8	2.37	50.3	170.7	120.41	0.911	1.0012	8.341	7.60	915.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
221	168.1	170.5	2.38	50.3	170.4	120.14	0.925	1.0012	8.341	7.71	927.6
222	167.9	170.2	2.35	50.3	170.2	119.87	0.911	1.0012	8.341	7.60	911.8
223	167.6	170.0	2.36	50.3	169.9	119.63	0.911	1.0012	8.341	7.60	909.9
224	167.5	169.8	2.34	50.3	169.8	119.48	0.925	1.0012	8.341	7.71	922.6
225	167.3	169.6	2.33	50.3	169.6	119.29	0.911	1.0012	8.341	7.60	907.4
226	167.0	169.4	2.34	50.3	169.2	118.99	0.925	1.0012	8.341	7.71	918.8
227	166.7	169.0	2.31	50.4	169.0	118.52	0.911	1.0012	8.341	7.60	901.5
228	166.5	168.8	2.31	50.7	168.7	118.02	0.925	1.0012	8.341	7.71	911.3
229	166.4	168.6	2.29	50.9	168.6	117.68	0.911	1.0012	8.340	7.60	895.0
230	166.1	168.4	2.31	51.0	168.3	117.25	0.925	1.0012	8.340	7.71	905.3
231	165.9	168.2	2.29	51.1	168.2	117.05	0.911	1.0012	8.340	7.60	890.2
232	165.5	167.8	2.26	51.2	167.8	116.55	0.925	1.0012	8.340	7.71	899.9
233	165.5	167.7	2.26	51.2	167.6	116.37	0.911	1.0012	8.340	7.60	885.1
234	165.2	167.4	2.25	51.4	167.3	115.94	0.925	1.0012	8.340	7.71	895.1
235	165.0	167.3	2.28	51.6	167.1	115.56	0.925	1.0012	8.340	7.71	892.2
236	164.7	166.9	2.23	51.5	166.9	115.34	0.911	1.0012	8.340	7.60	877.1
237	164.5	166.8	2.24	51.6	166.6	115.02	0.911	1.0012	8.340	7.60	874.7
238	164.3	166.5	2.23	51.2	166.4	115.16	0.925	1.0012	8.340	7.71	889.1
239	164.0	166.3	2.25	51.2	166.1	114.99	0.911	1.0012	8.340	7.60	874.5
240	163.9	166.1	2.24	51.1	166.0	114.89	0.925	1.0012	8.340	7.71	887.0
241	163.5	165.8	2.24	51.0	165.7	114.69	0.911	1.0012	8.340	7.60	872.3
242	163.2	165.4	2.21	50.9	165.4	114.46	0.925	1.0012	8.340	7.71	883.8
243	163.0	165.3	2.21	50.9	165.2	114.30	0.925	1.0012	8.340	7.71	882.5
244	162.8	165.0	2.23	50.8	164.9	114.15	0.911	1.0012	8.340	7.60	868.2
245	162.7	164.8	2.14	50.8	164.7	113.98	0.883	1.0012	8.341	7.37	840.6
246	162.4	164.6	2.22	50.8	164.5	113.73	0.925	1.0012	8.340	7.71	878.1
247	162.0	164.3	2.33	50.7	164.2	113.51	0.938	1.0012	8.341	7.83	889.5
248	161.6	164.1	2.56	50.7	164.0	113.33	1.007	1.0012	8.341	8.40	953.4
249	161.3	163.9	2.57	50.7	163.8	113.11	1.035	1.0012	8.341	8.63	977.6
250	161.1	163.6	2.59	50.5	163.5	113.00	1.049	1.0012	8.341	8.75	989.7
251	160.8	163.3	2.55	50.5	163.3	112.79	1.049	1.0012	8.341	8.75	987.9
252	160.5	163.0	2.54	50.4	162.9	112.51	1.035	1.0012	8.341	8.63	972.5
253	160.2	162.7	2.53	50.4	162.7	112.28	1.049	1.0012	8.341	8.75	983.4
254	160.0	162.4	2.43	50.3	162.4	112.03	1.021	1.0012	8.341	8.52	955.4
255	159.8	162.2	2.46	50.3	162.2	111.90	1.021	1.0012	8.341	8.52	954.3
256	159.6	162.1	2.46	50.3	162.0	111.69	1.021	1.0012	8.341	8.52	952.5
257	159.3	161.7	2.43	50.3	161.7	111.40	1.035	1.0012	8.341	8.63	962.9
258	158.9	161.4	2.46	50.2	161.3	111.08	1.021	1.0012	8.341	8.52	947.4
259	158.7	161.2	2.46	50.2	161.1	110.88	1.021	1.0012	8.341	8.52	945.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
260	158.5	160.9	2.45	50.2	160.8	110.67	1.035	1.0012	8.341	8.63	956.6
261	158.2	160.7	2.45	50.1	160.5	110.38	1.021	1.0012	8.341	8.52	941.3
262	157.9	160.3	2.42	50.1	160.3	110.14	1.021	1.0012	8.341	8.52	939.3
263	157.6	160.0	2.45	50.1	159.9	109.74	1.021	1.0012	8.341	8.52	935.9
264	157.5	159.9	2.40	50.1	159.8	109.71	1.035	1.0012	8.341	8.63	948.3
265	157.1	159.6	2.43	50.1	159.4	109.39	1.021	1.0012	8.341	8.52	932.9
266	156.7	159.2	2.53	50.1	159.1	109.01	1.063	1.0012	8.341	8.86	967.4
267	156.3	158.8	2.54	50.1	158.8	108.76	1.076	1.0012	8.341	8.98	977.7
268	156.5	159.1	2.57	50.1	158.8	108.71	1.076	1.0012	8.341	8.98	977.3
269	157.0	159.5	2.57	50.4	159.3	108.93	1.063	1.0012	8.341	8.86	966.6
270	157.2	159.9	2.64	50.6	159.6	109.05	1.076	1.0012	8.341	8.98	980.2
271	158.0	160.7	2.62	50.7	160.3	109.64	1.076	1.0012	8.341	8.98	985.6
272	158.7	161.3	2.65	50.8	161.2	110.39	1.076	1.0012	8.341	8.98	992.2
273	159.6	162.2	2.62	50.8	161.8	110.96	1.063	1.0012	8.340	8.86	984.6
274	160.2	162.9	2.70	50.9	162.6	111.64	1.035	1.0012	8.340	8.63	964.9
275	161.0	163.7	2.70	51.0	163.5	112.45	1.063	1.0012	8.340	8.86	997.8
276	161.7	164.4	2.71	51.1	164.2	113.04	1.076	1.0012	8.340	8.98	1016.1
277	162.7	165.3	2.66	51.2	164.9	113.77	1.049	1.0012	8.340	8.75	996.3
278	163.5	166.1	2.58	51.0	165.8	114.74	1.021	1.0012	8.340	8.52	978.5
279	164.2	166.7	2.51	50.9	166.4	115.54	1.007	1.0012	8.340	8.40	972.0
280	164.9	167.6	2.71	50.7	167.1	116.41	1.021	1.0012	8.341	8.52	992.7
281	165.8	168.4	2.70	50.7	168.1	117.44	1.021	1.0012	8.341	8.52	1001.5
282	166.5	169.1	2.65	50.6	169.0	118.40	1.007	1.0012	8.341	8.40	996.1
283	167.3	170.1	2.72	50.6	169.8	119.19	1.021	1.0012	8.341	8.52	1016.4
284	168.2	171.0	2.78	50.5	170.6	120.08	1.007	1.0012	8.341	8.40	1010.2
285	169.1	171.7	2.62	50.5	171.4	120.86	0.966	1.0012	8.341	8.06	974.9
286	169.9	172.5	2.62	50.4	172.2	121.75	0.952	1.0012	8.341	7.94	968.1
287	170.6	173.3	2.65	50.5	172.9	122.49	0.966	1.0012	8.341	8.06	988.1
288	171.5	174.2	2.67	50.4	173.9	123.45	0.952	1.0012	8.341	7.94	981.6
289	172.4	175.1	2.64	50.4	174.9	124.44	0.952	1.0012	8.341	7.94	989.6
290	173.5	176.0	2.55	50.4	175.7	125.36	0.925	1.0012	8.341	7.71	968.0
291	174.2	176.8	2.62	50.4	176.3	125.92	0.911	1.0012	8.341	7.60	957.7
292	175.1	177.6	2.55	50.4	177.4	127.03	0.911	1.0012	8.341	7.60	966.2
293	175.9	178.5	2.60	50.4	178.3	127.91	0.911	1.0012	8.341	7.60	972.9
294	176.9	179.6	2.64	50.4	179.1	128.72	0.897	1.0012	8.341	7.48	964.2
295	177.8	180.5	2.67	50.4	180.0	129.62	0.911	1.0012	8.341	7.60	985.9
296	178.6	181.3	2.67	50.4	180.9	130.48	0.911	1.0012	8.341	7.60	992.5
297	178.9	181.5	2.62	50.4	181.3	130.89	0.897	1.0012	8.341	7.48	980.5
298	179.2	181.7	2.46	50.5	181.6	131.09	0.856	1.0012	8.341	7.14	936.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
299	179.3	181.8	2.44	50.4	181.7	131.26	0.856	1.0012	8.341	7.14	937.9
300	179.5	181.9	2.44	50.4	181.7	131.29	0.856	1.0012	8.341	7.14	938.1
301	179.6	182.0	2.41	50.5	181.9	131.49	0.856	1.0012	8.341	7.14	939.5
302	179.6	182.0	2.41	50.5	181.9	131.42	0.842	1.0012	8.341	7.02	923.8
303	179.7	182.1	2.43	50.5	181.9	131.39	0.842	1.0012	8.341	7.02	923.6
304	179.6	182.1	2.51	50.5	182.0	131.49	0.856	1.0012	8.341	7.14	939.5
305	179.5	182.0	2.50	50.5	181.9	131.35	0.869	1.0012	8.341	7.25	953.6
306	179.5	182.0	2.50	50.5	181.9	131.35	0.869	1.0012	8.341	7.25	953.6
307	179.4	181.9	2.48	50.5	181.8	131.29	0.883	1.0012	8.341	7.37	968.3
308	179.3	181.8	2.51	50.6	181.7	131.13	0.869	1.0012	8.341	7.25	952.0
309	179.2	181.6	2.49	50.5	181.6	131.03	0.856	1.0012	8.341	7.14	936.2
310	179.1	181.6	2.44	50.5	181.6	131.06	0.883	1.0012	8.341	7.37	966.6
311	179.0	181.5	2.47	50.6	181.4	130.85	0.869	1.0012	8.341	7.25	950.0
312	178.9	181.4	2.49	50.6	181.3	130.75	0.869	1.0012	8.341	7.25	949.3
313	178.7	181.2	2.49	50.6	181.1	130.54	0.869	1.0012	8.341	7.25	947.7
314	178.6	181.1	2.47	50.6	181.0	130.48	0.869	1.0012	8.341	7.25	947.3
315	178.5	180.9	2.43	50.6	181.0	130.40	0.869	1.0012	8.341	7.25	946.7
316	178.5	181.0	2.48	50.6	180.8	130.23	0.869	1.0012	8.341	7.25	945.5
317	178.3	180.7	2.45	50.6	180.7	130.11	0.869	1.0012	8.341	7.25	944.6
318	178.0	180.5	2.48	50.6	180.4	129.85	0.869	1.0012	8.341	7.25	942.7
319	178.0	180.4	2.45	50.6	180.4	129.75	0.869	1.0012	8.341	7.25	942.0
320	177.8	180.3	2.45	50.8	180.2	129.39	0.883	1.0012	8.340	7.37	954.3
321	177.6	180.0	2.45	51.0	179.9	128.90	0.869	1.0012	8.340	7.25	935.8
322	177.5	180.0	2.42	51.2	179.9	128.69	0.869	1.0012	8.340	7.25	934.3
323	177.2	179.7	2.42	51.3	179.7	128.35	0.869	1.0012	8.340	7.25	931.8
324	177.2	179.6	2.44	51.5	179.5	128.01	0.869	1.0012	8.340	7.25	929.3
325	177.0	179.4	2.39	51.5	179.4	127.89	0.883	1.0012	8.340	7.37	943.2
326	176.9	179.3	2.41	51.7	179.1	127.44	0.869	1.0012	8.340	7.25	925.1
327	176.7	179.1	2.38	51.7	179.0	127.23	0.869	1.0012	8.340	7.25	923.6
328	176.6	179.0	2.40	51.8	178.8	127.03	0.869	1.0012	8.340	7.25	922.1
329	176.3	178.7	2.37	51.9	178.6	126.72	0.869	1.0012	8.339	7.25	919.9
330	176.1	178.5	2.39	51.7	178.4	126.74	0.869	1.0012	8.340	7.25	920.0
331	176.0	178.4	2.36	51.6	178.3	126.73	0.869	1.0012	8.340	7.25	920.0
332	175.7	178.1	2.41	51.4	178.0	126.65	0.883	1.0012	8.340	7.37	934.0
333	175.6	178.0	2.36	51.3	178.0	126.71	0.869	1.0012	8.340	7.25	919.8
334	175.4	177.8	2.39	51.2	177.7	126.54	0.869	1.0012	8.340	7.25	918.7
335	175.3	177.7	2.37	51.2	177.6	126.40	0.869	1.0012	8.340	7.25	917.6
336	175.0	177.4	2.37	51.1	177.3	126.21	0.869	1.0012	8.340	7.25	916.3
337	174.7	177.2	2.45	51.1	177.1	126.00	0.883	1.0012	8.340	7.37	929.3

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
338	174.4	177.0	2.54	51.0	176.9	125.88	0.911	1.0012	8.340	7.60	957.4
339	174.2	176.8	2.55	51.0	176.7	125.71	0.925	1.0012	8.340	7.71	970.6
340	174.1	176.5	2.42	51.0	176.4	125.31	0.897	1.0012	8.340	7.48	938.6
341	173.9	176.4	2.49	50.9	176.2	125.30	0.911	1.0012	8.340	7.60	953.0
342	173.6	176.1	2.49	50.9	176.0	125.07	0.911	1.0012	8.340	7.60	951.3
343	173.6	176.0	2.38	50.9	175.8	124.90	0.897	1.0012	8.340	7.48	935.6
344	173.2	175.7	2.46	50.9	175.6	124.73	0.897	1.0012	8.340	7.48	934.3
345	173.0	175.4	2.47	50.8	175.4	124.56	0.911	1.0012	8.340	7.60	947.3
346	172.8	175.2	2.46	50.8	175.1	124.27	0.897	1.0012	8.340	7.48	930.9
347	172.5	175.0	2.47	50.8	174.9	124.06	0.925	1.0012	8.340	7.71	957.9
348	172.2	174.6	2.43	50.8	174.6	123.80	0.911	1.0012	8.340	7.60	941.6
349	172.1	174.5	2.46	50.7	174.4	123.69	0.911	1.0012	8.341	7.60	940.7
350	171.9	174.3	2.42	50.7	174.3	123.54	0.911	1.0012	8.341	7.60	939.6
351	171.6	174.0	2.41	50.7	174.0	123.26	0.911	1.0012	8.341	7.60	937.5
352	171.5	173.9	2.40	50.8	173.8	122.97	0.911	1.0012	8.340	7.60	935.3
353	171.3	173.7	2.44	50.7	173.6	122.89	0.911	1.0012	8.341	7.60	934.7
354	170.9	173.3	2.43	50.8	173.2	122.49	0.911	1.0012	8.341	7.60	931.7
355	170.7	173.1	2.38	50.6	173.1	122.41	0.911	1.0012	8.341	7.60	931.0
356	170.4	172.9	2.40	50.7	172.8	122.14	0.911	1.0012	8.341	7.60	929.0
357	170.2	172.6	2.38	50.7	172.6	121.93	0.925	1.0012	8.341	7.71	941.4
358	170.0	172.4	2.41	50.7	172.3	121.57	0.911	1.0012	8.341	7.60	924.7
359	169.8	172.2	2.40	50.6	172.1	121.47	0.911	1.0012	8.341	7.60	923.9
360	169.5	171.9	2.42	50.7	171.8	121.15	0.911	1.0012	8.341	7.60	921.4
361	169.3	171.7	2.40	50.6	171.6	120.99	0.911	1.0012	8.341	7.60	920.2
362	169.0	171.4	2.35	50.6	171.4	120.78	0.911	1.0012	8.341	7.60	918.7
363	168.8	171.2	2.40	50.6	171.1	120.52	0.925	1.0012	8.341	7.71	930.5
364	168.7	171.0	2.37	50.6	170.9	120.35	0.911	1.0012	8.341	7.60	915.4
365	168.4	170.7	2.36	50.6	170.7	120.04	0.925	1.0012	8.341	7.71	926.9
366	168.0	170.4	2.37	50.6	170.3	119.74	0.911	1.0012	8.341	7.60	910.7
367	167.9	170.3	2.35	50.6	170.2	119.61	0.911	1.0012	8.341	7.60	909.8
368	167.8	170.2	2.35	50.6	170.1	119.46	0.925	1.0012	8.341	7.71	922.4
369	167.4	169.8	2.34	50.6	169.7	119.13	0.911	1.0012	8.341	7.60	906.1
370	167.2	169.5	2.33	50.6	169.5	118.89	0.925	1.0012	8.341	7.71	918.0
371	167.0	169.4	2.38	50.6	169.2	118.62	0.911	1.0012	8.341	7.60	902.2
372	166.8	169.2	2.37	50.7	169.0	118.32	0.925	1.0012	8.341	7.71	913.5
373	166.5	168.9	2.31	50.6	168.8	118.23	0.911	1.0012	8.341	7.60	899.2
374	166.3	168.6	2.34	50.6	168.6	117.91	0.925	1.0012	8.341	7.71	910.4
375	166.1	168.5	2.35	50.6	168.4	117.76	0.938	1.0012	8.341	7.83	922.8
376	165.9	168.2	2.34	50.6	168.2	117.58	0.938	1.0012	8.341	7.83	921.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
377	165.6	168.0	2.39	50.6	167.9	117.29	0.952	1.0012	8.341	7.94	932.6
378	165.3	167.7	2.37	50.6	167.6	116.99	0.938	1.0012	8.341	7.83	916.8
379	164.9	167.3	2.41	50.6	167.3	116.63	0.952	1.0012	8.341	7.94	927.4
380	164.8	167.2	2.41	50.6	167.1	116.49	0.952	1.0012	8.341	7.94	926.3
381	164.6	166.9	2.38	50.6	166.9	116.31	0.952	1.0012	8.341	7.94	924.9
382	164.3	166.7	2.38	50.6	166.6	116.01	0.952	1.0012	8.341	7.94	922.4
383	164.1	166.4	2.36	50.6	166.3	115.72	0.952	1.0012	8.341	7.94	920.2
384	163.8	166.2	2.39	50.6	166.2	115.56	0.966	1.0012	8.341	8.06	932.2
385	163.5	165.9	2.41	50.6	165.8	115.21	0.966	1.0012	8.341	8.06	929.4
386	163.2	165.6	2.40	50.6	165.6	115.01	0.966	1.0012	8.341	8.06	927.7
387	162.9	165.4	2.44	50.5	165.3	114.80	0.980	1.0012	8.341	8.17	939.3
388	162.7	165.2	2.44	50.6	165.1	114.46	0.980	1.0012	8.341	8.17	936.6
389	162.5	165.0	2.50	50.5	164.8	114.29	0.994	1.0012	8.341	8.29	948.3
390	162.2	164.7	2.47	50.5	164.6	114.10	0.994	1.0012	8.341	8.29	946.7
391	162.0	164.4	2.47	50.5	164.3	113.74	0.994	1.0012	8.341	8.29	943.7
392	161.7	164.1	2.45	50.5	164.1	113.58	1.007	1.0012	8.341	8.40	955.5
393	161.5	164.0	2.49	50.5	163.9	113.38	0.994	1.0012	8.341	8.29	940.8
394	161.2	163.7	2.52	50.4	163.6	113.14	1.021	1.0012	8.341	8.52	964.9
395	160.8	163.3	2.47	50.4	163.3	112.83	1.007	1.0012	8.341	8.40	949.2
396	160.5	163.0	2.49	50.4	163.0	112.53	1.021	1.0012	8.341	8.52	959.7
397	160.2	162.7	2.50	50.4	162.6	112.21	1.021	1.0012	8.341	8.52	956.9
398	160.1	162.6	2.51	50.4	162.5	112.06	1.021	1.0012	8.341	8.52	955.7
399	159.9	162.4	2.48	50.4	162.3	111.90	1.035	1.0012	8.341	8.63	967.2
400	159.6	162.1	2.46	50.4	162.0	111.64	1.021	1.0012	8.341	8.52	952.1
401	159.3	161.8	2.48	50.4	161.7	111.29	1.021	1.0012	8.341	8.52	949.1
402	159.0	161.5	2.46	50.4	161.4	111.05	1.035	1.0012	8.341	8.63	959.8
403	159.0	161.4	2.45	50.4	161.3	110.93	1.021	1.0012	8.341	8.52	946.0
404	158.5	160.9	2.46	50.4	160.8	110.47	1.021	1.0012	8.341	8.52	942.1
405	158.2	160.7	2.44	50.4	160.6	110.24	1.021	1.0012	8.341	8.52	940.1
406	158.0	160.4	2.43	50.3	160.3	109.98	1.021	1.0012	8.341	8.52	938.0
407	157.8	160.2	2.44	50.4	160.1	109.71	1.021	1.0012	8.341	8.52	935.6
408	157.5	159.9	2.44	50.6	159.7	109.12	1.021	1.0012	8.341	8.52	930.5
409	157.3	159.6	2.35	50.8	159.6	108.77	1.035	1.0012	8.340	8.63	940.1
410	157.1	159.4	2.37	50.9	159.4	108.50	1.021	1.0012	8.340	8.52	925.2
411	156.8	159.2	2.37	51.0	159.1	108.09	1.035	1.0012	8.340	8.63	934.2
412	156.5	159.0	2.41	51.1	158.8	107.71	1.021	1.0012	8.340	8.52	918.5
413	157.2	159.6	2.43	51.2	159.4	108.23	1.035	1.0012	8.340	8.63	935.4
414	157.4	159.8	2.39	51.2	159.7	108.48	1.021	1.0012	8.340	8.52	925.1
415	158.3	160.7	2.43	51.3	160.4	109.07	1.035	1.0012	8.340	8.63	942.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
416	158.7	161.2	2.43	51.4	160.9	109.54	1.021	1.0012	8.340	8.52	934.1
417	159.5	161.9	2.45	51.4	161.7	110.23	1.021	1.0012	8.340	8.52	939.9
418	160.0	162.5	2.49	51.4	162.3	110.87	1.035	1.0012	8.340	8.63	958.1
419	160.8	163.4	2.56	51.2	163.0	111.87	1.021	1.0012	8.340	8.52	953.9
420	161.6	164.3	2.63	51.0	163.8	112.77	1.021	1.0012	8.340	8.52	961.7
421	162.3	164.9	2.60	50.9	164.5	113.63	1.021	1.0012	8.340	8.52	969.0
422	163.1	165.7	2.59	50.9	165.5	114.60	1.021	1.0012	8.340	8.52	977.3
423	163.8	166.5	2.71	50.8	166.0	115.24	1.021	1.0012	8.340	8.52	982.8
424	164.5	167.2	2.68	50.7	166.9	116.18	1.021	1.0012	8.341	8.52	990.8
425	165.8	168.3	2.49	50.7	167.9	117.21	0.952	1.0012	8.341	7.94	932.0
426	166.3	168.7	2.48	50.7	168.5	117.78	0.952	1.0012	8.341	7.94	936.5
427	167.3	169.8	2.53	50.7	169.4	118.72	0.952	1.0012	8.341	7.94	944.0
428	168.1	170.5	2.45	50.7	170.3	119.66	0.952	1.0012	8.341	7.94	951.5
429	169.1	171.6	2.52	50.6	171.4	120.73	0.938	1.0012	8.341	7.83	946.1
430	169.6	172.2	2.61	50.7	171.8	121.19	0.952	1.0012	8.341	7.94	963.6
431	170.8	173.4	2.56	50.6	173.1	122.47	0.952	1.0012	8.341	7.94	973.9
432	171.6	174.2	2.53	50.6	173.7	123.04	0.883	1.0012	8.341	7.37	907.5
433	172.7	175.2	2.47	50.6	174.8	124.20	0.897	1.0012	8.341	7.48	930.3
434	173.6	176.0	2.46	50.7	175.8	125.15	0.897	1.0012	8.341	7.48	937.4
435	174.4	176.8	2.47	50.7	176.6	125.86	0.883	1.0012	8.341	7.37	928.3
436	175.5	178.0	2.53	50.7	177.7	126.95	0.897	1.0012	8.341	7.48	950.9
437	176.3	178.8	2.54	50.7	178.5	127.82	0.883	1.0012	8.341	7.37	942.7
438	177.1	179.6	2.53	50.7	179.3	128.65	0.883	1.0012	8.341	7.37	948.8
439	178.1	180.7	2.57	50.7	180.4	129.73	0.897	1.0012	8.341	7.48	971.8
440	178.9	181.5	2.53	50.7	181.3	130.56	0.883	1.0012	8.341	7.37	962.9
441	179.1	181.6	2.56	50.7	181.5	130.81	0.883	1.0012	8.341	7.37	964.7
442	179.3	181.9	2.58	50.7	181.7	130.99	0.883	1.0012	8.341	7.37	966.1
443	179.5	182.0	2.52	50.7	181.8	131.13	0.883	1.0012	8.341	7.37	967.2
444	179.8	182.1	2.28	50.7	181.9	131.24	0.842	1.0012	8.341	7.02	922.6
445	179.9	182.2	2.26	50.7	181.9	131.20	0.787	1.0012	8.341	6.56	861.8
446	179.8	182.1	2.26	50.8	181.9	131.19	0.800	1.0012	8.341	6.68	876.8
447	179.9	182.2	2.24	50.8	182.0	131.27	0.787	1.0012	8.340	6.56	862.3
448	180.0	182.2	2.25	50.8	182.1	131.28	0.800	1.0012	8.340	6.68	877.5
449	180.0	182.1	2.16	50.8	182.0	131.15	0.787	1.0012	8.340	6.56	861.5
450	179.8	182.1	2.27	50.9	182.0	131.14	0.800	1.0012	8.340	6.68	876.5
451	179.3	181.9	2.67	50.8	181.9	131.07	0.925	1.0012	8.340	7.71	1012.0
452	179.2	181.9	2.69	50.9	181.8	130.92	0.925	1.0012	8.340	7.71	1010.8
453	179.2	181.9	2.69	50.9	181.8	130.87	0.925	1.0012	8.340	7.71	1010.4
454	179.0	181.7	2.66	51.1	181.7	130.53	0.911	1.0012	8.340	7.60	992.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
455	179.0	181.7	2.68	51.3	181.6	130.22	0.925	1.0012	8.340	7.71	1005.4
456	178.8	181.5	2.66	51.3	181.4	130.06	0.925	1.0012	8.340	7.71	1004.1
457	178.6	181.3	2.69	51.4	181.2	129.74	0.925	1.0012	8.340	7.71	1001.7
458	178.5	181.2	2.69	51.5	181.1	129.61	0.925	1.0012	8.340	7.71	1000.6
459	178.4	181.0	2.63	51.6	181.0	129.42	0.925	1.0012	8.340	7.71	999.1
460	178.3	180.9	2.64	51.8	180.8	129.08	0.938	1.0012	8.340	7.83	1011.4
461	178.0	180.6	2.65	51.7	180.6	128.92	0.925	1.0012	8.340	7.71	995.3
462	177.9	180.6	2.66	51.9	180.5	128.57	0.925	1.0012	8.339	7.71	992.6
463	177.7	180.4	2.68	51.8	180.3	128.49	0.938	1.0012	8.340	7.83	1006.8
464	177.5	180.1	2.61	51.7	180.1	128.43	0.938	1.0012	8.340	7.83	1006.3
465	177.2	179.9	2.63	51.3	179.9	128.55	0.925	1.0012	8.340	7.71	992.5
466	177.2	179.8	2.64	51.3	179.7	128.39	0.938	1.0012	8.340	7.83	1006.1
467	177.0	179.6	2.68	51.1	179.5	128.37	0.925	1.0012	8.340	7.71	991.1
468	176.8	179.4	2.64	51.2	179.4	128.18	0.938	1.0012	8.340	7.83	1004.4
469	177.2	179.1	1.91	51.1	179.2	128.03	0.759	1.0012	8.340	6.33	811.5
470	177.1	179.0	1.92	51.1	178.9	127.84	0.731	1.0012	8.340	6.10	780.8
471	176.9	178.8	1.92	51.2	178.8	127.62	0.731	1.0012	8.340	6.10	779.4
472	176.7	178.7	1.93	51.2	178.6	127.36	0.731	1.0012	8.340	6.10	777.8
473	176.7	178.6	1.89	51.2	178.5	127.28	0.731	1.0012	8.340	6.10	777.3
474	176.6	178.5	1.90	51.3	178.4	127.11	0.731	1.0012	8.340	6.10	776.3
475	176.4	178.3	1.90	51.3	178.1	126.86	0.731	1.0012	8.340	6.10	774.8
476	176.2	178.2	1.91	51.3	178.0	126.71	0.731	1.0012	8.340	6.10	773.9
477	176.1	178.0	1.89	51.3	177.9	126.61	0.718	1.0012	8.340	5.98	758.7
478	176.0	177.9	1.88	51.3	177.7	126.45	0.731	1.0012	8.340	6.10	772.3
479	175.9	177.7	1.87	51.3	177.6	126.32	0.731	1.0012	8.340	6.10	771.5
480	174.6	177.5	2.88	51.2	177.4	126.21	0.994	1.0012	8.340	8.29	1047.1
481	174.5	177.4	2.90	51.2	177.3	126.02	1.007	1.0012	8.340	8.40	1060.1
482	174.4	177.3	2.87	51.1	177.2	126.10	1.007	1.0012	8.340	8.40	1060.8
483	174.1	176.9	2.86	51.0	176.9	125.94	1.021	1.0012	8.340	8.52	1074.0
484	173.8	176.6	2.86	50.9	176.6	125.69	1.007	1.0012	8.340	8.40	1057.4
485	173.5	176.4	2.86	50.8	176.3	125.48	1.007	1.0012	8.340	8.40	1055.6
486	173.2	176.0	2.86	51.0	176.0	125.01	1.021	1.0012	8.340	8.52	1066.1
487	173.0	175.9	2.83	51.1	175.8	124.69	1.007	1.0012	8.340	8.40	1048.9
488	172.6	175.5	2.83	51.2	175.4	124.19	1.021	1.0012	8.340	8.52	1059.0
489	172.5	175.3	2.84	51.3	175.2	123.91	1.007	1.0012	8.340	8.40	1042.3
490	172.3	175.1	2.75	51.4	174.9	123.55	0.994	1.0012	8.340	8.29	1025.0
491	173.2	174.8	1.66	51.5	174.7	123.21	0.690	1.0012	8.340	5.75	709.9
492	172.9	174.6	1.65	51.5	174.5	123.02	0.676	1.0012	8.340	5.64	694.6
493	172.7	174.3	1.63	51.8	174.2	122.39	0.676	1.0012	8.340	5.64	691.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
494	172.5	174.1	1.62	52.1	174.0	121.93	0.676	1.0012	8.339	5.64	688.4
495	172.4	174.0	1.64	52.2	173.8	121.66	0.690	1.0012	8.339	5.75	700.9
496	172.2	173.9	1.61	52.1	173.8	121.66	0.676	1.0012	8.339	5.64	686.9
497	172.1	173.7	1.59	52.0	173.6	121.63	0.676	1.0012	8.339	5.64	686.7
498	171.9	173.5	1.63	51.9	173.3	121.40	0.676	1.0012	8.339	5.64	685.4
499	171.7	173.3	1.61	51.9	173.3	121.40	0.676	1.0012	8.340	5.64	685.4
500	171.6	173.2	1.61	51.8	173.1	121.20	0.676	1.0012	8.340	5.64	684.3
501	171.5	173.1	1.60	51.8	173.0	121.13	0.676	1.0012	8.340	5.64	683.9
502	171.3	172.9	1.59	51.8	172.8	121.01	0.662	1.0012	8.340	5.52	669.3
503	171.1	172.7	1.55	51.8	172.6	120.84	0.690	1.0012	8.340	5.75	696.2
504	171.0	172.6	1.56	51.8	172.4	120.63	0.662	1.0012	8.340	5.52	667.2
505	169.9	172.4	2.45	51.7	172.3	120.62	0.925	1.0012	8.340	7.71	931.2
506	169.8	172.2	2.45	51.6	172.1	120.51	0.925	1.0012	8.340	7.71	930.4
507	169.7	172.1	2.45	51.5	172.1	120.56	0.925	1.0012	8.340	7.71	930.8
508	169.4	171.8	2.42	51.3	171.8	120.50	0.938	1.0012	8.340	7.83	944.2
509	169.1	171.5	2.44	51.2	171.5	120.30	0.925	1.0012	8.340	7.71	928.8
510	168.8	171.3	2.43	51.1	171.1	120.02	0.938	1.0012	8.340	7.83	940.5
511	168.7	171.1	2.44	51.0	171.0	119.97	0.925	1.0012	8.340	7.71	926.2
512	168.4	170.8	2.47	51.1	170.7	119.63	0.938	1.0012	8.340	7.83	937.4
513	168.3	170.7	2.38	51.0	170.6	119.62	0.938	1.0012	8.340	7.83	937.3
514	167.9	170.3	2.43	50.9	170.3	119.38	0.925	1.0012	8.340	7.71	921.7
515	167.7	170.1	2.38	50.9	170.1	119.23	0.938	1.0012	8.340	7.83	934.3
516	167.5	169.9	2.42	50.8	169.8	118.99	0.938	1.0012	8.340	7.83	932.4
517	167.1	169.5	2.38	50.9	169.5	118.62	0.925	1.0012	8.340	7.71	915.9
518	166.9	169.3	2.39	50.9	169.2	118.40	0.938	1.0012	8.340	7.83	927.8
519	166.8	169.2	2.41	51.0	169.0	118.03	0.938	1.0012	8.340	7.83	924.9
520	166.6	168.9	2.32	51.2	168.9	117.68	0.938	1.0012	8.340	7.83	922.2
521	166.3	168.7	2.32	51.3	168.6	117.30	0.938	1.0012	8.340	7.83	919.2
522	166.1	168.4	2.34	51.4	168.3	116.93	0.925	1.0012	8.340	7.71	902.7
523	165.8	168.1	2.34	51.5	168.1	116.55	0.938	1.0012	8.340	7.83	913.2
524	165.5	167.9	2.36	51.6	167.7	116.14	0.938	1.0012	8.340	7.83	910.0
525	165.3	167.6	2.33	51.7	167.5	115.77	0.938	1.0012	8.340	7.83	907.1
526	165.1	167.4	2.30	51.8	167.3	115.56	0.938	1.0012	8.340	7.83	905.4
527	164.9	167.2	2.29	51.8	167.2	115.38	0.925	1.0012	8.340	7.71	890.8
528	164.6	166.9	2.33	51.6	166.8	115.19	0.938	1.0012	8.340	7.83	902.6
529	164.4	166.7	2.32	51.5	166.5	115.09	0.938	1.0012	8.340	7.83	901.8
530	164.1	166.4	2.30	51.3	166.4	115.06	0.938	1.0012	8.340	7.83	901.6
531	163.9	166.2	2.33	51.2	166.1	114.88	0.938	1.0012	8.340	7.83	900.2
532	163.6	165.9	2.29	51.2	165.8	114.64	0.938	1.0012	8.340	7.83	898.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
533	163.3	165.6	2.26	51.1	165.6	114.50	0.925	1.0012	8.340	7.71	884.0
534	163.2	165.4	2.28	51.0	165.3	114.28	0.938	1.0012	8.340	7.83	895.5
535	162.8	165.1	2.27	51.0	165.0	114.02	0.938	1.0012	8.340	7.83	893.5
536	162.7	164.9	2.27	51.0	164.9	113.89	0.938	1.0012	8.340	7.83	892.4
537	162.2	164.6	2.43	50.9	164.6	113.63	0.966	1.0012	8.340	8.06	916.6
538	161.9	164.4	2.55	50.9	164.2	113.31	1.007	1.0012	8.340	8.40	953.2
539	161.6	164.1	2.50	50.9	164.1	113.22	1.021	1.0012	8.340	8.52	965.5
540	161.4	163.9	2.51	50.8	163.8	113.07	1.021	1.0012	8.341	8.52	964.2
541	161.1	163.6	2.50	50.7	163.5	112.82	1.007	1.0012	8.341	8.40	949.1
542	160.9	163.4	2.50	50.7	163.3	112.59	1.021	1.0012	8.341	8.52	960.1
543	160.6	163.1	2.48	50.7	163.0	112.40	1.021	1.0012	8.341	8.52	958.5
544	160.3	162.8	2.51	50.6	162.7	112.07	1.021	1.0012	8.341	8.52	955.8
545	160.0	162.5	2.47	50.6	162.4	111.84	1.021	1.0012	8.341	8.52	953.7
546	159.9	162.3	2.42	50.6	162.3	111.72	1.021	1.0012	8.341	8.52	952.8
547	159.6	162.1	2.47	50.7	162.0	111.34	1.021	1.0012	8.341	8.52	949.5
548	159.4	161.9	2.46	50.9	161.8	110.85	1.021	1.0012	8.340	8.52	945.3
549	159.0	161.4	2.46	51.0	161.3	110.25	1.021	1.0012	8.340	8.52	940.2
550	158.8	161.2	2.42	51.1	161.1	110.00	1.021	1.0012	8.340	8.52	938.0
551	158.5	160.9	2.44	51.2	160.8	109.58	1.021	1.0012	8.340	8.52	934.4
552	158.3	160.7	2.40	51.2	160.6	109.37	1.021	1.0012	8.340	8.52	932.7
553	158.0	160.4	2.40	51.3	160.4	109.08	1.035	1.0012	8.340	8.63	942.7
554	157.7	160.1	2.41	51.5	160.0	108.57	1.021	1.0012	8.340	8.52	925.8
555	157.5	159.9	2.38	51.5	159.9	108.37	1.021	1.0012	8.340	8.52	924.1
556	157.2	159.6	2.40	51.4	159.5	108.07	1.021	1.0012	8.340	8.52	921.6
557	156.9	159.3	2.37	51.2	159.3	108.03	1.035	1.0012	8.340	8.63	933.6
558	156.7	159.0	2.38	51.1	159.0	107.90	1.021	1.0012	8.340	8.52	920.1
559	156.6	159.0	2.40	51.0	158.8	107.82	1.021	1.0012	8.340	8.52	919.4
560	157.0	159.5	2.45	50.9	159.1	108.24	1.035	1.0012	8.340	8.63	935.5
561	157.3	159.7	2.41	50.8	159.5	108.65	1.021	1.0012	8.340	8.52	926.6
562	157.7	160.2	2.45	50.8	159.9	109.10	1.021	1.0012	8.341	8.52	930.3
563	158.3	160.8	2.51	50.7	160.5	109.77	1.021	1.0012	8.341	8.52	936.1
564	158.9	161.4	2.51	50.6	161.1	110.50	1.035	1.0012	8.341	8.63	955.1
565	159.8	162.4	2.58	50.7	161.9	111.26	1.021	1.0012	8.341	8.52	948.8
566	160.4	162.9	2.52	50.6	162.7	112.05	1.021	1.0012	8.341	8.52	955.6
567	161.1	163.7	2.57	50.6	163.4	112.77	1.021	1.0012	8.341	8.52	961.7
568	161.7	164.2	2.53	50.6	164.1	113.47	1.021	1.0012	8.341	8.52	967.7
569	162.6	165.1	2.55	50.6	164.9	114.31	1.021	1.0012	8.341	8.52	974.8
570	163.3	166.0	2.63	50.6	165.7	115.11	1.007	1.0012	8.341	8.40	968.4
571	164.1	166.7	2.61	50.5	166.5	115.94	1.021	1.0012	8.341	8.52	988.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
572	164.8	167.5	2.71	50.5	167.1	116.61	1.007	1.0012	8.341	8.40	981.0
573	165.5	168.2	2.70	50.5	167.9	117.43	1.021	1.0012	8.341	8.52	1001.4
574	166.5	169.3	2.73	50.4	169.0	118.56	1.007	1.0012	8.341	8.40	997.4
575	167.3	170.0	2.74	50.5	169.8	119.29	1.007	1.0012	8.341	8.40	1003.5
576	168.1	170.9	2.77	50.4	170.5	120.06	1.021	1.0012	8.341	8.52	1023.9
577	168.9	171.6	2.77	50.5	171.3	120.78	1.007	1.0012	8.341	8.40	1016.1
578	169.8	172.7	2.85	50.8	172.2	121.46	1.007	1.0012	8.341	8.40	1021.8
579	170.4	173.2	2.82	50.9	173.0	122.03	1.007	1.0012	8.340	8.40	1026.6
580	171.3	174.2	2.82	51.0	173.8	122.79	1.007	1.0012	8.340	8.40	1033.0
581	172.6	175.1	2.45	51.1	174.7	123.59	0.869	1.0012	8.340	7.25	897.2
582	173.5	176.0	2.47	51.1	175.5	124.40	0.869	1.0012	8.340	7.25	903.1
583	174.4	176.7	2.36	51.4	176.5	125.10	0.883	1.0012	8.340	7.37	922.6
584	175.2	177.7	2.42	51.5	177.3	125.79	0.869	1.0012	8.340	7.25	913.2
585	176.0	178.4	2.44	51.7	178.1	126.47	0.869	1.0012	8.340	7.25	918.1
586	176.8	179.2	2.46	51.7	178.9	127.25	0.869	1.0012	8.340	7.25	923.8
587	177.7	180.2	2.48	51.6	179.9	128.28	0.856	1.0012	8.340	7.14	916.5
588	178.4	180.9	2.51	51.3	180.6	129.22	0.869	1.0012	8.340	7.25	938.1
589	178.6	181.1	2.47	51.3	180.9	129.66	0.856	1.0012	8.340	7.14	926.3
590	178.8	181.3	2.49	51.2	181.1	129.91	0.869	1.0012	8.340	7.25	943.1
591	178.9	181.4	2.48	51.2	181.3	130.09	0.869	1.0012	8.340	7.25	944.4
592	179.2	181.7	2.46	51.1	181.5	130.37	0.856	1.0012	8.340	7.14	931.4
593	179.3	181.7	2.48	51.1	181.6	130.55	0.869	1.0012	8.340	7.25	947.8
594	179.2	181.7	2.47	51.0	181.6	130.59	0.856	1.0012	8.340	7.14	933.0
595	179.3	181.7	2.46	51.0	181.6	130.58	0.869	1.0012	8.340	7.25	948.0
596	179.3	181.8	2.48	51.0	181.6	130.63	0.856	1.0012	8.340	7.14	933.3
597	179.2	181.7	2.45	51.0	181.6	130.66	0.869	1.0012	8.340	7.25	948.6
598	179.2	181.7	2.48	50.9	181.5	130.62	0.856	1.0012	8.340	7.14	933.2
599	179.2	181.6	2.49	50.9	181.5	130.57	0.856	1.0012	8.340	7.14	932.9
600	179.1	181.6	2.47	50.9	181.4	130.53	0.869	1.0012	8.340	7.25	947.7
601	178.8	181.3	2.50	50.9	181.2	130.33	0.869	1.0012	8.340	7.25	946.2
602	178.7	181.2	2.51	50.9	181.1	130.23	0.856	1.0012	8.340	7.14	930.5
603	178.8	181.2	2.46	50.9	181.1	130.27	0.869	1.0012	8.340	7.25	945.8
604	178.7	181.1	2.45	50.8	181.0	130.20	0.869	1.0012	8.340	7.25	945.3
605	178.5	181.0	2.49	50.9	180.9	130.00	0.856	1.0012	8.340	7.14	928.9
606	178.5	180.9	2.46	51.1	180.8	129.73	0.869	1.0012	8.340	7.25	941.8
607	178.3	180.6	2.37	51.3	181.3	130.05	0.869	1.0012	8.340	7.25	944.2
608	178.2	180.6	2.45	51.4	180.6	129.14	0.856	1.0012	8.340	7.14	922.6
609	178.1	180.6	2.46	51.5	180.4	128.94	0.869	1.0012	8.340	7.25	936.1
610	177.9	180.4	2.46	51.6	180.2	128.57	0.856	1.0012	8.340	7.14	918.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
611	177.7	180.1	2.43	51.7	180.1	128.44	0.869	1.0012	8.340	7.25	932.4
612	177.7	180.1	2.41	51.9	180.0	128.10	0.869	1.0012	8.340	7.25	929.9
613	177.5	179.9	2.42	51.9	179.8	127.87	0.856	1.0012	8.339	7.14	913.5
614	177.2	179.6	2.40	51.9	179.6	127.66	0.869	1.0012	8.339	7.25	926.7
615	177.2	179.6	2.42	51.9	179.5	127.58	0.869	1.0012	8.339	7.25	926.1
616	177.0	179.4	2.36	51.6	179.3	127.71	0.869	1.0012	8.340	7.25	927.1
617	176.9	179.2	2.38	51.6	179.1	127.56	0.869	1.0012	8.340	7.25	926.0
618	176.7	179.1	2.37	51.4	179.1	127.64	0.869	1.0012	8.340	7.25	926.6
619	176.5	178.9	2.44	51.3	178.7	127.44	0.869	1.0012	8.340	7.25	925.1
620	176.3	178.7	2.40	51.3	178.6	127.27	0.869	1.0012	8.340	7.25	923.9
621	176.1	178.6	2.44	51.2	178.4	127.20	0.869	1.0012	8.340	7.25	923.5
622	175.9	178.2	2.36	51.2	178.2	127.01	0.869	1.0012	8.340	7.25	922.0
623	175.7	178.1	2.39	51.1	178.0	126.92	0.856	1.0012	8.340	7.14	906.8
624	175.5	177.9	2.39	51.1	177.8	126.67	0.883	1.0012	8.340	7.37	934.2
625	175.3	177.7	2.39	51.1	177.7	126.55	0.869	1.0012	8.340	7.25	918.8
626	175.1	177.5	2.39	51.0	177.4	126.35	0.869	1.0012	8.340	7.25	917.3
627	175.0	177.4	2.39	51.0	177.3	126.28	0.869	1.0012	8.340	7.25	916.8
628	174.9	177.2	2.26	51.0	177.1	126.07	0.842	1.0012	8.340	7.02	886.2
629	174.6	177.0	2.36	51.0	176.9	125.90	0.856	1.0012	8.340	7.14	899.5
630	174.4	176.8	2.35	51.0	176.7	125.64	0.869	1.0012	8.340	7.25	912.1
631	174.1	176.5	2.36	50.9	176.4	125.49	0.869	1.0012	8.340	7.25	911.0
632	174.0	176.4	2.36	50.9	176.3	125.41	0.869	1.0012	8.340	7.25	910.5
633	173.8	176.2	2.35	50.9	176.1	125.20	0.869	1.0012	8.340	7.25	909.0
634	173.6	175.9	2.34	51.0	175.8	124.82	0.869	1.0012	8.340	7.25	906.2
635	173.3	175.6	2.32	51.2	175.6	124.42	0.869	1.0012	8.340	7.25	903.3
636	173.2	175.5	2.32	51.4	175.5	124.13	0.869	1.0012	8.340	7.25	901.1
637	173.0	175.3	2.30	51.5	175.2	123.77	0.883	1.0012	8.340	7.37	912.8
638	172.7	175.0	2.30	51.6	174.9	123.32	0.869	1.0012	8.340	7.25	895.3
639	172.5	174.8	2.29	51.6	174.7	123.09	0.869	1.0012	8.340	7.25	893.5
640	172.3	174.6	2.26	51.7	174.5	122.82	0.856	1.0012	8.340	7.14	877.5
641	172.1	174.4	2.29	51.8	174.3	122.56	0.883	1.0012	8.340	7.37	903.8
642	171.9	174.2	2.30	51.9	174.0	122.16	0.869	1.0012	8.340	7.25	886.8
643	171.6	173.9	2.27	51.8	173.9	122.09	0.869	1.0012	8.340	7.25	886.3
644	171.5	173.7	2.26	51.7	173.7	122.00	0.869	1.0012	8.340	7.25	885.6
645	171.2	173.5	2.28	51.5	173.5	121.96	0.869	1.0012	8.340	7.25	885.3
646	171.0	173.3	2.29	51.4	173.2	121.81	0.883	1.0012	8.340	7.37	898.3
647	170.9	173.2	2.27	51.3	173.0	121.77	0.869	1.0012	8.340	7.25	884.0
648	170.6	172.9	2.26	51.2	172.8	121.58	0.869	1.0012	8.340	7.25	882.6
649	170.4	172.6	2.22	51.2	172.6	121.44	0.869	1.0012	8.340	7.25	881.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
650	170.1	172.4	2.26	51.1	172.3	121.16	0.883	1.0012	8.340	7.37	893.6
651	169.7	172.2	2.44	51.0	172.1	121.06	0.925	1.0012	8.340	7.71	934.7
652	169.4	171.9	2.47	51.0	171.8	120.84	0.925	1.0012	8.340	7.71	933.0
653	169.4	171.8	2.46	51.0	171.7	120.77	0.938	1.0012	8.340	7.83	946.4
654	169.0	171.4	2.44	50.9	171.4	120.46	0.938	1.0012	8.340	7.83	943.9
655	168.8	171.2	2.44	50.8	171.1	120.30	0.925	1.0012	8.340	7.71	928.8
656	168.5	170.9	2.43	50.8	170.8	120.02	0.938	1.0012	8.340	7.83	940.5
657	168.2	170.7	2.42	50.7	170.7	119.91	0.938	1.0012	8.341	7.83	939.7
658	167.9	170.4	2.42	50.7	170.3	119.53	0.938	1.0012	8.341	7.83	936.7
659	168.0	170.3	2.38	50.9	170.2	119.35	0.925	1.0012	8.340	7.71	921.5
660	167.6	170.0	2.40	51.2	169.9	118.69	0.938	1.0012	8.340	7.83	930.0
661	167.4	169.7	2.35	51.2	169.7	118.46	0.925	1.0012	8.340	7.71	914.6
662	167.1	169.5	2.37	51.3	169.4	118.09	0.938	1.0012	8.340	7.83	925.3
663	167.0	169.3	2.38	51.4	169.2	117.77	0.925	1.0012	8.340	7.71	909.3
664	166.7	169.0	2.38	51.5	168.9	117.39	0.938	1.0012	8.340	7.83	919.8
665	166.5	168.8	2.35	51.4	168.7	117.22	0.911	1.0012	8.340	7.60	891.5
666	166.1	168.5	2.36	51.6	168.4	116.84	0.925	1.0012	8.340	7.71	902.0
667	165.9	168.3	2.35	51.8	168.1	116.38	0.938	1.0012	8.340	7.83	911.9
668	165.8	168.1	2.34	51.7	168.0	116.24	0.925	1.0012	8.340	7.71	897.4
669	165.6	167.9	2.34	51.6	167.8	116.15	0.938	1.0012	8.340	7.83	910.1
670	165.2	167.6	2.32	51.4	167.5	116.08	0.938	1.0012	8.340	7.83	909.5
671	164.8	167.2	2.34	51.2	167.1	115.88	0.925	1.0012	8.340	7.71	894.7
672	164.8	167.1	2.30	51.2	167.0	115.78	0.938	1.0012	8.340	7.83	907.3
673	164.5	166.8	2.29	51.0	166.8	115.79	0.938	1.0012	8.340	7.83	907.4
674	164.3	166.6	2.33	51.0	166.5	115.46	0.938	1.0012	8.340	7.83	904.7
675	164.1	166.4	2.31	51.0	166.3	115.35	0.938	1.0012	8.340	7.83	903.9
676	163.8	166.1	2.31	50.9	166.0	115.12	0.925	1.0012	8.340	7.71	888.8
677	163.6	165.9	2.30	50.8	165.7	114.96	0.938	1.0012	8.340	7.83	900.8
678	163.3	165.5	2.29	50.8	165.5	114.73	0.938	1.0012	8.341	7.83	899.0
679	163.0	165.3	2.31	50.8	165.2	114.43	0.938	1.0012	8.341	7.83	896.7
680	162.9	165.2	2.29	50.7	165.1	114.36	0.938	1.0012	8.341	7.83	896.2
681	162.5	164.8	2.27	50.7	164.8	114.13	0.938	1.0012	8.341	7.83	894.4
682	162.4	164.7	2.27	50.6	164.6	113.94	0.938	1.0012	8.341	7.83	892.9
683	162.1	164.4	2.27	50.6	164.3	113.68	0.938	1.0012	8.341	7.83	890.9
684	161.8	164.1	2.30	50.6	164.0	113.37	0.938	1.0012	8.341	7.83	888.4
685	161.7	163.9	2.25	50.8	163.9	113.12	0.938	1.0012	8.340	7.83	886.5
686	161.4	163.6	2.24	50.9	163.5	112.58	0.938	1.0012	8.340	7.83	882.2
687	161.2	163.4	2.25	51.1	163.3	112.23	0.938	1.0012	8.340	7.83	879.4
688	160.8	163.0	2.24	51.2	163.0	111.79	0.938	1.0012	8.340	7.83	876.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
689	160.6	162.8	2.20	51.2	162.7	111.48	0.938	1.0012	8.340	7.83	873.6
690	160.5	162.7	2.21	51.4	162.6	111.16	0.938	1.0012	8.340	7.83	871.0
691	160.3	162.5	2.20	51.4	162.3	110.89	0.938	1.0012	8.340	7.83	868.9
692	160.0	162.2	2.17	51.5	162.1	110.59	0.938	1.0012	8.340	7.83	866.5
693	159.6	161.9	2.27	51.6	161.8	110.23	0.966	1.0012	8.340	8.06	889.1
694	159.4	161.7	2.26	51.6	161.6	109.98	0.980	1.0012	8.340	8.17	899.8
695	159.3	161.6	2.28	51.5	161.5	109.92	0.966	1.0012	8.340	8.06	886.6
696	159.0	161.2	2.28	51.3	161.2	109.86	0.980	1.0012	8.340	8.17	898.8
697	158.7	161.0	2.25	51.1	160.9	109.77	0.980	1.0012	8.340	8.17	898.1
698	158.5	160.8	2.28	51.0	160.6	109.63	0.966	1.0012	8.340	8.06	884.3
699	158.2	160.5	2.31	50.9	160.3	109.42	0.980	1.0012	8.340	8.17	895.3
700	157.9	160.2	2.27	50.8	160.1	109.23	0.980	1.0012	8.340	8.17	893.7
701	157.6	159.8	2.21	50.8	159.8	109.00	0.980	1.0012	8.340	8.17	891.8
702	157.5	159.7	2.21	50.8	159.6	108.87	0.980	1.0012	8.341	8.17	890.8
703	157.1	159.4	2.22	50.7	159.3	108.57	0.966	1.0012	8.341	8.06	875.8
704	156.9	159.2	2.22	50.7	159.0	108.37	0.980	1.0012	8.341	8.17	886.7
705	156.7	158.9	2.25	50.6	158.9	108.20	0.966	1.0012	8.341	8.06	872.9
706	157.1	159.4	2.32	50.6	159.0	108.42	0.980	1.0012	8.341	8.17	887.1
707	157.5	159.7	2.26	50.6	159.5	108.94	0.966	1.0012	8.341	8.06	878.8
708	158.1	160.4	2.28	50.5	160.1	109.61	0.980	1.0012	8.341	8.17	896.9
709	158.8	161.0	2.29	50.6	160.8	110.15	0.966	1.0012	8.341	8.06	888.6
710	159.4	161.8	2.34	50.8	161.4	110.62	0.980	1.0012	8.340	8.17	905.1
711	160.0	162.3	2.35	51.0	162.0	111.02	0.966	1.0012	8.340	8.06	895.6
712	160.8	163.2	2.36	51.1	162.9	111.79	0.980	1.0012	8.340	8.17	914.6
713	161.6	164.0	2.41	51.2	163.5	112.32	0.966	1.0012	8.340	8.06	906.0
714	162.3	164.7	2.41	51.2	164.4	113.18	0.966	1.0012	8.340	8.06	913.0
715	163.0	165.4	2.45	51.4	165.1	113.72	0.980	1.0012	8.340	8.17	930.4
716	163.8	166.2	2.44	51.3	166.0	114.62	0.966	1.0012	8.340	8.06	924.5
717	164.8	167.2	2.48	51.5	166.8	115.33	0.966	1.0012	8.340	8.06	930.3
718	165.4	168.0	2.52	51.4	167.6	116.29	0.980	1.0012	8.340	8.17	951.4
719	166.2	168.7	2.49	51.2	168.4	117.26	0.966	1.0012	8.340	8.06	945.8
720	167.1	169.7	2.55	51.0	169.4	118.36	0.966	1.0012	8.340	8.06	954.8
721	168.1	170.6	2.52	50.9	170.3	119.45	0.966	1.0012	8.340	8.06	963.5
722	168.9	171.4	2.52	50.8	171.2	120.34	0.966	1.0012	8.340	8.06	970.8
723	169.6	172.2	2.64	50.8	171.9	121.06	0.966	1.0012	8.340	8.06	976.5
724	170.4	173.1	2.64	50.7	172.8	122.14	0.952	1.0012	8.341	7.94	971.2
725	171.4	174.1	2.69	50.7	173.7	122.94	0.966	1.0012	8.341	8.06	991.8
726	172.2	174.9	2.68	50.7	174.6	123.91	0.952	1.0012	8.341	7.94	985.3
727	173.1	175.8	2.68	50.7	175.4	124.75	0.966	1.0012	8.341	8.06	1006.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
728	173.9	176.6	2.69	50.6	176.3	125.74	0.952	1.0012	8.341	7.94	999.9
729	174.7	177.4	2.75	50.6	177.2	126.53	0.966	1.0012	8.341	8.06	1020.7
730	175.6	178.4	2.78	50.6	178.2	127.67	0.952	1.0012	8.341	7.94	1015.2
731	176.5	179.4	2.82	50.6	178.9	128.36	0.966	1.0012	8.341	8.06	1035.5
732	177.4	180.2	2.80	50.6	179.9	129.33	0.952	1.0012	8.341	7.94	1028.4
733	178.1	180.8	2.78	50.9	180.6	129.76	0.952	1.0012	8.340	7.94	1031.7
734	178.4	181.1	2.76	51.0	181.0	130.03	0.952	1.0012	8.340	7.94	1033.9
735	178.6	181.4	2.82	51.1	181.1	130.05	0.938	1.0012	8.340	7.83	1019.1
736	178.8	181.6	2.79	51.3	181.4	130.13	0.952	1.0012	8.340	7.94	1034.7
737	178.9	181.7	2.80	51.2	181.5	130.28	0.952	1.0012	8.340	7.94	1035.9
738	179.0	181.8	2.78	51.4	181.6	130.26	0.952	1.0012	8.340	7.94	1035.7
739	179.0	181.8	2.78	51.3	181.6	130.27	0.952	1.0012	8.340	7.94	1035.8
740	179.0	181.8	2.76	51.4	181.6	130.20	0.938	1.0012	8.340	7.83	1020.2
741	179.0	181.8	2.78	51.6	181.7	130.12	0.952	1.0012	8.340	7.94	1034.6
742	179.0	181.7	2.78	51.3	181.6	130.26	0.938	1.0012	8.340	7.83	1020.7
743	178.9	181.7	2.74	51.1	181.5	130.41	0.938	1.0012	8.340	7.83	1021.9
744	178.9	181.7	2.76	51.0	181.6	130.59	0.938	1.0012	8.340	7.83	1023.3
745	178.7	181.4	2.73	50.9	181.4	130.44	0.938	1.0012	8.340	7.83	1022.1
746	178.7	181.4	2.73	50.9	181.3	130.40	0.938	1.0012	8.340	7.83	1021.8
747	178.6	181.3	2.69	50.8	181.2	130.40	0.938	1.0012	8.340	7.83	1021.8
748	178.4	181.2	2.75	50.7	181.0	130.29	0.938	1.0012	8.341	7.83	1021.0
749	178.3	181.0	2.72	50.7	181.0	130.24	0.938	1.0012	8.341	7.83	1020.6
750	178.2	181.0	2.74	50.7	180.8	130.12	0.925	1.0012	8.341	7.71	1004.7
751	178.0	180.7	2.71	50.7	180.7	129.97	0.938	1.0012	8.341	7.83	1018.5
752	177.9	180.7	2.71	50.6	180.6	129.92	0.938	1.0012	8.341	7.83	1018.1
753	177.8	180.5	2.71	50.6	180.4	129.84	0.938	1.0012	8.341	7.83	1017.5
754	177.6	180.3	2.72	50.6	180.2	129.59	0.938	1.0012	8.341	7.83	1015.6
755	177.4	180.1	2.71	50.6	180.0	129.43	0.938	1.0012	8.341	7.83	1014.2
756	177.3	180.0	2.70	50.5	179.9	129.43	0.938	1.0012	8.341	7.83	1014.3
757	177.2	179.9	2.70	50.6	179.7	129.17	0.938	1.0012	8.341	7.83	1012.2
758	176.8	179.5	2.62	50.8	179.5	128.76	0.938	1.0012	8.341	7.83	1009.0
759	176.8	179.5	2.69	50.9	179.4	128.44	0.938	1.0012	8.340	7.83	1006.5
760	176.6	179.2	2.66	51.1	179.2	128.13	0.938	1.0012	8.340	7.83	1004.0
761	176.3	178.9	2.65	51.2	178.9	127.72	0.938	1.0012	8.340	7.83	1000.8
762	176.2	178.8	2.63	51.2	178.8	127.60	0.938	1.0012	8.340	7.83	999.9
763	176.1	178.8	2.64	51.3	178.6	127.31	0.938	1.0012	8.340	7.83	997.6
764	175.9	178.5	2.63	51.4	178.5	127.06	0.938	1.0012	8.340	7.83	995.6
765	175.7	178.4	2.64	51.4	178.2	126.82	0.952	1.0012	8.340	7.94	1008.3
766	175.5	178.1	2.53	51.6	178.0	126.37	0.925	1.0012	8.340	7.71	975.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
767	175.3	177.9	2.66	51.5	177.8	126.36	0.911	1.0012	8.340	7.60	961.0
768	175.0	177.7	2.64	51.3	177.6	126.32	0.938	1.0012	8.340	7.83	989.8
769	174.9	177.5	2.66	51.0	177.4	126.39	0.952	1.0012	8.340	7.94	1005.0
770	174.6	177.2	2.63	51.0	177.2	126.17	0.938	1.0012	8.340	7.83	988.6
771	174.3	177.0	2.65	50.9	176.9	126.03	0.952	1.0012	8.340	7.94	1002.1
772	174.1	176.8	2.65	50.9	176.7	125.82	0.938	1.0012	8.340	7.83	985.9
773	173.9	176.5	2.63	50.8	176.5	125.69	0.952	1.0012	8.341	7.94	999.4
774	173.8	176.4	2.61	50.7	176.4	125.64	0.952	1.0012	8.341	7.94	999.0
775	173.6	176.2	2.60	50.6	176.2	125.50	0.938	1.0012	8.341	7.83	983.5
776	173.3	175.9	2.61	50.7	175.8	125.14	0.952	1.0012	8.341	7.94	995.1
777	173.0	175.6	2.61	50.6	175.6	124.99	0.938	1.0012	8.341	7.83	979.5
778	172.8	175.4	2.60	50.6	175.4	124.80	0.952	1.0012	8.341	7.94	992.4
779	172.7	175.3	2.60	50.5	175.2	124.64	0.952	1.0012	8.341	7.94	991.1
780	172.3	174.9	2.56	50.5	174.9	124.35	0.938	1.0012	8.341	7.83	974.5
781	172.1	174.7	2.61	50.5	174.6	124.15	0.952	1.0012	8.341	7.94	987.2
782	171.8	174.4	2.59	50.4	174.4	123.92	0.952	1.0012	8.341	7.94	985.4
783	171.7	174.2	2.59	50.4	174.2	123.79	0.952	1.0012	8.341	7.94	984.3
784	171.4	174.0	2.56	50.4	173.9	123.56	0.952	1.0012	8.341	7.94	982.5
785	171.2	173.7	2.54	50.4	173.7	123.30	0.952	1.0012	8.341	7.94	980.5
786	171.0	173.6	2.58	50.6	173.5	122.93	0.952	1.0012	8.341	7.94	977.5
787	170.7	173.2	2.54	50.7	173.2	122.46	0.952	1.0012	8.341	7.94	973.8
788	170.5	173.0	2.54	50.9	173.0	122.11	0.952	1.0012	8.340	7.94	970.9
789	170.3	172.8	2.52	50.9	172.8	121.89	0.938	1.0012	8.340	7.83	955.1
790	170.1	172.6	2.53	51.0	172.5	121.48	0.952	1.0012	8.340	7.94	965.9
791	169.8	172.3	2.52	51.2	172.2	121.06	0.966	1.0012	8.340	8.06	976.5
792	169.5	172.1	2.52	51.2	172.0	120.78	0.938	1.0012	8.340	7.83	946.4
793	169.4	171.8	2.47	51.3	171.8	120.50	0.952	1.0012	8.340	7.94	958.1
794	169.0	171.6	2.52	51.4	171.4	120.05	0.952	1.0012	8.340	7.94	954.5
795	168.9	171.4	2.48	51.2	171.3	120.06	0.938	1.0012	8.340	7.83	940.8
796	168.6	171.1	2.49	51.0	171.0	119.95	0.952	1.0012	8.340	7.94	953.7
797	168.5	170.9	2.44	50.9	170.9	119.91	0.952	1.0012	8.340	7.94	953.5
798	168.2	170.7	2.47	50.8	170.6	119.77	0.952	1.0012	8.340	7.94	952.4
799	167.9	170.4	2.47	50.7	170.2	119.52	0.952	1.0012	8.341	7.94	950.4
800	167.7	170.2	2.48	50.7	170.0	119.31	0.952	1.0012	8.341	7.94	948.7
801	167.4	169.9	2.44	50.7	169.9	119.17	0.952	1.0012	8.341	7.94	947.6
802	167.2	169.6	2.46	50.6	169.5	118.88	0.952	1.0012	8.341	7.94	945.3
803	166.8	169.3	2.47	50.6	169.1	118.56	0.952	1.0012	8.341	7.94	942.8
804	166.7	169.1	2.45	50.5	169.0	118.45	0.952	1.0012	8.341	7.94	941.9
805	166.4	168.9	2.46	50.5	168.8	118.25	0.952	1.0012	8.341	7.94	940.3

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
806	166.2	168.7	2.44	50.5	168.6	118.11	0.952	1.0012	8.341	7.94	939.2
807	166.0	168.4	2.44	50.5	168.3	117.86	0.952	1.0012	8.341	7.94	937.2
808	165.7	168.1	2.42	50.5	168.1	117.57	0.952	1.0012	8.341	7.94	934.9
809	165.5	167.9	2.38	50.8	167.8	117.04	0.952	1.0012	8.341	7.94	930.6
810	165.3	167.7	2.40	50.9	167.6	116.63	0.952	1.0012	8.340	7.94	927.4
811	165.0	167.4	2.39	51.0	167.4	116.33	0.952	1.0012	8.340	7.94	925.0
812	164.9	167.3	2.38	51.1	167.2	116.08	0.952	1.0012	8.340	7.94	922.9
813	164.5	166.9	2.36	51.1	166.8	115.71	0.952	1.0012	8.340	7.94	920.0
814	164.3	166.7	2.38	51.2	166.6	115.34	0.952	1.0012	8.340	7.94	917.1
815	164.0	166.4	2.38	51.4	166.3	114.92	0.952	1.0012	8.340	7.94	913.7
816	163.8	166.2	2.35	51.5	166.1	114.66	0.952	1.0012	8.340	7.94	911.7
817	163.7	166.0	2.35	51.5	165.9	114.46	0.952	1.0012	8.340	7.94	910.1
818	163.3	165.7	2.36	51.2	165.6	114.38	0.952	1.0012	8.340	7.94	909.4
819	163.1	165.4	2.33	51.1	165.4	114.34	0.952	1.0012	8.340	7.94	909.1
820	162.9	165.2	2.32	50.9	165.1	114.23	0.966	1.0012	8.340	8.06	921.5
821	162.7	165.0	2.35	50.8	164.9	114.10	0.952	1.0012	8.340	7.94	907.3
822	162.5	164.8	2.32	50.7	164.7	113.92	0.966	1.0012	8.341	8.06	919.0
823	162.1	164.5	2.36	50.7	164.3	113.62	0.952	1.0012	8.341	7.94	903.5
824	161.8	164.2	2.33	50.7	164.1	113.40	0.966	1.0012	8.341	8.06	914.8
825	161.6	163.9	2.33	50.6	163.8	113.18	0.952	1.0012	8.341	7.94	899.9
826	161.5	163.8	2.30	50.6	163.7	113.07	0.966	1.0012	8.341	8.06	912.1
827	161.2	163.5	2.31	50.5	163.4	112.87	0.952	1.0012	8.341	7.94	897.5
828	160.9	163.2	2.30	50.5	163.2	112.64	0.966	1.0012	8.341	8.06	908.7
829	160.6	162.8	2.29	50.5	162.8	112.30	0.952	1.0012	8.341	7.94	893.0
830	160.4	162.7	2.25	50.5	162.6	112.16	0.952	1.0012	8.341	7.94	891.9
831	160.1	162.4	2.29	50.5	162.3	111.82	0.952	1.0012	8.341	7.94	889.1
832	160.0	162.2	2.26	50.4	162.2	111.86	0.966	1.0012	8.341	8.06	902.4
833	159.7	161.9	2.26	50.3	161.9	111.53	0.966	1.0012	8.341	8.06	899.7
834	159.3	161.6	2.25	50.4	161.5	111.08	0.952	1.0012	8.341	7.94	883.3
835	159.2	161.5	2.25	50.4	161.4	110.98	0.952	1.0012	8.341	7.94	882.5
836	159.1	161.3	2.22	50.6	161.2	110.57	0.966	1.0012	8.341	8.06	891.9
837	158.8	161.0	2.21	50.8	160.9	110.08	0.952	1.0012	8.340	7.94	875.3
838	158.5	160.8	2.24	50.9	160.6	109.73	0.952	1.0012	8.340	7.94	872.5
839	158.1	160.5	2.39	51.0	160.4	109.40	1.007	1.0012	8.340	8.40	920.3
840	157.7	160.2	2.42	51.2	160.1	108.88	1.021	1.0012	8.340	8.52	928.5
841	157.6	159.9	2.38	51.2	159.9	108.70	1.007	1.0012	8.340	8.40	914.4
842	157.4	159.7	2.39	51.2	159.7	108.47	1.021	1.0012	8.340	8.52	924.9
843	157.1	159.5	2.37	51.2	159.5	108.22	1.021	1.0012	8.340	8.52	922.8
844	156.8	159.2	2.36	51.3	159.1	107.83	1.021	1.0012	8.340	8.52	919.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
845	156.5	158.9	2.36	51.4	158.8	107.40	1.021	1.0012	8.340	8.52	915.9
846	156.4	158.8	2.33	51.3	158.6	107.38	1.021	1.0012	8.340	8.52	915.7
847	156.5	158.9	2.38	51.0	158.7	107.74	1.021	1.0012	8.340	8.52	918.8
848	156.7	159.1	2.40	50.8	158.9	108.01	1.021	1.0012	8.340	8.52	921.1
849	157.2	159.7	2.44	50.7	159.4	108.68	1.021	1.0012	8.341	8.52	926.8
850	157.9	160.3	2.41	50.7	160.1	109.41	1.007	1.0012	8.341	8.40	920.4
851	158.4	160.9	2.52	50.6	160.6	109.96	1.021	1.0012	8.341	8.52	937.7
852	158.9	161.5	2.54	50.5	161.1	110.55	1.021	1.0012	8.341	8.52	942.8
853	159.8	162.3	2.55	50.5	161.9	111.45	1.021	1.0012	8.341	8.52	950.5
854	160.6	163.1	2.51	50.5	162.8	112.31	1.021	1.0012	8.341	8.52	957.8
855	161.0	163.6	2.58	50.4	163.3	112.87	1.021	1.0012	8.341	8.52	962.6
856	161.9	164.5	2.58	50.4	164.1	113.73	1.021	1.0012	8.341	8.52	969.9
857	162.7	165.4	2.62	50.4	165.0	114.68	1.007	1.0012	8.341	8.40	964.8
858	163.5	166.2	2.65	50.3	165.8	115.44	1.021	1.0012	8.341	8.52	984.5
859	164.4	167.0	2.63	50.3	166.7	116.45	1.007	1.0012	8.341	8.40	979.7
860	165.0	167.7	2.71	50.3	167.3	117.05	1.021	1.0012	8.341	8.52	998.3
861	165.9	168.7	2.77	50.3	168.2	117.89	1.021	1.0012	8.341	8.52	1005.4
862	166.7	169.4	2.71	50.3	169.2	118.84	1.007	1.0012	8.341	8.40	999.8
863	167.4	170.1	2.76	50.5	169.9	119.37	1.007	1.0012	8.341	8.40	1004.2
864	168.4	171.2	2.78	50.6	170.8	120.16	1.021	1.0012	8.341	8.52	1024.7
865	169.2	171.9	2.75	50.8	171.6	120.82	1.007	1.0012	8.340	8.40	1016.4
866	169.9	172.7	2.81	50.8	172.3	121.52	1.021	1.0012	8.340	8.52	1036.3
867	170.6	173.4	2.80	50.9	173.1	122.18	1.007	1.0012	8.340	8.40	1027.8
868	171.6	174.4	2.80	51.0	174.2	123.13	0.994	1.0012	8.340	8.29	1021.6
869	172.3	175.1	2.86	51.1	174.7	123.62	1.007	1.0012	8.340	8.40	1040.0
870	173.3	176.2	2.88	51.2	175.8	124.60	0.994	1.0012	8.340	8.29	1033.8
871	174.1	177.0	2.86	51.3	176.7	125.41	1.007	1.0012	8.340	8.40	1055.0
872	174.9	177.8	2.90	51.2	177.5	126.22	1.007	1.0012	8.340	8.40	1061.8
873	175.6	178.6	2.95	50.9	178.3	127.35	0.994	1.0012	8.340	8.29	1056.7
874	176.5	179.5	2.97	50.8	179.1	128.28	1.007	1.0012	8.340	8.40	1079.2
875	177.2	180.2	2.95	50.8	179.9	129.11	0.994	1.0012	8.340	8.29	1071.2
876	178.0	180.9	2.98	50.6	180.7	130.03	0.994	1.0012	8.341	8.29	1078.9
877	178.2	181.2	2.96	50.6	181.1	130.50	0.994	1.0012	8.341	8.29	1082.8
878	178.4	181.3	2.97	50.5	181.2	130.66	1.007	1.0012	8.341	8.40	1099.2
879	178.6	181.6	2.98	50.5	181.4	130.93	0.994	1.0012	8.341	8.29	1086.4
880	179.0	181.5	2.42	50.4	181.4	130.97	0.883	1.0012	8.341	7.37	966.0
881	179.3	181.7	2.40	50.4	181.5	131.13	0.814	1.0012	8.341	6.79	891.6
882	179.3	181.7	2.41	50.5	181.5	130.96	0.828	1.0012	8.341	6.91	905.6
883	179.4	181.9	2.42	50.7	181.7	131.00	0.842	1.0012	8.341	7.02	920.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
884	179.4	181.8	2.38	50.9	181.7	130.78	0.842	1.0012	8.340	7.02	919.3
885	179.4	181.8	2.39	51.1	181.7	130.57	0.828	1.0012	8.340	6.91	902.8
886	179.5	181.9	2.40	51.3	181.7	130.42	0.842	1.0012	8.340	7.02	916.7
887	179.4	181.8	2.36	51.4	181.7	130.26	0.842	1.0012	8.340	7.02	915.6
888	179.4	181.8	2.35	51.5	181.7	130.14	0.842	1.0012	8.340	7.02	914.7
889	179.3	181.7	2.37	51.6	181.5	129.91	0.842	1.0012	8.340	7.02	913.2
890	179.2	181.6	2.37	51.7	181.4	129.78	0.842	1.0012	8.340	7.02	912.2
891	179.1	181.5	2.34	51.8	181.4	129.58	0.828	1.0012	8.340	6.91	895.8
892	179.0	181.4	2.37	51.7	181.2	129.47	0.842	1.0012	8.340	7.02	910.0
893	178.9	181.2	2.37	51.8	181.2	129.31	0.842	1.0012	8.340	7.02	908.9
894	178.9	181.2	2.35	51.7	181.1	129.38	0.842	1.0012	8.340	7.02	909.4
895	178.9	181.2	2.33	51.5	181.1	129.55	0.828	1.0012	8.340	6.91	895.7
896	178.7	181.1	2.36	51.4	180.9	129.53	0.842	1.0012	8.340	7.02	910.5
897	178.5	180.8	2.34	51.2	180.8	129.57	0.842	1.0012	8.340	7.02	910.8
898	178.4	180.8	2.35	51.1	180.6	129.53	0.842	1.0012	8.340	7.02	910.5
899	178.3	180.6	2.35	51.0	180.5	129.50	0.842	1.0012	8.340	7.02	910.3
900	178.0	180.4	2.34	51.0	180.3	129.33	0.828	1.0012	8.340	6.91	894.2
901	178.1	180.4	2.34	50.9	180.3	129.33	0.842	1.0012	8.340	7.02	909.1
902	177.9	180.3	2.36	50.9	180.1	129.24	0.842	1.0012	8.340	7.02	908.5
903	177.6	180.0	2.35	50.9	179.9	129.02	0.842	1.0012	8.340	7.02	907.0
904	177.6	179.9	2.35	50.8	179.8	128.97	0.828	1.0012	8.340	6.91	891.7
905	177.4	179.7	2.32	50.8	179.6	128.83	0.842	1.0012	8.340	7.02	905.7
906	177.3	179.6	2.32	50.8	179.5	128.76	0.842	1.0012	8.341	7.02	905.2
907	177.0	179.4	2.34	50.7	179.3	128.59	0.842	1.0012	8.341	7.02	904.0
908	176.9	179.2	2.32	50.7	179.2	128.48	0.842	1.0012	8.341	7.02	903.2
909	176.7	179.1	2.36	50.7	178.9	128.23	0.828	1.0012	8.341	6.91	886.7
910	176.6	178.9	2.31	50.7	178.8	128.06	0.842	1.0012	8.341	7.02	900.2
911	176.4	178.7	2.29	50.9	178.6	127.72	0.842	1.0012	8.340	7.02	897.8
912	176.2	178.5	2.29	51.1	178.5	127.40	0.842	1.0012	8.340	7.02	895.5
913	176.0	178.3	2.27	51.2	178.2	127.01	0.842	1.0012	8.340	7.02	892.8
914	175.9	178.2	2.27	51.4	178.1	126.78	0.842	1.0012	8.340	7.02	891.2
915	175.7	178.0	2.28	51.5	177.9	126.42	0.842	1.0012	8.340	7.02	888.6
916	175.5	177.8	2.32	51.5	177.7	126.20	0.842	1.0012	8.340	7.02	887.1
917	175.2	177.7	2.49	51.6	177.6	125.95	0.897	1.0012	8.340	7.48	943.3
918	174.9	177.5	2.51	51.7	177.3	125.65	0.911	1.0012	8.340	7.60	955.5
919	174.7	177.2	2.47	51.8	177.1	125.37	0.897	1.0012	8.340	7.48	939.0
920	174.5	177.0	2.49	51.8	177.0	125.19	0.911	1.0012	8.340	7.60	952.1
921	174.3	176.8	2.48	51.6	176.7	125.12	0.897	1.0012	8.340	7.48	937.1
922	174.0	176.5	2.48	51.4	176.4	125.07	0.911	1.0012	8.340	7.60	951.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
923	173.8	176.3	2.48	51.2	176.3	125.08	0.911	1.0012	8.340	7.60	951.3
924	173.7	176.2	2.48	51.2	176.1	124.94	0.911	1.0012	8.340	7.60	950.2
925	173.5	175.9	2.43	51.0	175.8	124.81	0.897	1.0012	8.340	7.48	934.9
926	173.2	175.7	2.46	50.9	175.6	124.65	0.911	1.0012	8.340	7.60	948.1
927	173.1	175.5	2.43	50.8	175.4	124.59	0.911	1.0012	8.340	7.60	947.6
928	172.8	175.3	2.47	50.8	175.1	124.28	0.897	1.0012	8.340	7.48	931.0
929	172.6	175.0	2.46	50.8	174.9	124.18	0.911	1.0012	8.341	7.60	944.5
930	172.3	174.8	2.44	50.8	174.7	123.95	0.911	1.0012	8.341	7.60	942.7
931	172.1	174.6	2.45	50.7	174.5	123.86	0.897	1.0012	8.341	7.48	927.8
932	172.0	174.4	2.44	50.7	174.3	123.61	0.911	1.0012	8.341	7.60	940.2
933	171.6	174.1	2.46	50.7	174.0	123.34	0.911	1.0012	8.341	7.60	938.1
934	171.5	173.9	2.41	50.6	173.8	123.19	0.911	1.0012	8.341	7.60	937.0
935	171.2	173.6	2.42	50.8	173.5	122.74	0.911	1.0012	8.340	7.60	933.5
936	171.0	173.4	2.42	51.1	173.3	122.23	0.911	1.0012	8.340	7.60	929.6
937	170.7	173.2	2.41	51.2	173.1	121.91	0.897	1.0012	8.340	7.48	913.1
938	170.5	172.9	2.42	51.2	172.8	121.55	0.911	1.0012	8.340	7.60	924.4
939	170.3	172.7	2.36	51.3	172.7	121.33	0.911	1.0012	8.340	7.60	922.8
940	170.1	172.5	2.38	51.4	172.4	121.02	0.911	1.0012	8.340	7.60	920.4
941	169.8	172.2	2.39	51.4	172.1	120.67	0.911	1.0012	8.340	7.60	917.7
942	169.7	172.1	2.34	51.5	171.9	120.39	0.911	1.0012	8.340	7.60	915.6
943	169.4	171.8	2.37	51.6	171.6	120.06	0.911	1.0012	8.340	7.60	913.1
944	169.1	171.4	2.35	51.6	171.3	119.69	0.911	1.0012	8.340	7.60	910.3
945	168.8	171.2	2.36	51.3	171.1	119.76	0.911	1.0012	8.340	7.60	910.9
946	168.6	171.0	2.34	51.1	170.9	119.74	0.911	1.0012	8.340	7.60	910.7
947	168.5	170.8	2.35	51.0	170.7	119.74	0.911	1.0012	8.340	7.60	910.7
948	168.3	170.7	2.32	51.0	170.5	119.57	0.911	1.0012	8.340	7.60	909.4
949	168.0	170.3	2.35	50.9	170.2	119.34	0.911	1.0012	8.340	7.60	907.6
950	167.8	170.1	2.34	50.8	170.0	119.26	0.911	1.0012	8.341	7.60	907.1
951	167.6	169.9	2.31	50.7	169.8	119.11	0.911	1.0012	8.341	7.60	905.9
952	167.4	169.7	2.34	50.8	169.6	118.86	0.925	1.0012	8.341	7.71	917.7
953	167.1	169.3	2.29	50.7	169.3	118.63	0.911	1.0012	8.341	7.60	902.3
954	166.9	169.2	2.32	50.6	169.1	118.50	0.911	1.0012	8.341	7.60	901.3
955	166.7	169.0	2.31	50.6	168.9	118.32	0.911	1.0012	8.341	7.60	899.9
956	166.4	168.7	2.29	50.6	168.6	118.04	0.925	1.0012	8.341	7.71	911.4
957	166.1	168.4	2.30	50.6	168.3	117.80	0.911	1.0012	8.341	7.60	896.0
958	165.9	168.2	2.28	50.7	168.2	117.48	0.911	1.0012	8.341	7.60	893.5
959	165.8	168.0	2.28	51.0	167.9	116.95	0.911	1.0012	8.340	7.60	889.5
960	165.5	167.8	2.31	51.0	167.7	116.64	0.911	1.0012	8.340	7.60	887.1
961	165.2	167.5	2.26	51.2	167.4	116.26	0.911	1.0012	8.340	7.60	884.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
962	165.1	167.3	2.25	51.3	167.2	115.97	0.925	1.0012	8.340	7.71	895.4
963	164.8	167.1	2.28	51.2	166.9	115.74	0.911	1.0012	8.340	7.60	880.2
964	164.6	166.8	2.23	51.4	166.7	115.31	0.897	1.0012	8.340	7.48	863.6
965	164.2	166.5	2.23	51.5	166.4	114.86	0.925	1.0012	8.340	7.71	886.8
966	164.1	166.3	2.22	51.5	166.2	114.70	0.911	1.0012	8.340	7.60	872.3
967	163.9	166.1	2.21	51.5	166.0	114.51	0.911	1.0012	8.340	7.60	870.9
968	163.5	165.8	2.25	51.2	165.7	114.46	0.925	1.0012	8.340	7.71	883.7
969	163.4	165.6	2.23	51.0	165.6	114.52	0.911	1.0012	8.340	7.60	871.0
970	163.1	165.3	2.24	50.9	165.2	114.31	0.925	1.0012	8.340	7.71	882.6
971	162.9	165.1	2.22	50.9	165.0	114.15	0.925	1.0012	8.340	7.71	881.3
972	162.7	164.9	2.22	50.9	164.8	113.95	0.911	1.0012	8.340	7.60	866.7
973	162.4	164.6	2.19	50.7	164.6	113.82	0.911	1.0012	8.341	7.60	865.7
974	162.2	164.4	2.21	50.7	164.3	113.56	0.925	1.0012	8.341	7.71	876.8
975	162.0	164.2	2.19	50.6	164.1	113.44	0.911	1.0012	8.341	7.60	862.9
976	161.6	163.8	2.19	50.6	163.8	113.19	0.925	1.0012	8.341	7.71	874.0
977	161.4	163.5	2.18	50.5	163.5	112.95	0.925	1.0012	8.341	7.71	872.1
978	161.1	163.3	2.19	50.6	163.3	112.71	0.911	1.0012	8.341	7.60	857.3
979	161.1	163.3	2.20	50.5	163.2	112.66	0.925	1.0012	8.341	7.71	869.9
980	160.8	163.0	2.20	50.6	162.9	112.36	0.911	1.0012	8.341	7.60	854.6
981	160.6	162.7	2.14	50.8	162.7	111.93	0.925	1.0012	8.341	7.71	864.2
982	160.4	162.6	2.16	51.0	162.4	111.45	0.911	1.0012	8.340	7.60	847.6
983	160.2	162.3	2.14	51.1	162.2	111.11	0.925	1.0012	8.340	7.71	857.8
984	159.8	162.0	2.13	51.2	161.9	110.72	0.911	1.0012	8.340	7.60	842.1
985	159.7	161.8	2.14	51.2	161.7	110.50	0.925	1.0012	8.340	7.71	853.1
986	159.5	161.6	2.11	51.4	161.5	110.04	0.925	1.0012	8.340	7.71	849.5
987	159.3	161.4	2.10	51.4	161.3	109.88	0.925	1.0012	8.340	7.71	848.3
988	159.0	161.1	2.10	51.4	161.0	109.60	0.911	1.0012	8.340	7.60	833.5
989	158.7	160.9	2.15	51.5	160.8	109.32	0.938	1.0012	8.340	7.83	856.6
990	158.2	160.7	2.41	51.5	160.5	108.96	1.007	1.0012	8.340	8.40	916.6
991	158.1	160.3	2.26	51.7	160.3	108.62	0.980	1.0012	8.340	8.17	888.7
992	157.7	160.1	2.34	51.6	160.0	108.45	1.007	1.0012	8.340	8.40	912.2
993	157.6	159.9	2.38	51.6	159.8	108.24	1.021	1.0012	8.340	8.52	922.9
994	157.3	159.7	2.34	51.6	159.6	108.07	1.007	1.0012	8.340	8.40	909.1
995	157.0	159.4	2.35	51.6	159.3	107.74	1.021	1.0012	8.340	8.52	918.7
996	156.7	159.1	2.36	51.4	159.0	107.54	1.021	1.0012	8.340	8.52	917.0
997	156.6	159.0	2.39	51.1	158.8	107.68	1.021	1.0012	8.340	8.52	918.2
998	156.9	159.3	2.38	50.9	159.1	108.20	1.007	1.0012	8.340	8.40	910.2
999	157.1	159.5	2.40	50.8	159.3	108.54	1.021	1.0012	8.340	8.52	925.6
1000	157.7	160.2	2.45	50.7	159.7	109.03	1.021	1.0012	8.341	8.52	929.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1001	158.0	160.5	2.46	50.6	160.3	109.69	1.021	1.0012	8.341	8.52	935.4
1002	158.8	161.3	2.47	50.5	161.0	110.49	1.021	1.0012	8.341	8.52	942.2
1003	159.4	161.9	2.48	50.5	161.6	111.12	1.007	1.0012	8.341	8.40	934.8
1004	160.0	162.5	2.50	50.4	162.3	111.84	1.021	1.0012	8.341	8.52	953.8
1005	160.8	163.4	2.57	50.4	163.0	112.63	1.021	1.0012	8.341	8.52	960.6
1006	161.5	164.2	2.60	50.4	163.8	113.47	1.007	1.0012	8.341	8.40	954.6
1007	162.6	165.2	2.60	50.4	165.0	114.60	1.021	1.0012	8.341	8.52	977.3
1008	163.5	166.2	2.67	50.5	165.8	115.27	1.007	1.0012	8.341	8.40	969.8
1009	164.3	166.9	2.61	50.7	166.6	115.91	1.021	1.0012	8.341	8.52	988.5
1010	165.3	168.0	2.64	50.8	167.6	116.85	1.007	1.0012	8.340	8.40	983.0
1011	166.2	168.9	2.70	50.9	168.6	117.68	1.007	1.0012	8.340	8.40	990.0
1012	167.0	169.7	2.73	51.0	169.3	118.33	1.007	1.0012	8.340	8.40	995.4
1013	167.9	170.7	2.74	51.0	170.4	119.35	1.007	1.0012	8.340	8.40	1004.0
1014	168.9	171.6	2.72	51.1	171.3	120.23	1.007	1.0012	8.340	8.40	1011.4
1015	169.8	172.5	2.75	51.1	172.3	121.12	1.007	1.0012	8.340	8.40	1018.9
1016	170.9	173.4	2.46	51.2	173.0	121.82	0.897	1.0012	8.340	7.48	912.4
1017	171.9	174.4	2.47	51.1	174.1	122.96	0.911	1.0012	8.340	7.60	935.2
1018	173.0	175.5	2.53	51.1	175.0	123.95	0.911	1.0012	8.340	7.60	942.7
1019	174.0	176.3	2.32	51.0	176.0	125.05	0.856	1.0012	8.340	7.14	893.4
1020	174.9	177.2	2.38	50.9	176.9	126.04	0.856	1.0012	8.340	7.14	900.6
1021	175.8	178.2	2.42	50.8	177.8	126.96	0.856	1.0012	8.340	7.14	907.1
1022	176.8	179.2	2.41	50.8	178.9	128.09	0.842	1.0012	8.340	7.02	900.5
1023	177.9	180.4	2.47	50.8	180.0	129.21	0.856	1.0012	8.341	7.14	923.2
1024	178.9	181.3	2.41	50.7	181.0	130.31	0.842	1.0012	8.341	7.02	916.0
1025	179.3	181.7	2.41	50.7	181.4	130.71	0.842	1.0012	8.341	7.02	918.9
1026	179.4	181.8	2.43	50.7	181.6	130.93	0.842	1.0012	8.341	7.02	920.4
1027	179.7	182.1	2.45	50.7	181.9	131.23	0.842	1.0012	8.341	7.02	922.5
1028	179.9	182.4	2.45	50.7	182.2	131.52	0.842	1.0012	8.341	7.02	924.5
1029	180.1	182.6	2.43	50.6	182.4	131.79	0.856	1.0012	8.341	7.14	941.6
1030	180.2	182.7	2.45	50.7	182.5	131.82	0.842	1.0012	8.341	7.02	926.7
1031	180.3	182.8	2.44	50.9	182.6	131.77	0.842	1.0012	8.340	7.02	926.3
1032	180.5	182.9	2.45	51.0	182.7	131.70	0.842	1.0012	8.340	7.02	925.8
1033	180.4	182.9	2.43	51.3	182.7	131.47	0.842	1.0012	8.340	7.02	924.1
1034	180.5	182.9	2.41	51.3	182.8	131.55	0.842	1.0012	8.340	7.02	924.7
1035	180.4	182.9	2.45	51.5	182.7	131.28	0.842	1.0012	8.340	7.02	922.8
1036	180.4	182.8	2.40	51.4	182.7	131.28	0.828	1.0012	8.340	6.91	907.7
1037	180.4	182.8	2.41	51.6	182.6	131.08	0.842	1.0012	8.340	7.02	921.3
1038	180.3	182.7	2.38	51.7	182.7	131.02	0.842	1.0012	8.340	7.02	920.9
1039	180.3	182.7	2.41	51.7	182.5	130.83	0.828	1.0012	8.340	6.91	904.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1040	180.2	182.6	2.39	51.7	182.5	130.78	0.842	1.0012	8.340	7.02	919.3
1041	180.1	182.5	2.40	51.6	182.4	130.81	0.842	1.0012	8.340	7.02	919.4
1042	180.0	182.4	2.39	51.3	182.3	130.95	0.828	1.0012	8.340	6.91	905.4
1043	179.9	182.3	2.40	51.2	182.2	130.99	0.842	1.0012	8.340	7.02	920.8
1044	179.9	182.2	2.36	51.1	182.1	131.06	0.842	1.0012	8.340	7.02	921.3
1045	179.6	182.0	2.39	51.0	181.9	130.89	0.842	1.0012	8.340	7.02	920.1
1046	179.5	182.0	2.41	50.9	181.8	130.90	0.828	1.0012	8.340	6.91	905.1
1047	179.4	181.7	2.37	50.9	181.7	130.81	0.842	1.0012	8.340	7.02	919.5
1048	179.2	181.5	2.38	50.8	181.5	130.69	0.842	1.0012	8.340	7.02	918.7
1049	179.2	181.6	2.39	50.8	181.4	130.61	0.842	1.0012	8.340	7.02	918.1
1050	179.0	181.3	2.37	50.8	181.2	130.45	0.842	1.0012	8.340	7.02	917.0
1051	178.9	181.3	2.41	50.9	181.1	130.21	0.842	1.0012	8.340	7.02	915.3
1052	178.7	181.1	2.38	51.1	181.0	129.85	0.842	1.0012	8.340	7.02	912.8
1053	178.6	181.0	2.38	51.3	180.9	129.64	0.842	1.0012	8.340	7.02	911.2
1054	178.4	180.8	2.35	51.4	180.7	129.29	0.842	1.0012	8.340	7.02	908.8
1055	178.3	180.6	2.36	51.5	180.5	129.04	0.856	1.0012	8.340	7.14	921.9
1056	178.0	180.3	2.33	51.5	180.3	128.74	0.828	1.0012	8.340	6.91	890.1
1057	177.9	180.3	2.36	51.6	180.2	128.55	0.842	1.0012	8.340	7.02	903.6
1058	177.8	180.1	2.33	51.9	180.0	128.18	0.842	1.0012	8.340	7.02	900.9
1059	177.6	179.9	2.35	51.8	179.8	128.06	0.842	1.0012	8.340	7.02	900.1
1060	177.5	179.8	2.34	51.7	179.7	127.99	0.842	1.0012	8.340	7.02	899.6
1061	177.4	179.7	2.33	51.6	179.6	127.94	0.842	1.0012	8.340	7.02	899.3
1062	177.0	179.3	2.32	51.4	179.2	127.79	0.842	1.0012	8.340	7.02	898.2
1063	176.8	179.2	2.35	51.3	179.0	127.77	0.842	1.0012	8.340	7.02	898.2
1064	176.8	179.1	2.30	51.1	179.0	127.84	0.842	1.0012	8.340	7.02	898.7
1065	176.5	178.8	2.35	51.1	178.7	127.62	0.842	1.0012	8.340	7.02	897.1
1066	176.4	178.7	2.31	51.0	178.6	127.63	0.856	1.0012	8.340	7.14	911.8
1067	176.2	178.5	2.30	51.0	178.4	127.48	0.842	1.0012	8.340	7.02	896.1
1068	175.9	178.2	2.32	50.9	178.1	127.25	0.842	1.0012	8.340	7.02	894.5
1069	175.8	178.2	2.31	50.9	178.1	127.22	0.842	1.0012	8.340	7.02	894.3
1070	175.5	177.8	2.29	50.8	177.7	126.90	0.842	1.0012	8.340	7.02	892.1
1071	175.4	177.7	2.29	50.8	177.6	126.82	0.856	1.0012	8.340	7.14	906.1
1072	175.1	177.4	2.29	50.9	177.3	126.46	0.842	1.0012	8.340	7.02	889.0
1073	175.0	177.3	2.29	51.1	177.2	126.11	0.842	1.0012	8.340	7.02	886.5
1074	174.8	177.1	2.29	51.3	177.0	125.68	0.842	1.0012	8.340	7.02	883.4
1075	174.4	176.9	2.49	51.3	176.8	125.48	0.883	1.0012	8.340	7.37	925.4
1076	174.3	176.7	2.36	51.6	176.6	124.99	0.897	1.0012	8.340	7.48	936.2
1077	174.0	176.4	2.46	51.4	176.4	125.01	0.883	1.0012	8.340	7.37	921.9
1078	173.7	176.2	2.49	51.5	176.1	124.59	0.911	1.0012	8.340	7.60	947.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1079	173.4	175.9	2.45	51.6	175.8	124.26	0.897	1.0012	8.340	7.48	930.7
1080	173.4	175.8	2.46	51.6	175.7	124.12	0.911	1.0012	8.340	7.60	943.9
1081	173.0	175.5	2.45	51.7	175.4	123.75	0.911	1.0012	8.340	7.60	941.1
1082	172.8	175.3	2.46	51.5	175.2	123.63	0.911	1.0012	8.340	7.60	940.2
1083	172.6	175.1	2.48	51.4	175.0	123.60	0.911	1.0012	8.340	7.60	940.0
1084	172.4	174.9	2.47	51.1	174.8	123.66	0.925	1.0012	8.340	7.71	954.7
1085	172.1	174.6	2.45	51.0	174.5	123.56	0.911	1.0012	8.340	7.60	939.7
1086	171.8	174.3	2.46	50.9	174.3	123.33	0.911	1.0012	8.340	7.60	938.0
1087	171.6	174.0	2.44	50.9	174.0	123.10	0.911	1.0012	8.340	7.60	936.3
1088	171.3	173.8	2.42	50.8	173.7	122.94	0.911	1.0012	8.340	7.60	935.1
1089	171.2	173.6	2.41	50.7	173.5	122.84	0.911	1.0012	8.341	7.60	934.3
1090	171.0	173.4	2.41	50.7	173.3	122.65	0.925	1.0012	8.341	7.71	947.0
1091	170.7	173.1	2.43	50.7	173.0	122.37	0.897	1.0012	8.341	7.48	916.6
1092	170.5	172.9	2.42	50.7	172.8	122.12	0.925	1.0012	8.341	7.71	942.9
1093	170.2	172.7	2.42	50.9	172.5	121.62	0.911	1.0012	8.340	7.60	925.0
1094	170.0	172.4	2.40	51.1	172.3	121.19	0.911	1.0012	8.340	7.60	921.7
1095	169.7	172.1	2.38	51.2	172.0	120.79	0.911	1.0012	8.340	7.60	918.7
1096	169.6	172.0	2.37	51.3	171.9	120.63	0.911	1.0012	8.340	7.60	917.5
1097	169.4	171.7	2.35	51.3	171.7	120.38	0.925	1.0012	8.340	7.71	929.4
1098	169.1	171.4	2.37	51.4	171.4	119.98	0.911	1.0012	8.340	7.60	912.5
1099	168.8	171.2	2.37	51.5	171.1	119.62	0.911	1.0012	8.340	7.60	909.7
1100	168.7	171.0	2.34	51.5	170.9	119.40	0.911	1.0012	8.340	7.60	908.0
1101	168.3	170.7	2.36	51.5	170.6	119.07	0.925	1.0012	8.340	7.71	919.3
1102	168.1	170.4	2.34	51.6	170.4	118.84	0.911	1.0012	8.340	7.60	903.8
1103	167.9	170.3	2.33	51.5	170.2	118.65	0.925	1.0012	8.340	7.71	916.0
1104	167.7	170.0	2.33	51.3	170.0	118.67	0.911	1.0012	8.340	7.60	902.5
1105	167.4	169.8	2.39	51.1	169.6	118.58	0.925	1.0012	8.340	7.71	915.5
1106	167.2	169.6	2.32	50.9	169.5	118.55	0.925	1.0012	8.340	7.71	915.3
1107	167.0	169.4	2.34	50.8	169.2	118.41	0.911	1.0012	8.340	7.60	900.6
1108	166.7	169.0	2.35	50.7	168.9	118.18	0.925	1.0012	8.341	7.71	912.5
1109	166.5	168.8	2.32	50.7	168.7	118.02	0.925	1.0012	8.341	7.71	911.2
1110	166.1	168.4	2.28	50.7	168.3	117.68	0.911	1.0012	8.341	7.60	895.1
1111	165.9	168.2	2.31	50.6	168.1	117.51	0.925	1.0012	8.341	7.71	907.3
1112	165.7	168.0	2.31	50.5	167.9	117.36	0.911	1.0012	8.341	7.60	892.6
1113	165.5	167.8	2.30	50.6	167.7	117.16	0.925	1.0012	8.341	7.71	904.6
1114	165.2	167.5	2.31	50.5	167.4	116.95	0.925	1.0012	8.341	7.71	903.0
1115	164.9	167.3	2.31	50.4	167.2	116.75	0.911	1.0012	8.341	7.60	888.0
1116	164.8	167.1	2.28	50.7	167.0	116.30	0.925	1.0012	8.341	7.71	898.0
1117	164.5	166.8	2.26	50.9	166.8	115.85	0.925	1.0012	8.340	7.71	894.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1118	164.3	166.5	2.29	50.9	166.4	115.48	0.911	1.0012	8.340	7.60	878.3
1119	164.0	166.2	2.26	51.1	166.2	115.12	0.925	1.0012	8.340	7.71	888.8
1120	163.8	166.0	2.26	51.0	165.9	114.87	0.925	1.0012	8.340	7.71	886.9
1121	163.6	165.9	2.24	51.3	165.8	114.49	0.925	1.0012	8.340	7.71	883.9
1122	163.3	165.6	2.23	51.2	165.5	114.31	0.925	1.0012	8.340	7.71	882.5
1123	163.1	165.3	2.23	51.3	165.2	113.99	0.911	1.0012	8.340	7.60	866.9
1124	162.9	165.1	2.21	51.3	165.0	113.66	0.925	1.0012	8.340	7.71	877.5
1125	162.6	164.8	2.19	51.5	164.7	113.22	0.925	1.0012	8.340	7.71	874.1
1126	162.3	164.6	2.23	51.4	164.5	113.06	0.925	1.0012	8.340	7.71	872.9
1127	162.3	164.5	2.21	51.2	164.3	113.16	0.911	1.0012	8.340	7.60	860.6
1128	162.0	164.2	2.20	51.0	164.1	113.14	0.925	1.0012	8.340	7.71	873.5
1129	161.8	163.9	2.09	50.9	163.9	112.93	0.897	1.0012	8.340	7.48	845.9
1130	161.4	163.6	2.22	50.7	163.5	112.74	0.911	1.0012	8.341	7.60	857.5
1131	161.2	163.4	2.25	50.7	163.2	112.53	0.925	1.0012	8.341	7.71	868.9
1132	160.8	163.1	2.28	50.7	163.0	112.31	0.952	1.0012	8.341	7.94	893.1
1133	160.7	163.0	2.28	50.6	162.8	112.19	0.938	1.0012	8.341	7.83	879.2
1134	160.5	162.8	2.26	50.6	162.6	112.00	0.952	1.0012	8.341	7.94	890.6
1135	160.2	162.5	2.22	50.9	162.4	111.49	0.938	1.0012	8.340	7.83	873.7
1136	160.0	162.2	2.22	51.0	162.1	111.17	0.952	1.0012	8.340	7.94	884.0
1137	159.7	161.9	2.24	51.0	161.8	110.75	0.938	1.0012	8.340	7.83	867.8
1138	159.5	161.7	2.21	51.2	161.6	110.45	0.952	1.0012	8.340	7.94	878.2
1139	159.2	161.5	2.23	51.2	161.4	110.14	0.952	1.0012	8.340	7.94	875.7
1140	159.0	161.2	2.18	51.3	161.2	109.87	0.938	1.0012	8.340	7.83	860.9
1141	158.8	161.0	2.15	51.3	160.9	109.64	0.952	1.0012	8.340	7.94	871.8
1142	158.4	160.7	2.25	51.3	160.6	109.30	0.966	1.0012	8.340	8.06	881.6
1143	158.2	160.5	2.29	51.3	160.4	109.03	0.980	1.0012	8.340	8.17	892.0
1144	158.0	160.3	2.24	51.4	160.2	108.74	0.966	1.0012	8.340	8.06	877.1
1145	157.8	160.0	2.24	51.4	159.9	108.52	0.980	1.0012	8.340	8.17	887.9
1146	157.5	159.7	2.22	51.4	159.6	108.26	0.966	1.0012	8.340	8.06	873.3
1147	157.0	159.5	2.47	51.3	159.4	108.04	1.021	1.0012	8.340	8.52	921.3
1148	156.7	159.2	2.48	51.5	159.1	107.63	1.063	1.0012	8.340	8.86	955.0
1149	156.6	159.1	2.50	51.4	158.9	107.49	1.049	1.0012	8.340	8.75	941.4
1150	156.6	159.1	2.50	51.3	158.9	107.55	1.063	1.0012	8.340	8.86	954.3
1151	156.8	159.3	2.54	51.3	159.1	107.81	1.063	1.0012	8.340	8.86	956.6
1152	157.2	159.8	2.55	51.3	159.4	108.16	1.063	1.0012	8.340	8.86	959.7
1153	157.5	160.1	2.59	51.3	159.8	108.45	1.049	1.0012	8.340	8.75	949.7
1154	158.0	160.6	2.58	51.1	160.4	109.26	1.063	1.0012	8.340	8.86	969.5
1155	158.6	161.1	2.55	50.8	160.9	110.09	1.063	1.0012	8.340	8.86	976.9
1156	159.5	162.1	2.59	50.6	161.8	111.14	1.049	1.0012	8.341	8.75	973.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1157	160.2	162.8	2.66	50.5	162.5	111.92	1.063	1.0012	8.341	8.86	993.1
1158	161.0	163.6	2.60	50.5	163.3	112.82	1.007	1.0012	8.341	8.40	949.1
1159	162.4	164.9	2.51	50.4	164.5	114.08	0.994	1.0012	8.341	8.29	946.6
1160	163.3	165.7	2.44	50.4	165.5	115.09	0.980	1.0012	8.341	8.17	941.7
1161	164.0	166.6	2.56	50.4	166.3	115.89	0.980	1.0012	8.341	8.17	948.2
1162	165.3	167.8	2.55	50.4	167.5	117.06	0.980	1.0012	8.341	8.17	957.8
1163	166.2	168.8	2.65	50.7	168.4	117.74	0.966	1.0012	8.341	8.06	949.8
1164	167.4	170.0	2.59	50.8	169.7	118.98	0.980	1.0012	8.341	8.17	973.5
1165	168.2	170.8	2.59	50.9	170.5	119.62	0.980	1.0012	8.340	8.17	978.7
1166	169.3	171.9	2.66	51.0	171.5	120.49	0.966	1.0012	8.340	8.06	972.0
1167	170.3	172.9	2.63	51.1	172.6	121.47	0.980	1.0012	8.340	8.17	993.9
1168	171.2	173.9	2.67	51.1	173.5	122.42	0.966	1.0012	8.340	8.06	987.5
1169	172.1	174.8	2.65	51.2	174.6	123.40	0.952	1.0012	8.340	7.94	981.2
1170	173.3	175.9	2.64	51.3	175.6	124.36	0.952	1.0012	8.340	7.94	988.8
1171	174.0	176.8	2.73	51.3	176.4	125.08	0.966	1.0012	8.340	8.06	1008.9
1172	175.2	177.8	2.68	51.4	177.4	125.97	0.938	1.0012	8.340	7.83	987.1
1173	176.1	178.7	2.57	51.3	178.4	127.01	0.911	1.0012	8.340	7.60	965.9
1174	177.1	179.8	2.68	51.5	179.4	127.86	0.911	1.0012	8.340	7.60	972.4
1175	178.2	180.9	2.69	51.5	180.5	128.93	0.911	1.0012	8.340	7.60	980.5
1176	178.9	181.4	2.49	51.4	181.1	129.66	0.897	1.0012	8.340	7.48	971.1
1177	178.9	181.5	2.62	51.6	181.4	129.79	0.883	1.0012	8.340	7.37	957.2
1178	179.1	181.7	2.62	51.7	181.5	129.85	0.897	1.0012	8.340	7.48	972.6
1179	179.4	182.0	2.58	51.7	181.8	130.14	0.897	1.0012	8.340	7.48	974.7
1180	179.7	182.2	2.56	51.8	182.1	130.25	0.883	1.0012	8.340	7.37	960.5
1181	179.7	182.3	2.60	51.8	182.0	130.21	0.883	1.0012	8.340	7.37	960.3
1182	179.8	182.4	2.57	51.5	182.2	130.74	0.883	1.0012	8.340	7.37	964.2
1183	179.9	182.5	2.57	51.3	182.3	131.07	0.883	1.0012	8.340	7.37	966.7
1184	179.9	182.4	2.57	51.1	182.4	131.24	0.897	1.0012	8.340	7.48	983.0
1185	179.9	182.5	2.55	51.0	182.4	131.43	0.869	1.0012	8.340	7.25	954.1
1186	179.9	182.5	2.60	50.9	182.3	131.39	0.883	1.0012	8.340	7.37	969.0
1187	179.8	182.4	2.60	50.8	182.3	131.50	0.883	1.0012	8.340	7.37	969.8
1188	179.6	182.1	2.57	50.8	182.1	131.36	0.883	1.0012	8.340	7.37	968.8
1189	179.7	182.3	2.59	50.8	182.2	131.41	0.883	1.0012	8.340	7.37	969.2
1190	179.7	182.3	2.58	50.9	182.1	131.18	0.883	1.0012	8.340	7.37	967.5
1191	179.5	182.0	2.56	51.2	181.9	130.78	0.897	1.0012	8.340	7.48	979.6
1192	179.4	182.0	2.58	51.2	181.8	130.60	0.883	1.0012	8.340	7.37	963.2
1193	179.3	181.8	2.52	51.4	181.8	130.40	0.883	1.0012	8.340	7.37	961.7
1194	179.1	181.7	2.56	51.3	181.6	130.25	0.883	1.0012	8.340	7.37	960.6
1195	179.1	181.6	2.56	51.4	181.5	130.11	0.883	1.0012	8.340	7.37	959.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1196	178.8	181.4	2.53	51.5	181.4	129.91	0.897	1.0012	8.340	7.48	973.0
1197	178.8	181.3	2.54	51.6	181.2	129.65	0.883	1.0012	8.340	7.37	956.1
1198	178.6	181.1	2.51	51.6	181.1	129.52	0.883	1.0012	8.340	7.37	955.2
1199	178.4	181.0	2.54	51.6	180.9	129.31	0.883	1.0012	8.340	7.37	953.6
1200	178.4	181.0	2.54	51.6	180.8	129.23	0.883	1.0012	8.340	7.37	953.0
1201	178.2	180.7	2.48	51.8	180.7	128.90	0.897	1.0012	8.340	7.48	965.4
1202	178.1	180.6	2.50	51.8	180.4	128.67	0.883	1.0012	8.340	7.37	948.9
1203	177.9	180.4	2.51	51.7	180.3	128.66	0.883	1.0012	8.340	7.37	948.8
1204	177.7	180.2	2.53	51.8	180.1	128.32	0.897	1.0012	8.340	7.48	961.1
1205	177.4	180.0	2.58	51.8	179.9	128.10	0.897	1.0012	8.340	7.48	959.4
1206	177.3	179.8	2.53	51.4	179.8	128.42	0.911	1.0012	8.340	7.60	976.7
1207	177.2	179.7	2.57	51.1	179.6	128.50	0.897	1.0012	8.340	7.48	962.5
1208	177.0	179.5	2.58	51.1	179.4	128.32	0.925	1.0012	8.340	7.71	990.7
1209	176.8	179.3	2.58	51.0	179.2	128.26	0.897	1.0012	8.340	7.48	960.8
1210	176.5	179.1	2.57	50.9	179.0	128.14	0.911	1.0012	8.340	7.60	974.6
1211	176.3	178.8	2.58	50.8	178.8	128.01	0.911	1.0012	8.340	7.60	973.6
1212	176.1	178.7	2.59	50.7	178.6	127.88	0.911	1.0012	8.341	7.60	972.6
1213	175.8	178.4	2.57	50.7	178.3	127.66	0.925	1.0012	8.341	7.71	985.7
1214	175.8	178.3	2.54	50.9	178.2	127.40	0.911	1.0012	8.340	7.60	968.9
1215	175.6	178.1	2.57	51.1	178.0	126.92	0.911	1.0012	8.340	7.60	965.3
1216	175.4	177.9	2.52	51.2	177.9	126.65	0.911	1.0012	8.340	7.60	963.2
1217	175.1	177.6	2.53	51.2	177.6	126.38	0.911	1.0012	8.340	7.60	961.2
1218	174.9	177.4	2.48	51.4	177.4	126.02	0.911	1.0012	8.340	7.60	958.4
1219	174.7	177.2	2.51	51.4	177.1	125.70	0.911	1.0012	8.340	7.60	956.0
1220	174.5	177.0	2.52	51.4	177.0	125.60	0.911	1.0012	8.340	7.60	955.2
1221	174.2	176.8	2.51	51.4	176.7	125.28	0.911	1.0012	8.340	7.60	952.8
1222	174.0	176.5	2.51	51.5	176.4	124.94	0.911	1.0012	8.340	7.60	950.2
1223	173.9	176.4	2.49	51.6	176.3	124.64	0.911	1.0012	8.340	7.60	947.9
1224	173.8	176.1	2.34	51.5	176.1	124.58	0.883	1.0012	8.340	7.37	918.7
1225	173.4	175.8	2.47	51.7	175.8	124.08	0.911	1.0012	8.340	7.60	943.7
1226	173.1	175.6	2.46	51.7	175.6	123.86	0.911	1.0012	8.340	7.60	942.0
1227	172.9	175.4	2.52	51.6	175.3	123.67	0.925	1.0012	8.340	7.71	954.8
1228	172.6	175.1	2.46	51.8	175.1	123.31	0.925	1.0012	8.340	7.71	952.0
1229	172.5	174.9	2.47	51.7	174.9	123.17	0.925	1.0012	8.340	7.71	950.9
1230	172.2	174.7	2.49	51.7	174.6	122.88	0.925	1.0012	8.340	7.71	948.7
1231	172.1	174.5	2.47	51.7	174.4	122.75	0.925	1.0012	8.340	7.71	947.7
1232	171.8	174.3	2.49	51.6	174.1	122.55	0.925	1.0012	8.340	7.71	946.1
1233	171.6	174.1	2.52	51.3	174.0	122.70	0.938	1.0012	8.340	7.83	961.4
1234	171.3	173.8	2.53	51.1	173.7	122.65	0.938	1.0012	8.340	7.83	961.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1235	171.0	173.5	2.53	50.9	173.5	122.54	0.938	1.0012	8.340	7.83	960.2
1236	170.5	173.1	2.53	50.9	173.1	122.20	0.938	1.0012	8.340	7.83	957.6
1237	170.6	173.1	2.51	50.8	173.0	122.20	0.938	1.0012	8.340	7.83	957.6
1238	170.3	172.8	2.52	50.6	172.7	122.12	0.938	1.0012	8.341	7.83	957.0
1239	170.0	172.5	2.54	50.6	172.4	121.86	0.952	1.0012	8.341	7.94	969.0
1240	169.7	172.2	2.52	50.6	172.1	121.57	0.938	1.0012	8.341	7.83	952.7
1241	169.4	171.9	2.53	50.5	171.9	121.37	0.952	1.0012	8.341	7.94	965.1
1242	169.4	171.8	2.49	50.5	171.8	121.34	0.952	1.0012	8.341	7.94	964.8
1243	169.0	171.6	2.53	50.4	171.4	121.01	0.938	1.0012	8.341	7.83	948.3
1244	168.7	171.2	2.48	50.4	171.1	120.72	0.952	1.0012	8.341	7.94	960.0
1245	168.5	170.9	2.47	50.7	170.9	120.20	0.938	1.0012	8.341	7.83	941.9
1246	168.2	170.7	2.47	50.8	170.7	119.91	0.952	1.0012	8.341	7.94	953.5
1247	168.2	170.6	2.47	50.9	170.5	119.63	0.952	1.0012	8.340	7.94	951.2
1248	167.9	170.3	2.46	51.0	170.2	119.20	0.938	1.0012	8.340	7.83	934.1
1249	167.6	170.1	2.42	51.0	170.0	119.03	0.952	1.0012	8.340	7.94	946.5
1250	167.4	169.8	2.45	51.2	169.7	118.55	0.938	1.0012	8.340	7.83	929.0
1251	167.1	169.5	2.44	51.2	169.4	118.18	0.952	1.0012	8.340	7.94	939.7
1252	166.9	169.4	2.44	51.1	169.3	118.18	0.952	1.0012	8.340	7.94	939.7
1253	166.7	169.1	2.42	51.4	169.1	117.67	0.952	1.0012	8.340	7.94	935.6
1254	166.3	168.7	2.43	51.4	168.7	117.27	0.952	1.0012	8.340	7.94	932.4
1255	166.2	168.6	2.43	51.3	168.5	117.18	0.952	1.0012	8.340	7.94	931.7
1256	165.9	168.3	2.41	51.4	168.2	116.82	0.966	1.0012	8.340	8.06	942.3
1257	165.8	168.1	2.27	51.5	168.0	116.57	0.911	1.0012	8.340	7.60	886.5
1258	165.6	167.9	2.30	51.1	167.7	116.59	0.911	1.0012	8.340	7.60	886.7
1259	165.1	167.6	2.41	50.9	167.5	116.51	0.925	1.0012	8.340	7.71	899.6
1260	164.9	167.3	2.41	50.9	167.3	116.38	0.966	1.0012	8.340	8.06	938.8
1261	164.7	167.1	2.43	50.7	167.0	116.28	0.952	1.0012	8.341	7.94	924.6
1262	164.3	166.7	2.40	50.7	166.7	116.01	0.966	1.0012	8.341	8.06	935.9
1263	164.2	166.7	2.42	50.6	166.5	115.91	0.966	1.0012	8.341	8.06	935.0
1264	163.9	166.3	2.39	50.5	166.2	115.67	0.952	1.0012	8.341	7.94	919.8
1265	163.6	166.0	2.40	50.4	166.0	115.52	0.952	1.0012	8.341	7.94	918.6
1266	163.4	165.8	2.36	50.4	165.7	115.29	0.966	1.0012	8.341	8.06	930.1
1267	163.2	165.6	2.38	50.4	165.5	115.08	0.952	1.0012	8.341	7.94	915.1
1268	163.0	165.4	2.39	50.3	165.2	114.93	0.966	1.0012	8.341	8.06	927.2
1269	162.7	165.1	2.36	50.3	165.0	114.75	0.966	1.0012	8.341	8.06	925.7
1270	162.4	164.8	2.35	50.2	164.7	114.47	0.966	1.0012	8.341	8.06	923.5
1271	162.2	164.6	2.35	50.5	164.5	114.02	0.952	1.0012	8.341	7.94	906.7
1272	162.0	164.3	2.35	50.6	164.2	113.59	0.966	1.0012	8.341	8.06	916.3
1273	161.7	164.0	2.34	50.7	163.9	113.24	0.966	1.0012	8.341	8.06	913.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1274	161.5	163.8	2.35	50.9	163.8	112.86	0.952	1.0012	8.340	7.94	897.4
1275	161.3	163.6	2.25	50.8	163.5	112.69	0.952	1.0012	8.341	7.94	896.1
1276	160.9	163.3	2.34	50.9	163.2	112.29	0.952	1.0012	8.340	7.94	892.8
1277	160.6	163.0	2.35	51.1	162.8	111.74	0.980	1.0012	8.340	8.17	914.2
1278	160.6	162.9	2.33	51.1	162.8	111.72	0.966	1.0012	8.340	8.06	901.2
1279	160.3	162.7	2.34	51.1	162.6	111.51	0.980	1.0012	8.340	8.17	912.4
1280	160.0	162.3	2.31	51.1	162.2	111.10	0.980	1.0012	8.340	8.17	909.0
1281	159.6	161.9	2.31	51.0	162.0	110.97	0.966	1.0012	8.340	8.06	895.2
1282	159.5	161.8	2.30	50.8	161.7	110.98	0.980	1.0012	8.341	8.17	908.0
1283	159.3	161.6	2.30	50.6	161.5	110.87	0.980	1.0012	8.341	8.17	907.2
1284	158.9	161.3	2.33	50.5	161.1	110.65	0.980	1.0012	8.341	8.17	905.4
1285	158.8	161.1	2.28	50.4	161.0	110.55	0.980	1.0012	8.341	8.17	904.5
1286	158.6	160.9	2.31	50.4	160.7	110.27	0.966	1.0012	8.341	8.06	889.5
1287	158.3	160.6	2.30	50.4	160.5	110.12	0.980	1.0012	8.341	8.17	901.1
1288	158.1	160.4	2.28	50.3	160.3	110.00	0.980	1.0012	8.341	8.17	900.1
1289	157.7	160.0	2.30	50.2	159.9	109.67	0.980	1.0012	8.341	8.17	897.4
1290	157.6	159.8	2.29	50.2	159.7	109.46	0.980	1.0012	8.341	8.17	895.6
1291	157.3	159.6	2.27	50.2	159.5	109.28	0.980	1.0012	8.341	8.17	894.2
1292	156.9	159.2	2.26	50.1	159.1	108.97	0.980	1.0012	8.341	8.17	891.6
1293	156.7	159.1	2.36	50.1	158.9	108.85	1.007	1.0012	8.341	8.40	915.8
1294	156.8	159.2	2.38	50.1	159.0	108.93	0.994	1.0012	8.341	8.29	903.9
1295	157.4	159.9	2.50	50.0	159.6	109.57	0.994	1.0012	8.341	8.29	909.2
1296	157.8	160.3	2.53	50.0	160.0	110.02	1.035	1.0012	8.341	8.63	951.0
1297	158.6	161.2	2.55	50.1	160.9	110.75	1.035	1.0012	8.341	8.63	957.3
1298	159.2	161.8	2.55	50.3	161.6	111.26	1.049	1.0012	8.341	8.75	974.5
1299	160.1	162.7	2.66	50.5	162.4	111.93	1.049	1.0012	8.341	8.75	980.4
1300	161.0	163.6	2.65	50.5	163.3	112.79	1.035	1.0012	8.341	8.63	974.9
1301	161.8	164.4	2.65	50.5	164.2	113.62	1.049	1.0012	8.341	8.75	995.1
1302	162.5	165.2	2.71	50.6	164.9	114.27	1.035	1.0012	8.341	8.63	987.6
1303	163.6	166.3	2.72	50.7	165.9	115.15	1.049	1.0012	8.341	8.75	1008.5
1304	164.6	167.3	2.73	50.8	166.9	116.10	1.035	1.0012	8.340	8.63	1003.4
1305	165.6	168.3	2.73	50.9	168.1	117.27	1.049	1.0012	8.340	8.75	1027.1
1306	166.7	169.4	2.70	50.9	169.0	118.08	1.007	1.0012	8.340	8.40	993.3
1307	167.8	170.5	2.72	50.9	170.1	119.27	1.021	1.0012	8.340	8.52	1017.1
1308	168.8	171.4	2.63	50.8	171.1	120.32	0.966	1.0012	8.341	8.06	970.6
1309	169.8	172.6	2.85	50.5	172.3	121.81	0.994	1.0012	8.341	8.29	1010.7
1310	171.0	173.7	2.73	50.5	173.5	123.02	0.980	1.0012	8.341	8.17	1006.6
1311	172.2	174.9	2.72	50.4	174.6	124.18	0.980	1.0012	8.341	8.17	1016.1
1312	173.1	175.9	2.80	50.4	175.3	124.99	0.952	1.0012	8.341	7.94	993.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1313	174.0	176.8	2.77	50.2	176.5	126.22	0.952	1.0012	8.341	7.94	1003.7
1314	175.0	177.8	2.79	50.3	177.4	127.10	0.952	1.0012	8.341	7.94	1010.7
1315	175.9	178.8	2.82	50.2	178.4	128.18	0.952	1.0012	8.341	7.94	1019.2
1316	177.2	179.9	2.73	50.2	179.6	129.42	0.952	1.0012	8.341	7.94	1029.2
1317	178.2	180.9	2.73	50.2	180.5	130.33	0.911	1.0012	8.341	7.60	991.3
1318	178.8	181.5	2.71	50.2	181.3	131.07	0.911	1.0012	8.341	7.60	997.0
1319	178.9	181.6	2.65	50.2	181.5	131.35	0.911	1.0012	8.341	7.60	999.1
1320	179.0	181.7	2.68	50.2	181.5	131.32	0.911	1.0012	8.341	7.60	998.9
1321	179.0	181.7	2.68	50.3	181.6	131.31	0.911	1.0012	8.341	7.60	998.8
1322	179.1	181.8	2.68	50.5	181.6	131.10	0.911	1.0012	8.341	7.60	997.2
1323	179.2	181.8	2.69	50.7	181.7	131.02	0.911	1.0012	8.341	7.60	996.5
1324	179.1	181.8	2.68	50.8	181.6	130.78	0.911	1.0012	8.340	7.60	994.7
1325	179.1	181.7	2.66	50.9	181.6	130.69	0.911	1.0012	8.340	7.60	994.0
1326	179.1	181.7	2.62	51.0	181.6	130.62	0.897	1.0012	8.340	7.48	978.4
1327	179.0	181.6	2.64	51.1	181.5	130.35	0.911	1.0012	8.340	7.60	991.4
1328	178.9	181.5	2.61	51.1	181.4	130.33	0.911	1.0012	8.340	7.60	991.3
1329	178.8	181.5	2.63	51.3	181.3	129.96	0.911	1.0012	8.340	7.60	988.4
1330	178.7	181.3	2.63	51.2	181.2	129.98	0.911	1.0012	8.340	7.60	988.5
1331	178.5	181.2	2.62	51.0	181.0	130.01	0.897	1.0012	8.340	7.48	973.9
1332	178.5	181.1	2.61	50.9	181.0	130.13	0.911	1.0012	8.340	7.60	989.8
1333	178.3	181.0	2.64	50.7	180.9	130.18	0.911	1.0012	8.341	7.60	990.1
1334	178.2	180.8	2.64	50.6	180.7	130.06	0.911	1.0012	8.341	7.60	989.2
1335	178.1	180.7	2.61	50.6	180.5	129.97	0.911	1.0012	8.341	7.60	988.6
1336	178.0	180.6	2.59	50.6	180.5	129.95	0.897	1.0012	8.341	7.48	973.4
1337	177.8	180.4	2.61	50.5	180.3	129.83	0.911	1.0012	8.341	7.60	987.5
1338	177.7	180.3	2.60	50.5	180.2	129.73	0.911	1.0012	8.341	7.60	986.7
1339	177.5	180.1	2.63	50.4	180.0	129.61	0.911	1.0012	8.341	7.60	985.8
1340	177.3	179.9	2.59	50.4	179.8	129.41	0.911	1.0012	8.341	7.60	984.3
1341	177.0	179.6	2.62	50.3	179.6	129.27	0.911	1.0012	8.341	7.60	983.2
1342	176.9	179.5	2.58	50.3	179.4	129.14	0.897	1.0012	8.341	7.48	967.4
1343	176.8	179.3	2.46	50.4	179.3	128.91	0.883	1.0012	8.341	7.37	950.8
1344	176.6	179.1	2.55	50.3	179.0	128.71	0.869	1.0012	8.341	7.25	934.5
1345	176.6	179.1	2.48	50.3	178.9	128.63	0.856	1.0012	8.341	7.14	919.1
1346	176.2	178.8	2.62	50.5	178.8	128.30	0.897	1.0012	8.341	7.48	961.0
1347	176.0	178.6	2.65	50.8	178.6	127.77	0.925	1.0012	8.340	7.71	986.6
1348	175.8	178.5	2.63	50.8	178.3	127.56	0.925	1.0012	8.341	7.71	984.9
1349	175.6	178.2	2.59	51.0	178.0	127.01	0.925	1.0012	8.340	7.71	980.6
1350	175.2	177.9	2.65	51.0	177.8	126.79	0.925	1.0012	8.340	7.71	978.9
1351	175.3	177.9	2.60	51.2	177.7	126.57	0.925	1.0012	8.340	7.71	977.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1352	175.0	177.5	2.54	51.2	177.5	126.30	0.897	1.0012	8.340	7.48	946.0
1353	174.8	177.4	2.61	51.3	177.3	125.96	0.925	1.0012	8.340	7.71	972.5
1354	174.6	177.1	2.59	51.3	177.1	125.73	0.925	1.0012	8.340	7.71	970.7
1355	174.4	177.0	2.57	51.1	176.9	125.75	0.925	1.0012	8.340	7.71	970.9
1356	174.2	176.8	2.60	50.9	176.6	125.72	0.938	1.0012	8.340	7.83	985.2
1357	173.9	176.5	2.55	50.7	176.5	125.77	0.925	1.0012	8.341	7.71	971.1
1358	173.7	176.3	2.56	50.6	176.2	125.54	0.911	1.0012	8.341	7.60	954.8
1359	173.5	176.1	2.53	50.5	176.1	125.55	0.925	1.0012	8.341	7.71	969.4
1360	173.3	175.8	2.56	50.4	175.8	125.34	0.925	1.0012	8.341	7.71	967.8
1361	173.0	175.6	2.57	50.4	175.5	125.11	0.938	1.0012	8.341	7.83	980.5
1362	172.8	175.3	2.55	50.4	175.2	124.83	0.925	1.0012	8.341	7.71	963.9
1363	172.6	175.1	2.56	50.3	175.1	124.81	0.938	1.0012	8.341	7.83	978.1
1364	172.3	174.9	2.54	50.3	174.8	124.56	0.938	1.0012	8.341	7.83	976.1
1365	172.1	174.6	2.54	50.2	174.5	124.33	0.925	1.0012	8.341	7.71	960.0
1366	171.7	174.3	2.56	50.2	174.3	124.12	0.938	1.0012	8.341	7.83	972.7
1367	171.7	174.2	2.55	50.2	174.1	123.88	0.925	1.0012	8.341	7.71	956.5
1368	171.4	173.9	2.51	50.2	173.9	123.75	0.938	1.0012	8.341	7.83	969.8
1369	171.3	173.7	2.43	50.1	173.6	123.45	0.883	1.0012	8.341	7.37	910.6
1370	171.0	173.5	2.53	50.1	173.4	123.31	0.925	1.0012	8.341	7.71	952.1
1371	170.7	173.2	2.50	50.1	173.2	123.07	0.938	1.0012	8.341	7.83	964.5
1372	170.7	173.0	2.40	50.1	172.9	122.84	0.883	1.0012	8.341	7.37	906.1
1373	170.3	172.8	2.53	50.1	172.7	122.57	0.911	1.0012	8.341	7.60	932.4
1374	170.0	172.5	2.49	50.1	172.4	122.37	0.938	1.0012	8.341	7.83	959.0
1375	169.7	172.2	2.50	50.1	172.0	121.91	0.938	1.0012	8.341	7.83	955.4
1376	169.6	172.1	2.48	50.1	172.0	121.93	0.938	1.0012	8.341	7.83	955.5
1377	169.3	171.8	2.49	50.0	171.7	121.63	0.925	1.0012	8.341	7.71	939.2
1378	169.0	171.5	2.48	50.0	171.4	121.42	0.938	1.0012	8.341	7.83	951.5
1379	168.8	171.3	2.48	50.0	171.2	121.22	0.938	1.0012	8.341	7.83	950.0
1380	168.5	171.0	2.46	50.1	171.0	120.89	0.938	1.0012	8.341	7.83	947.4
1381	168.3	170.8	2.47	50.0	170.7	120.72	0.925	1.0012	8.341	7.71	932.2
1382	168.0	170.5	2.51	50.0	170.5	120.47	0.952	1.0012	8.341	7.94	958.0
1383	167.8	170.3	2.51	50.2	170.3	120.10	0.966	1.0012	8.341	8.06	968.9
1384	167.6	170.1	2.49	50.5	170.0	119.52	0.952	1.0012	8.341	7.94	950.4
1385	167.4	169.8	2.48	50.5	169.7	119.21	0.952	1.0012	8.341	7.94	947.9
1386	167.1	169.5	2.45	50.6	169.5	118.85	0.952	1.0012	8.341	7.94	945.0
1387	166.7	169.2	2.48	50.7	169.1	118.39	0.952	1.0012	8.341	7.94	941.4
1388	166.5	169.1	2.53	50.8	169.0	118.12	0.966	1.0012	8.340	8.06	952.9
1389	166.3	169.0	2.62	50.9	168.7	117.78	0.994	1.0012	8.340	8.29	977.3
1390	166.3	168.8	2.56	50.9	168.7	117.77	0.994	1.0012	8.340	8.29	977.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1391	165.8	168.4	2.54	51.0	168.3	117.28	0.980	1.0012	8.340	8.17	959.5
1392	165.6	168.1	2.54	51.1	168.0	116.97	0.994	1.0012	8.340	8.29	970.5
1393	165.3	167.8	2.50	51.1	167.8	116.75	0.994	1.0012	8.340	8.29	968.6
1394	165.1	167.6	2.52	51.1	167.5	116.43	0.994	1.0012	8.340	8.29	966.1
1395	164.7	167.3	2.53	51.1	167.2	116.15	0.994	1.0012	8.340	8.29	963.7
1396	164.5	167.1	2.53	50.8	167.0	116.23	0.994	1.0012	8.341	8.29	964.4
1397	164.4	166.8	2.48	50.6	166.8	116.20	0.994	1.0012	8.341	8.29	964.1
1398	164.0	166.5	2.51	50.5	166.4	115.91	0.980	1.0012	8.341	8.17	948.4
1399	163.9	166.4	2.50	50.5	166.3	115.84	0.966	1.0012	8.341	8.06	934.5
1400	163.6	166.1	2.50	50.4	166.0	115.58	0.994	1.0012	8.341	8.29	959.1
1401	163.3	165.8	2.48	50.4	165.7	115.31	0.994	1.0012	8.341	8.29	956.8
1402	163.1	165.6	2.50	50.4	165.5	115.17	0.994	1.0012	8.341	8.29	955.6
1403	162.9	165.3	2.46	50.3	165.3	114.96	0.994	1.0012	8.341	8.29	953.9
1404	162.6	165.1	2.48	50.3	165.0	114.70	0.994	1.0012	8.341	8.29	951.7
1405	162.2	164.7	2.49	50.3	164.6	114.33	0.994	1.0012	8.341	8.29	948.7
1406	162.1	164.5	2.46	50.2	164.5	114.24	0.994	1.0012	8.341	8.29	947.9
1407	161.8	164.2	2.44	50.2	164.2	113.97	0.994	1.0012	8.341	8.29	945.7
1408	161.5	164.0	2.44	50.2	163.9	113.69	0.980	1.0012	8.341	8.17	930.3
1409	161.1	163.7	2.57	50.1	163.6	113.44	1.007	1.0012	8.341	8.40	954.4
1410	160.9	163.5	2.55	50.1	163.4	113.27	1.035	1.0012	8.341	8.63	979.0
1411	160.6	163.2	2.55	50.1	163.1	112.98	1.035	1.0012	8.341	8.63	976.6
1412	160.3	162.8	2.57	50.1	162.7	112.67	1.021	1.0012	8.341	8.52	960.9
1413	160.2	162.7	2.56	50.0	162.6	112.56	1.035	1.0012	8.341	8.63	972.9
1414	159.8	162.4	2.55	50.0	162.3	112.30	1.035	1.0012	8.341	8.63	970.7
1415	159.6	162.1	2.54	50.0	162.0	111.99	1.035	1.0012	8.341	8.63	968.0
1416	159.3	161.8	2.53	50.0	161.7	111.70	1.035	1.0012	8.341	8.63	965.5
1417	159.0	161.5	2.50	50.0	161.5	111.50	1.021	1.0012	8.341	8.52	950.9
1418	158.7	161.1	2.45	50.0	161.1	111.18	1.035	1.0012	8.341	8.63	961.0
1419	158.4	160.9	2.52	49.9	160.8	110.82	1.035	1.0012	8.341	8.63	957.9
1420	158.3	160.7	2.47	49.9	160.7	110.81	1.035	1.0012	8.341	8.63	957.8
1421	158.2	160.6	2.49	49.9	160.5	110.61	1.035	1.0012	8.341	8.63	956.1
1422	157.8	160.3	2.48	49.9	160.2	110.29	1.035	1.0012	8.341	8.63	953.3
1423	157.5	160.0	2.47	49.9	160.0	110.07	1.035	1.0012	8.341	8.63	951.4
1424	157.4	159.8	2.37	49.9	159.7	109.75	1.007	1.0012	8.341	8.40	923.3
1425	156.8	159.4	2.61	49.9	159.4	109.43	1.035	1.0012	8.341	8.63	945.9
1426	156.5	159.1	2.65	49.9	159.0	109.08	1.090	1.0012	8.341	9.09	993.1
1427	156.3	158.9	2.64	49.9	158.8	108.87	1.090	1.0012	8.341	9.09	991.3
1428	156.5	159.2	2.67	49.9	159.0	109.07	1.076	1.0012	8.341	8.98	980.5
1429	157.0	159.7	2.70	49.9	159.4	109.49	1.090	1.0012	8.341	9.09	996.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1430	157.4	160.1	2.67	49.9	159.8	109.93	1.090	1.0012	8.341	9.09	1000.9
1431	158.5	161.1	2.68	49.9	160.9	111.02	1.076	1.0012	8.341	8.98	998.0
1432	159.3	162.0	2.71	49.9	161.7	111.78	1.090	1.0012	8.341	9.09	1017.7
1433	160.0	162.7	2.74	49.9	162.4	112.51	1.076	1.0012	8.341	8.98	1011.4
1434	160.8	163.5	2.73	49.9	163.1	113.23	1.035	1.0012	8.341	8.63	978.8
1435	161.7	164.5	2.80	49.9	164.2	114.30	1.063	1.0012	8.341	8.86	1014.4
1436	162.8	165.5	2.76	49.9	165.0	115.14	1.049	1.0012	8.341	8.75	1008.5
1437	163.8	166.6	2.74	49.9	166.1	116.24	1.035	1.0012	8.341	8.63	1004.8
1438	164.9	167.7	2.77	49.9	167.3	117.40	1.021	1.0012	8.341	8.52	1001.2
1439	166.1	168.8	2.69	49.9	168.5	118.55	1.021	1.0012	8.341	8.52	1011.0
1440	167.0	169.6	2.64	49.9	169.2	119.29	0.952	1.0012	8.341	7.94	948.6
1441	168.1	170.9	2.80	49.9	170.5	120.57	0.980	1.0012	8.341	8.17	986.6
1442	169.3	172.0	2.74	50.0	171.8	121.81	0.994	1.0012	8.341	8.29	1010.7
1443	170.2	173.1	2.82	50.0	172.8	122.80	0.994	1.0012	8.341	8.29	1019.0
1444	171.2	174.0	2.77	50.0	173.7	123.73	0.952	1.0012	8.341	7.94	983.9
1445	172.3	175.2	2.89	50.0	174.8	124.80	0.994	1.0012	8.341	8.29	1035.6
1446	173.7	176.5	2.78	50.0	176.1	126.10	0.980	1.0012	8.341	8.17	1031.9
1447	174.6	177.2	2.68	50.0	177.0	126.93	0.938	1.0012	8.341	7.83	994.8
1448	175.9	178.6	2.66	50.1	178.2	128.12	0.897	1.0012	8.341	7.48	959.8
1449	177.0	179.9	2.82	50.0	179.4	129.33	0.952	1.0012	8.341	7.94	1028.4
1450	177.7	180.5	2.75	50.1	180.2	130.09	0.925	1.0012	8.341	7.71	1004.5
1451	179.2	181.9	2.70	50.1	181.5	131.41	0.911	1.0012	8.341	7.60	999.5
1452	179.6	182.3	2.71	50.2	182.2	132.05	0.911	1.0012	8.341	7.60	1004.4
1453	179.9	182.5	2.59	50.2	182.2	132.07	0.883	1.0012	8.341	7.37	974.1
1454	179.9	182.5	2.52	50.1	182.3	132.24	0.856	1.0012	8.341	7.14	944.9
1455	180.1	182.7	2.54	50.2	182.5	132.36	0.869	1.0012	8.341	7.25	961.0
1456	180.1	182.7	2.52	50.2	182.5	132.31	0.869	1.0012	8.341	7.25	960.6
1457	180.0	182.6	2.53	50.2	182.4	132.21	0.869	1.0012	8.341	7.25	959.9
1458	180.0	182.6	2.56	50.3	182.4	132.13	0.856	1.0012	8.341	7.14	944.1
1459	180.1	182.6	2.52	50.2	182.4	132.22	0.869	1.0012	8.341	7.25	960.0
1460	179.9	182.5	2.56	50.2	182.3	132.08	0.856	1.0012	8.341	7.14	943.7
1461	179.8	182.4	2.53	50.3	182.3	131.98	0.856	1.0012	8.341	7.14	943.0
1462	179.8	182.4	2.52	50.2	182.2	132.01	0.869	1.0012	8.341	7.25	958.5
1463	179.7	182.2	2.52	50.3	182.0	131.80	0.856	1.0012	8.341	7.14	941.7
1464	179.5	182.0	2.51	50.3	181.9	131.68	0.869	1.0012	8.341	7.25	956.1
1465	179.4	181.9	2.52	50.3	181.7	131.45	0.856	1.0012	8.341	7.14	939.3
1466	179.3	181.8	2.52	50.3	181.8	131.50	0.869	1.0012	8.341	7.25	954.7
1467	179.2	181.7	2.51	50.3	181.6	131.29	0.869	1.0012	8.341	7.25	953.3
1468	179.1	181.6	2.47	50.3	181.5	131.24	0.856	1.0012	8.341	7.14	937.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1469	179.0	181.5	2.50	50.3	181.4	131.13	0.869	1.0012	8.341	7.25	952.1
1470	178.8	181.3	2.50	50.3	181.2	130.90	0.856	1.0012	8.341	7.14	935.3
1471	178.6	181.1	2.47	50.3	181.0	130.68	0.856	1.0012	8.341	7.14	933.7
1472	178.6	181.1	2.48	50.3	180.9	130.61	0.869	1.0012	8.341	7.25	948.3
1473	178.4	180.8	2.47	50.4	180.7	130.38	0.856	1.0012	8.341	7.14	931.6
1474	178.2	180.6	2.42	50.4	180.6	130.21	0.869	1.0012	8.341	7.25	945.3
1475	178.1	180.5	2.43	50.4	180.4	129.97	0.856	1.0012	8.341	7.14	928.6
1476	177.8	180.4	2.56	50.4	180.3	129.84	0.869	1.0012	8.341	7.25	942.7
1477	177.6	180.2	2.57	50.4	180.1	129.70	0.911	1.0012	8.341	7.60	986.5
1478	177.3	179.9	2.59	50.5	179.8	129.35	0.897	1.0012	8.341	7.48	969.0
1479	177.3	179.9	2.57	50.4	179.7	129.30	0.897	1.0012	8.341	7.48	968.5
1480	177.0	179.5	2.55	50.4	179.6	129.15	0.911	1.0012	8.341	7.60	982.4
1481	176.8	179.4	2.58	50.4	179.3	128.87	0.897	1.0012	8.341	7.48	965.4
1482	176.7	179.2	2.52	50.5	179.2	128.73	0.897	1.0012	8.341	7.48	964.3
1483	176.4	179.0	2.55	50.4	178.9	128.46	0.911	1.0012	8.341	7.60	977.1
1484	176.2	178.8	2.53	50.5	178.7	128.17	0.897	1.0012	8.341	7.48	960.1
1485	176.0	178.6	2.57	50.5	178.5	127.99	0.897	1.0012	8.341	7.48	958.8
1486	175.7	178.3	2.56	50.5	178.2	127.72	0.911	1.0012	8.341	7.60	971.4
1487	175.5	178.1	2.57	50.5	178.0	127.50	0.911	1.0012	8.341	7.60	969.8
1488	175.4	177.9	2.52	50.5	177.8	127.30	0.897	1.0012	8.341	7.48	953.6
1489	175.1	177.7	2.59	50.5	177.5	127.04	0.897	1.0012	8.341	7.48	951.6
1490	175.0	177.5	2.52	50.5	177.4	126.88	0.911	1.0012	8.341	7.60	965.0
1491	174.8	177.3	2.52	50.5	177.2	126.74	0.897	1.0012	8.341	7.48	949.4
1492	174.6	177.1	2.53	50.5	177.0	126.47	0.911	1.0012	8.341	7.60	962.0
1493	174.4	176.7	2.39	50.5	176.6	126.12	0.869	1.0012	8.341	7.25	915.7
1494	174.2	176.6	2.41	50.5	176.5	126.03	0.856	1.0012	8.341	7.14	900.5
1495	173.8	176.4	2.55	50.5	176.3	125.78	0.925	1.0012	8.341	7.71	971.2
1496	173.6	176.2	2.53	50.6	176.1	125.50	0.911	1.0012	8.341	7.60	954.5
1497	173.4	175.9	2.52	50.6	175.8	125.26	0.911	1.0012	8.341	7.60	952.7
1498	173.0	175.6	2.56	50.5	175.6	125.07	0.925	1.0012	8.341	7.71	965.7
1499	172.9	175.5	2.59	50.5	175.3	124.81	0.938	1.0012	8.341	7.83	978.1
1500	172.6	175.2	2.54	50.5	175.2	124.64	0.925	1.0012	8.341	7.71	962.4
1501	172.5	175.1	2.56	50.5	174.9	124.48	0.938	1.0012	8.341	7.83	975.5
1502	172.2	174.8	2.55	50.5	174.7	124.13	0.938	1.0012	8.341	7.83	972.7
1503	172.0	174.5	2.56	50.5	174.4	123.87	0.925	1.0012	8.341	7.71	956.4
1504	171.6	174.1	2.50	50.5	174.1	123.62	0.938	1.0012	8.341	7.83	968.8
1505	171.4	174.0	2.54	50.5	173.9	123.39	0.938	1.0012	8.341	7.83	966.9
1506	171.2	173.7	2.52	50.5	173.6	123.10	0.925	1.0012	8.341	7.71	950.5
1507	170.9	173.4	2.51	50.5	173.4	122.87	0.938	1.0012	8.341	7.83	962.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1508	170.7	173.2	2.53	50.4	173.1	122.69	0.938	1.0012	8.341	7.83	961.5
1509	170.5	173.0	2.51	50.4	173.0	122.55	0.925	1.0012	8.341	7.71	946.3
1510	170.4	172.8	2.40	50.4	172.7	122.21	0.897	1.0012	8.341	7.48	915.5
1511	170.0	172.5	2.52	50.4	172.4	122.06	0.938	1.0012	8.341	7.83	956.6
1512	169.7	172.2	2.49	50.4	172.2	121.79	0.938	1.0012	8.341	7.83	954.5
1513	169.5	172.0	2.49	50.4	171.9	121.48	0.938	1.0012	8.341	7.83	952.0
1514	169.3	171.8	2.48	50.4	171.7	121.30	0.938	1.0012	8.341	7.83	950.6
1515	169.1	171.6	2.47	50.4	171.4	121.04	0.938	1.0012	8.341	7.83	948.5
1516	168.8	171.3	2.50	50.4	171.2	120.75	0.952	1.0012	8.341	7.94	960.2
1517	168.5	171.0	2.49	50.4	170.9	120.48	0.938	1.0012	8.341	7.83	944.2
1518	168.3	170.8	2.47	50.4	170.7	120.29	0.938	1.0012	8.341	7.83	942.7
1519	168.0	170.5	2.48	50.5	170.4	119.98	0.952	1.0012	8.341	7.94	954.1
1520	167.6	170.1	2.48	50.4	170.0	119.61	0.938	1.0012	8.341	7.83	937.3
1521	167.4	169.9	2.52	50.5	169.8	119.34	0.966	1.0012	8.341	8.06	962.7
1522	167.4	169.9	2.53	50.5	169.8	119.36	0.966	1.0012	8.341	8.06	962.9
1523	167.3	169.8	2.53	50.5	169.7	119.20	0.966	1.0012	8.341	8.06	961.6
1524	166.9	169.4	2.52	50.5	169.3	118.85	0.966	1.0012	8.341	8.06	958.8
1525	166.6	169.2	2.54	50.4	169.0	118.60	0.966	1.0012	8.341	8.06	956.7
1526	166.5	169.0	2.51	50.4	168.9	118.46	0.952	1.0012	8.341	7.94	942.0
1527	166.1	168.6	2.48	50.5	168.6	118.13	0.966	1.0012	8.341	8.06	953.0
1528	166.1	168.5	2.34	50.5	168.4	117.95	0.952	1.0012	8.341	7.94	937.9
1529	165.7	168.1	2.44	50.4	168.1	117.70	0.966	1.0012	8.341	8.06	949.5
1530	165.5	167.9	2.44	50.4	167.9	117.45	0.966	1.0012	8.341	8.06	947.4
1531	165.2	167.7	2.48	50.5	167.6	117.15	0.966	1.0012	8.341	8.06	945.0
1532	164.9	167.4	2.44	50.4	167.3	116.86	0.966	1.0012	8.341	8.06	942.7
1533	164.8	167.3	2.46	50.4	167.1	116.70	0.966	1.0012	8.341	8.06	941.4
1534	164.5	166.9	2.42	50.5	166.9	116.37	0.980	1.0012	8.341	8.17	952.2
1535	164.3	166.7	2.44	50.5	166.6	116.12	0.966	1.0012	8.341	8.06	936.7
1536	164.0	166.4	2.44	50.5	166.3	115.83	0.966	1.0012	8.341	8.06	934.4
1537	163.8	166.2	2.39	50.5	166.1	115.65	0.966	1.0012	8.341	8.06	933.0
1538	163.5	165.9	2.42	50.4	165.9	115.42	0.966	1.0012	8.341	8.06	931.1
1539	163.2	165.6	2.43	50.5	165.5	114.98	0.980	1.0012	8.341	8.17	940.8
1540	162.9	165.3	2.40	50.5	165.3	114.76	0.966	1.0012	8.341	8.06	925.8
1541	162.8	165.2	2.40	50.4	165.0	114.61	0.966	1.0012	8.341	8.06	924.5
1542	162.5	164.9	2.43	50.5	164.7	114.22	0.966	1.0012	8.341	8.06	921.4
1543	162.1	164.5	2.38	50.5	164.5	113.98	0.966	1.0012	8.341	8.06	919.5
1544	161.9	164.3	2.39	50.5	164.2	113.61	0.966	1.0012	8.341	8.06	916.5
1545	161.7	164.1	2.39	50.6	164.0	113.40	0.966	1.0012	8.341	8.06	914.8
1546	161.5	163.9	2.34	50.5	163.8	113.31	0.980	1.0012	8.341	8.17	927.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1547	161.3	163.6	2.35	50.5	163.5	112.92	0.966	1.0012	8.341	8.06	910.9
1548	160.9	163.2	2.38	50.6	163.2	112.57	0.980	1.0012	8.341	8.17	921.0
1549	160.4	163.0	2.64	50.6	162.9	112.31	1.049	1.0012	8.341	8.75	983.6
1550	160.2	162.8	2.63	50.6	162.7	112.15	1.063	1.0012	8.341	8.86	995.2
1551	160.0	162.6	2.63	50.5	162.5	111.92	1.063	1.0012	8.341	8.86	993.1
1552	159.6	162.2	2.58	50.5	162.2	111.66	1.063	1.0012	8.341	8.86	990.8
1553	159.3	161.9	2.63	50.5	161.8	111.26	1.063	1.0012	8.341	8.86	987.3
1554	159.1	161.7	2.65	50.5	161.5	111.04	1.063	1.0012	8.341	8.86	985.3
1555	158.9	161.5	2.60	50.5	161.4	110.89	1.063	1.0012	8.341	8.86	984.0
1556	158.6	161.2	2.59	50.5	161.1	110.64	1.063	1.0012	8.341	8.86	981.8
1557	158.3	160.9	2.58	50.5	160.8	110.34	1.063	1.0012	8.341	8.86	979.2
1558	158.1	160.6	2.55	50.5	160.6	110.09	1.076	1.0012	8.341	8.98	989.6
1559	157.8	160.3	2.56	50.5	160.3	109.75	1.063	1.0012	8.341	8.86	973.9
1560	157.4	160.0	2.56	50.5	159.9	109.41	1.076	1.0012	8.341	8.98	983.4
1561	157.3	159.9	2.59	50.5	159.7	109.22	1.063	1.0012	8.341	8.86	969.2
1562	157.0	159.6	2.55	50.5	159.5	109.00	1.076	1.0012	8.341	8.98	979.8
1563	156.6	159.2	2.56	50.5	159.1	108.61	1.063	1.0012	8.341	8.86	963.8
1564	156.4	159.0	2.54	50.5	158.8	108.35	1.076	1.0012	8.341	8.98	973.9
1565	156.8	159.3	2.47	50.5	159.1	108.57	1.035	1.0012	8.341	8.63	938.4
1566	157.5	160.1	2.65	50.5	159.8	109.25	1.063	1.0012	8.341	8.86	969.4
1567	158.1	160.7	2.61	50.5	160.4	109.94	1.076	1.0012	8.341	8.98	988.2
1568	158.9	161.5	2.61	50.5	161.4	110.87	1.035	1.0012	8.341	8.63	958.3
1569	159.6	162.3	2.72	50.5	161.9	111.41	1.063	1.0012	8.341	8.86	988.6
1570	160.8	163.5	2.67	50.5	163.2	112.68	1.063	1.0012	8.341	8.86	999.9
1571	161.5	164.3	2.77	50.6	164.0	113.40	1.076	1.0012	8.341	8.98	1019.4
1572	162.3	165.1	2.73	50.5	164.9	114.38	1.063	1.0012	8.341	8.86	1015.0
1573	163.2	166.2	2.99	50.5	166.0	115.42	1.104	1.0012	8.341	9.21	1064.1
1574	164.6	167.4	2.80	50.5	167.1	116.59	1.063	1.0012	8.341	8.86	1034.6
1575	165.6	168.6	2.91	50.5	168.2	117.68	1.049	1.0012	8.341	8.75	1030.7
1576	167.3	169.8	2.55	50.5	169.5	118.94	1.007	1.0012	8.341	8.40	1000.6
1577	168.3	170.9	2.59	50.5	170.3	119.84	0.952	1.0012	8.341	7.94	952.9
1578	169.3	171.8	2.58	50.5	171.5	121.01	0.952	1.0012	8.341	7.94	962.3
1579	170.5	173.2	2.67	50.5	172.7	122.21	0.938	1.0012	8.341	7.83	957.7

Gravimetric Lab Data

ASTM E2515

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Run No.: 3
 Test Date: 2/26/25

OMNI Eq. ID Numbers
 Analytical Scale: 00637
 Audit Weight Set: 00283A/00273
 Analytical Scale: 00715
 Hygrometer: 00715
 Filters are weighed: In Pairs

Train A

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F513A	242.8	238.2	4.6	4.6
Probe catch*	5/14/24 @ 6:15	Probe	20	114254.2	114253.9	0.3	0.3
filter seals catch*	5/14/24 @ 6:15	Seals	S931	3321.0	3320.7	0.3	0.3
				Total Particulate, mg:		5.2	5.2

Train B

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F514A	242.9	238.6	4.3	4.3
Probe catch*	5/14/24 @ 6:15	Probe	78	117462.0	117461.5	0.5	0.5
filter seals catch*	5/14/24 @ 6:15	Seals	S932	3221.8	3220.4	1.4	1.4
Sub-Total				Total Particulate, mg:		6.2	6.2

Train C - First Hour

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F515A	237.6	237.6	0.0	0.0
Probe catch*	5/14/24 @ 6:15	Probe	2	115012.2	115012.0	0.2	0.2
filter seals catch*	5/14/24 @ 6:15	Seals	S933	3320.3	3319.4	0.9	0.9
				Total Particulate, mg:		1.1	1.1

Train D - Ambient Background

Sample Component Date / Time in Desiccator		Reagent	Filter # or	Weights			
				Final, mg	Tare, mg	Particulate, mg	
Filter catch*	5/14/24 @ 6:15	Filter	F523	122.3	121.6	0.7	
				Total Particulate, mg:		0.7	

$$\text{Final (mg)} - \text{Tare (mg)} = \text{Particulate (mg)}$$

NOTE: The Uncorrected values are those where any negative filter weights are taken as a negative value. This can possibly occur when filter matter adheres the O-ring seals and thereby transfers some mass to the O-ring. The Corrected values reflect where any negative filter weights are taken as ZERO, thus not accounting for any transfer of mass and resultingly over-reporting. Corrected values were added to this analysis to report the "Corrected" results in this report in response to a request by the US EPA. In cases where the Final weight minus the Tare weight of the Ambient filter occurs, it is taken as a ZERO. Any negative probe weights are evaluated pursuant to clause of ASTM E25215 (or appropriately associated test standard as defined in the introduction of this report).

Technician Signature: _____

Reviewed By: _____

Run 3 - Run Notes

Manufacturer: Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 3
Test Date: 2/26/2025

This supplemental section of miscellaneous run notes is comprised of the following:

- Appliance Operation Notes
- Velocity Traverse / Supplemental Run Notes
- Test Fuel Notes
- Gravimetric Analysis Notes

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler Project Number: 0117WB044E Run Number: 3
Model: Edge 760.1 Tracking Number: 2501 Date: 2-26-25
Test Crew: KM, RT, JM

Primary Air Control Settings

N/A - Automatic

Secondary: FIXED

Tertiary/Pilot: N/A

Fan: N/A

Preburn Notes

Time	Notes
	SEE SEPARATE HAND-WRITTEN NOTES

Sampling Portion Notes

Sketch test fuel configuration:

SEE fuel properties and photos

Start up procedures & Timeline:

Bypass: NOT USED
Fuel loaded by: 1 min, 50 sec
Door closed at: 2 min.
Primary air: N/A

Notes: N/A

Time	Notes
10:55	STIR/Level coal bed
11:03	Start Sampling

Technician Signature: [Signature]

Date: 2/27/25

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler Project Number: 0117WB044E Run Number: 3
 Model: Edge 760.1 Tracking Number: 2501 Date: 2-26-25
 Test Crew: KM, RT, JM

Supplemental Data

Test Booth No. E3 Sampling Start Time: 11:03 Sampling End Time: 13:22 (2-27-25)
 Tunnel Cleaned Date 2-19-25 % Smoke Capture 100 Induced Draft ☒ in. H₂O

Systems Leak Checks			
System	Pre-Test	Post-Test	Sampling Probe Change-out
Pitot	@	@	
Train A	0 @ 14.88	0.001 @ 5.62	
Train B	0 @ 14.51	0.002 @ 5.77	
Train C	0.001 @ 16.40	0.001 @ 11.90	

Velocity Traverse, 6-inch tunnel			
Location	Microtector (in. H ₂ O)	Δp (in. H ₂ O)	Tunnel Temp., °F
Center	.056	.112	65
1	.056	.106	65
2	.059	.118	65
3	.058	.116	65
4	.059	.118	65
5	.054	.108	65
6	.033	.066	65
7			65
8			65
Tunnel Static (in. H ₂ O)		Pre-Test -0.132	Post-Test -0.134

7 - .051 .102 65
 8 - .059 .118 65
 9 - .057 .114 65
 10 - .055 .110 65
 11 - .053 .106 65
 12 - .039 .078 65

Miscellaneous Parameters			
Item	Initial	Final	Equipment No.
Room Air Velocity, ft/min.	8	5	00737
Scale Audit, lb. (20-80 % of fuel load)	20.0	20.0	
Room Relative Humidity, %	48	45	00716
Barometric Pressure, in. Hg	30.16	30.18	00716
Room Temperature, °F	63	65	

Flue Gas Continuous Analyzer						
Analyzer ID		Response Time, sec.		Leak Check Performed?		
Bias Checks	Concentration:	16.88	Pre-Test Response	16.88	Post-Test Response	16.97
Concentration	Bottle No.	Value, %	Pre-Test Response		Post-Test Response	
			Zero	Span	Zero	Span
CO ₂ % Span	CC 506601	16.88	0.00	16.88	0.03	16.97
CO % Span	CC 506601	4.07	0.000	502 4.06	-0.005	4.02
CO ppm Span	CC 242987	502	0	502	-3	499
Zero	TC-3AAM183					

Technician Signature: K. J. MorganDate: 2/27/25

Test Fuel Properties

ASTM E2780

Manufacturer : Central Boiler
 Model : Classic Edge 760.1
 Tracking No. : 2501
 Project No. : 0117WB044E
 Test Date : 12-26-25
 Run No. : 3

Moisture Meter Cal	
Cal Block	Measured
12.0	
22.0	

Firebox Volume : 22.090 ft³
 Manufacturer's Recommended Loading Density : 13
 Ideal Fuel Weight : 287.17 lb.
 Minimum Fuel Weight : 258.45 lb.
 Maximum Fuel Weight : 315.89 lb.
 Fuel Species : Maple

Fuel Piece Data

PC No.	Weight, Lb. (W)	Cross-Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	10.8	6.75	5.5	24	19.5	22.4	21.4	21.0	20.0		
2	10.5	5	4	24	19.7	23.1	24.1	19.6	23.8		
3	16.4	7	5.5	24	19.6	19.1	18.1	18.2	18.4		
4	9.3	6.5	5.5	24	22.0	20.6	18.4	19.8	19.5		
5	16	7	5	24	19.8	24.9	25.4	19.8	18.0		
6	14.4	6.75	6.75	24	19.4	20.1	18.1	19.7	21.6		
7	16.5	7.25	5.25	24	18.0	19.5	17.5	19.9	20.0		
8	10.4	5.5	4.5	24	19	19	19.6	19.6	20.1		
9	9.9	5	4.75	24	22.7	26.9	25.2	22.9	20.0		
10	12.4	6.75	4.75	24	22.1	23.6	24.9	24.9	23.7		
11	13.6	6.5	4.5	24	19.4	21.2	19.9	19.9	19.4		
12	11.4	6	5.5	24	19.2	19.6	19.6	18.2	18.0		
13	12.2	7	4.5	24	18.1	19.3	19.7	20.4	20.6		
14	11.6	5.25	5	24	23.8	26.5	19.7	21.5	19.2		
15	10.6	6	4.5	24	21.7	20.9	23.6	19.8	18.5		
16	14.2	7.5	5.5	24	19	18	18.6	19.5	19.7		
17	13.0	6.5	5	24	20.1	20.2	21.3	19.0	19.4		
18	10.7	6.5	5.75	24	24.9	24.9	23	20.5	24.9		
19	12.8	6.25	5.5	24	20.4	23.0	22.8	23	21.3		
20	10.2	6	5.25	24	25.7	20.7	25.4	22.8	22.7		
21	11.9	7	5.5	24	21.9	25.3	24.3	22.4	24.9		
22	15.4	6.5	6	24	21.3	22	22.9	25.4	22.9		
23											
24											
25											
26	16.4	7	5.5	24	21.0	23.8	23.2	24.9	19.7		
27											
28											
29											
30											
TOTAL	0.0										0.00
Averages	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

3

~~274.7~~
 274.2

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 3

Model: Edge 760.1

Tracking Number: 2501

Date: 2-26-25

Test Crew: RT, KM, JM

Gravimetric Analysis Sheet

Assembled By:

Joseph McShane

Date/Time in Desiccator:

2-27-25 @ 13:54

1st hr. 12:31 2-26-25

Weighing's				
Date/Time: 2-28-24	Date/Time: 3-3-25 12:00	Date/Time: 3/4/25 7:25	Date/Time:	Date/Time:
R/H %: 14	R/H %: 5	R/H %: 5	R/H %:	R/H %:
Temp: 68.7	Temp: 68.0	Temp: 66.8	Temp:	Temp:
100 mg Audit 100.1	100 mg Audit 100.0	100 mg Audit 100.0	100 mg Audit	100 mg Audit
200 mg Audit: 200.0	200 mg Audit: 200.1	200 mg Audit: 200.1	200 mg Audit:	200 mg Audit:
2 g Audit: 2000.2	2 g Audit: 2000.2	2 g Audit: 2000.2	2 g Audit:	2 g Audit:
100 g Audit: 99998.6	100 g Audit: 99997.6	100 g Audit: 99997.6	100 g Audit	100 g Audit
Initials: RD	Initials: K	Initials: K	Initials:	Initials:

Train	Element	ID #	Tare (mg)	✓	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A	Filter Pair	FS13	238.2	✓	242.8	243.0	242.8	—	✓
	Probe	20	114253.9	✓	114254.8	114254.2	114254.8	K (114254.2) K	✓
	O-Ring Set	S931	3320.7	✓	3320.7	3321.0	3321.0	—	✓
B 117461.5 TARE	Front Filter	FS14	238.6	✓	242.8	243.0	242.9	—	✓
	Probe	78	117461.3	✓	117462.0	117462.0	—	—	✓
	O-Ring Set	S932	3220.4	✓	3221.3	3221.8	3221.8	—	✓
C (1st hr)	Front Filter	FS15	237.6	✓	237.6	237.8	237.6	—	✓
	Probe	2	115012.0	✓	115012.2	115012.2	—	—	✓
	O-Ring Set	S933	3319.4	✓	3319.5	3320.2	3320.3	—	✓
BG	Filter	F523	121.6	✓	122.0	122.4	122.3	—	✓

Technician Signature: Luigi MorganDate: 3/04/25

2-26-25

Central Boiler Row 3

760.1

0117WB044E

5:22

18.5 Coals + 16.5 lb Raw Fuel

35 lb total

5:49

Scale = 25.0, scale = 85 (added 60.0)

95 lb. total

6:29

Scale = 42.0, scale = 97.0 (added 55.0)

150.0 lb total

7:36

Scale = 40.0, scale = 95.5 (added 55.5)

205.5 lb. total

8:40

Scale = 40.0, scale = 109.5 (added 69.5)

275.0 lb total

9:50

56 lb. Stir 30 sec

10:40

Bucket test 8.48 lb/min

0103

Bucket test 8.88 lb/min

13:27

" " 7.80 lb/min

Equations and Calculations – ASTM E2618 & ASTM E2515



Manufacturer Central Boiler
 Model: Classic Edge 760.1
 Project Number: 0117WB044E
 Run Number: 3

Summary of INPUT values necessary for calculations

Global Input Parameters for Equations	Value	Source
MC_{Ave} - Average Fuel Load Moisture Content, % dry basis	21.31	Fuel Properties Work Sheet
W_{fuel} - Fuel charge weight (wet), pounds	274.2	Fuel Properties Work Sheet
HHV - Higher Heating Value of Fuel, Btu/lb.	8297	ISO Lab Report ¹
LHV - Lower Heating Value of Fuel, Btu/lb.	7698	CSA B415.1:22 ²
W_{app} - Mass of dry boiler, lb.	2457	Measured
W_{water} - Mass of Water within Boiler, lb.	2711	Measured
V_{SCENT} - Average gas velocity at the center of the dilution tunnel calculated after the Pitot tube traverse, ft/sec	22.04	Traverse Worksheet
V_{STRAV} - Average gas velocity calculated after the multipoint Pitot traverse	21.54	Traverse Worksheet
θ - Duration of test, min	1579	Train A Worksheet
P_{bar} - Barometric pressure (average) at the testing site, in. Hg	30.17	Traverse Worksheet
P_g - Tunnel Static Pressure	-0.33	Traverse Worksheet

¹ From an Ultimate Analysis performed on a sample of the fuel lot that was used.

² CSA B415 only accepts input for the HHV and calculates the LHV from that data. This differs from the LHV reported in the ultimate analysis, however the CSA value was used for consistency in comparing SLM and delivered efficiencies.

Sample Train Input Parameters for Equations	Train A	Train B	Train C	Train D
V_m - Volume of gas sample measured at the dry gas meter, dcf	253.908	256.450	9.588	245.1
Y - Dry gas meter calibration factor	1.012	1.024	1.006	1.007
ΔH - Average pressure differential across the orifice meter, in. H ₂ O	1.24	1.25	1.05	1.10
T_m - Temperature of Dry Gas Meter, °F	93.4	89.8	69.4	76.6

Uncorrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.3	0.5	0.2	n/a
m_f - mass of particulate matter from filters, mg	4.6	4.3	0.0	0.7
m_g - mass of particulate matter from seals, mg	0.3	1.4	0.9	n/a

Corrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.3	0.5	0.2	n/a
m_f - mass of particulate matter from filters, mg	4.6	4.3	0.0	n/a
m_g - mass of particulate matter from seals, mg	0.3	1.4	0.9	n/a

TI_{avg} - Average Temperature of Appliance and Water at Start of Test, °F - ASTM E2618 equation (1)

$$TI_{avg} = (T1 + T2)/2 \quad \text{At beginning of Test}$$

Where,

	Value
$T1$ = Temperature at inlet of supply side of exchanger, °F	163.5
$T2$ = Temperature at outlet of supply side of exchanger, °F	160.9

$$Ti_{avg} = (163.49 + 160.91) / 2 = 162.2$$

TF_{avg} - Average Temperature of Appliance and Water at End of Test, °F - ASTM E2618 equation (2)

$$TF_{avg} = (T1 + T2)/2 \quad \text{At end of test}$$

Where,

	Value
$T1$ = Temperature at inlet of load side of heat exchanger, °F	173.2
$T2$ = Temperature at outlet of load side of heat exchanger, °F	170.5

$$TF_{avg} = (173.2 + 170.54) / 2 = 171.9$$

MC_{Ave} - Average Fuel Load Moisture Content, dry basis, % - ASTM E2618 equation (3)

$$MC_{Ave} = (\sum W_i \cdot MC_i) / \sum W_i$$

Where,

W_i = Weight of individual pieces
 MC_i = Average moisture content of individual fuel pieces, dry basis

$\sum(W_i \cdot MC_i)$	5842.7	Taken from fuel properties sheet
$\sum W_i$	274.2	Taken from fuel properties sheet

$$MC_{Ave} = (5842.7 / 274.2) = 21.31 \quad \%, \text{ dry basis}$$

Q_{in} - Heat Input, Btu (HHV) - ASTM E2618 equation (4)

$$Q_{in} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times HHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	274.2
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	21.31
HHV =	Higher Heating Value of Fuel, Btu/lb.	8297

$$Q_{in} = (274.2 / (1 + (21.31 / 100))) \times 8297 = 1875420.569 \quad \text{Btu}$$

Q_{in LHV} - Heat Input, Btu (LHV) - ASTM E2618 equation (5)

$$Q_{in LHV} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times LHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	274.2
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	21.31
LHV =	Higher Heating Value of Fuel, Btu/lb.	7698

$$Q_{in LHV} = (274.2 / (1 + (21.31 / 100))) \times 7698 = 1740025.014 \quad \text{Btu}$$

BR - Dry Burn-Rate, kg/hr

$$BR = [(W_{fuel} / (1 + (MC_{Ave}/100))) / 2.2046] / \theta$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	274.2
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	21.31
2.2046 =	Conversion kg -> lb.	2.2046
θ =	Duration of Test, hours	26.317

$$BR = 274.2 / (1 + (21.31 / 100)) / 2.2046 / 26.32 = 3.90 \quad \text{kg/hr}$$

Q_{out} - Heat Output, Btu - ASTM E2618 equation (7)

$$Q_{out} = \left[\sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) \right] + (W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg})$$

Where,

	<u>Value</u>
C_{pi} = Specific heat of water during interval (i), Btu/lb °F	Varies
ΔT_i = Temperature difference between water entering and exiting heat exchanger (load), °F	Varies
M_i = Mass flow-rate of water through heat exchanger during interval (i), lb./min	Varies
t_i = Data sampling interval, min	<u>Varies</u>
W_{app} = Weight of empty appliance, lb.	2457
C_{steel} = Specific heat of steel, Btu/lb.°F	0.1
C_{pa} = Specific heat of water at average appliance temperature, Btu/lb °F	1.0008
W_{water} = Weight of water in supply side of system, lb.	2711
TF_{avg} = Average temperature of appliance and water at end of test	171.87
TI_{avg} = Average temperature of appliance and water at start of test	162.20

$$\begin{aligned} \sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) \quad \text{from Water Data sheet} &= 1487268.282 \quad 56514.3109 \\ C_{pa} &= 1.0014 + (-0.000003485 \cdot (TI_{avg} + TF_{avg}) / 2) = 1.0008 \\ (W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg}) &= 28620.67 \\ Q_{OUT} &= 1487268.282 + 1.0008 \times 28620.67 = 1515888.95 \quad \text{Btu} \end{aligned}$$

Heat Output Rate, Btu/hr - ASTM E2618 equation (15)

$$\text{Heat Output Rate} = Q_{OUT} / \theta$$

Where,	<u>Value</u>
Q_{OUT} = Heat Output	1515889.0
Θ = Duration of test, hr	26.3167

$$\text{Heat Output Rate} = 57601.9 \quad \text{Btu/hr}$$

V_S – Average gas velocity in the dilution tunnel, ft/sec - ASTM E2515 equation (9)

$$V_S = F_P \times K_P \times C_P \times (\sqrt{\Delta P})_{avg} \times \sqrt{\frac{T_{S(avg)}}{P_S \times M_S}}$$

Where

F_P = Adjustment factor for center of tunnel pitot tube placement, where

$$F_P = V_{STRAV} / V_{SCENT}$$

V_{SCENT} = Dilution tunnel velocity, at the center, ft/sec

V_{STRAV} = Dilution tunnel velocity, multi-point pitot traverse, ft/sec

K_P = Pitot tube constant, 85.49

C_P = Pitot tube coefficient: 0.99, unitless

$\Delta P^{1/2}_{AVG}$ = Velocity pressure in the dilution tunnel, in H_2O

$T_{S(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R

P_S = Absolute average gas static pressure in tunnel, = Pbar + Pg, where

Pbar = Barometric Pressure, in. Hg,

Pg = Static pressure in tunnel, Hg (in H_2O / 13.6)

M_S = The dilution tunnel wet molecular weight; M_S = 28.78 assuming a dry weight of 29 lb/lb-mole

(Duration of Test)

$$F_P = 0.9774$$

$$\Delta P^{1/2}_{AVG} = 0.3361$$

$$T_{S(avg)} = 531.3337$$

$$P_{bar} = 30.1700$$

$$P_g = -0.3300$$

$$P_S = 30.1457$$

$$V_S = 0.977 \times 85.49 \times 0.99 \times 0.336 \times \sqrt{[(531 / (30.15 \times 28.78))]}$$

$$V_S = \mathbf{21.757} \quad \text{ft/sec}$$

(First Hour of Test)

$$F_P = 0.9774$$

$$\Delta P^{1/2}_{AVG} = 0.3365$$

$$T_{S(avg)} = 531.6016$$

$$P_{bar} = 30.1600$$

$$P_g = -0.3300$$

$$P_S = 30.1357$$

$$V_S = 0.977 \times 85.49 \times 0.99 \times 0.337 \times \sqrt{[(532 / (30.14 \times 28.78))]}$$

$$V_S = \mathbf{21.795} \quad \text{ft/sec}$$

Q_{std} – Average gas flow rate in dilution tunnel, dscf/hr - ASTM E2515 equation (3)

$$Q_{std} = 3600 \times (1 - B_{ws}) \times v_s \times A \times \frac{T_{std}}{T_{s(avg)}} \times \frac{P_s}{P_{std}}$$

Where:

3600 = Conversion from seconds to hours (ASTM method uses 60 to convert in minutes)

B_{ws} = Water vapor in gas stream, proportion by volume; assume 2%

A = Cross sectional area of dilution tunnel, ft²

T_{std} = solute temperature, 528 °R

P_s = Absolute average gas static pressure in dilution tunnel, = Pbar + Pg , in Hg

$T_{s(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)

P_{std} = Standard absolute pressure, 29.92 in Hg

(Full Duration of Test):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 30.15 \\ T_{s(avg)} &= 531 \\ V_s &= 21.76 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 21.757 \times 0.7854 \times (528 / 531) \times (30.15 / 29.92)$$

$$Q_{std} = \mathbf{60361.0} \quad \text{dscf/hr}$$

(First Hour):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 30.14 \\ T_{s(avg)} &= 532 \\ V_s &= 21.795 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 21.795 \times 0.7854 \times (528 / 532) \times (30.14 / 29.92)$$

$$Q_{std} = \mathbf{60414.4} \quad \text{dscf/hr}$$

V_{m(std)} – Volume of Gas Sampled (Corrected), dscf - ASTM E2515 equation (6)

$$V_{m(std)} = K_1 V_m Y \frac{P_{bar} + \left(\frac{\Delta H}{13.6} \right)}{T_m}$$

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_{bar}	=	Barometric pressure at the testing site, in. Hg
ΔH	=	Average pressure differential across the orifice meter, in. H ₂ O
T_m	=	Absolute average dry gas meter temperature, °R

Train A

$$V_{m(std)} = 17.64 \times 253.908 \times 1.012 \times \frac{(30.17 + \frac{1.24}{13.6})}{(93.4 + 460)}$$

$$V_{m(std)} = \mathbf{247.918} \text{ dscf}$$

Train B

$$V_{m(std)} = 17.64 \times 256.450 \times 1.024 \times \frac{(30.17 + \frac{1.25}{13.6})}{(90 + 460)}$$

$$V_{m(std)} = \mathbf{255.061} \text{ dscf}$$

Train C (1st Hour)

$$V_{m(std)} = 17.64 \times 9.59 \times 1.006 \times \frac{(30.16 + \frac{1.05}{13.6})}{(69.4 + 460)}$$

$$V_{m(std)} = \mathbf{9.714} \text{ dscf}$$

Train D (Background)

$$V_{m(std)} = 17.64 \times 245.10 \times 1.007 \times \frac{(30.17 + \frac{1.10}{13.6})}{(76.6 + 460)}$$

$$V_{m(std)} = \mathbf{245.552} \text{ dscf}$$

mn – Total Particulate Matter Collected, mg - ASTM E2515 Equation (12)

$$m_n = m_p + m_f + m_g$$

Where:

m_p	=	mass of particulate matter from probe, mg
m_f	=	mass of particulate matter from filters, mg
m_g	=	mass of particulate matter from filter seals, mg

Uncorrected:

Train A	$m_n =$	0.3	+	4.6	+	0.3
	$m_n =$	5.2				mg

Train B	$m_n =$	0.5	+	4.3	+	1.4
	$m_n =$	6.2				mg

Train C (1st hour)	$m_n =$	0.2	+	0.0	+	0.9
	$m_n =$	1.1				mg

Train D (Background)	$m_n = m_f =$	0.7
	$m_n =$	0.7 mg

Corrected:

Train A	$m_n =$	0.3	+	4.6	+	0.3
	$m_n =$	5.2				mg

Train B	$m_n =$	0.5	+	4.3	+	1.4
	$m_n =$	6.2				mg

Train C (1st hour)	$m_n =$	0.2	+	0.0	+	0.9
	$m_n =$	1.1				mg

Train D (Background)	$m_n = m_f =$	0.7
	$m_n =$	0.7 mg

**C_s - Concentration of particulate matter in tunnel gas, dry basis, corrected to standard conditions
g/dscf - ASTM E2515 equation (13)**

$$C_s = K_2 \times \frac{m_n}{V_{m(std)}}$$

Where:

K₂ = Constant, 0.001 g/mg

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

Uncorrected:

Train A	C _s =	0.001 x	$\frac{5.2}{247.92}$
---------	------------------	---------	----------------------

C_s = **0.000021** g/dscf

Train B	C _s =	0.001 x	$\frac{6.2}{255.06}$
---------	------------------	---------	----------------------

C_s = **0.0000243** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{1.1}{9.71}$
--------------------	------------------	---------	--------------------

C_s = **0.000113** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{0.7}{245.55}$
----------------------	------------------	---------	----------------------

C_r = **0.000003** g/dscf

Corrected:

Train A	C _s =	0.001 x	$\frac{5.2}{247.92}$
---------	------------------	---------	----------------------

C_s = **0.000021** g/dscf

Train B	C _s =	0.001 x	$\frac{6.2}{255.06}$
---------	------------------	---------	----------------------

C_s = **0.0000243** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{1.1}{9.71}$
--------------------	------------------	---------	--------------------

C_s = **0.000113** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{0.7}{245.55}$
----------------------	------------------	---------	----------------------

C_r = **0.000003** g/dscf

ET – Total Particulate Emissions, g - ASTM E2515 equation (15)

$$E_T = (c_s - c_r) \times Q_{std} \times \theta$$

Where:

C_s	=	Concentration of particulate matter in tunnel gas, g/dscf
C_r	=	Concentration particulate matter room air, g/dscf
Q_{std}	=	Average dilution tunnel gas flow rate, dscf/hr
θ	=	Total time of test run, minutes

Uncorrected:

Train A

$$E_T = (0.000021 - 0.000003) \times 60361.0 \times 1579 / 60$$

$$E_T = \mathbf{28.79} \text{ g}$$

Train B

$$E_T = (0.000024 - 0.000003) \times 60361.0 \times 1579 / 60$$

$$E_T = \mathbf{34.08} \text{ g}$$

First Hour

$$E_T = (0.000113 - 0.000003) \times 60414.4 \times 60 / 60$$

$$E_T = \mathbf{6.67} \text{ g}$$

Trains A and B Average

$$E_T = \mathbf{31.44} \text{ g}$$

Corrected:

Train A

$$E_T = (0.000021 - 0.000003) \times 60361.0 \times 1579 / 60$$

$$E_T = \mathbf{28.79} \text{ g}$$

Train B

$$E_T = (0.000024 - 0.000003) \times 60361.0 \times 1579 / 60$$

$$E_T = \mathbf{34.08} \text{ g}$$

First Hour

$$E_T = (0.000113 - 0.000003) \times 60414.4 \times 60 / 60$$

$$E_T = \mathbf{6.67} \text{ g}$$

Trains A and B Average

$$E_T = \mathbf{31.44} \text{ g}$$

PM_R – Particulate emissions for test run, g/hr - ASTM E2780 equation (6)

$$PM_R = 60(E_T/\theta)$$

Where,

E_T = Total particulate emissions, grams

θ = Total length of full integrated test run, min

Uncorrected:

Train A	$E_T = 28.79 \text{ g}$
	$\theta = 1579 \text{ min}$
	$PM_R = 60 \times (28.79 / \text{###})$
	$PM_R = \mathbf{1.09 \text{ g/hr}}$

Train B	$E_T = 34.08 \text{ g}$
	$\theta = 1579 \text{ min}$
	$PM_R = 60 \times (34.08 / \text{###})$
	$PM_R = \mathbf{1.30 \text{ g/hr}}$

A and B Average	$PM_R = \mathbf{1.19 \text{ g/hr}}$
-----------------	-------------------------------------

First Hour	$E_T = 6.67 \text{ g}$
	$\theta = 60 \text{ min}$
	$PM_R = 60 \times (6.67 / 60)$
	$PM_R = \mathbf{6.67 \text{ g/hr}}$

Corrected:

Train A	$E_T = 28.79 \text{ g}$
	$\theta = 1579 \text{ min}$
	$PM_R = 60 \times (28.79 / \text{###})$
	$PM_R = \mathbf{1.09 \text{ g/hr}}$

Train B	$E_T = 34.08 \text{ g}$
	$\theta = 1579 \text{ min}$
	$PM_R = 60 \times (34.08 / \text{###})$
	$PM_R = \mathbf{1.30 \text{ g/hr}}$

A and B Average	$E_T = \mathbf{1.19 \text{ g}}$
-----------------	---------------------------------

First Hour	$E_T = 6.67 \text{ g}$
	$\theta = 60 \text{ min}$
	$PM_R = 60 \times (6.67 / 60)$
	$PM_R = \mathbf{6.67 \text{ g/hr}}$

E_{g/kg} - Particulate emission factor for test run, g/dry kg of fuel burned - ASTM E2618 equation (18)

$$E_{g/kg} = E_T / (W_{fuel} / (1 + MC/100))$$

Uncorrected:

Train A	E _T =	28.79	g
	W _{fuel} =	124.38	kg
	MC =	21.31	
	E _{g/kg} =	0.281	/kg

Train B	E _T =	34.08	g
	W _{fuel} =	124.38	kg
	MC =	21.31	
	E _{g/kg} =	0.332	/kg

Corrected:

Train A	E _T =	28.79	g
	W _{fuel} =	124.38	kg
	MC =	21.31	
	E _{g/kg} =	0.281	/kg

Train B	E _T =	34.08	g
	W _{fuel} =	124.38	kg
	MC =	21.31	
	E _{g/kg} =	0.332	/kg

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:

	Train A	Train B	Train C
θ = Total sampling time, min	1579	1579	60
θ_i = Length of recording interval, min	1	1	1
V_{mi} = Volume of gas sample measured by the dry gas meter during the "ith" time interval, dcf	0.158	0.162	0.161
V_m = Volume of gas sample as measured by dry gas meter, dcf	253.908	256.45	9.588
V_{si} = Average gas velocity in the dilution tunnel during the "ith" time interval, ft/sec	21.663	21.663	21.663
V_s = Average gas velocity in the dilution tunnel, ft/sec	21.758	21.758	21.808
T_{mi} = Absolute average dry gas meter temperature during the "ith" time interval, °R	526.5	525.6	526.3
T_m = Absolute average dry gas meter temperature, °R	553.4	549.8	529.4
T_{si} = Absolute average gas temperature in the dilution tunnel during the "ith" time interval, °R	531.6	531.6	531.6
T_s = Absolute average gas temperature in the dilution tunnel, °R	531.3	531.3	531.6

NOTE: These calculations are for the Second interval of each train)

$$\text{Train A PR} = \left(\frac{1579 \times 0.158 \times 21.758 \times 553 \times 532}{1 \times 253.908 \times 21.663 \times 526 \times 531} \right) \times 100 = 103.8 \%$$

$$\text{Train B PR} = \left(\frac{1579 \times 0.162 \times 21.758 \times 550 \times 532}{1 \times 256.45 \times 21.663 \times 526 \times 531} \right) \times 100 = 104.9 \%$$

$$\text{Train C PR} = \left(\frac{60 \times 0.161 \times 21.808 \times 529 \times 532}{1 \times 9.588 \times 21.663 \times 526 \times 532} \right) \times 100 = 102.0 \%$$

Emission Rates and Factors - ASTM E2618 equations 16, 17, 18 and 19

Uncorrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 31.44 / (1515889 \times 0.001055) = 0.0197$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (31.44 / 453.59) / (1515889 \times 1E-6) = 0.0457$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 31.44 / ((274.2 / (1 + 21.31 / 100)) / 2.2046) = 0.307$$

Corrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 31.44 / (1515889 \times 0.001055) = 0.0197$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (31.44 / 453.59) / (1515889 \times 10E-6) = 0.0457$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 31.44 / ((274.2 / (1 + 21.31 / 100)) / 2.2046) = 0.307$$

Run 4 Test Data

Test Date: 2/27/2025
Manufacturer: Central Boiler
Model Classic Edge 760.1

Contents, in the following order:

- Emissions Test Results
- CSA B415 Results and Data
- Test Fuel Properties
- Velocity Traverse / Supplemental Data Worksheet
- Test Pre-Burn Data
- Sample Train A / Dilution Tunnel Data
- Sample Train B Data
- Sample Train C (First Hour) Data
- Sample Train D (Background) / Flue Gas Data
- Water Flow Data
- Gravimetric Lab Analysis
- Test Lab Notes
 - Appliance Operation Notes
 - Velocity Traverse / Supplemental Data Notes
 - Test Fuel Notes
 - Gravimetric Analysis Notes
 - Supplemental Hand-Written Notes
- Equations and Calculations

Particulate Emissions and Delivered Efficiency Test Results

ASTM E2618 / ASTM E2515



Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Project No.: 0117WB044E
 Tracking No.: 2501
 Run: 4
 Test Date: 02/27/25

Quick View Summary	
lb./MMBtu	0.067
Delivered Efficiency %	75.7
PM 2.5 Emission Rate, g/hr.	1.01
PM 2.5 Emission Factor, g/kg	0.42

Particulate Emissions and Heat Output

Heat Input, Q_{IN} Btu	Heat Output Q_{OUT} Btu	Delivered Efficiency %	Uncorrected ¹		Corrected ²	
			ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)	ASTM E2515 Emissions (g/hr)	Emissions Rate, Lb./MMBtu Output)
1800695	1363358	75.7	1.01	0.067	1.01	0.067

Burn Rate, dry kg/hr	2.40
Emission Rate, E_g /MJ	0.029
Load Heat Output Rate, Btu/hr	32411

	Avg. of Trains A and B		First Hour	
	Uncorrected	Corrected	Uncorrected	Corrected
Total Emissions - E_T , g	41.61	41.61	5.06	7.05
Emission Rate, g/hr	1.01	1.01	5.06	7.05
Emissions Factor, g/kg	0.42	0.42	n/a	n/a

Fuel and Appliance Parameters

Wet Fuel Mass	264.7	lb.
Duration of test	2460	min
Higher Heating Value (HHV) of Fuel	8297	Btu
Lower Heating Value (LHV) of Fuel	7698	Btu
TI_{avg} - Average Temperature of Appliance at Start of Test:	166.2	°F
TF_{avg} - Average Temperature of Appliance at End of Test:	177.9	°F
MC_{Ave} - Average Moisture of Fuel, dry-basis:	21.96	%

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Dilution Tunnel Flow Parameters

	First Hour	Duration of Test
Average Tunnel Temperature, °F	72.6	70.5
Average Tunnel Gas Velocity (vs), feet/second	22.418	22.562
Average Tunnel Gas Flow Rate(Qsd)	DSCF/hr	61940.8
	DSCF/min	1032.3
Average Delta p, in. H ₂ O	0.115	0.116
Tunnel Static Pressure, in. H ₂ O	-0.330	-0.330
Total Time of Test, Min	60	2460

Particulate Sample Parameters - Uncorrected

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V _m), ft ³	384.732	394.868	394.502	9.323
Average Gas Meter Temperature, °F	77	95	90	73
Total Sample Volume (V _{mstd}), DSCF	382.458	382.361	389.531	9.369
Total Particulates (mn), mg - m _n	1.4	7.6	7.8	0.8
Particulate Concentration (C _s - C _r), g/DSCF	0.00000	0.00002	0.00002	0.00008
Total Particulate Emissions (ET), grams	n/a	41.43	41.80	5.06
Particulate Emission Rate, g/hr	n/a	1.01	1.02	5.06
Emissions Factor, g/kg	n/a	0.42	0.42	n/a
Difference, ET from Average ET, grams	n/a	-0.19	0.19	n/a

Particulate Sample Parameters - Corrected for any negative filter weights

	Ambient	Train A	Train B	First Hour
Total Sample Volume (V _m), ft ³	384.732	394.868	394.502	9.323
Average Gas Meter Temperature, °F	77	95	90	73
Total Sample Volume (V _{mstd}), DSCF	382.458	382.361	389.531	9.369
Total Particulates (mn), mg - m _n	1.4	7.6	7.8	1.1
Particulate Concentration (C _s - C _r), g/DSCF	0.00000	0.00002	0.00002	0.00011
Total Particulate Emissions (ET), grams	n/a	41.43	41.80	7.05
Particulate Emission Rate, g/hr	n/a	1.01	1.02	7.05
Emissions Factor, g/kg	n/a	0.42	0.42	n/a
Difference, ET from Average ET, grams	n/a	-0.19	0.19	n/a

Particulate Emissions Test Results - Continued

ASTM E2618 / ASTM E2515

Test Methodology Specifications Quality Checks

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	Train 1	Train 2	
Filter Temperature, °F	< 90	69	66	66	✓
Filter face velocity, fpm	< 30	8.57	8.84	8.84	✓
Dryer Exit, °F	< 80	61	49	47	✓
Tunnel Velocity, fpm	>800	1,345	1,354		✓
First Hour Leakage Rate	0.006	0.002			✓
Train A Leakage Rate	0.006		0.000		✓
Train B Leakage Rate	0.006			0.000	✓

Leakage Rate Limits (cfm) are < 4% of average sample rate or < 0.01 cfm, which ever is less

Parameter	Requirement	Measured / Observed			Complies?
		First Hour	A	B	
Negative Probe Weight	=> 0	0.3	0.8	0.6	✓
Pro-Rate Variation	< 90 for < 10% of θ	0.00%	0.11%	0.11%	✓
	> 110 for < 10% of θ	0.00%	0.00%	0.00%	✓
	# Readings < 80%	0	0	0	✓
	# Readings > 120%	0	0	0	✓
Room Temp, °F (min)	> 55		62.1		✓
Room Temp, °F (max)	< 90		68.7		✓
Dual Train Precision	(1) < 7.5%		0.45%		✓
1 or 2 must conform	(2) < 0.5 g/kg		0.00		
Room Air Velocity	< 50 fpm		12		✓
Preburn Min. Weight	238.2		282		✓
Preburn Max. Weight	291.2				✓
Min. Coal Bed Weight	26.5		50.1		✓
Max. Coal Bed Weight	52.9				✓

CSA B415.1-11 Efficiency Results

Manufacturer Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 4
Test Date: 2/27/2025

Efficiency results reported herein are based on a stack-loss method in accordance with CSA B415.1:22 "Performance testing of solid-biofuel-burning heating appliance". OMNI uses the spreadsheet provided by CSA that is to be used in conjunction with the current version of the test standard. The most recent version of the software is version 2.4, dated April 15, 2010. OMNI received confirmation from CSA on October 18, 2023 that this is the current version of the software.

Stack Loss Efficiency

Manufacturer: Central Boiler
Model: Edge 760.1
Date: 02/27/25
Run: 4
Control #: 2495
Test Duration: 2460
Output Category: I

Technicians: R. Tiegs, J. McShane, K. Morgan

Test Results in Accordance with CSA B415.1-10

	HHV Basis	LHV Basis
Overall Efficiency	83.0%	89.0%
Combustion Efficiency	98.6%	98.6%
Heat Transfer Efficiency	84%	90.3%

Output Rate (kJ/h)	38,465	36,488	(Btu/h)
Burn Rate (kg/h)	2.40	5.29	(lb/h)
Input (kJ/h)	46,319	43,939	(Btu/h)

Test Load Weight (dry kg)	98.47	217.03	dry lb
MC wet (%)	18.01		
MC dry (%)	21.97		
Particulate (g)	41.61		
CO (g)	2,343		
Test Duration (h)	41.00		

Emissions	Particulate	CO
g/MJ Output	0.03	1.49
g/kg Dry Fuel	0.42	23.79
g/h	1.01	57.14
lb/MM Btu Output	0.06	3.45

Air/Fuel Ratio (A/F)	22.58
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VERSION:

2.4

4/15/2010

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4/15/2010

Manufacturer: Central Boiler

Model: Edge 760.1

Date: 2/27/2025

Run: 4

Control #: 2495

Test Duration: 2460

Output Category: I

Appliance Type: Non Cat (Cat, Non

Temp. Units F (F or C)

Weight Units lb (kg or lb)

Fuel Data

Maple

HHV 19,286 kJ/kg

%C 49.85

%H 6.02

%O 43.6

%Ash 0.53

Wood Moisture (% wet): 18.01

Load Weight (lb wet): 264.70

Burn Rate (dry kg/h): 2.40

Total Particulate Emissions: 41.61 g

Averages

0.54

4.87

#DIV/0!

148.74

65.71

Temp. (°F)

Elapsed
Time (min)Fuel Weight
Remaining (lb)Flue Gas Composition (%)
CO CO₂ O₂Flue
GasRoom
Temp

0	264.70	0.03	15.63		271.5	64.5
3	261.85	0.06	17.41		264.4	65.5
6	259.12	0.07	17.32		276.9	65.0
9	256.58	0.07	15.72		279.0	65.1
12	254.47	0.08	14.40		288.5	65.8
15	251.70	0.08	14.92		289.4	66.0
18	250.85	0.24	4.89		241.8	66.9
21	251.27	0.15	3.21		219.3	66.4
24	251.14	0.14	2.81		206.9	66.5
27	251.39	0.08	1.56		200.8	66.6
30	250.89	0.07	1.01		192.2	66.6
33	251.12	0.10	1.50		183.3	66.4
36	251.09	0.12	1.86		175.3	66.2
39	250.48	0.11	1.72		168.2	65.8
42	250.93	0.09	1.46		161.9	65.7
45	250.55	0.09	1.36		156.0	66.1
48	250.92	0.07	1.16		151.1	66.3
51	250.77	0.08	1.16		146.6	66.6
54	250.84	0.07	1.07		141.7	66.8
57	251.05	0.06	0.92		138.1	67.0
60	251.04	0.07	0.90		134.4	66.8
63	251.35	0.06	0.85		131.4	66.8
66	251.49	0.06	0.81		128.7	66.7
69	251.04	0.06	0.81		126.2	66.8
72	251.16	0.06	0.76		124.3	66.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
75	250.86	0.06	0.72		122.0	66.5
78	250.78	0.07	0.77		119.7	66.0
81	250.94	0.06	0.69		118.2	66.0
84	250.84	0.07	0.74		116.5	66.1
87	251.30	0.74	10.26		146.2	66.0
90	251.19	0.56	6.32		126.1	65.8
93	250.82	0.38	3.94		120.2	65.7
96	250.85	0.25	2.48		117.2	65.8
99	251.15	0.19	1.74		114.9	65.6
102	251.13	0.15	1.42		112.3	65.5
105	250.67	0.15	1.27		111.6	65.6
108	251.33	0.13	1.15		109.8	65.3
111	251.18	0.13	1.10		109.4	65.2
114	251.26	0.12	0.99		108.9	65.4
117	250.45	1.59	9.93		156.1	65.7
120	250.28	0.82	7.35		124.2	65.6
123	250.38	0.56	4.56		115.0	65.1
126	250.44	0.40	3.05		112.4	65.3
129	250.48	0.30	2.23		109.3	66.1
132	250.63	0.24	1.75		107.8	66.1
135	250.54	0.22	1.57		105.9	66.4
138	250.39	0.20	1.44		105.6	66.2
141	250.70	0.17	1.26		104.9	66.2
144	250.50	0.17	1.22		104.7	66.1
147	250.56	0.165	1.188		108.9	65.8
150	250.05	1.23	8.528		126.6	65.9
153	250.11	0.852	5.452		114.3	65.8
156	250.48	0.614	3.791		109.8	65.5
159	249.99	0.451	2.744		106.4	65.4
162	250.50	0.395	2.362		105.3	65.3
165	250.03	0.326	1.968		102.9	65.2
168	250.58	0.281	1.732		103.4	65.4
171	250.63	0.242	1.512		102.3	65.1
174	250.00	0.221	1.36		101.1	65.2
177	250.45	0.202	1.26		101.5	65.7
180	250.18	1.376	8.888		130.3	66
183	250.27	1.165	6.613		115.6	66.2
186	249.63	0.725	4.03		108.6	66
189	249.62	0.563	3.047		106.1	65.7
192	249.70	0.433	2.315		103.1	65.6
195	247.56	0.062	18.152		233.9	65.8
198	245.00	0.038	16.794		271.7	65.5

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
201	242.58	0.051	17.533		277.6	65.4
204	239.27	0.068	17.967		286.8	65.3
207	236.92	0.079	18.153		285.4	65.5
210	234.31	0.126	17.395		292.3	65.3
213	231.13	0.067	14.595		292.1	64.8
216	228.38	0.115	16.67		294.5	64.8
219	225.88	0.103	16.548		289.4	65.5
222	224.59	0.041	10.092		234.3	66.6
225	224.03	0.067	7.785		217.5	66.4
228	223.97	0.103	4.45		206.5	66.3
231	223.82	0.171	2.886		202	66.6
234	223.92	0.466	4.26		193	66.4
237	224.05	0.66	4.905		184.1	66.1
240	224.01	0.59	4.35		176.4	65.9
243	224.21	0.51	3.853		169.5	65.6
246	224.27	0.444	3.516		162.8	65.6
249	224.20	0.343	2.816		157	65.3
252	223.93	0.259	2.286		152.2	65.3
255	223.87	0.206	1.944		147.1	65.3
258	224.68	0.19	1.789		143	64.4
261	224.42	0.168	1.696		139.3	64.9
264	223.87	0.134	1.394		135.8	67.8
267	224.32	0.126	1.33		132.6	65.2
270	223.92	0.104	1.084		129.2	65.8
273	224.65	0.085	0.989		126.7	66
276	223.97	0.078	0.889		125	65.8
279	224.83	0.06	0.764		122.8	65.6
282	224.75	0.063	0.716		120	65.3
285	224.55	0.056	0.682		117.8	65.1
288	224.39	0.058	0.685		116.6	64.9
291	223.83	0.951	6.684		142.8	65
294	223.77	0.667	4.925		127.8	65.5
297	223.86	0.455	3.248		121.2	65.8
300	223.73	0.316	2.422		118.3	66
303	224.31	0.287	2.205		115.1	66.1
306	224.22	0.258	1.901		114	66.1
309	224.21	0.202	1.582		112.4	65.5
312	223.89	0.166	1.195		110.6	65.4
315	223.83	0.144	1.113		108.5	65.1
318	224.37	0.126	1.015		109.5	64.9
321	224.18	1.025	6.096		143.2	64.7
324	223.96	0.71	4.874		125.4	65

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
327	223.54	0.478	3.464		117.1	65.3
330	223.72	0.314	2.501		113.5	65.3
333	223.70	0.273	2.035		110.8	65.3
336	224.03	0.21	1.681		108.1	65.6
339	224.28	0.197	1.402		108.2	65.8
342	223.76	0.169	1.247		105.4	65.7
345	223.75	0.137	1.101		104.8	66.2
348	223.84	0.131	1.008		102.8	66.2
351	223.87	0.795	4.944		146.7	65.8
354	223.20	0.556	3.316		125.1	65.8
357	223.87	0.372	2.451		116.7	65.3
360	223.75	0.288	1.945		111.7	64.7
363	223.36	0.215	1.587		109	65.1
366	223.31	0.188	1.413		108.2	65.1
369	223.54	0.171	1.273		105.6	65.3
372	223.53	0.159	1.169		103.9	65.4
375	223.23	0.137	1.073		104.3	65.5
378	223.62	0.132	1.005		102.8	65.4
381	223.85	0.106	0.849		139.5	65.5
384	222.95	0.425	2.728		125.5	65.6
387	223.35	0.282	1.856		115.4	65.7
390	223.54	0.216	1.474		109.5	66
393	222.99	0.18	1.278		107.1	66.2
396	223.12	0.162	1.193		105	66.3
399	223.07	0.143	1.087		103.3	65.8
402	222.96	0.133	1.05		101.8	66.3
405	223.37	0.113	0.922		101.3	65.9
408	223.55	0.115	0.964		99.7	65.6
411	223.35	0.101	0.878		98.9	66.1
414	223.41	0.314	2.522		126	65.9
417	222.23	1.472	6.715		182.7	66
420	220.13	0.125	15.706		253.9	66.2
423	217.34	0.053	16.833		283.3	66.4
426	215.08	0.057	16.983		280.6	66.2
429	211.92	0.06	15.82		284.1	66.2
432	209.37	0.233	16.66		287.7	66.5
435	206.39	0.187	18.105		291	66
438	203.69	0.141	17.439		293.2	65.9
441	201.40	0.088	16.527		297.6	65.2
444	198.75	0.138	11.748		266	66.5
447	197.70	0.14	9.412		228.9	66.3
450	197.29	0.179	7.197		215.3	66.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
453	197.41	0.187	4.126		208.4	66.1
456	197.59	0.541	3.913		201.5	66.4
459	197.00	0.886	4.89		192.1	65.5
462	197.14	0.891	4.806		183.7	66.4
465	197.36	0.724	4.137		176	66.5
468	197.33	0.589	3.529		169.1	66.7
471	197.48	0.495	3.036		162.7	66.8
474	197.66	0.409	2.689		157.1	66.4
477	197.24	0.375	2.623		151.7	65.9
480	196.99	0.292	2.086		147.2	65.8
483	196.86	0.24	1.902		142.9	66.3
486	197.17	0.203	1.716		139.6	65.1
489	197.63	0.212	1.807		136.5	64.9
492	196.84	0.167	1.546		132.3	65
495	197.20	0.162	1.492		130.7	65.4
498	197.54	0.136	1.283		127	65.3
501	197.83	0.136	1.261		124.4	65.4
504	197.35	0.108	1.018		122.8	65.5
507	197.53	0.109	1.087		120.5	65.6
510	197.41	0.112	1.027		119.1	65.6
513	197.47	0.929	5.941		168.2	66
516	196.71	1.289	6.863		137.4	65.8
519	197.19	0.844	4.723		127.3	66.1
522	197.24	0.59	3.307		121.7	66
525	197.12	0.459	2.569		117.3	66.1
528	197.49	0.37	2.08		115.5	65.6
531	197.34	0.32	1.817		114	66
534	196.90	0.273	1.576		112.3	66
537	197.28	0.227	1.344		111.9	66.3
540	197.59	0.184	1.054		109.3	66.4
543	197.19	0.181	1.069		110.8	66.3
546	196.51	1.263	5.384		135.5	66.3
549	196.70	0.837	4.103		122.6	65.7
552	196.80	0.561	2.879		116.4	65.2
555	197.09	0.412	2.129		112.3	64.8
558	197.09	0.338	1.78		110	64.7
561	196.97	0.298	1.593		110.2	64.9
564	196.99	0.238	1.296		106.8	65
567	197.11	0.222	1.215		105.6	65.2
570	197.18	0.198	1.128		104.6	65.4
573	197.30	0.179	0.997		103.4	65.5
576	196.81	0.98	4.251		136.4	65.4

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
579	196.81	0.653	3.078		122	65.4
582	196.26	0.447	2.325		114.5	65.7
585	196.85	0.329	1.815		110.1	65.7
588	196.33	0.273	1.594		107.7	65.7
591	196.57	0.24	1.452		105.4	66
594	196.25	0.211	1.302		106	65.6
597	196.41	0.183	1.182		104	64.9
600	197.03	0.162	1.087		102.7	64.8
603	196.59	0.148	1.031		101.4	64.8
606	196.06	0.395	2.97		138.2	64.7
609	196.36	0.311	2.078		121.1	64.9
612	196.07	0.217	1.62		113.5	64.6
615	195.92	0.186	1.528		109.5	65.1
618	196.69	0.176	1.568		105.7	65.2
621	196.14	0.172	1.355		105.5	65.2
624	196.21	0.14	1.309		102.5	65.1
627	196.56	0.131	1.285		101.1	65.4
630	196.84	0.112	1.182		100.5	65.2
633	196.08	0.11	1.1		99.7	65.1
636	195.92	0.508	3.42		167.2	65.5
639	194.80	0.826	12.359		226.9	65.4
642	192.24	0.053	15.742		281.3	65.5
645	190.21	0.063	16.64		288.2	65.6
648	186.53	0.075	16.436		290.1	66
651	184.40	0.127	16.41		295.6	65.9
654	180.93	0.134	16.709		299	65.4
657	177.66	0.13	15.378		303.4	65.5
660	175.32	0.113	16.013		310.9	64.3
663	172.57	0.109	16.111		308.7	64.8
666	170.80	0.064	12.486		246.8	65.9
669	170.50	0.086	10.94		225.5	64.7
672	170.25	0.175	6.985		212.5	64.9
675	169.33	0.501	4.999		209.3	65.1
678	169.48	1.389	6.817		200	65.4
681	169.43	1.509	6.7		191	65.4
684	169.94	1.603	6.962		182.6	65.5
687	169.72	1.481	6.544		175.2	65.4
690	169.80	1.377	6.152		168	65.5
693	169.26	1.064	4.925		162.2	65.5
696	169.52	0.897	4.291		156.2	65.9
699	169.60	0.828	4.06		151.8	65.7
702	169.89	0.701	3.597		146.7	65.2

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
705	170.23	0.575	3.084		143.2	65.6
708	169.89	0.485	2.728		138.6	65.6
711	169.95	0.41	2.396		136	65.7
714	169.35	0.371	2.286		132.3	66
717	170.06	0.371	2.489		130	65.5
720	169.30	0.335	2.19		127.6	66
723	169.49	0.302	2.056		125.1	66
726	170.12	0.315	2.166		122.7	65.2
729	169.70	0.314	2.178		121.4	63.8
732	170.34	0.291	2.002		119.7	63
735	169.00	1.599	8.617		150	62.1
738	169.41	1.237	6.909		134.4	63.2
741	169.63	0.782	4.419		125	64
744	169.71	0.595	3.32		119.9	64.4
747	169.13	0.496	2.831		117.8	64.4
750	169.74	0.442	2.567		115.7	64.6
753	169.30	0.361	2.07		114.2	64.9
756	169.27	0.279	1.647		112.3	65.1
759	169.71	0.274	1.444		110.3	65.2
762	169.02	0.229	1.326		108.7	65.3
765	169.60	1.493	7.081		148.3	65.5
768	168.99	0.996	5.3		128.5	65.4
771	169.59	0.665	3.743		120.4	65.9
774	169.37	0.481	2.768		115.4	65
777	169.24	0.369	2.16		111.6	65.7
780	169.45	0.318	1.817		109.8	65.5
783	168.67	0.258	1.532		107.8	64.3
786	169.09	0.235	1.41		106.3	64.4
789	169.27	0.189	1.215		104.8	64.8
792	169.36	0.193	1.201		103.8	64.6
795	168.83	0.449	3.222		142.5	64.9
798	168.80	0.667	3.971		127.3	64.7
801	168.50	0.442	2.83		118.3	64.7
804	169.17	0.327	2.23		112.6	64.6
807	168.96	0.262	1.808		109.6	64.6
810	169.17	0.218	1.595		107.1	64.2
813	168.55	0.186	1.41		106	64.6
816	168.27	0.183	1.268		105.4	64.8
819	168.57	0.162	1.215		102.9	65
822	168.91	0.15	1.164		102.8	63.2
825	168.52	0.146	1.21		100	63
828	168.38	0.436	3.191		127	64.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
831	168.58	0.28	2.14		116.1	63.9
834	168.46	0.199	1.731		110.3	63.8
837	168.22	0.182	1.568		107.1	64.3
840	168.15	0.165	1.442		104.4	64.4
843	168.47	0.15	1.386		103.4	64.2
846	168.90	0.13	1.403		102.4	64.2
849	168.40	0.122	1.314		100.2	64.4
852	168.24	0.981	4.886		165.3	64.3
855	166.43	0.167	15.207		244.6	64.1
858	163.83	0.084	15.843		282.3	64.3
861	160.96	0.088	16		294.3	64.5
864	158.92	0.122	16.86		292.3	64.5
867	156.45	0.087	16.31		290.4	64.5
870	154.28	0.09	17.102		295.4	65
873	151.11	0.149	17.684		292.2	64.8
876	148.77	0.062	14.12		296.2	65
879	145.97	0.043	13.374		272.7	65.4
882	145.13	0.117	15.673		231.5	65.5
885	144.41	0.17	15.497		216.4	65
888	144.01	0.058	10.8		207.5	65.2
891	143.34	3.309	13.874		201.1	65
894	143.60	4.13	13.795		192.4	65.1
897	142.91	3.893	12.643		183.7	65.4
900	142.78	3.076	10.273		176.2	64.8
903	142.78	2.502	8.625		169.5	64.2
906	142.72	1.823	6.527		162.9	65.1
909	143.52	1.405	5.23		157.5	64.9
912	142.99	1.152	4.462		152.7	64.9
915	143.56	0.817	3.305		147.4	65.3
918	143.58	0.671	2.758		143.3	64.2
921	143.03	0.561	2.433		139.1	63.6
924	142.98	0.45	2.045		136.1	64.1
927	142.92	0.403	1.805		133.1	64.5
930	143.82	0.312	1.467		129.7	64.1
933	143.23	0.272	1.299		126.6	64.2
936	143.03	0.265	1.359		125.9	64.5
939	143.10	0.235	1.212		122.6	64.7
942	143.14	0.202	1.087		121.2	64.7
945	143.92	0.193	0.992		119.3	64.5
948	142.81	0.26	1.237		156.8	64.3
951	142.50	1.821	9.261		142.9	64.9
954	143.17	1.102	5.867		130.6	64.7

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
957	143.38	0.836	4.556		123.6	64.6
960	142.46	0.643	3.45		120.1	64.6
963	142.88	0.558	2.885		117.8	64.6
966	142.52	0.44	2.405		115	64.9
969	142.65	0.353	1.869		112.7	64.9
972	143.50	0.28	1.563		111.8	65
975	142.51	0.256	1.398		110.2	64.8
978	142.65	0.23	1.271		108.7	65.2
981	142.29	1.277	7.032		139.2	65.2
984	142.00	0.889	5.502		125.7	65
987	143.07	0.626	4.016		118.9	65.1
990	142.25	0.434	2.815		114.9	65.6
993	142.40	0.35	2.294		112.1	65.5
996	142.94	0.293	1.941		109.3	65.6
999	143.14	0.25	1.697		108.6	65.6
1002	142.29	0.218	1.537		107	65.6
1005	143.08	0.212	1.396		106.8	65.6
1008	142.62	0.194	1.279		104.5	65.3
1011	142.58	0.916	5.96		140.5	65.6
1014	142.69	0.57	3.771		123.6	65.5
1017	142.06	0.406	2.784		117.1	65.6
1020	142.50	0.274	1.937		112.9	65.5
1023	142.59	0.239	1.615		109.2	65.2
1026	142.38	0.199	1.456		107.3	65.1
1029	142.54	0.171	1.269		105.9	65.3
1032	142.34	0.159	1.204		104.8	65.4
1035	142.75	0.144	1.078		103.5	65.4
1038	142.63	0.126	0.956		101.9	64.7
1041	142.68	0.421	4.387		141.6	64.2
1044	142.20	0.498	3.375		123.6	65.1
1047	142.46	0.338	2.377		114.2	65.1
1050	142.54	0.258	1.876		110.3	65.2
1053	142.20	0.221	1.626		107.1	65.5
1056	141.79	0.204	1.547		105.4	65.1
1059	142.24	0.184	1.448		103.3	65.3
1062	142.08	0.155	1.249		101.9	65.5
1065	141.99	0.149	1.292		101	65.2
1068	142.08	0.141	1.17		100.7	65.3
1071	142.51	0.125	1.088		99.6	65.6
1074	142.19	1.015	5.966		159.1	65.4
1077	140.00	0.15	15.216		239	64.5
1080	137.33	0.155	15.759		278.3	65.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1083	135.31	0.085	15.727		292.5	65.5
1086	132.61	0.123	16.376		285.3	65.9
1089	130.37	0.098	15.624		287.2	66.1
1092	127.79	0.156	17.185		286.4	66.4
1095	125.52	0.066	14.616		291.4	66.5
1098	123.27	0.095	16.69		291.8	66.6
1101	120.77	0.08	17.108		288.1	66.8
1104	118.93	0.099	15.647		238.7	66.9
1107	118.01	0.455	20.023		219.9	66.8
1110	118.21	0.119	14.312		207.8	67.1
1113	117.82	2.411	12.587		202.7	67
1116	117.69	4.667	15.145		194.5	67.2
1119	117.07	4.656	14.359		186.3	67.1
1122	117.54	4.009	12.405		178.4	67
1125	116.86	3.075	9.777		171.6	67.4
1128	117.41	2.432	7.888		165.4	67.5
1131	116.78	1.971	6.667		159.2	67.3
1134	117.60	1.749	6.131		154.7	67.5
1137	117.04	1.331	4.815		149.6	67.2
1140	116.91	1.096	4.131		145.9	67.1
1143	116.99	0.926	3.573		142.4	67.3
1146	117.19	0.736	2.892		139.4	67.2
1149	117.47	0.723	3.011		135.1	67.2
1152	117.23	0.651	2.711		133.4	67.2
1155	117.11	0.584	2.451		130	67
1158	117.18	0.483	2.101		127.7	67.1
1161	117.58	0.449	2.025		126.5	67.1
1164	117.69	0.431	1.921		123.9	67
1167	117.16	0.412	1.855		121.6	67.2
1170	117.40	0.385	1.757		119.8	67.3
1173	116.52	1.635	8.1		150.2	66.9
1176	116.74	1.252	6.44		135	67.2
1179	116.55	0.816	4.213		126.3	67.4
1182	116.56	0.688	3.598		122.9	67.1
1185	116.66	0.498	2.61		119.6	67.2
1188	116.86	0.43	2.235		116.9	67.3
1191	116.76	0.37	1.963		116.1	67.3
1194	116.97	0.346	1.843		114.8	67.4
1197	116.65	0.312	1.737		111.1	67.5
1200	116.63	0.257	1.512		111.2	67.4
1203	116.11	1.615	7.159		148.7	67.2
1206	116.52	1.092	5.396		129.7	66.9

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1209	116.87	0.731	3.865		123.2	67.5
1212	116.78	0.541	2.869		118.7	67.3
1215	116.68	0.44	2.491		115.7	66.9
1218	116.14	0.386	2.162		113.4	67.6
1221	116.23	0.334	1.956		111.4	67.6
1224	116.99	0.275	1.725		110.6	67.9
1227	116.43	0.245	1.579		108	67.9
1230	116.59	0.207	1.382		107.8	67.8
1233	116.12	0.565	4.42		143.4	67.9
1236	116.42	0.978	4.447		126.6	67.2
1239	116.00	0.657	3.199		117.9	67.3
1242	116.07	0.451	2.424		113.5	67.2
1245	116.00	0.394	2.173		110.2	67.6
1248	115.91	0.354	2.07		109.8	67.5
1251	116.31	0.294	1.821		107.9	67.5
1254	116.09	0.26	1.703		108	67.5
1257	116.53	0.232	1.558		104.4	67.8
1260	115.88	0.223	1.492		104.4	67.5
1263	116.47	0.195	1.45		103.6	67.6
1266	115.89	0.928	4.436		126.4	67.7
1269	116.30	0.582	2.886		116.1	67.5
1272	115.85	0.399	2.182		111.1	67.9
1275	115.82	0.341	1.939		107.5	67.5
1278	115.90	0.297	1.825		105.6	67.6
1281	115.63	0.292	1.913		104.1	67.7
1284	116.24	0.259	1.781		103.8	67.8
1287	115.91	0.227	1.638		103.5	67.7
1290	115.88	0.225	1.614		101.1	67.6
1293	116.10	0.213	1.509		100.9	67.5
1296	115.71	0.762	4.334		127.7	67.8
1299	114.73	0.809	13.247		209.6	67.9
1302	112.82	0.084	14.59		264.6	67.8
1305	111.32	0.098	15.202		283.9	67.8
1308	109.06	0.069	15.428		283.6	68.1
1311	106.58	0.073	15.995		282	68.3
1314	104.88	0.072	16.786		284.8	68.3
1317	102.54	0.06	16.645		287.6	68.5
1320	99.82	0.054	15.093		292.3	68.5
1323	97.03	0.156	17.153		291.9	68.5
1326	95.39	0.072	14.465		250.9	68.7
1329	93.86	0.119	12.181		224.8	68.7
1332	94.14	0.102	12.059		211.3	68.6

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1335	93.39	0.712	9.375		205.4	68.6
1338	93.01	3.696	14.621		197.7	68.2
1341	92.92	4.318	15.365		189.3	68.1
1344	92.81	3.887	13.559		181.2	68.5
1347	93.29	3.532	12.293		174.1	68.4
1350	92.82	2.883	10.087		167.7	68.3
1353	93.31	2.187	7.761		161.5	67.7
1356	93.05	1.607	5.835		156.3	68.1
1359	92.83	1.347	5.04		151.8	68.2
1362	93.32	1.145	4.422		147.6	68.3
1365	93.26	0.903	3.612		143.4	68.1
1368	93.21	0.706	2.889		140	68.2
1371	93.31	0.567	2.403		136.6	68.1
1374	93.21	0.486	2.133		133.4	68
1377	93.09	0.4	1.801		131	67.8
1380	92.78	0.326	1.512		127.8	67.8
1383	93.40	0.266	1.272		125.7	67.9
1386	93.03	0.254	1.214		124.1	67.8
1389	93.12	0.225	1.094		122.2	67.8
1392	93.46	0.219	1.047		119.9	67.7
1395	92.91	1.776	9.115		159.8	67.7
1398	92.36	1.656	8.388		140.1	67.6
1401	92.89	1.045	5.354		130.8	67.6
1404	92.67	0.741	3.825		125.5	67.7
1407	92.28	0.564	2.886		122.2	67.6
1410	93.00	0.482	2.49		118.3	67.4
1413	92.87	0.396	2.039		116.1	67.1
1416	92.64	0.31	1.604		115.4	67.3
1419	92.89	0.272	1.44		112.1	67.1
1422	92.74	0.23	1.221		110.6	67.1
1425	92.70	0.991	5.385		157	67.1
1428	92.38	1.211	6.579		133.4	67
1431	92.65	0.823	4.771		124.3	66.9
1434	92.03	0.57	3.356		118	66.8
1437	92.71	0.438	2.588		115	66.6
1440	92.09	0.344	2.037		111.9	66.5
1443	92.42	0.282	1.697		109.3	66.5
1446	92.64	0.249	1.509		108	66.5
1449	92.63	0.211	1.279		107.3	66.5
1452	92.16	0.189	1.14		105	66.3
1455	92.29	0.167	0.997		103.8	66.2
1458	91.79	1.18	4.874		131.1	66.3

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1461	92.37	0.722	3.237		119.5	66.2
1464	92.38	0.474	2.311		114	66.1
1467	91.85	0.407	2.068		110.6	66
1470	92.36	0.314	1.675		108.7	66.2
1473	92.37	0.277	1.517		106.4	66
1476	91.88	0.234	1.34		105.4	65.9
1479	91.80	0.195	1.105		104.1	66.1
1482	91.70	0.158	0.918		103.6	66.1
1485	92.15	0.15	0.874		102.2	65.7
1488	92.33	0.786	3.58		131.5	65.9
1491	91.75	0.465	2.153		117.4	65.9
1494	92.27	0.333	1.629		110.7	65.6
1497	92.18	0.239	1.259		107.3	65.9
1500	92.05	0.184	0.99		104.5	65.6
1503	91.94	0.222	1.331		104	65.6
1506	91.81	0.224	1.271		102.9	65.5
1509	91.97	0.2	1.324		102.6	65.5
1512	91.77	0.187	1.257		100.6	65.4
1515	92.47	0.175	1.21		100.9	65.4
1518	91.58	0.219	2.512		133.9	65.5
1521	92.18	0.23	1.513		116.4	65.5
1524	90.70	0.914	8.902		203	65.5
1527	89.09	0.059	13.106		266.5	65.5
1530	86.20	0.103	13.848		289.5	66.3
1533	84.68	0.072	13.669		284.3	66.3
1536	81.55	0.092	14.243		289.7	66.5
1539	78.88	0.125	14.69		296.2	66.7
1542	75.94	0.116	14.323		297	66.7
1545	73.78	0.122	13.87		297.1	66.6
1548	71.57	0.154	12.304		300.2	66.7
1551	69.66	0.073	11.242		239.4	66.5
1554	68.87	0.139	11.942		220.6	66.3
1557	68.27	0.082	9.342		208.5	66.1
1560	68.54	1.828	9.986		204	66.1
1563	68.19	4.008	14.197		196	66.2
1566	67.93	4.278	13.851		187.4	66.2
1569	68.17	4.276	13.373		180.3	66.1
1572	67.84	3.732	11.533		173.1	66.1
1575	68.06	2.978	9.136		167	65.9
1578	67.65	2.716	8.291		160.6	65.6
1581	68.04	2.284	7.088		155.6	66
1584	68.16	1.793	5.605		150.2	66.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1587	67.69	1.534	4.891		146.2	66.5
1590	67.82	1.236	4.056		142	66.6
1593	68.06	1.072	3.532		138.3	66.7
1596	67.46	0.964	3.176		135.8	66.1
1599	67.47	0.839	2.807		132.1	66.4
1602	67.42	0.68	2.363		129.8	66.2
1605	68.33	0.67	2.288		127.8	66.2
1608	67.56	0.546	1.881		125.7	66
1611	67.55	0.513	1.78		123.4	65.9
1614	68.14	0.478	1.626		121.1	65.6
1617	68.10	0.437	1.494		119.6	65.6
1620	67.48	1.541	7.216		148.4	66.3
1623	67.60	1.278	5.654		135.2	65.3
1626	67.08	0.954	4.117		127.7	65.3
1629	67.29	0.726	3.072		122.5	65.9
1632	67.44	0.622	2.616		120.1	66
1635	67.52	0.529	2.219		117.2	66.3
1638	68.06	0.433	1.797		116.1	66.3
1641	67.31	0.37	1.545		113.1	66.2
1644	67.84	0.323	1.351		111.6	66.1
1647	67.39	0.296	1.242		109.9	65.9
1650	67.66	1.142	5.829		144	65.7
1653	67.36	0.752	4.015		126.8	65.7
1656	67.27	0.55	2.867		119.9	65.5
1659	67.75	0.46	2.458		115.1	65.2
1662	67.16	0.487	2.584		112.8	65.2
1665	67.42	0.395	2.067		112	65.3
1668	67.05	0.355	1.852		109.4	65.8
1671	67.00	0.326	1.72		108.9	65.9
1674	67.16	0.286	1.528		107	66
1677	67.76	0.253	1.361		106.1	66.2
1680	67.44	0.709	4.885		146.8	66.1
1683	67.69	0.781	4.112		123.2	66
1686	67.48	0.498	2.642		115.3	65.9
1689	67.57	0.367	1.993		111.2	65.6
1692	66.84	0.339	1.908		108.4	65.9
1695	67.30	0.333	1.952		107.9	65.4
1698	67.54	0.302	1.828		106.7	65.3
1701	67.05	0.292	1.838		105.3	65.9
1704	67.03	0.257	1.687		103.8	65.8
1707	67.18	0.241	1.586		101.9	66
1710	67.47	0.22	1.467		104.5	66.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1713	66.88	0.575	3.928		122	66.1
1716	67.43	0.371	2.415		112.4	65.7
1719	67.30	0.242	1.653		107.5	65.7
1722	66.74	0.19	1.234		104.4	65.4
1725	66.96	0.154	1.078		102.9	65.3
1728	66.89	0.143	1.032		101.8	65
1731	67.36	0.155	1.066		100.4	64.9
1734	67.34	0.166	1.334		100.6	64.6
1737	67.39	0.215	1.731		99.5	65.1
1740	67.02	0.213	1.752		98.8	65.3
1743	66.97	0.393	3.326		122.4	65.6
1746	66.91	1.456	7.137		173.8	65.6
1749	64.58	0.08	15.295		258.2	65.9
1752	62.26	0.055	15.98		285.2	65.8
1755	60.52	0.074	15.938		286.1	65.7
1758	58.72	0.102	16.296		287.3	65.4
1761	55.87	0.149	16.08		289.6	65
1764	53.79	0.075	13.85		291.2	65.1
1767	51.42	0.108	15.044		294.1	65.2
1770	49.37	0.139	17.604		292	65.8
1773	47.97	0.067	13.503		244.7	66.2
1776	47.03	0.356	16.709		222.4	66.3
1779	46.85	0.175	13.746		209.5	66.5
1782	46.47	1.855	12.104		203.9	66.5
1785	46.25	5.296	16.702		195.9	66.2
1788	45.59	5.479	17.556		187.7	66
1791	45.81	5.443	15.723		179.9	66
1794	45.54	4.717	13.57		172.3	65.7
1797	45.61	3.942	11.489		166.6	65.5
1800	45.66	3.679	10.821		160.5	65.2
1803	45.49	2.895	8.724		157.1	65
1806	45.22	2.602	7.884		151.6	65.2
1809	45.33	2.177	6.715		146.7	65.4
1812	45.62	1.934	6.013		141.6	65.9
1815	45.31	1.581	4.994		138	66
1818	45.63	1.508	4.818		136	65.9
1821	45.37	1.351	4.346		132.8	66.1
1824	45.25	1.185	3.812		129.1	65.6
1827	45.70	1.154	3.703		128.1	65.5
1830	45.28	1.031	3.325		126.9	65.4
1833	45.47	0.903	2.911		122.9	65.3
1836	45.70	0.916	2.919		121.1	64.8

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1839	45.88	0.873	2.793		119.1	64.5
1842	45.38	1.547	7.931		151	64.4
1845	45.54	1.341	6.481		132.9	64.7
1848	45.02	0.901	4.258		125.6	65.1
1851	45.12	0.697	3.154		119.8	65.4
1854	45.37	0.621	2.828		116.9	65.5
1857	45.39	0.521	2.399		114.9	65.8
1860	45.12	0.453	2.073		112.2	65.7
1863	45.27	0.416	1.889		111.1	65.7
1866	45.30	0.367	1.654		110.8	65.5
1869	45.62	0.332	1.51		110	65
1872	45.14	0.94	6.368		151	64.8
1875	45.39	0.707	4.344		126.2	64.9
1878	45.56	0.476	2.861		117.7	64.6
1881	45.43	0.346	2.086		113.6	64.9
1884	45.13	0.308	1.892		111.7	65.1
1887	45.15	0.334	2.012		109.9	65.3
1890	45.09	0.321	1.841		108.6	65.2
1893	45.23	0.293	1.834		107.6	65.6
1896	45.11	0.275	1.713		105.8	65.6
1899	45.09	0.276	1.769		105.3	65.4
1902	45.50	0.25	1.624		132.2	65.5
1905	45.03	0.607	4.506		122.9	64.8
1908	44.94	0.381	2.735		113.6	64.5
1911	45.62	0.242	1.767		109.8	64.7
1914	45.10	0.172	1.272		107.3	64.3
1917	45.08	0.144	1.021		104.9	64.8
1920	45.07	0.12	0.896		104.7	65.5
1923	45.12	0.111	0.833		103.4	65.4
1926	45.09	0.102	0.773		102.3	65.5
1929	45.75	0.098	0.77		102.7	65.1
1932	45.14	0.1	0.782		99.1	65.1
1935	45.11	0.506	4.439		124.6	64.5
1938	45.62	0.307	2.597		111.1	64.4
1941	44.90	0.18	1.644		106.8	64.5
1944	45.40	0.139	1.177		103.9	64.4
1947	45.63	0.12	0.921		102.3	64.6
1950	45.51	0.082	0.707		101.8	64.8
1953	45.40	0.061	0.62		100	65
1956	45.26	0.048	0.484		99.4	65.2
1959	45.21	0.035	0.39		99.5	65.2
1962	45.23	0.035	0.382		97.6	65.4

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
1965	45.44	0.361	3.929		129.5	65
1968	45.44	0.226	2.361		109.8	64.5
1971	45.43	0.141	1.514		104.9	64.6
1974	44.01	1.554	9.005		194.4	64.8
1977	42.15	0.098	15.466		262.9	64.5
1980	40.27	0.174	15.915		289.8	64.4
1983	38.54	0.166	16.013		287.6	65.4
1986	36.77	0.139	15.786		287.2	65.2
1989	35.33	0.106	16.167		292.7	65.3
1992	33.34	0.076	16.33		295.1	65.5
1995	31.11	0.069	16.084		299.9	65.5
1998	28.46	0.048	13.925		299.5	64.6
2001	28.25	0.016	8.828		246.5	65.8
2004	27.51	0.103	11.035		224.8	64.8
2007	26.96	0.069	9.068		211.9	64.6
2010	26.97	0.409	6.73		206.7	65.5
2013	26.42	2.546	10.89		197.6	65.4
2016	26.65	2.873	10.337		188.8	65.5
2019	26.04	3.052	10.444		180.7	65.6
2022	26.13	2.637	9.007		173.5	65.6
2025	26.16	2.204	7.563		166.9	65.5
2028	26.27	2.008	7		161.3	65
2031	26.20	1.654	5.861		155.7	64.6
2034	26.90	1.174	4.265		150.4	64.3
2037	26.13	0.993	3.712		146.3	64.6
2040	26.40	0.813	2.992		142.4	64.9
2043	26.19	0.667	2.521		137.9	64.4
2046	26.48	0.56	2.24		135.6	65.2
2049	26.54	0.442	1.798		132	65.3
2052	26.78	0.371	1.566		128.9	65.3
2055	26.93	0.336	1.324		126.7	64.9
2058	26.51	0.294	1.298		124.4	65.1
2061	26.28	0.248	1.065		121.8	63.9
2064	26.39	0.223	0.971		119.4	64.9
2067	27.05	0.225	0.914		117.9	65.2
2070	26.96	0.009	0.207		139.2	65.3
2073	27.10	0.145	1.122		127.1	65.6
2076	26.99	0.177	1.463		122	65.4
2079	26.34	0.205	1.665		119.4	65
2082	26.34	0.192	1.755		118.5	64.9
2085	26.95	0.248	2.187		115.6	64.5
2088	27.02	0.276	2.378		114.7	65.1

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
2091	26.90	0.327	2.833		115	65.2
2094	26.89	0.323	2.778		112.2	65.2
2097	26.77	0.294	2.538		110.5	65.2
2100	26.54	1.405	7.21		152.2	65
2103	26.59	0.911	4.359		123.5	64.6
2106	26.72	0.523	2.603		116.7	64.7
2109	27.16	0.336	1.727		112.1	63.9
2112	27.10	0.227	1.132		110.7	65.1
2115	27.00	0.144	0.777		108.3	65.2
2118	26.52	0.09	0.558		107.3	65.3
2121	26.49	0.082	0.418		107.5	65.3
2124	26.56	0.067	0.39		106.4	65
2127	26.52	0.057	0.373		105.4	64.5
2130	26.71	0.049	0.313		131.7	64.1
2133	26.99	0.679	4.039		120.7	64.3
2136	27.05	0.408	2.379		112.3	65.2
2139	26.99	0.247	1.502		108.2	65.3
2142	26.36	0.172	1.101		107.2	65.1
2145	26.88	0.11	0.762		106.5	65
2148	27.07	0.078	0.471		104.3	64.8
2151	26.64	0.052	0.389		103.4	64.8
2154	26.95	0.037	0.287		102.4	64.4
2157	26.80	0.031	0.242		102.2	64.8
2160	26.62	0.03	0.225		101.3	64.7
2163	26.70	0.5	3.985		123.5	65.1
2166	26.53	0.293	2.283		110.6	65.2
2169	27.08	0.191	1.47		105.9	65.1
2172	26.55	0.118	0.941		103.3	65.3
2175	26.69	0.078	0.58		102.9	65.3
2178	26.69	0.066	0.435		102.7	65
2181	26.44	0.045	0.343		101.7	64.4
2184	26.45	0.031	0.267		100.6	64.6
2187	26.69	0.026	0.226		100.9	64.4
2190	26.51	0.027	0.196		99.8	64.5
2193	26.95	0.424	4.058		129.9	64.8
2196	26.61	0.269	2.442		109.6	65
2199	26.43	0.168	1.54		104.4	65
2202	26.83	0.12	1.065		102.2	65
2205	26.61	0.07	0.692		100.6	65
2208	27.11	0.042	0.45		100.8	64.8
2211	27.10	0.038	0.378		100.1	64.4
2214	26.24	0.621	7.172		141.9	64.6

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
2217	25.85	1.983	8.326		191.1	64.9
2220	23.49	0.104	15.319		252	65.2
2223	21.95	0.074	15.843		277.3	65.3
2226	20.09	0.063	15.757		287.7	65.1
2229	18.91	0.053	15.798		283.1	65.1
2232	16.50	0.043	15.841		283.9	65.2
2235	14.62	0.045	15.978		285.7	65.1
2238	12.79	0.035	15.57		287.6	64.9
2241	11.26	0.066	7.887		251.2	64.4
2244	10.82	0.053	5.932		222.7	64.9
2247	10.89	0.077	5.854		210.4	65.3
2250	11.07	0.063	4.176		203.6	65.3
2253	10.38	0.924	7.108		195.6	65.3
2256	10.31	1.797	8.619		186.8	65.1
2259	10.26	1.735	7.363		178.4	65.1
2262	10.79	1.675	6.844		171.1	65.1
2265	10.11	1.337	5.43		164.7	64.7
2268	10.43	1.16	4.722		158.7	65.1
2271	10.49	0.941	3.848		153.4	64.9
2274	10.44	0.789	3.27		148.2	65.5
2277	10.79	0.599	2.512		144	65.7
2280	10.83	0.491	2.123		140	65.4
2283	11.22	0.417	1.789		135.4	65.1
2286	10.52	0.359	1.554		133	65.3
2289	11.01	0.32	1.429		129.9	65.3
2292	11.36	0.265	1.264		128.5	65.3
2295	11.06	0.242	1.132		124.9	64.8
2298	11.18	0.234	1.157		123.7	65
2301	11.06	0.212	1.029		121.4	65.6
2304	10.84	0.212	1.089		119.5	65.5
2307	10.71	0.219	1.14		117.1	65.6
2310	11.23	1.863	9.869		152.9	65.4
2313	10.98	0.08	0.554		125.9	65.9
2316	10.60	0.099	0.754		120.9	65.5
2319	10.71	0.095	0.753		117.6	65.3
2322	10.82	0.097	0.759		116.3	65.3
2325	10.96	0.077	0.672		114.7	65.2
2328	10.77	0.081	0.658		113.4	65.2
2331	11.47	0.069	0.548		111.8	65.3
2334	11.27	0.066	0.598		110.4	65
2337	10.96	0.078	0.53		109.9	64.9
2340	11.49	0.087	0.63		135.8	65.7

Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas Composition (%)			Flue Gas	Room Temp
		CO	CO ₂	O ₂		
2343	11.37	1.169	5.566		125.9	65.9
2346	11.05	0.709	3.412		115.8	65.7
2349	11.20	0.438	2.111		112	65.6
2352	10.84	0.285	1.394		111.1	65.8
2355	10.67	0.184	0.864		109	65.6
2358	10.70	0.114	0.596		107	65.9
2361	11.05	0.089	0.43		106.3	65.1
2364	11.23	0.062	0.342		105.7	64.9
2367	11.54	0.05	0.272		104.7	65.5
2370	10.94	0.047	0.267		103.6	65.6
2373	11.14	1.122	5.678		126.4	65.5
2376	10.73	0.694	3.55		112.5	65.3
2379	10.63	0.431	2.162		109.2	65.3
2382	11.03	0.254	1.372		107.8	65.6
2385	11.12	0.165	0.81		105.8	65.5
2388	10.76	0.11	0.571		103.5	65.7
2391	11.44	0.069	0.414		103.1	65.6
2394	10.74	0.058	0.274		102.9	65.5
2397	11.13	0.042	0.218		102.1	65.4
2400	11.23	0.036	0.23		102.1	65.3
2403	10.66	0.805	5.41		132.4	65.3
2406	11.00	0.513	3.421		112.9	65.3
2409	11.42	0.327	2.166		107.5	65.5
2412	10.81	0.201	1.238		105.5	65.6
2415	10.65	0.125	0.884		102.8	66
2418	11.16	0.089	0.588		101.4	65.8
2421	11.25	0.048	0.4		101.9	65.6
2424	11.33	0.036	0.281		100.6	66
2427	11.23	0.012	0.261		99.7	65.8
2430	11.17	0.029	0.16		98.8	65.5
2433	11.21	0.609	6.014		134.6	65.8
2436	11.27	0.42	3.236		111.9	65.5
2439	10.84	0.924	7.507		151.7	65.6
2442	9.02	0.224	15.077		223.5	65.6
2445	7.66	0.072	15.89		267	65.8
2448	5.73	0.064	16.001		282.2	65.8
2451	3.75	0.038	15.376		283.7	65.8
2454	2.86	0.034	14.944		284.9	66
2457	0.60	0.025	15.363		292.1	65.8
2460	0.00	0.057	14.722		297	65.7

Test Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
Model : Classic Edge 760.1
Tracking No. : 2501
Project No. : 0117WB044E
Test Date : 2/27/2025
Run No. : 4

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Firebox Volume : 22.090 ft³
Manufacturer's Recommended Loading Density 13
Ideal Fuel Weight : 287.17 lb.
Minimum Fuel Weight : 258.45 lb.
Maximum Fuel Weight : 315.89 lb.
Fuel Species : Maple

Fuel Piece Data

PC No.	Weight, Lb. (W _i)	Cross- Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	10.1	6.00	5.00	24.00	27.5	26.5	24.5	22.4	19.1	24.0	242.40
2	10.8	5.50	4.50	24.00	23.9	20.6	24.2	19.6	20.6	21.8	235.22
3	9.8	6.00	4.50	24.00	22.4	24.0	22.8	22.9	22.4	22.9	224.42
4	10.0	6.00	5.50	24.00	25.9	24.8	26.0	18.9	19.4	23.0	230.00
5	8.9	6.50	5.75	24.00	18.5	18.9	21.0	24.0	24.3	21.3	189.93
6	13.6	7.50	4.50	24.00	19.5	19.8	21.8	25.8	22.4	21.9	297.30
7	10.2	6.25	4.25	24.00	25.7	19.7	20.8	19.6	19.4	21.0	214.61
8	9.5	6.00	4.00	24.00	25.2	26.2	23.7	22.9	20.7	23.7	225.53
9	9.2	5.50	5.00	24.00	24.9	24.7	19.3	21.9	20.4	22.2	204.61
10	10.0	6.00	4.00	24.00	24.2	22.1	18.5	21.7	20.2	21.3	213.40
11	9.7	6.00	4.25	24.00	19.0	24.2	26.2	24.9	19.8	22.8	221.35
12	14.6	8.00	5.25	24.00	21.5	19.5	19.4	19.4	19.5	19.9	289.96
13	11.6	6.50	4.00	24.00	25.3	21.4	22.7	22.9	20.7	22.6	262.16
14	10.2	6.00	3.50	24.00	21.6	24.1	21.3	19.0	18.5	20.9	213.18
15	13.1	7.00	5.00	24.00	20.4	20.2	21.2	24.9	24.9	22.3	292.39
16	11.4	6.00	3.75	24.00	23.7	23.0	25.7	20.5	21.5	22.9	260.83
17	12.2	6.50	4.25	24.00	20.1	21.6	18.6	24.9	20.2	21.1	257.18
18	10.7	6.00	4.50	24.00	19.4	21.4	19.5	23.7	26.2	22.0	235.83
19	10.5	5.75	4.00	24.00	19.7	21.5	19.4	25.9	19.6	21.2	222.81
20	13.0	6.75	4.75	24.00	18.9	20.4	23.0	27.1	25.5	23.0	298.74
21	11.2	6.25	5.00	24.00	24.2	20.0	23.0	26.0	24.8	23.6	264.32
22	11.1	6.50	4.50	24.00	21.4	20.7	21.9	20.9	19.8	20.9	232.43
23	12.5	6.50	4.75	24.00	20.0	20.6	19.8	22.1	20.9	20.7	258.50
24	10.8	6.50	4.50	24.00	20.4	20.8	19.9	22.0	22.0	21.0	227.02
25											
26											
27											
28											
29											
30											
TOTAL	264.7										5814.11
Averages	11.03	6.31	4.54	24.00	22.22	21.95	21.84	22.66	21.37	22.01	242.25

Fuel Load Properties

Number of Pieces	Wet Weight, lb.	Dry Weight, lb.	Fuel Loading Density, lb/ft ³ Wet Basis	Fuel Loading Density, lb/ft ³ Dry Basis	Moisture, % dry basis (ΣW _i · MC _i) / ΣW _i	Moisture, % wet Basis
24	264.7	217.03	11.98	9.82	21.96	18.01

Compliance Checks, Loading Density and Moisture

	Fuel Load, Wet Lb.	Load Density, lb/ft ³ of FB vol	Number of moisture readings > 28%	Number of moisture readings < 18%	Average Fuel Moisture, % DB	
Measured	264.7	11.98	0	0	21.37	
Required	258.5 - 315.9	10 - 15	0	0	19 - 25	
Complies ?	Yes	Yes	Yes	Yes	Yes	

Compliance Checks, Fuel weights and Dimensions

	Cross Section of Individual Pieces		Minimum Piece Weight, Lb.	Maximum Piece Weight, Lb.
	Min	Max		
Measured	3.50	8.00	8.9	14.6
Required	3	12	8.8	26.5
Complies ?	Yes	Yes	Yes	Yes

Pre-Burn Fuel Properties

ASTM E2618

Manufacturer : Central Boiler
 Model : Classic Edge 760.1
 Tracking No. : 2501
 Project No. : 0117WB044E
 Test Date : 2/27/2025
 Run No. : 4

Moisture Meter Cal	
Cal Block	Measured
12.0	12.0
22.0	22.0

Average Moisture Content, % Dry Basis : 20.9
 Total Mass, lb. : 282.0

Piece No.	Moisture, db					Weight, lb.
	1	2	3	4	5	
1	24.9	24.9	23.9	24.0	19.4	11.3
2	23.0	18.1	19.2	18.3	19.4	7.6
3	18.2	24.9	21.0	22.5	22.0	9.3
4	18.9	19.6	19.5	20.1	20.1	21.6
5	23.1	20.5	22.5	21.2	19.6	20.4
6	18.4	18.6	18.6	18.1	19.0	28.6
7	24.2	24.9	18.6	19.6	19.5	22.2
8	20.4	20.9	22.1	20.4	20.5	26.6
9	19.5	19.7	20.1	19.4	20.2	25.9
10	19.0	21.0	23.0	23.5	22.9	19.8
11	19.4	23.9	24.9	22.4	21.6	12.1
12	19.7	19.8	20.8	20.7	20.4	13.2
13	19.0	22.3	22.8	22.7	22.0	12.4
14	24.9	18.4	18.0	18.0	18.2	15.1
15	21.9	23.2	22.9	22.7	18.2	15.5
16	19.6	21.8	20.6	20.4	19.8	15.9
Subtotal						277.5
The above pieces were measured for moisture content and weighed and then split into slightly smaller pieces to ensure uniform coal bed charcoalization and consistency.						
Mass of coals that were used as part of the preburn (+)						14.5
Mass of preburn charge ultimately not used (-)						10.0
Net mass of preburn used						282.0

Dilution Tunnel Velocity Traverse and Supplementary Data

ASTM E2515-11

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1

Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/27/2025

Dilution Tunnel Velocity Traverse

Pitot Location								
Traverse Point	% of Diameter	Inches into Tunnel	dP in. H ₂ O	Tunnel Temp, °F	dP ^{1/2}	Tunnel Static Pressure	-0.330	in. H ₂ O
X1	4.4	0.53	0.104	68	0.322	Tunnel Moisture	2.00	%
X2	14.6	1.75	0.120	68	0.346	Tunnel Diameter	12.00	inches
X3	29.6	3.55	0.124	68	0.352	Pitot Tube C _p	0.99	inches
X4	70.4	8.45	0.114	68	0.338	Tunnel Molecular Weight	29	(dry)
X5	85.4	10.25	0.102	68	0.319	Tunnel Molecular Weight	28.78	(M _s , wet)
X6	95.6	11.47	0.086	68	0.293	Tunnel Area	0.78539816	ft ²
Y1	4.4	0.53	0.106	68	0.326	K _p	85.49	constant
Y2	14.6	1.75	0.116	68	0.341	P _s =P _{bar} +Tunnel Static	30.0957353	in HG
Y3	29.6	3.55	0.112	68	0.335	$V_{strav} = K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 21.851$		
Y4	70.4	8.45	0.112	68	0.335			
Y5	85.4	10.25	0.102	68	0.319	$V_{scent} = K_p C_p \sqrt{\Delta p_{center}} \sqrt{\frac{T_{s,center}}{P_s M_s}} = 21.916$		
Y6	95.6	11.47	0.068	68	0.261			
Center	50.0	6.00	0.110	68	0.332	$F_p = V_{strav} / V_{scent} = 0.997$		

* Probe location must be no closer than 0.50 in to tunnel wall

$$\text{Initial Tunnel Velocity, } V_s = F_p K_p C_p \sqrt{\Delta p_{avg}} \sqrt{\frac{T_{s,avg}}{P_s M_s}} = 21.718865 \text{ ft/sec}$$

Supplementary Data and Information

Environment	Test Start	Test End	
Time of Day	19:36	12:36	(Ending 3/01/25)
Barometric Pressure, in. Hg	30.12	29.85	
Room Air Velocity, fpm	12	9	
Room Air Temperature, °F	67	66	
Room Relative Humidity, %	44.0	47.0	
Platform Scale Audit, lb.	20.0	20.0	

Leak Checks

Pitot and associated tubing, (pass/fail) ¹	pass	pass
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See sampling box worksheets for sampling boxes

Dilution Tunnel

Date last cleaned	2/19/2025	
Smoke Capture, % (visual) ²	100	
Draft Inducement, (pass/fail) ³	pass	
Static Pressure, in. H ₂ O	-0.330	-0.330

¹ Both sides (independently) of the pitot system are brought under a minimum vacuum of 3 in. H₂O and then sealed. Any indication of pressure loss is deemed a fail.

² Create a smoking condition during start of pre-burn activities and using adequate lighting pointed upward and around tunnel hood, visually observe if 100% of visible smoke is being captured by the hood. If not, increase flow tunnel flow and / or re-assess chimney proximity to draft hood as required and repeat until 100% capture is observed.

³ With the appliance installed and the dilution tunnel flow turned-off, observe the flue draft gauge while turning the dilution tunnel on. Any detectible response by the draft gauge associated with activation of the tunnel flow indicates that draft inducement is occurring. Determine the cause (i.e. flue chimney too deep into tunnel?) before continuing.

Preburn Data

ASTM E2618

Run: 4

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Test Date: 2/27/25

Final Coal Bed Weight: 50.1 lb.
 Average Heat Output Rate Last One Hour, Btu/hr: 33291.3 Btu/hr.

Beginning Clock Time: 14:48Logging Intervqal, Min: 1

Coal Bed Range	26.5	52.9
(lb):	(min)	(max)

288		Appliance					Load										
Elapsed Time (Min)	Fuel Remaining (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	oi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
0	54.0	149.5	137.9	11.7	283	-0.048	47.9	148	100.5	4.168	1.0012	8.343	34.77	3500.3	210018	65	
1	53.7	149.5	137.9	11.6	282.8	-0.02	48.0	149	100.6	4.209	1.0012	8.343	35.12	3535.8	212150	65.3	
2	53.0	149.8	138.1	11.7	283.2	-0.029	47.9	149	100.8	4.209	1.0012	8.343	35.12	3544.1	212644	65	
3	51.9	149.8	138.1	11.7	284.1	-0.041	48.0	149	100.8	4.195	1.0012	8.343	35	3532.9	211977	65.2	
4	51.0	150.1	138.9	11.2	285.4	-0.038	48.0	149	101.2	4.140	1.0012	8.343	34.54	3498.3	209897	65.3	
5	50.8	150.3	138.8	11.5	283.9	-0.031	48.0	149	101.3	4.140	1.0012	8.343	34.54	3503.9	210231	65.2	
6	49.2	150.5	138.8	11.8	281	-0.046	48.0	149	101.4	4.140	1.0012	8.343	34.54	3507.2	210435	65.4	
7	48.4	150.7	138.9	11.8	285.2	-0.034	48.0	150	101.6	4.209	1.0012	8.343	35.12	3572.5	214350	65.2	
8	47.9	151.1	139.3	11.8	282.5	-0.039	48.0	150	102.1	4.195	1.0012	8.343	35	3577.3	214639	65.2	
9	47.4	151.2	139.4	11.8	282.3	-0.027	47.9	150	102.2	4.209	1.0012	8.343	35.12	3592.8	215565	65.1	
10	47.1	151.3	139.5	11.8	282.6	-0.033	47.9	150	102.3	4.209	1.0012	8.343	35.12	3597.2	215835	65.3	
11	45.5	151.6	139.7	11.9	282.6	-0.007	48.0	151	102.5	4.209	1.0012	8.343	35.12	3605.4	216323	65.4	
12	44.6	151.8	139.9	11.9	281.8	-0.042	48.0	151	102.8	4.209	1.0012	8.343	35.12	3612.7	216764	65.4	
13	44.6	151.9	140.0	11.9	284.9	-0.035	47.9	151	102.9	4.195	1.0012	8.343	35	3607.0	216422	65.4	
14	43.4	152.2	140.2	12.0	281.8	-0.039	48.0	151	103.2	4.209	1.0012	8.343	35.12	3627.6	217657	65.6	
15	42.2	152.4	140.4	12.0	284.1	-0.042	47.9	151	103.4	4.195	1.0012	8.343	35	3622.0	217318	65.5	
16	41.8	152.8	140.8	12.0	286.6	-0.055	47.9	152	103.8	4.209	1.0012	8.343	35.12	3649.0	218938	65.7	
17	40.8	152.9	141.3	11.6	285.6	-0.022	48.0	152	103.9	4.126	1.0012	8.343	34.42	3581.6	214894	65.7	
18	39.8	153.1	141.4	11.7	286.7	-0.04	48.0	152	104.2	4.030	1.0012	8.343	33.62	3505.7	210344	65.5	
19	55.9	153.5	141.4	12.1	277.7	-0.028	48.0	152	104.5	4.209	1.0012	8.343	35.12	3672.8	220370	65.6	
20	86.1	153.7	141.6	12.1	281.6	-0.046	47.9	153	104.7	4.209	1.0012	8.343	35.12	3682.1	220927	65.6	
21	85.8	153.4	141.3	12.1	275.5	-0.031	47.7	152	104.6	4.209	1.0012	8.343	35.12	3678.0	220678	65.9	
22	85.0	153.2	141.1	12.1	276.6	-0.05	47.7	152	104.5	4.209	1.0012	8.343	35.12	3674.1	220445	65.8	
23	83.9	153.2	141.1	12.1	272.7	-0.032	47.7	152	104.4	4.168	1.0012	8.343	34.77	3635.6	218136	65.9	
24	82.9	153.2	141.1	12.1	278.2	-0.035	47.7	152	104.5	4.209	1.0012	8.343	35.12	3673.1	220387	66	
25	82.9	153.1	141.0	12.1	276.5	-0.041	47.7	152	104.4	4.195	1.0012	8.343	35	3657.6	219455	65.9	
26	81.5	153.2	141.1	12.1	275	-0.041	47.6	152	104.5	4.195	1.0012	8.343	35	3661.0	219661	66	
27	80.6	153.2	141.1	12.1	278.9	-0.028	47.6	152	104.6	4.209	1.0012	8.343	35.12	3676.4	220584	66.2	
28	80.6	153.2	141.1	12.1	280	-0.018	47.6	152	104.5	4.195	1.0012	8.343	35	3663.8	219827	66.1	
29	79.4	153.4	141.3	12.1	280.4	-0.017	47.6	152	104.8	4.195	1.0012	8.343	35	3671.0	220260	66.3	
30	78.7	153.5	141.4	12.1	280.7	-0.042	47.6	152	104.8	4.195	1.0012	8.343	35	3674.1	220449	66.3	
31	77.3	153.4	141.2	12.2	280.6	-0.023	47.6	152	104.7	4.195	1.0012	8.343	35	3670.0	220199	66.4	
32	77.1	153.6	141.4	12.2	281.1	-0.039	47.6	152	104.9	4.195	1.0012	8.343	35	3676.5	220589	66	
33	76.3	153.8	141.6	12.2	281.3	-0.04	47.6	153	105.1	4.195	1.0012	8.343	35	3684.5	221068	66.2	
34	75.3	153.8	141.6	12.2	281	-0.036	47.6	153	105.1	4.181	1.0012	8.343	34.89	3672.6	220353	66	
35	74.8	153.8	141.6	12.2	281.7	-0.03	47.6	153	105.2	4.195	1.0012	8.343	35	3686.3	221181	65.9	
36	74.4	154.1	142.6	11.5	284.3	-0.039	47.6	153	105.6	4.057	1.0012	8.343	33.85	3580.6	214838	65.9	
37	73.1	154.2	141.9	12.3	288.5	-0.039	47.5	153	105.6	4.195	1.0012	8.343	35	3700.8	222049	66	
38	72.0	154.4	142.1	12.3	290.2	-0.022	47.5	153	105.7	4.209	1.0012	8.343	35.12	3717.4	223042	65.9	
39	71.6	154.6	142.3	12.3	292.4	-0.037	47.5	154	106.1	4.195	1.0012	8.343	35	3717.8	223070	65.7	
40	70.4	154.9	142.5	12.4	292.5	-0.039	47.5	154	106.3	4.181	1.0012	8.343	34.89	3712.5	222752	65.7	
41	69.6	155.2	142.8	12.3	298.5	-0.032	47.5	154	106.7	4.181	1.0012	8.343	34.89	3725.7	223543	65.4	
42	69.1	155.7	143.2	12.5	296	-0.031	47.5	155	107.1	4.195	1.0012	8.343	35	3752.8	225170	65.7	

288		Appliance						Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H ₂ O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
43	68.6	155.7	143.3	12.4	297.2	-0.041	47.5	155	107.2	4.195	1.0012	8.343	35	3755.4	225324	65.6	
44	67.2	156.1	143.7	12.5	298.2	-0.034	47.5	155	107.6	4.195	1.0012	8.343	35	3771.8	226306	65.5	
45	66.2	156.2	144.3	11.9	295.1	-0.032	47.4	155	107.8	4.099	1.0012	8.343	34.2	3690.3	221418	65.8	
46	65.7	156.5	143.2	13.3	289.9	-0.042	47.4	155	107.8	4.278	1.0012	8.343	35.69	3852.1	231125	65.8	
47	64.5	156.4	143.0	13.3	294.1	-0.04	47.4	155	107.7	4.444	1.0012	8.343	37.07	3997.1	239827	65.9	
48	63.8	156.2	142.9	13.3	286.2	-0.025	47.4	155	107.6	4.444	1.0012	8.343	37.07	3994.1	239648	65.8	
49	63.2	156.1	142.7	13.4	287.6	-0.036	47.3	155	107.4	4.457	1.0012	8.343	37.19	3999.1	239943	65.8	
50	62.0	156.3	143.0	13.3	288.2	-0.051	47.3	155	107.7	4.457	1.0012	8.343	37.19	4011.2	240671	65.9	
51	61.5	156.3	143.0	13.3	288.2	-0.034	47.3	155	107.8	4.457	1.0012	8.343	37.19	4014.0	240841	65.9	
52	60.2	156.5	143.1	13.4	287.4	-0.036	47.3	155	107.8	4.471	1.0012	8.343	37.31	4028.2	241695	65.8	
53	59.7	156.3	143.0	13.4	286.3	-0.047	47.3	155	107.8	4.457	1.0012	8.343	37.19	4013.1	240787	65.8	
54	59.1	156.4	143.1	13.3	286.2	-0.012	47.3	155	107.8	4.457	1.0012	8.343	37.19	4014.4	240866	65.8	
55	58.4	156.4	143.1	13.4	286.5	-0.036	47.3	155	107.8	4.457	1.0012	8.343	37.19	4015.9	240954	66	
56	57.2	156.4	143.1	13.4	286.3	-0.044	47.3	155	107.8	4.471	1.0012	8.343	37.31	4028.2	241693	65.9	
57	57.1	156.4	143.0	13.4	285.7	-0.034	47.3	155	107.8	4.457	1.0012	8.344	37.19	4015.1	240908	66.1	
58	55.6	156.4	143.1	13.4	284.8	-0.041	47.3	155	107.9	4.457	1.0012	8.344	37.19	4016.7	241005	66	
59	55.1	156.5	143.1	13.4	284.5	-0.04	47.3	155	107.9	4.457	1.0012	8.344	37.19	4019.2	241153	65.9	
60	54.8	156.4	143.4	13.0	284.6	-0.023	47.3	155	107.9	4.306	1.0012	8.344	35.92	3881.8	232906	65.9	
61	53.9	156.5	143.1	13.4	284.1	-0.027	47.4	155	107.9	4.444	1.0012	8.343	37.07	4003.7	240221	65.3	
62	53.0	156.4	143.0	13.4	283.8	-0.035	47.4	155	107.7	4.485	1.0012	8.343	37.42	4035.0	242098	65.7	
63	52.6	156.5	143.1	13.4	283.6	-0.044	47.4	155	107.8	4.471	1.0012	8.343	37.31	4027.8	241668	65.7	
64	51.4	156.5	143.2	13.4	283.2	-0.039	47.4	155	107.9	4.471	1.0012	8.343	37.31	4028.7	241722	65.4	
65	50.8	156.5	143.1	13.4	283.5	-0.029	47.4	155	107.8	4.471	1.0012	8.343	37.31	4027.1	241624	65.7	
66	50.4	156.5	144.1	12.4	284	-0.042	47.4	155	107.9	4.319	1.0012	8.343	36.04	3894.4	233665	65.8	
67	49.8	156.6	144.3	12.3	284.4	-0.037	47.5	156	108.0	4.099	1.0012	8.343	34.2	3699.1	221949	65.8	
68	49.0	156.5	143.0	13.5	283.5	-0.031	47.5	155	107.7	4.306	1.0012	8.343	35.92	3873.0	232378	65.9	
69	48.2	156.6	143.1	13.5	282.3	-0.032	47.5	155	107.8	4.526	1.0012	8.343	37.77	4076.4	244582	65.8	
70	47.8	156.7	143.2	13.6	281.1	-0.042	47.3	155	108.1	4.513	1.0012	8.343	37.65	4074.0	244440	66	
71	47.3	156.7	143.3	13.4	279.7	-0.039	47.2	155	108.2	4.388	1.0012	8.344	36.61	3966.7	238000	65.9	
72	46.8	156.6	143.1	13.5	279.1	-0.026	47.2	155	108.1	4.485	1.0012	8.344	37.42	4052.0	243117	66.1	
73	46.4	156.6	143.1	13.5	282.9	-0.04	47.2	155	108.1	4.499	1.0012	8.344	37.54	4061.5	243690	65.9	
74	45.6	156.5	143.1	13.3	280.5	-0.031	47.1	155	108.1	4.347	1.0012	8.344	36.27	3924.1	235443	66.3	
75	44.5	156.6	143.1	13.6	279.3	-0.033	47.1	155	108.1	4.499	1.0012	8.344	37.54	4063.8	243827	66.3	
76	44.3	156.7	143.1	13.5	279.4	-0.039	47.1	155	108.2	4.499	1.0012	8.344	37.54	4066.2	243972	66.4	
77	43.1	156.6	143.1	13.5	279.3	-0.035	47.1	155	108.2	4.499	1.0012	8.344	37.54	4066.4	243984	66.5	
78	42.7	156.6	143.1	13.5	279.1	-0.045	47.1	155	108.2	4.485	1.0012	8.344	37.42	4052.4	243144	66.6	
79	42.3	156.4	142.9	13.5	278.7	-0.03	47.1	155	108.0	4.499	1.0012	8.344	37.54	4059.8	243585	66.6	
80	41.5	156.5	143.0	13.5	283.8	-0.031	47.1	155	108.1	4.485	1.0012	8.344	37.42	4050.6	243038	66.6	
81	40.7	156.5	143.0	13.5	282.1	-0.039	47.1	155	108.1	4.485	1.0012	8.344	37.42	4049.7	242984	66.7	
82	54.8	156.5	143.0	13.5	271.1	-0.031	47.1	155	108.1	4.499	1.0012	8.344	37.54	4062.6	243758	66.7	
83	88.3	156.7	143.7	13.1	281	-0.027	47.2	156	108.3	4.402	1.0012	8.344	36.73	3984.0	239042	66.7	
84	87.3	156.2	143.2	12.9	272.4	-0.033	47.2	155	107.9	4.333	1.0012	8.344	36.15	3904.3	234257	66.9	
85	86.3	156.0	143.1	12.9	276.6	-0.039	47.2	155	107.7	4.333	1.0012	8.344	36.15	3897.1	233824	66.9	
86	85.8	156.0	143.0	13.0	279.3	-0.029	47.1	155	107.6	4.361	1.0012	8.344	36.38	3920.6	235238	67	
87	84.8	156.0	142.5	13.5	279.5	-0.034	47.1	155	107.6	4.513	1.0012	8.344	37.65	4055.5	243328	67	
88	84.2	155.9	142.5	13.4	278.9	-0.023	47.0	155	107.6	4.499	1.0012	8.344	37.54	4043.2	242592	66.9	
89	82.9	155.8	142.4	13.4	279	-0.033	47.0	154	107.5	4.499	1.0012	8.344	37.54	4039.8	242387	67.1	
90	82.3	155.7	142.3	13.4	280.7	-0.041	47.0	154	107.3	4.499	1.0012	8.344	37.54	4034.4	242063	67.1	
91	81.5	155.6	142.2	13.4	279.2	-0.028	47.0	154	107.2	4.499	1.0012	8.344	37.54	4030.3	241818	67.1	
92	81.4	155.5	142.1	13.4	282.1	-0.045	47.0	154	107.1	4.499	1.0012	8.344	37.54	4025.1	241509	67.2	
93	80.1	155.3	141.9	13.4	280.5	-0.035	47.0	154	106.9	4.485	1.0012	8.344	37.42	4006.4	240381	67.2	
94	79.8	155.3	142.0	13.4	279.2	-0.046	47.0	154	107.0	4.513	1.0012	8.344	37.65	4032.4	241946	67.2	
95	79.0	155.2	141.9	13.3	278.6	-0.032	47.1	154	106.8	4.485	1.0012	8.344	37.42	4002.2	240132	67.3	
96	78.3	155.0	142.3	12.8	278	-0.028	47.1	154	106.8	4.250	1.0012	8.344	35.46	3791.0	227461	67.3	
97	76.9	155.0	141.6	13.4	283.2	-0.037	47.1	154	106.6	4.499	1.0012	8.344	37.54	4004.5	240268	67.3	
98	76.6	155.1	141.8	13.4	280.5	-0.037	47.1	154	106.7	4.499	1.0012	8.344	37.54	4009.8	240586	67.3	
99	75.6	155.0	141.6	13.3	286.5	-0.032	47.0	154	106.6	4.499	1.0012	8.344	37.54	4006.6	240397	67.3	
100	74.8	155.1	141.7	13.4	282.4	-0.04	47.0	154	106.7	4.499	1.0012	8.344	37.54	4011.0	240661	67.3	
101	74.1	155.2	141.9	13.4	289.7	-0.033	47.0	154	106.9	4.485	1.0012	8.344	37.42	4003.8	240230	67.4	

288		Appliance						Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
102	72.6	155.2	141.8	13.4	294.2	-0.032	47.0	154	106.8	4.485	1.0012	8.344	37.42	4000.8	240050	67.4	
103	72.0	155.3	141.9	13.3	296.3	-0.038	47.0	154	106.8	4.499	1.0012	8.344	37.54	4015.5	240932	67.5	
104	71.2	155.5	142.1	13.4	294.9	-0.041	47.1	154	107.1	4.499	1.0012	8.344	37.54	4024.7	241482	67.4	
105	70.4	155.5	142.2	13.4	296.6	-0.037	47.1	154	107.1	4.485	1.0012	8.344	37.42	4014.1	240847	67.5	
106	69.0	155.7	142.3	13.4	297	-0.043	47.1	154	107.3	4.485	1.0012	8.344	37.42	4021.0	241261	67.4	
107	69.1	155.7	142.7	13.0	296.7	-0.044	47.1	154	107.4	4.444	1.0012	8.344	37.08	3987.9	239274	67.5	
108	67.4	155.8	142.3	13.4	297.1	-0.04	47.1	154	107.3	4.416	1.0012	8.344	36.85	3959.9	237594	67.3	
109	66.5	155.9	142.5	13.4	295.6	-0.037	47.1	155	107.5	4.499	1.0012	8.344	37.54	4041.6	242495	67.5	
110	65.9	156.0	142.6	13.4	296.8	-0.027	47.1	155	107.7	4.375	1.0012	8.344	36.5	3934.1	236047	67.5	
111	65.2	156.1	142.7	13.5	294.3	-0.042	47.1	155	107.8	4.485	1.0012	8.344	37.42	4037.8	242268	67.4	
112	64.3	156.2	142.7	13.5	295.7	-0.042	47.0	155	107.8	4.499	1.0012	8.344	37.54	4052.3	243140	67.6	
113	63.4	156.3	142.8	13.5	296.1	-0.038	47.0	155	107.9	4.499	1.0012	8.344	37.54	4057.0	243418	67.5	
114	62.5	156.6	143.0	13.6	297.2	-0.037	47.0	155	108.1	4.485	1.0012	8.344	37.42	4052.1	243127	67.6	
115	62.2	156.7	143.2	13.5	298.4	-0.03	47.0	155	108.4	4.513	1.0012	8.344	37.65	4086.2	245172	67.5	
116	61.6	156.9	143.3	13.6	299.4	-0.04	47.1	156	108.5	4.499	1.0012	8.344	37.54	4076.3	244578	67.2	
117	60.5	157.1	143.5	13.6	301.9	-0.031	47.1	156	108.7	4.485	1.0012	8.344	37.42	4071.6	244296	67.5	
118	59.6	157.3	143.7	13.6	303.9	-0.032	47.1	156	108.8	4.499	1.0012	8.344	37.54	4090.4	245423	67.5	
119	58.7	157.7	144.0	13.6	305.7	-0.039	47.1	156	109.2	4.485	1.0012	8.344	37.42	4092.9	245577	67.5	
120	57.7	157.8	144.2	13.6	302	-0.04	47.1	157	109.5	4.471	1.0012	8.344	37.31	4088.5	245313	67.6	
121	57.5	158.0	144.3	13.7	299.9	-0.046	47.1	157	109.6	4.499	1.0012	8.344	37.54	4117.4	247044	67.5	
122	56.4	157.9	144.3	13.7	304.4	-0.037	47.1	157	109.5	4.485	1.0012	8.344	37.42	4104.1	246247	67.6	
123	55.4	157.8	144.1	13.7	291	-0.039	47.1	156	109.4	4.485	1.0012	8.344	37.42	4097.4	245845	67.7	
124	54.8	157.7	144.1	13.6	292.6	-0.036	47.1	156	109.3	4.471	1.0012	8.344	37.31	4083.2	244993	67.6	
125	53.8	157.7	144.6	13.0	288.5	-0.043	47.1	156	109.4	4.375	1.0012	8.344	36.5	3998.2	239889	67.6	
126	53.6	157.7	144.2	13.5	290.9	-0.041	47.1	156	109.4	4.361	1.0012	8.344	36.39	3984.9	239097	67.7	
127	52.4	157.7	144.1	13.6	287.2	-0.037	47.1	156	109.3	4.485	1.0012	8.344	37.42	4095.7	245742	67.7	
128	51.8	157.7	144.1	13.7	288.9	-0.051	47.1	156	109.4	4.499	1.0012	8.344	37.54	4110.1	246606	67.7	
129	50.9	157.8	144.2	13.6	290.2	-0.044	47.0	157	109.5	4.485	1.0012	8.344	37.42	4101.8	246109	67.7	
130	50.3	157.8	144.2	13.7	286.2	-0.042	47.0	157	109.5	4.471	1.0012	8.344	37.31	4090.7	245440	67.6	
131	49.9	157.9	144.2	13.7	287.7	-0.021	47.0	157	109.5	4.485	1.0012	8.344	37.42	4103.4	246207	67.5	
132	49.0	157.8	144.2	13.6	287.7	-0.046	47.1	157	109.5	4.499	1.0012	8.344	37.54	4114.7	246883	67.7	
133	48.5	157.9	144.2	13.7	287.1	-0.023	47.1	157	109.5	4.499	1.0012	8.344	37.54	4115.8	246950	67.6	
134	48.0	158.0	144.3	13.7	286.6	-0.025	47.1	157	109.6	4.471	1.0012	8.344	37.31	4094.3	245659	67.7	
135	47.1	157.9	144.2	13.7	286	-0.033	47.1	157	109.5	4.485	1.0012	8.344	37.42	4101.6	246099	67.6	
136	46.2	157.7	144.1	13.6	285.8	-0.027	47.1	156	109.4	4.485	1.0012	8.344	37.42	4097.9	245876	67.7	
137	45.4	157.9	144.3	13.6	286	-0.044	47.1	157	109.5	4.485	1.0012	8.344	37.42	4102.6	246155	67.3	
138	45.3	157.8	144.2	13.7	286.4	-0.041	47.1	157	109.4	4.471	1.0012	8.344	37.31	4087.2	245232	67.5	
139	44.3	157.9	144.2	13.7	286.5	-0.03	47.1	157	109.4	4.485	1.0012	8.344	37.42	4099.7	245981	67.6	
140	43.8	157.9	144.3	13.6	285.7	-0.039	47.1	157	109.6	4.471	1.0012	8.344	37.31	4092.8	245569	67.4	
141	43.1	158.1	144.4	13.7	284.4	-0.038	47.1	157	109.7	4.485	1.0012	8.344	37.42	4109.9	246597	67.3	
142	42.5	158.2	145.2	13.0	289	-0.031	47.1	157	109.9	4.375	1.0012	8.344	36.5	4016.5	240988	67.6	
143	41.7	158.2	144.9	13.3	292.8	-0.025	47.1	157	109.9	4.347	1.0012	8.344	36.27	3991.9	239512	67.6	
144	41.5	158.1	144.4	13.7	286.7	-0.031	47.1	157	109.7	4.485	1.0012	8.344	37.42	4109.7	246582	67.7	
145	79.8	158.4	144.6	13.8	273.2	-0.03	47.1	157	109.8	4.499	1.0012	8.344	37.54	4125.4	247523	67.4	
146	79.6	158.6	144.8	13.8	284.8	-0.025	47.1	157	110.2	4.471	1.0012	8.344	37.31	4116.0	246959	67.5	
147	78.4	158.0	144.3	13.7	280.4	-0.036	47.1	157	109.6	4.485	1.0012	8.344	37.42	4106.9	246413	67.6	
148	77.4	158.0	144.3	13.7	284.1	-0.052	47.1	157	109.5	4.485	1.0012	8.344	37.42	4102.8	246167	67.4	
149	76.6	157.9	144.3	13.7	285.9	-0.032	47.1	157	109.6	4.485	1.0012	8.344	37.42	4104.8	246286	67.6	
150	76.0	157.8	144.2	13.6	286.6	-0.038	47.1	157	109.4	4.471	1.0012	8.344	37.31	4087.7	245263	67.3	
151	74.9	157.8	144.1	13.7	286.6	-0.036	47.1	156	109.3	4.499	1.0012	8.344	37.54	4107.7	246464	67.7	
152	74.2	157.8	144.2	13.6	287.1	-0.038	47.1	156	109.4	4.471	1.0012	8.344	37.31	4085.8	245146	67.3	
153	73.5	157.6	143.4	14.2	288	-0.042	47.1	156	109.0	4.678	1.0012	8.344	39.03	4261.4	255687	67.3	
154	72.6	157.5	143.2	14.3	288.9	-0.03	47.1	156	108.9	4.692	1.0012	8.344	39.15	4267.4	256045	67.5	
155	72.0	157.5	143.2	14.3	290.4	-0.026	47.1	156	108.8	4.678	1.0012	8.344	39.03	4254.0	255241	67.4	
156	71.3	157.3	143.1	14.2	291.2	-0.033	47.0	156	108.7	4.706	1.0012	8.344	39.26	4274.8	256491	67.2	
157	69.9	157.3	143.1	14.2	286.9	-0.042	47.0	156	108.7	4.706	1.0012	8.344	39.26	4274.9	256493	67.5	
158	69.0	157.2	142.9	14.2	289.5	-0.038	47.0	156	108.6	4.692	1.0012	8.344	39.15	4258.7	255522	67.4	
159	68.5	157.1	142.9	14.2	290.9	-0.031	47.0	156	108.5	4.706	1.0012	8.344	39.26	4265.3	255921	67.5	
160	67.3	157.0	142.8	14.2	291.5	-0.034	47.0	155	108.4	4.692	1.0012	8.344	39.15	4250.2	255014	67.5	

288		Appliance						Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H2O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
161	66.9	157.1	142.9	14.2	288.3	-0.044	47.0	156	108.5	4.692	1.0012	8.344	39.15	4254.0	255237	67.1	
162	66.1	156.9	142.7	14.2	290.1	-0.036	47.0	155	108.3	4.692	1.0012	8.344	39.15	4245.3	254720	67.1	
163	64.7	156.8	142.7	14.1	286.2	-0.032	47.0	155	108.3	4.678	1.0012	8.344	39.03	4233.3	253996	67.3	
164	64.2	156.8	142.9	13.9	289.4	-0.045	47.0	155	108.2	4.678	1.0012	8.344	39.03	4230.6	253836	67.2	
165	63.3	156.7	142.5	14.2	289.9	-0.033	47.0	155	108.1	4.706	1.0012	8.344	39.26	4250.0	254999	67.4	
166	62.7	156.7	142.5	14.2	288.3	-0.034	47.0	155	108.2	4.692	1.0012	8.344	39.15	4240.5	254431	67.4	
167	61.9	156.6	142.4	14.2	289.6	-0.037	47.0	155	108.0	4.706	1.0012	8.344	39.26	4244.8	254690	67.1	
168	60.9	156.5	142.4	14.1	286	-0.044	47.0	155	108.0	4.692	1.0012	8.344	39.15	4233.3	253997	67.2	
169	60.1	156.2	142.6	13.6	282.6	-0.024	47.0	155	107.8	4.637	1.0012	8.344	38.69	4174.6	250476	67.3	
170	59.3	156.3	142.2	14.2	287.8	-0.026	47.0	155	107.8	4.678	1.0012	8.344	39.03	4212.0	252722	67.3	
171	58.5	156.3	142.1	14.1	287	-0.048	47.0	155	107.7	4.706	1.0012	8.344	39.26	4234.7	254080	67.3	
172	58.0	156.1	142.0	14.1	284.4	-0.028	47.0	155	107.7	4.706	1.0012	8.344	39.26	4232.2	253933	67.3	
173	57.0	156.1	142.1	14.0	283.4	-0.035	47.0	155	107.7	4.692	1.0012	8.344	39.15	4220.7	253243	67.2	
174	56.1	156.1	142.1	14.0	286	-0.026	47.0	155	107.6	4.664	1.0012	8.344	38.92	4191.8	251507	67.2	
175	62.0	156.0	142.0	14.0	275.7	-0.027	47.0	154	107.5	4.664	1.0012	8.344	38.92	4189.2	251351	66.7	
176	90.2	156.8	142.7	14.1	282.4	-0.021	47.1	155	108.1	4.651	1.0012	8.344	38.8	4199.9	251992	66.7	
177	88.7	156.3	142.4	14.0	279.8	-0.027	47.0	155	107.9	4.678	1.0012	8.344	39.03	4215.5	252927	67.1	
178	88.4	156.0	142.0	14.0	280.6	-0.037	47.0	155	107.5	4.664	1.0012	8.344	38.92	4188.7	251321	66.8	
179	87.4	155.9	142.0	13.9	287.4	-0.03	47.0	154	107.4	4.664	1.0012	8.344	38.92	4186.9	251216	66.8	
180	86.2	156.0	142.0	14.0	291.5	-0.022	47.0	154	107.5	4.664	1.0012	8.344	38.92	4188.6	251315	67.1	
181	85.6	156.0	142.6	13.5	288.8	-0.047	47.0	155	107.7	4.582	1.0012	8.344	38.23	4122.6	247355	67	
182	84.9	156.0	142.3	13.8	287	-0.043	47.0	155	107.6	4.499	1.0012	8.344	37.54	4044.5	242669	67	
183	84.0	156.0	142.0	14.0	285.5	-0.027	47.0	154	107.4	4.678	1.0012	8.344	39.03	4199.3	251956	66.9	
184	83.4	155.8	141.8	14.0	285.1	-0.035	47.0	154	107.3	4.664	1.0012	8.344	38.92	4181.7	250903	67	
185	82.8	156.0	142.0	14.0	286.1	-0.039	46.9	154	107.6	4.678	1.0012	8.344	39.03	4203.4	252206	66.9	
186	81.8	156.2	142.1	14.1	288.6	-0.038	46.9	155	107.6	4.664	1.0012	8.344	38.92	4194.5	251671	66.8	
187	81.1	156.1	142.0	14.0	290.7	-0.057	46.9	155	107.6	4.678	1.0012	8.344	39.03	4204.2	252254	66.4	
188	80.6	156.1	142.1	14.0	292.7	-0.036	47.0	155	107.6	4.678	1.0012	8.344	39.03	4207.2	252431	66.9	
189	79.7	156.1	142.2	14.0	293.6	-0.031	47.0	155	107.7	4.664	1.0012	8.344	38.92	4197.1	251827	66.7	
190	78.6	156.1	142.1	14.0	294.9	-0.038	46.9	155	107.6	4.678	1.0012	8.344	39.03	4206.4	252383	66.6	
191	78.2	156.1	142.1	14.0	296.1	-0.041	46.9	155	107.7	4.664	1.0012	8.344	38.92	4195.3	251720	66.5	
192	77.4	156.0	142.1	14.0	297	-0.041	46.9	155	107.6	4.678	1.0012	8.344	39.03	4206.4	252382	66.5	
193	76.6	156.2	142.9	13.3	294.6	-0.038	47.0	155	107.9	4.582	1.0012	8.344	38.23	4131.7	247902	66.5	
194	75.8	156.1	142.2	13.9	293.2	-0.034	47.0	155	107.7	4.568	1.0012	8.344	38.11	4109.8	246589	66.3	
195	75.2	156.2	142.1	14.1	290.8	-0.038	47.0	155	107.7	4.664	1.0012	8.344	38.92	4195.0	251702	65.9	
196	74.2	156.1	142.1	14.0	291.7	-0.043	46.9	155	107.7	4.692	1.0012	8.344	39.15	4221.3	253278	66.4	
197	73.5	156.1	142.1	14.1	295.9	-0.039	46.9	155	107.7	4.664	1.0012	8.344	38.92	4196.8	251808	66.3	
198	72.6	156.1	142.0	14.0	293	-0.029	46.9	155	107.7	4.678	1.0012	8.344	39.03	4209.0	252537	66.3	
199	72.4	156.0	141.9	14.0	292.5	-0.036	46.9	154	107.5	4.678	1.0012	8.344	39.03	4202.8	252170	66.3	
200	71.6	156.0	142.0	14.0	292	-0.037	46.9	154	107.6	4.678	1.0012	8.344	39.03	4204.8	252291	66.3	
201	71.0	155.9	141.9	14.0	287.8	-0.038	46.9	154	107.4	4.678	1.0012	8.344	39.03	4198.1	251887	66	
202	69.9	155.9	141.9	14.0	288.2	-0.039	46.9	154	107.4	4.678	1.0012	8.344	39.03	4197.2	251833	66.1	
203	69.6	155.8	141.8	14.0	289.4	-0.04	46.9	154	107.3	4.664	1.0012	8.344	38.92	4181.1	250866	66	
204	68.7	155.8	141.8	14.0	290	-0.037	46.9	154	107.4	4.678	1.0012	8.344	39.03	4195.6	251734	66.1	
205	68.6	155.7	141.7	14.0	288.7	-0.034	46.9	154	107.2	4.664	1.0012	8.344	38.92	4179.1	250748	65.9	
206	67.3	155.6	141.7	14.0	288.6	-0.037	46.9	154	107.2	4.664	1.0012	8.344	38.92	4177.3	250638	66.3	
207	67.3	155.6	141.7	13.9	294	-0.034	46.9	154	107.2	4.678	1.0012	8.344	39.03	4188.6	251315	66	
208	66.3	155.7	141.6	14.0	295.8	-0.037	46.9	154	107.2	4.664	1.0012	8.344	38.92	4177.2	250633	66	
209	66.0	155.8	141.7	14.1	280.8	-0.029	46.9	154	107.3	4.664	1.0012	8.344	38.92	4183.0	250980	65.8	
210	63.6	156.7	142.5	14.2	286.7	-0.041	47.0	155	108.0	4.678	1.0012	8.344	39.03	4220.9	253256	66	
211	62.7	156.2	142.2	14.0	279.1	-0.043	46.9	155	107.8	4.651	1.0012	8.344	38.8	4188.1	251287	66.2	
212	62.0	155.8	141.9	13.9	284.2	-0.032	46.9	154	107.4	4.664	1.0012	8.344	38.92	4185.1	251107	66	
213	61.5	156.0	141.9	14.0	284.8	-0.045	46.9	154	107.5	4.678	1.0012	8.344	39.03	4201.9	252114	65.6	
214	60.3	156.1	142.0	14.1	283.8	-0.036	46.9	154	107.5	4.664	1.0012	8.344	38.92	4190.7	251440	65.9	
215	59.8	156.2	142.1	14.0	285.4	-0.037	46.9	155	107.7	4.678	1.0012	8.344	39.03	4207.3	252439	66.1	
216	59.2	156.3	142.2	14.1	292.7	-0.033	46.9	155	107.8	4.664	1.0012	8.344	38.92	4199.4	251966	65.9	
217	58.1	156.2	148.2	8.0	295.1	-0.047	47.0	156	108.9	3.008	1.0012	8.344	25.1	2735.9	164153	65.7	
218	57.3	156.6	150.5	6.1	296.8	-0.037	47.2	156	109.0	2.498	1.0012	8.344	20.84	2275.3	136518	65.9	
219	56.4	157.1	151.5	5.6	297.6	-0.041	47.5	157	109.4	1.987	1.0012	8.343	16.58	1815.7	108941	65.8	

288		Appliance						Load									
Elapsed Time (Min)	Fuel Remainin g (lb.)	T1 Supply Temp °F	T2 Return Temp °F	ΔT °F	Stack Temp °F	Stack Draft (in H ₂ O)	T3 IN °F	OUT °F	ΔTi °F	Vfi Flow GPM	Cpi	σi, lb/min	Mi Flow lb/min	Heat Out Btu/min	Heat output rate Btu/hr	Room Temp °F	
220	55.8	158.0	153.4	4.6	298.2	-0.042	47.6	158	110.0	1.780	1.0012	8.343	14.85	1635.9	98155	66	
221	55.3	158.9	158.1	0.8	295.1	-0.039	47.9	158	110.6	0.442	1.0012	8.343	3.684	408.0	24477.6	65.8	
222	54.1	159.9	159.1	0.8	295.6	-0.02	48.1	159	111.3	0.442	1.0012	8.343	3.684	410.5	24628.3	65.9	
223	54.0	161.4	160.3	1.1	289.1	-0.037	48.4	161	112.4	0.524	1.0012	8.343	4.375	492.2	29531.3	65.8	
224	53.7	162.5	161.4	1.1	260	-0.031	48.7	162	113.4	0.552	1.0012	8.342	4.605	522.7	31362.3	65.8	
225	53.5	163.0	161.9	1.1	241.3	-0.028	48.9	163	113.7	0.538	1.0012	8.342	4.49	510.9	30653.8	65.8	
226	53.7	163.4	162.3	1.1	230.5	-0.028	49.2	163	113.9	0.552	1.0012	8.342	4.605	525.3	31516.3	66.1	
227	52.7	163.7	162.6	1.1	222.4	-0.025	49.4	163	114.1	0.538	1.0012	8.342	4.49	512.8	30767.4	65.8	
228	53.3	164.0	162.8	1.1	219	-0.027	49.5	164	114.2	0.552	1.0012	8.342	4.605	526.4	31583.4	65.7	
229	53.4	164.2	163.0	1.2	215	-0.027	49.7	164	114.2	0.593	1.0012	8.341	4.95	566.1	33966.9	65.8	
230	52.6	164.4	163.1	1.2	210.7	-0.028	49.9	164	114.2	0.580	1.0012	8.341	4.835	553.0	33181.3	65.8	
231	53.4	164.5	163.2	1.2	207.3	-0.026	50.0	164	114.3	0.607	1.0012	8.341	5.065	579.6	34774.6	65.8	
232	53.2	164.7	163.4	1.2	204	-0.025	50.2	164	114.3	0.607	1.0012	8.341	5.065	579.5	34769.4	65.4	
233	53.4	164.7	163.5	1.2	205.1	-0.024	50.3	165	114.3	0.593	1.0012	8.341	4.95	566.3	33980.6	65.5	
234	52.4	164.9	163.6	1.2	204.6	-0.022	50.4	165	114.3	0.593	1.0012	8.341	4.949	566.2	33972.3	65.5	
235	53.2	164.9	163.7	1.2	202.8	-0.022	50.5	165	114.3	0.593	1.0012	8.341	4.949	566.2	33971.1	65.6	
236	53.1	164.9	163.7	1.2	200.4	-0.023	50.6	165	114.1	0.607	1.0012	8.341	5.064	578.8	34727.6	65.4	
237	52.6	165.0	163.8	1.2	197.8	-0.023	50.7	165	114.1	0.593	1.0012	8.341	4.949	565.5	33928.2	65.5	
238	53.4	165.1	163.9	1.2	195	-0.022	50.8	165	114.1	0.593	1.0012	8.340	4.949	565.6	33933.2	64.9	
239	52.9	165.1	163.9	1.2	192.3	-0.021	50.9	165	114.0	0.580	1.0012	8.340	4.834	551.8	33108.8	65.3	
240	52.7	165.1	163.9	1.2	189.4	-0.023	51.0	165	113.9	0.580	1.0012	8.340	4.834	551.2	33069.2	65.3	
241	53.4	165.1	163.9	1.2	186.8	-0.019	51.1	165	113.9	0.580	1.0012	8.340	4.834	551.0	33062.6	65.3	
242	52.8	165.1	163.9	1.2	184.1	-0.02	51.1	165	113.8	0.593	1.0012	8.340	4.949	563.9	33831.3	65.1	
243	53.3	165.1	163.9	1.2	181.5	-0.025	51.2	165	113.7	0.593	1.0012	8.340	4.949	563.2	33793.6	65.3	
244	53.4	165.1	163.9	1.2	178.7	-0.018	51.3	165	113.7	0.593	1.0012	8.340	4.949	563.2	33789.4	64.9	
245	53.3	165.1	163.9	1.2	176.1	-0.019	51.4	165	113.5	0.593	1.0012	8.340	4.949	562.5	33749.8	65.3	
246	52.4	165.2	164.0	1.2	173.9	-0.018	51.5	165	113.5	0.593	1.0012	8.340	4.949	562.5	33751.7	65.1	
247	53.5	165.2	164.0	1.2	171.3	-0.017	51.6	165	113.4	0.593	1.0012	8.340	4.949	561.9	33715.8	65.2	
248	53.0	165.1	164.0	1.2	169	-0.023	51.6	165	113.3	0.593	1.0012	8.340	4.949	561.5	33691.8	65	
249	52.7	165.1	163.9	1.2	166.6	-0.016	51.7	165	113.3	0.593	1.0012	8.340	4.949	561.1	33668.6	64.8	
250	53.1	165.0	163.9	1.2	164.5	-0.019	51.8	165	113.1	0.593	1.0012	8.340	4.949	560.5	33627.3	64.6	
251	53.4	165.0	163.8	1.2	162.1	-0.014	51.9	165	113.0	0.593	1.0012	8.340	4.949	559.7	33583.6	64.5	
252	52.8	164.9	163.7	1.2	160.2	-0.017	52.0	165	112.8	0.593	1.0012	8.339	4.949	558.7	33520.9	65	
253	52.6	165.0	163.8	1.2	158.1	-0.018	52.0	165	112.8	0.593	1.0012	8.339	4.949	558.7	33519.1	64.8	
254	52.9	165.0	163.8	1.2	156.3	-0.017	52.1	165	112.7	0.593	1.0012	8.339	4.949	558.1	33488.7	64.7	
255	52.6	164.9	163.7	1.2	154.6	-0.015	52.2	165	112.5	0.593	1.0012	8.339	4.948	557.4	33445.3	65.2	
256	52.8	164.8	163.6	1.2	152.7	-0.022	52.3	165	112.4	0.593	1.0012	8.339	4.948	556.8	33407.8	65	
257	53.6	164.8	163.7	1.1	150.9	-0.015	52.3	165	112.3	0.552	1.0012	8.339	4.603	517.4	31046.4	65.2	
258	52.7	164.7	163.5	1.2	149.5	-0.017	52.4	165	112.2	0.607	1.0012	8.339	5.063	568.6	34115.7	64.8	
259	53.3	164.6	163.5	1.2	147.4	-0.012	52.5	165	112.0	0.593	1.0012	8.339	4.948	555.1	33305.4	64.8	
260	53.4	164.6	163.5	1.2	146.3	-0.015	52.5	164	111.9	0.593	1.0012	8.339	4.948	554.6	33273.4	64.9	
261	53.1	164.5	163.4	1.1	144.6	-0.014	52.6	164	111.8	0.580	1.0012	8.339	4.833	540.9	32455.7	65.3	
262	53.5	164.5	163.4	1.2	142.9	-0.016	52.7	164	111.7	0.593	1.0012	8.339	4.948	553.2	33194.4	64.8	
263	53.5	164.5	163.3	1.2	141.2	-0.017	52.7	164	111.6	0.593	1.0012	8.339	4.948	553.0	33179	64.8	
264	52.9	164.4	163.3	1.1	140.5	-0.016	52.8	164	111.5	0.593	1.0012	8.339	4.948	552.4	33146.4	64.8	
265	53.2	164.2	163.1	1.2	139.1	-0.013	52.8	164	111.3	0.593	1.0012	8.339	4.948	551.5	33092.5	64.8	
266	53.1	164.2	163.0	1.2	137.4	-0.012	52.8	164	111.2	0.593	1.0012	8.339	4.948	551.1	33067.6	64.8	
267	53.5	164.2	163.0	1.2	135.7	-0.013	52.8	164	111.1	0.593	1.0012	8.339	4.948	550.7	33039.2	65.1	
268	53.4	164.1	163.0	1.1	134.9	-0.014	52.9	164	111.1	0.593	1.0012	8.339	4.948	550.4	33021.2	65	
269	52.8	163.9	162.8	1.1	133.6	-0.013	52.9	164	111.0	0.580	1.0012	8.339	4.833	537.3	32238.9	64.9	
270	53.0	163.9	162.8	1.1	132.2	-0.009	52.9	164	110.8	0.593	1.0012	8.339	4.948	549.2	32949.7	64.8	
271	53.0	163.8	162.7	1.1	131.2	-0.019	52.9	164	110.8	0.593	1.0012	8.339	4.948	548.7	32923.3	64.9	
272	53.7	163.8	162.6	1.1	130.3	-0.014	52.9	164	110.7	0.593	1.0012	8.339	4.948	548.3	32895.9	64.7	
273	53.6	163.7	162.6	1.2	128.9	-0.015	52.9	164	110.6	0.593	1.0012	8.339	4.948	548.1	32887.4	64.8	
274	52.9	163.6	162.5	1.1	127.8	-0.017	52.9	163	110.6	0.580	1.0012	8.339	4.833	535.3	32115.7	64.6	
275	53.8	163.5	162.4	1.1	127	-0.01	52.9	163	110.5	0.593	1.0012	8.339	4.948	547.6	32855	64.9	
276	53.1	163.4	162.3	1.1	125.9	-0.011	52.9	163	110.4	0.593	1.0012	8.339	4.948	546.9	32811.1	64.9	
277	53.3	163.4	162.2	1.1	124.9	-0.013	52.9	163	110.3	0.593	1.0012	8.339	4.948	546.4	32781	64.6	
278	53.0	163.3	162.2	1.1	124.1	-0.012	52.9	163	110.2	0.593	1.0012	8.339	4.948	546.1	32764.8	64.7	

[illegible]

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
Tot / Avg		-264.7	394.868	0.161	1.23	94.6	2.03	66.34	49.29	65.72	100.0	70.5	0.116	0.341	22.56
Minimum	0.0	-2.1	0.000	0.134	0.00	69	0.11	65	40	62	86.9	66	0.106	0.326	21.64
Max	263.8	1.1	394.868	0.165	1.26	98	2.20	71	56	69	106.0	91	0.127	0.356	23.46
0	264.7		0.000		0.00	70	0.11	65.8	47.8	65		78	0.115	0.339	23.33
1	263.8	-0.9	0.134	0.134	1.18	70	1.90	66.2	47.4	64	86.9	75	0.115	0.339	22.57
2	262.8	-1.0	0.289	0.155	1.16	70	2.12	66.5	47.7	65	102.2	78	0.115	0.339	22.57
3	261.8	-1.0	0.443	0.154	1.23	70	2.07	66.8	47.8	66	102.0	82	0.115	0.339	22.64
4	261.5	-0.3	0.603	0.160	1.24	70	2.20	67	47.9	65	106.0	81	0.115	0.339	22.68
5	259.7	-1.8	0.762	0.159	1.22	69	2.11	67.1	47.8	64	105.3	81	0.115	0.339	22.67
6	259.1	-0.6	0.918	0.156	1.19	70	2.10	67.2	47.7	65	103.1	82	0.117	0.342	22.77
7	257.8	-1.4	1.076	0.158	1.21	70	2.01	67.3	47.6	65	104.2	82	0.115	0.339	22.78
8	257.4	-0.4	1.232	0.156	1.21	70	2.08	67.4	47.4	65	103.3	82	0.113	0.336	22.58
9	256.6	-0.8	1.386	0.154	1.22	70	2.14	67.5	47.3	65	101.7	82	0.122	0.349	22.93
10	255.5	-1.0	1.542	0.156	1.21	70	2.16	67.7	47.2	65	101.6	84	0.120	0.346	23.29
11	254.7	-0.8	1.698	0.156	1.20	71	2.09	67.9	47.1	65	101.9	83	0.112	0.335	22.82
12	254.5	-0.3	1.854	0.156	1.19	71	2.08	68	47	66	103.6	83	0.113	0.336	22.46
13	254.1	-0.4	2.012	0.158	1.24	71	2.13	68.2	46.9	66	104.9	83	0.119	0.345	22.81
14	252.8	-1.3	2.171	0.159	1.23	71	2.10	68.3	46.7	66	104.7	83	0.114	0.338	22.85
15	251.7	-1.1	2.328	0.157	1.21	71	2.10	68.3	46.5	66	103.9	84	0.113	0.336	22.57
16	251.7	0.0	2.485	0.157	1.23	71	2.12	68.4	46.4	66	104.4	80	0.114	0.338	22.54
17	251.2	-0.5	2.645	0.160	1.25	72	2.09	68.1	46.3	67	105.2	73	0.116	0.341	22.57
18	250.9	-0.3	2.803	0.158	1.23	72	2.10	67.9	46	67	103.0	72	0.115	0.339	22.53
19	250.6	-0.2	2.958	0.155	1.24	73	2.09	67.9	45.8	67	101.0	71	0.115	0.339	22.46
20	250.9	0.2	3.117	0.159	1.23	73	2.09	67.8	45.6	67	104.0	71	0.112	0.335	22.30
21	251.3	0.4	3.275	0.158	1.24	73	2.09	67.7	45.4	66	103.8	69	0.113	0.336	22.19
22	251.4	0.1	3.436	0.161	1.24	73	2.09	67.7	45.1	67	106.0	69	0.111	0.333	22.13
23	251.4	0.1	3.595	0.159	1.24	74	2.08	67.6	45	67	104.1	69	0.119	0.345	22.42
24	251.1	-0.3	3.753	0.158	1.22	74	2.08	67.6	44.9	67	102.4	69	0.114	0.338	22.56
25	250.5	-0.6	3.911	0.158	1.21	74	2.07	67.5	44.6	67	102.2	69	0.117	0.342	22.46
26	251.0	0.5	4.071	0.160	1.23	75	2.07	67.5	44.4	67	103.8	68	0.112	0.335	22.35
27	251.4	0.4	4.228	0.157	1.23	75	2.10	67.4	44.3	67	102.3	68	0.114	0.338	22.20
28	251.1	-0.2	4.385	0.157	1.23	75	2.06	67.4	44.2	66	102.6	68	0.113	0.336	22.25
29	250.6	-0.5	4.543	0.158	1.24	76	2.06	67.4	44	67	103.0	68	0.114	0.338	22.25
30	250.9	0.3	4.701	0.158	1.23	75	2.10	67.3	43.9	67	102.6	68	0.116	0.341	22.40
31	250.8	-0.1	4.862	0.161	1.23	77	2.06	67.3	43.7	67	104.0	68	0.115	0.339	22.44
32	251.1	0.3	5.022	0.160	1.23	76	2.08	67.2	43.6	67	103.5	68	0.113	0.336	22.30
33	251.1	0.1	5.179	0.157	1.23	77	2.07	67.2	43.4	66	101.2	68	0.121	0.348	22.59
34	250.7	-0.5	5.338	0.159	1.24	77	2.06	67.1	43.3	66	102.0	68	0.111	0.333	22.49
35	250.7	0.1	5.497	0.159	1.20	77	2.09	67.1	43.1	66	102.8	68	0.116	0.341	22.25
36	251.1	0.4	5.655	0.158	1.23	77	2.04	66.9	43	66	102.1	68	0.116	0.341	22.49
37	251.1	0.0	5.814	0.159	1.23	78	2.04	67	42.9	67	102.2	68	0.114	0.338	22.39
38	250.6	-0.5	5.970	0.156	1.22	78	2.09	67.1	42.8	66	101.0	73	0.114	0.338	22.35
39	250.5	-0.1	6.127	0.157	1.23	78	2.10	67.1	42.8	66	101.9	70	0.114	0.338	22.36
40	250.4	-0.1	6.287	0.160	1.23	79	2.04	67.1	42.6	66	102.5	69	0.122	0.349	22.71

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
41	251.0	0.6	6.449	0.162	1.23	80	2.03	67	42.5	66	103.1	69	0.112	0.335	22.61
42	250.9	-0.1	6.606	0.157	1.21	79	2.03	66.9	42.4	66	101.2	69	0.112	0.335	22.12
43	251.3	0.3	6.765	0.159	1.23	79	2.09	66.8	42.2	66	103.1	69	0.116	0.341	22.31
44	251.3	0.1	6.925	0.160	1.23	80	2.02	66.8	42.2	66	102.8	70	0.117	0.342	22.57
45	250.5	-0.8	7.082	0.157	1.22	80	2.05	66.8	42	66	100.1	70	0.118	0.344	22.68
46	251.2	0.6	7.241	0.159	1.23	80	2.03	67	41.9	67	101.7	73	0.114	0.338	22.57
47	250.9	-0.3	7.401	0.160	1.23	81	2.03	67.1	41.9	66	103.0	71	0.113	0.336	22.33
48	250.9	0.0	7.556	0.155	1.24	81	2.08	67	41.8	66	99.9	70	0.115	0.339	22.34
49	251.3	0.4	7.716	0.160	1.22	82	2.08	67	41.7	67	103.2	70	0.111	0.333	22.24
50	250.7	-0.6	7.877	0.161	1.23	81	2.01	67	41.6	67	104.2	70	0.114	0.338	22.18
51	250.8	0.1	8.036	0.159	1.22	82	2.06	67	41.6	67	102.4	69	0.116	0.341	22.42
52	250.6	-0.1	8.194	0.158	1.23	82	2.03	66.9	41.5	67	101.1	69	0.114	0.338	22.42
53	251.3	0.7	8.354	0.160	1.24	82	2.02	66.9	41.4	67	102.4	69	0.116	0.341	22.41
54	250.8	-0.5	8.513	0.159	1.23	83	2.09	66.9	41.3	67	101.9	69	0.112	0.335	22.31
55	250.8	0.0	8.671	0.158	1.23	83	2.09	66.9	41.2	67	101.3	69	0.117	0.342	22.36
56	250.6	-0.2	8.832	0.161	1.23	84	2.01	66.9	41.2	67	103.0	69	0.112	0.335	22.36
57	251.0	0.4	8.987	0.155	1.23	84	2.09	67	41.2	67	99.4	69	0.114	0.338	22.21
58	250.9	-0.1	9.148	0.161	1.22	84	2.09	67	41.2	67	103.3	69	0.114	0.338	22.31
59	251.0	0.0	9.309	0.161	1.23	84	2.02	67	41.1	67	103.1	69	0.113	0.336	22.26
60	251.0	0.1	9.468	0.159	1.22	84	2.04	66.9	41	67	102.1	68	0.113	0.336	22.21
61	251.0	0.0	9.627	0.159	1.22	84	2.01	66.9	40.9	67	101.3	68	0.121	0.348	22.59
62	250.6	-0.4	9.787	0.160	1.25	85	2.09	66.9	41	67	101.0	68	0.112	0.335	22.54
63	251.3	0.7	9.947	0.160	1.23	85	2.08	66.9	40.9	67	102.2	68	0.111	0.333	22.05
64	250.8	-0.5	10.105	0.158	1.22	85	2.01	66.9	40.9	67	102.1	68	0.111	0.333	22.00
65	251.0	0.1	10.264	0.159	1.24	86	1.99	66.9	40.8	67	101.9	68	0.119	0.345	22.39
66	251.5	0.5	10.422	0.158	1.23	85	2.07	66.8	40.8	67	100.5	68	0.110	0.332	22.34
67	250.9	-0.6	10.584	0.162	1.21	85	2.03	66.8	40.7	67	103.2	68	0.119	0.345	22.34
68	250.7	-0.2	10.742	0.158	1.24	86	2.09	66.8	40.7	67	100.1	68	0.114	0.338	22.54
69	251.0	0.4	10.903	0.161	1.24	86	1.99	66.8	40.7	67	101.8	68	0.116	0.341	22.39
70	251.3	0.3	11.062	0.159	1.22	87	2.08	66.9	40.7	67	100.4	68	0.118	0.344	22.58
71	251.5	0.1	11.221	0.159	1.22	86	2.10	66.8	40.6	67	100.3	68	0.113	0.336	22.44
72	251.2	-0.3	11.381	0.160	1.23	87	1.98	66.8	40.6	66	101.4	68	0.116	0.341	22.34
73	251.0	-0.1	11.541	0.160	1.23	87	2.00	66.8	40.6	67	100.8	68	0.120	0.346	22.68
74	250.9	-0.1	11.700	0.159	1.23	87	2.01	66.7	40.6	66	99.6	68	0.114	0.338	22.58
75	250.9	-0.1	11.857	0.157	1.24	87	2.09	66.7	40.6	67	98.5	68	0.120	0.346	22.58
76	250.8	0.0	12.020	0.163	1.24	87	1.99	66.7	40.6	67	102.3	68	0.114	0.338	22.58
77	250.9	0.0	12.179	0.159	1.23	87	2.10	66.6	40.5	66	100.3	68	0.115	0.339	22.33
78	250.8	-0.1	12.338	0.159	1.24	88	2.00	66.6	40.4	66	100.8	68	0.114	0.338	22.33
79	250.8	0.0	12.499	0.161	1.23	88	2.10	66.6	40.5	66	101.5	68	0.119	0.345	22.53
80	250.8	0.0	12.659	0.160	1.24	88	1.97	66.6	40.5	66	100.0	67	0.118	0.344	22.72
81	250.9	0.1	12.818	0.159	1.23	88	2.09	66.5	40.4	66	99.4	67	0.115	0.339	22.53
82	251.5	0.5	12.977	0.159	1.23	88	2.09	66.6	40.4	66	100.6	68	0.111	0.333	22.19
83	251.2	-0.3	13.138	0.161	1.23	88	2.06	66.5	40.4	66	102.4	67	0.117	0.342	22.28
84	250.8	-0.3	13.298	0.160	1.22	89	2.08	66.5	40.4	66	101.0	67	0.115	0.339	22.48

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
85	251.6	0.8	13.457	0.159	1.23	89	1.97	66.5	40.3	66	100.2	67	0.113	0.336	22.28
86	250.7	-0.9	13.618	0.161	1.21	89	1.99	66.6	40.4	66	101.8	71	0.119	0.345	22.51
87	251.3	0.6	13.778	0.160	1.23	90	2.03	66.4	40.4	66	100.2	68	0.117	0.342	22.71
88	250.8	-0.5	13.937	0.159	1.24	89	2.09	66.4	40.4	66	99.5	67	0.113	0.336	22.38
89	250.9	0.2	14.096	0.159	1.24	90	1.96	66.4	40.3	66	100.3	67	0.116	0.341	22.33
90	251.2	0.3	14.258	0.162	1.23	90	1.97	66.3	40.3	66	101.9	67	0.116	0.341	22.47
91	250.7	-0.5	14.418	0.160	1.23	90	2.03	66.3	40.3	66	100.3	67	0.116	0.341	22.47
92	250.7	0.0	14.577	0.159	1.23	90	1.97	66.3	40.3	66	99.8	67	0.115	0.339	22.42
93	250.8	0.1	14.737	0.160	1.23	90	1.97	66.2	40.3	66	100.8	67	0.114	0.338	22.32
94	251.0	0.2	14.898	0.161	1.24	90	1.99	66.2	40.3	66	101.8	67	0.113	0.336	22.23
95	251.1	0.0	15.058	0.160	1.22	90	2.08	66.3	40.3	66	101.0	67	0.117	0.342	22.37
96	250.9	-0.2	15.218	0.160	1.23	90	1.96	66.2	40.3	66	100.4	67	0.116	0.341	22.52
97	250.6	-0.2	15.379	0.161	1.24	91	2.10	66.2	40.3	66	100.8	67	0.115	0.339	22.42
98	250.9	0.3	15.539	0.160	1.23	91	2.10	66.1	40.2	66	100.6	67	0.114	0.338	22.32
99	251.1	0.2	15.699	0.160	1.24	91	2.08	66.2	40.2	66	100.3	67	0.119	0.345	22.52
100	250.8	-0.4	15.858	0.159	1.24	91	1.96	66.1	40.2	66	99.8	67	0.109	0.330	22.27
101	251.1	0.4	16.020	0.162	1.24	91	1.99	66.1	40.2	66	102.5	67	0.116	0.341	22.12
102	251.1	0.0	16.180	0.160	1.23	91	2.05	66	40.2	66	101.0	67	0.115	0.339	22.42
103	250.8	-0.4	16.340	0.160	1.23	91	2.09	66	40.2	66	100.0	67	0.118	0.344	22.51
104	250.6	-0.1	16.499	0.159	1.23	92	1.96	66	40.2	66	99.1	67	0.115	0.339	22.51
105	250.7	0.0	16.661	0.162	1.24	92	1.98	66	40.2	66	101.1	67	0.117	0.342	22.47
106	250.8	0.1	16.821	0.160	1.24	92	2.07	66	40.2	65	100.0	67	0.115	0.339	22.47
107	250.8	0.0	16.981	0.160	1.23	91	2.06	65.9	40.2	65	100.7	67	0.111	0.333	22.17
108	251.3	0.5	17.141	0.160	1.23	91	2.10	65.9	40.2	65	101.5	67	0.114	0.338	22.12
109	250.8	-0.5	17.303	0.162	1.22	91	2.02	65.9	40.2	65	102.3	67	0.116	0.341	22.37
110	250.8	0.0	17.463	0.160	1.24	91	2.11	65.8	40.2	65	100.1	67	0.117	0.342	22.51
111	251.2	0.4	17.623	0.160	1.23	91	1.96	65.8	40.1	65	99.6	67	0.118	0.344	22.61
112	250.9	-0.3	17.783	0.160	1.23	92	2.08	65.8	40.2	65	98.8	67	0.122	0.349	22.85
113	250.8	-0.1	17.945	0.162	1.24	92	2.10	65.8	40.2	65	99.9	67	0.114	0.338	22.65
114	251.3	0.5	18.105	0.160	1.24	92	2.10	65.8	40.2	65	99.9	67	0.114	0.338	22.27
115	251.2	-0.1	18.265	0.160	1.22	92	2.02	65.8	40.2	65	100.8	67	0.113	0.336	22.22
116	250.8	-0.4	18.425	0.160	1.24	93	2.01	65.8	40.2	65	100.7	67	0.116	0.341	22.32
117	250.5	-0.3	18.587	0.162	1.24	92	1.96	65.9	40.2	66	101.9	73	0.115	0.339	22.48
118	250.5	0.1	18.747	0.160	1.24	92	1.96	66.1	40.2	65	100.5	70	0.117	0.342	22.56
119	250.3	-0.2	18.907	0.160	1.23	92	1.97	65.9	40.2	65	99.8	68	0.116	0.341	22.55
120	250.3	0.0	19.067	0.160	1.23	92	2.00	65.9	40.2	66	99.8	68	0.117	0.342	22.54
121	250.3	0.0	19.229	0.162	1.23	93	2.03	65.9	40.2	66	101.4	67	0.112	0.335	22.34
122	250.4	0.1	19.389	0.160	1.23	92	2.01	65.8	40.1	65	100.4	68	0.118	0.344	22.38
123	250.4	0.0	19.549	0.160	1.25	92	1.97	65.8	40.1	65	99.8	68	0.118	0.344	22.68
124	250.8	0.4	19.710	0.161	1.24	93	1.98	65.9	40.1	65	99.9	68	0.117	0.342	22.64
125	251.0	0.2	19.871	0.161	1.23	92	1.95	65.9	40.1	66	99.9	69	0.119	0.345	22.70
126	250.4	-0.6	20.031	0.160	1.22	93	1.94	66	40.1	65	99.6	72	0.115	0.339	22.65
127	251.1	0.7	20.192	0.161	1.24	92	2.07	66.1	40.1	66	100.7	70	0.116	0.341	22.51
128	250.6	-0.5	20.352	0.160	1.23	93	1.99	66.1	40.1	66	99.9	69	0.118	0.344	22.63

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
129	250.5	-0.1	20.514	0.162	1.24	92	2.08	66.1	40.1	66	100.7	69	0.116	0.341	22.61
130	250.4	-0.1	20.674	0.160	1.25	93	1.96	66.1	40.1	66	99.6	69	0.117	0.342	22.55
131	250.8	0.4	20.834	0.160	1.23	93	2.05	66.1	40.1	66	100.0	68	0.113	0.336	22.40
132	250.6	-0.2	20.995	0.161	1.24	93	1.97	66.1	40.1	66	101.0	68	0.117	0.342	22.40
133	251.1	0.5	21.157	0.162	1.24	93	1.97	66.1	40.1	66	101.5	68	0.113	0.336	22.39
134	251.0	-0.2	21.317	0.160	1.25	93	2.00	66.1	40.2	66	100.7	68	0.113	0.336	22.20
135	250.5	-0.4	21.477	0.160	1.23	93	2.08	66.2	40.2	66	100.7	68	0.117	0.342	22.39
136	250.5	-0.1	21.638	0.161	1.24	93	2.07	66.2	40.1	67	100.6	68	0.115	0.339	22.49
137	250.3	-0.1	21.800	0.162	1.25	93	2.04	66.1	40.2	66	101.1	68	0.116	0.341	22.44
138	250.4	0.1	21.960	0.160	1.24	93	2.05	66.2	40.2	66	99.5	68	0.120	0.346	22.68
139	250.3	-0.1	22.121	0.161	1.25	94	1.99	66.2	40.2	66	99.4	67	0.117	0.342	22.72
140	250.4	0.1	22.281	0.160	1.23	94	1.97	66.2	40.2	66	99.2	68	0.114	0.338	22.43
141	250.7	0.3	22.443	0.162	1.22	93	2.06	66.2	40.2	66	101.2	67	0.116	0.341	22.38
142	251.2	0.5	22.604	0.161	1.23	94	2.03	66.2	40.3	66	100.6	67	0.115	0.339	22.43
143	251.2	0.0	22.764	0.160	1.23	93	2.07	66.2	40.2	66	100.1	67	0.114	0.338	22.33
144	250.5	-0.7	22.924	0.160	1.23	94	1.97	66.2	40.2	66	100.0	67	0.118	0.344	22.47
145	250.4	-0.1	23.086	0.162	1.25	93	1.96	66.1	40.2	66	101.0	67	0.113	0.336	22.42
146	250.6	0.3	23.247	0.161	1.23	93	2.05	66.1	40.2	66	100.5	67	0.118	0.344	22.42
147	250.6	-0.1	23.407	0.160	1.23	94	2.03	66.1	40.2	66	99.8	67	0.114	0.338	22.47
148	250.6	0.1	23.567	0.160	1.23	94	2.06	66.2	40.3	66	100.1	69	0.115	0.339	22.35
149	250.3	-0.3	23.729	0.162	1.24	94	1.97	66.1	40.3	66	101.0	67	0.119	0.345	22.58
150	250.1	-0.3	23.890	0.161	1.24	93	1.98	66.1	40.2	66	99.8	67	0.115	0.339	22.57
151	250.5	0.5	24.050	0.160	1.24	94	1.97	66.1	40.3	66	99.8	67	0.113	0.336	22.27
152	250.8	0.3	24.210	0.160	1.23	94	1.98	66.1	40.3	66	100.6	67	0.113	0.336	22.17
153	250.1	-0.7	24.372	0.162	1.23	93	2.07	66	40.3	66	102.4	67	0.111	0.333	22.07
154	250.4	0.3	24.533	0.161	1.23	94	2.07	65.9	40.2	65	101.5	67	0.117	0.342	22.27
155	250.9	0.5	24.694	0.161	1.22	94	2.02	65.8	40.2	65	100.5	67	0.116	0.341	22.51
156	250.5	-0.4	24.854	0.160	1.23	94	2.08	65.8	40.3	66	99.1	67	0.119	0.345	22.60
157	250.8	0.3	25.015	0.161	1.23	94	1.96	65.8	40.4	66	99.3	67	0.118	0.344	22.70
158	250.4	-0.4	25.177	0.162	1.23	94	2.07	65.8	40.4	65	99.8	67	0.118	0.344	22.65
159	250.0	-0.4	25.337	0.160	1.26	94	2.05	65.7	40.3	65	99.4	67	0.111	0.333	22.31
160	250.7	0.7	25.498	0.161	1.23	94	2.01	65.8	40.3	65	100.8	67	0.118	0.344	22.31
161	250.7	0.1	25.659	0.161	1.25	94	2.07	65.8	40.4	65	100.5	67	0.113	0.336	22.41
162	250.5	-0.2	25.821	0.162	1.24	94	1.97	65.7	40.4	65	101.0	66	0.117	0.342	22.36
163	250.7	0.2	25.981	0.160	1.24	94	1.97	65.7	40.4	65	99.6	66	0.116	0.341	22.50
164	250.9	0.1	26.142	0.161	1.24	95	2.05	65.7	40.3	65	100.1	68	0.116	0.341	22.47
165	250.0	-0.8	26.302	0.160	1.23	95	2.05	65.8	40.3	65	99.6	69	0.116	0.341	22.50
166	250.6	0.6	26.465	0.163	1.24	94	1.98	65.8	40.4	65	100.8	67	0.122	0.349	22.78
167	250.2	-0.4	26.626	0.161	1.24	94	1.98	65.7	40.4	65	98.9	67	0.116	0.341	22.76
168	250.6	0.4	26.786	0.160	1.23	94	1.98	65.7	40.4	65	98.9	68	0.117	0.342	22.52
169	250.3	-0.3	26.946	0.160	1.24	94	1.98	65.7	40.3	65	99.6	67	0.114	0.338	22.43
170	250.2	0.0	27.108	0.162	1.22	94	2.05	65.6	40.3	65	101.0	68	0.117	0.342	22.43
171	250.6	0.4	27.270	0.162	1.24	94	2.07	65.6	40.2	65	100.8	68	0.116	0.341	22.53
172	250.3	-0.3	27.430	0.160	1.24	94	2.07	65.6	40.2	65	100.0	68	0.111	0.333	22.24

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Start Time: 19:36

Test Length: 2460 min

Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg

Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel				
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs	
173	250.1	-0.3	27.591	0.161	1.24	94	2.08	65.6	40.2	65	101.6	68	0.114	0.338	22.15	
174	250.0	-0.1	27.752	0.161	1.24	94	1.98	65.7	40.3	65	102.1	72	0.111	0.333	22.19	
175	250.1	0.1	27.914	0.162	1.23	94	1.99	65.9	40.3	66	102.8	71	0.114	0.338	22.22	
176	250.0	-0.1	28.074	0.160	1.25	94	1.97	65.9	40.2	66	100.4	69	0.118	0.344	22.52	
177	250.5	0.5	28.235	0.161	1.23	94	1.97	65.8	40.2	66	100.2	69	0.114	0.338	22.50	
178	250.5	0.0	28.395	0.160	1.25	94	2.08	65.9	40.2	66	100.0	70	0.116	0.341	22.42	
179	249.7	-0.8	28.557	0.162	1.25	94	1.96	66	40.4	66	101.2	69	0.116	0.341	22.52	
180	250.2	0.5	28.718	0.161	1.22	95	1.98	65.9	40.4	66	100.0	68	0.118	0.344	22.60	
181	250.5	0.3	28.879	0.161	1.21	94	2.02	65.9	40.3	66	99.9	68	0.114	0.338	22.49	
182	250.4	-0.1	29.039	0.160	1.24	94	2.07	66	40.3	66	100.1	68	0.113	0.336	22.24	
183	250.3	-0.1	29.201	0.162	1.24	95	1.97	66	40.3	66	101.5	68	0.117	0.342	22.39	
184	250.1	-0.1	29.362	0.161	1.24	94	2.09	66	40.3	66	99.8	68	0.120	0.346	22.72	
185	249.7	-0.4	29.523	0.161	1.25	95	2.08	66	40.3	66	98.8	67	0.119	0.345	22.81	
186	249.6	-0.1	29.683	0.160	1.25	95	2.08	65.9	40.3	66	98.4	67	0.115	0.339	22.57	
187	249.8	0.1	29.845	0.162	1.24	95	1.96	66	40.3	66	100.7	67	0.114	0.338	22.33	
188	249.5	-0.3	30.006	0.161	1.23	94	2.01	66	40.4	66	100.2	67	0.120	0.346	22.57	
189	249.6	0.1	30.167	0.161	1.23	95	2.08	65.9	40.3	66	99.8	67	0.112	0.335	22.47	
190	249.5	-0.1	30.327	0.160	1.23	95	1.98	65.9	40.3	66	99.5	67	0.119	0.345	22.42	
191	249.7	0.1	30.488	0.161	1.23	95	1.97	65.9	40.4	66	99.5	67	0.119	0.345	22.75	
192	249.7	0.0	30.650	0.162	1.26	94	1.97	65.9	40.3	66	99.7	67	0.116	0.341	22.61	
193	249.7	0.0	30.811	0.161	1.23	94	1.98	66	40.3	66	100.0	71	0.116	0.341	22.50	
194	249.1	-0.7	30.971	0.160	1.23	95	2.06	66.2	40.4	66	100.4	74	0.114	0.338	22.49	
195	247.6	-1.5	31.131	0.160	1.25	95	1.97	66.5	40.5	66	101.4	79	0.112	0.335	22.37	
196	247.4	-0.1	31.293	0.162	1.22	95	2.02	66.8	40.5	66	103.2	81	0.115	0.339	22.49	
197	245.6	-1.8	31.453	0.160	1.22	95	1.99	66.9	40.6	66	101.3	79	0.116	0.341	22.69	
198	245.0	-0.6	31.613	0.160	1.22	95	1.97	67	40.6	66	100.9	80	0.114	0.338	22.64	
199	244.0	-1.0	31.773	0.160	1.23	94	1.99	67.2	40.7	66	101.2	80	0.116	0.341	22.65	
200	243.1	-0.9	31.934	0.161	1.22	95	2.08	67.3	40.8	66	100.8	81	0.123	0.351	23.09	
201	242.6	-0.5	32.093	0.159	1.25	95	2.06	67.4	40.9	65	98.5	81	0.117	0.342	23.15	
202	241.4	-1.1	32.252	0.159	1.22	95	2.00	67.5	41	66	98.9	82	0.118	0.344	22.92	
203	240.6	-0.8	32.414	0.162	1.24	95	2.00	67.7	41.1	66	101.2	82	0.119	0.345	23.02	
204	239.3	-1.3	32.574	0.160	1.23	95	2.02	67.8	41.3	65	100.0	82	0.116	0.341	22.93	
205	238.3	-0.9	32.733	0.159	1.21	94	1.99	67.8	41.4	65	100.1	82	0.114	0.338	22.69	
206	237.5	-0.8	32.892	0.159	1.22	95	2.09	67.9	41.6	65	100.5	82	0.117	0.342	22.74	
207	236.9	-0.6	33.054	0.162	1.25	95	1.99	68	41.7	66	101.8	81	0.118	0.344	22.93	
208	235.8	-1.2	33.214	0.160	1.23	95	2.06	68	41.9	65	100.3	81	0.115	0.339	22.82	
209	234.7	-1.0	33.373	0.159	1.22	95	2.03	68.1	41.9	66	100.1	81	0.116	0.341	22.72	
210	234.3	-0.4	33.533	0.160	1.22	95	2.05	68.3	42	65	101.0	86	0.118	0.344	22.92	
211	232.3	-2.1	33.694	0.161	1.21	94	2.09	68.5	42.1	65	100.9	84	0.120	0.346	23.14	
212	232.3	0.0	33.853	0.159	1.22	95	2.01	68.5	42.2	65	99.3	84	0.115	0.339	22.97	
213	231.1	-1.1	34.012	0.159	1.23	94	2.07	68.5	42.3	65	100.6	83	0.112	0.335	22.57	
214	229.8	-1.3	34.174	0.162	1.22	95	2.01	68.7	42.4	65	103.1	84	0.117	0.342	22.67	
215	229.8	-0.1	34.333	0.159	1.24	95	2.07	68.6	42.4	65	100.8	83	0.113	0.336	22.71	
216	228.4	-1.4	34.493	0.160	1.23	94	2.01	68.7	42.4	65	101.0	84	0.121	0.348	22.91	

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel				
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs	
217	227.5	-0.9	34.653	0.160	1.23	95	2.01	68.8	42.4	65	100.4	85	0.116	0.341	23.08	
218	226.7	-0.8	34.813	0.160	1.21	95	2.07	68.8	42.5	65	100.6	85	0.116	0.341	22.85	
219	225.9	-0.8	34.973	0.160	1.24	95	2.06	68.7	42.6	66	100.8	79	0.115	0.339	22.74	
220	224.8	-1.0	35.133	0.160	1.23	95	2.05	68.4	42.6	67	100.5	75	0.114	0.338	22.53	
221	225.5	0.7	35.294	0.161	1.23	95	2.02	68.4	42.6	66	101.3	76	0.116	0.341	22.55	
222	224.6	-0.9	35.455	0.161	1.23	95	1.99	68.3	42.6	67	101.2	73	0.113	0.336	22.48	
223	224.1	-0.5	35.616	0.161	1.23	95	1.99	68.1	42.5	66	101.0	72	0.116	0.341	22.43	
224	224.3	0.2	35.776	0.160	1.23	95	1.98	68	42.4	66	99.7	71	0.119	0.345	22.70	
225	224.0	-0.3	35.937	0.161	1.22	95	1.99	68	42.3	66	99.9	70	0.114	0.338	22.59	
226	224.6	0.6	36.098	0.161	1.23	95	2.06	67.8	42.1	66	100.3	70	0.117	0.342	22.48	
227	224.1	-0.6	36.259	0.161	1.24	95	2.05	67.8	42.1	66	99.5	70	0.123	0.351	22.91	
228	224.0	-0.1	36.419	0.160	1.22	95	2.07	67.6	42.1	66	97.9	69	0.117	0.342	22.90	
229	223.9	-0.1	36.580	0.161	1.23	95	2.06	67.6	42	66	99.3	69	0.115	0.339	22.50	
230	223.9	0.0	36.742	0.162	1.22	95	2.01	67.5	41.9	67	100.4	68	0.120	0.346	22.64	
231	223.8	-0.1	36.903	0.161	1.24	95	1.99	67.5	41.9	67	99.1	68	0.118	0.344	22.79	
232	223.8	-0.1	37.063	0.160	1.23	95	1.99	67.4	41.8	67	98.5	68	0.117	0.342	22.64	
233	223.8	0.0	37.223	0.160	1.25	95	1.99	67.3	41.8	67	98.6	68	0.120	0.346	22.73	
234	223.9	0.1	37.386	0.163	1.24	95	2.05	67.2	41.8	66	100.3	68	0.116	0.341	22.68	
235	223.8	-0.2	37.547	0.161	1.23	95	1.99	67.2	41.7	66	99.6	68	0.115	0.339	22.43	
236	223.9	0.1	37.707	0.160	1.24	95	2.05	67.1	41.7	66	99.3	68	0.119	0.345	22.58	
237	224.0	0.2	37.867	0.160	1.23	95	2.04	67	41.7	66	98.9	68	0.116	0.341	22.63	
238	224.0	0.0	38.030	0.163	1.23	95	2.06	66.9	41.6	66	101.1	67	0.114	0.338	22.38	
239	223.9	-0.1	38.191	0.161	1.24	95	2.00	66.8	41.6	66	100.5	67	0.115	0.339	22.33	
240	224.0	0.1	38.352	0.161	1.22	95	2.06	66.7	41.6	66	100.5	67	0.116	0.341	22.42	
241	223.8	-0.2	38.512	0.160	1.23	95	2.00	66.6	41.6	66	99.7	67	0.114	0.338	22.37	
242	224.4	0.6	38.673	0.161	1.25	96	2.06	66.6	41.6	66	100.1	67	0.118	0.344	22.47	
243	224.2	-0.2	38.835	0.162	1.24	95	2.05	66.6	41.7	66	99.9	67	0.120	0.346	22.76	
244	224.3	0.1	38.996	0.161	1.24	95	1.99	66.4	41.6	66	99.1	67	0.114	0.338	22.57	
245	224.3	0.0	39.157	0.161	1.24	95	2.02	66.4	41.6	66	99.6	67	0.120	0.346	22.57	
246	224.3	-0.1	39.317	0.160	1.25	95	2.03	66.3	41.5	66	98.8	67	0.115	0.339	22.61	
247	224.6	0.3	39.480	0.163	1.23	96	2.02	66.3	41.6	65	100.8	67	0.117	0.342	22.47	
248	223.8	-0.8	39.641	0.161	1.22	95	2.06	66.2	41.6	65	99.7	67	0.117	0.342	22.56	
249	224.2	0.4	39.802	0.161	1.24	95	1.97	66.2	41.5	65	99.6	67	0.116	0.341	22.51	
250	224.5	0.3	39.962	0.160	1.24	95	2.07	66	41.5	65	99.2	67	0.116	0.341	22.46	
251	224.3	-0.1	40.124	0.162	1.25	95	2.07	66	41.5	65	100.0	67	0.121	0.348	22.70	
252	223.9	-0.4	40.285	0.161	1.24	96	1.98	65.9	41.5	65	98.9	68	0.116	0.341	22.71	
253	224.7	0.7	40.446	0.161	1.23	96	2.02	66	41.5	65	99.7	68	0.114	0.338	22.39	
254	223.9	-0.7	40.607	0.161	1.22	95	2.10	65.9	41.5	65	100.5	68	0.116	0.341	22.39	
255	223.9	-0.1	40.768	0.161	1.23	96	2.08	65.9	41.6	65	99.5	67	0.122	0.349	22.77	
256	223.9	0.0	40.930	0.162	1.25	95	1.94	65.9	41.6	65	98.9	67	0.119	0.345	22.90	
257	224.1	0.2	41.091	0.161	1.25	96	1.96	65.8	41.5	65	97.9	67	0.124	0.352	23.00	
258	224.7	0.6	41.251	0.160	1.24	95	2.10	65.7	41.4	64	97.1	67	0.118	0.344	22.95	
259	224.5	-0.1	41.411	0.160	1.24	95	1.96	65.7	41.4	65	97.9	67	0.118	0.344	22.67	
260	224.0	-0.5	41.574	0.163	1.24	95	1.94	65.6	41.3	65	100.6	68	0.116	0.341	22.58	

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
261	224.4	0.4	41.735	0.161	1.24	95	1.94	65.6	41.3	65	99.5	69	0.120	0.346	22.69
262	224.2	-0.3	41.896	0.161	1.23	95	2.10	65.7	41.3	65	98.7	69	0.122	0.349	22.98
263	224.4	0.2	42.056	0.160	1.22	95	2.05	65.7	41.3	65	97.7	70	0.118	0.344	22.90
264	223.9	-0.5	42.218	0.162	1.25	95	1.98	65.8	41.4	68	100.3	72	0.113	0.336	22.50
265	224.1	0.2	42.379	0.161	1.24	95	1.93	65.8	41.4	66	100.4	69	0.119	0.345	22.54
266	224.4	0.3	42.540	0.161	1.23	95	2.08	65.8	41.4	65	99.5	69	0.118	0.344	22.75
267	224.3	-0.1	42.700	0.160	1.24	94	2.09	65.7	41.4	65	99.1	68	0.113	0.336	22.45
268	224.0	-0.3	42.861	0.161	1.24	95	2.09	65.8	41.5	66	100.1	68	0.120	0.346	22.54
269	224.6	0.5	43.023	0.162	1.23	95	1.94	65.8	41.6	66	100.1	68	0.116	0.341	22.68
270	223.9	-0.6	43.183	0.160	1.24	96	1.95	65.8	41.6	66	98.5	68	0.120	0.346	22.68
271	224.7	0.7	43.344	0.161	1.23	95	1.99	65.8	41.5	66	98.8	68	0.119	0.345	22.82
272	223.9	-0.7	43.504	0.160	1.23	95	1.94	65.8	41.6	66	98.3	68	0.117	0.342	22.67
273	224.6	0.7	43.667	0.163	1.22	95	1.94	65.9	41.6	66	100.4	67	0.119	0.345	22.67
274	224.1	-0.6	43.828	0.161	1.24	95	1.96	65.8	41.6	66	99.0	67	0.118	0.344	22.72
275	224.8	0.7	43.988	0.160	1.24	95	2.11	65.8	41.6	66	98.3	67	0.119	0.345	22.71
276	224.0	-0.8	44.148	0.160	1.25	95	2.03	65.8	41.7	66	97.8	67	0.123	0.351	22.95
277	224.6	0.7	44.311	0.163	1.24	95	1.95	65.8	41.7	65	98.9	67	0.121	0.348	23.04
278	224.0	-0.6	44.472	0.161	1.23	96	2.09	65.7	41.7	65	98.4	67	0.114	0.338	22.61
279	224.8	0.8	44.633	0.161	1.24	95	1.97	65.7	41.7	66	100.0	67	0.114	0.338	22.27
280	224.0	-0.8	44.793	0.160	1.24	95	2.11	65.6	41.7	66	100.0	67	0.116	0.341	22.37
281	224.4	0.4	44.954	0.161	1.24	95	1.93	65.7	41.8	66	100.2	67	0.115	0.339	22.41
282	224.7	0.3	45.116	0.162	1.24	95	2.02	65.6	41.8	65	100.7	67	0.117	0.342	22.46
283	224.7	-0.1	45.276	0.160	1.25	96	2.03	65.6	41.9	65	99.4	68	0.115	0.339	22.47
284	224.6	-0.1	45.437	0.161	1.24	95	2.11	65.7	41.9	65	99.4	67	0.122	0.349	22.72
285	224.5	-0.1	45.598	0.161	1.24	95	1.94	65.7	42	65	98.3	67	0.120	0.346	22.95
286	224.8	0.2	45.760	0.162	1.25	95	1.94	65.6	42	65	99.0	67	0.117	0.342	22.71
287	224.4	-0.3	45.920	0.160	1.23	95	2.05	65.6	42.1	65	98.6	67	0.117	0.342	22.57
288	224.4	-0.1	46.081	0.161	1.24	95	2.10	65.5	42.1	65	99.7	67	0.115	0.339	22.47
289	224.2	-0.2	46.241	0.160	1.23	95	2.07	65.7	42.1	65	99.3	71	0.120	0.346	22.65
290	224.5	0.2	46.404	0.163	1.25	95	2.09	65.6	42.2	65	100.2	68	0.121	0.348	22.95
291	223.8	-0.6	46.565	0.161	1.24	95	2.07	65.6	42.2	65	98.3	68	0.118	0.344	22.83
292	223.7	-0.2	46.725	0.160	1.23	95	2.09	65.6	42.2	65	98.6	68	0.115	0.339	22.54
293	224.4	0.8	46.885	0.160	1.24	95	2.02	65.7	42.3	65	99.6	72	0.117	0.342	22.53
294	223.8	-0.7	47.047	0.162	1.25	95	1.95	65.8	42.3	66	100.8	70	0.117	0.342	22.65
295	223.6	-0.2	47.209	0.162	1.24	95	2.08	65.8	42.3	66	100.7	69	0.113	0.336	22.42
296	224.0	0.5	47.370	0.161	1.24	95	1.98	65.7	42.3	66	101.1	68	0.111	0.333	22.11
297	223.9	-0.2	47.530	0.160	1.23	95	2.09	65.7	42.4	66	100.9	68	0.116	0.341	22.25
298	223.9	0.0	47.691	0.161	1.24	95	1.96	65.7	42.4	66	100.7	68	0.115	0.339	22.44
299	224.4	0.5	47.853	0.162	1.23	95	1.94	65.7	42.4	66	100.5	68	0.119	0.345	22.58
300	223.7	-0.7	48.014	0.161	1.23	95	1.96	65.7	42.5	66	99.5	68	0.116	0.341	22.63
301	224.2	0.5	48.174	0.160	1.23	95	1.94	65.8	42.5	66	98.8	67	0.119	0.345	22.62
302	224.1	-0.1	48.335	0.161	1.25	95	2.02	65.8	42.6	66	99.1	67	0.118	0.344	22.72
303	224.3	0.2	48.497	0.162	1.23	95	1.95	65.8	42.6	66	99.5	67	0.119	0.345	22.72
304	223.7	-0.7	48.658	0.161	1.23	96	2.08	65.8	42.7	66	98.9	67	0.118	0.344	22.71

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Test Start Time: 19:36

Test Length: 2460 min

Recording Interval: 1 min

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg

Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
305	224.2	0.5	48.818	0.160	1.25	96	1.96	65.8	42.7	66	98.3	67	0.118	0.344	22.66
306	224.2	0.1	48.978	0.160	1.21	95	1.95	65.8	42.7	66	98.7	67	0.116	0.341	22.56
307	223.7	-0.5	49.141	0.163	1.25	95	1.97	65.8	42.8	66	100.4	67	0.121	0.348	22.71
308	224.0	0.3	49.302	0.161	1.24	95	1.99	65.7	42.8	66	98.7	67	0.117	0.342	22.75
309	224.2	0.3	49.463	0.161	1.23	95	1.94	65.7	42.8	66	99.4	67	0.114	0.338	22.41
310	224.1	-0.1	49.623	0.160	1.24	95	2.06	65.6	42.8	65	99.6	67	0.117	0.342	22.41
311	223.9	-0.2	49.784	0.161	1.23	95	2.09	65.6	42.9	65	99.7	66	0.118	0.344	22.60
312	223.9	0.0	49.946	0.162	1.23	95	1.97	65.5	42.9	65	100.2	66	0.114	0.338	22.45
313	224.3	0.4	50.107	0.161	1.23	95	1.97	65.5	43	65	100.1	66	0.116	0.341	22.35
314	223.8	-0.4	50.267	0.160	1.22	96	2.00	65.5	43.1	66	99.5	66	0.115	0.339	22.40
315	223.8	0.0	50.428	0.161	1.24	95	1.95	65.4	43.1	65	99.7	66	0.119	0.345	22.55
316	223.8	0.0	50.590	0.162	1.25	95	1.98	65.5	43.1	65	99.9	68	0.118	0.344	22.71
317	223.9	0.1	50.751	0.161	1.23	95	1.95	65.5	43.2	65	99.4	67	0.116	0.341	22.58
318	224.4	0.4	50.912	0.161	1.25	96	2.10	65.5	43.2	65	99.6	67	0.117	0.342	22.52
319	223.9	-0.5	51.072	0.160	1.26	96	1.98	65.4	43.3	65	98.6	68	0.120	0.346	22.71
320	223.9	0.0	51.235	0.163	1.22	95	2.00	65.5	43.4	65	99.7	69	0.122	0.349	22.97
321	224.2	0.3	51.396	0.161	1.23	95	1.97	65.4	43.4	65	98.4	67	0.116	0.341	22.78
322	223.6	-0.6	51.556	0.160	1.23	95	1.97	65.4	43.3	65	98.3	67	0.120	0.346	22.66
323	224.0	0.4	51.717	0.161	1.23	95	1.95	65.3	43.3	65	98.6	67	0.121	0.348	22.90
324	224.0	0.0	51.878	0.161	1.24	95	2.07	65.3	43.2	65	98.2	68	0.120	0.346	22.91
325	223.4	-0.5	52.040	0.162	1.23	95	1.95	65.4	43.4	65	99.4	68	0.116	0.341	22.68
326	223.5	0.1	52.201	0.161	1.24	95	1.96	65.4	43.4	65	99.8	68	0.115	0.339	22.44
327	223.5	0.0	52.361	0.160	1.23	95	1.95	65.4	43.4	65	99.9	68	0.115	0.339	22.40
328	223.4	-0.1	52.522	0.161	1.24	95	2.02	65.5	43.5	65	100.4	68	0.116	0.341	22.45
329	223.5	0.0	52.684	0.162	1.25	95	2.05	65.5	43.4	65	101.0	69	0.115	0.339	22.46
330	223.7	0.3	52.845	0.161	1.23	95	2.09	65.6	43.5	65	100.1	69	0.119	0.345	22.61
331	224.2	0.5	53.006	0.161	1.23	95	2.00	65.6	43.4	66	99.4	69	0.119	0.345	22.80
332	223.7	-0.5	53.166	0.160	1.23	95	2.06	65.6	43.4	66	98.1	69	0.121	0.348	22.90
333	223.7	0.0	53.329	0.163	1.24	95	1.95	65.7	43.4	65	100.2	69	0.114	0.338	22.66
334	223.9	0.2	53.490	0.161	1.25	95	2.00	65.6	43.5	66	99.5	70	0.122	0.349	22.72
335	223.6	-0.3	53.651	0.161	1.23	95	2.07	65.7	43.6	66	99.0	70	0.118	0.344	22.92
336	224.0	0.4	53.811	0.160	1.25	95	2.02	65.8	43.6	66	98.1	71	0.121	0.348	22.88
337	223.8	-0.3	53.972	0.161	1.24	95	1.96	66	43.7	66	98.7	72	0.121	0.348	23.05
338	223.6	-0.1	54.134	0.162	1.23	95	2.11	65.9	43.7	66	98.9	70	0.120	0.346	22.98
339	224.3	0.7	54.294	0.160	1.23	95	1.94	65.9	43.7	66	97.9	69	0.118	0.344	22.81
340	223.8	-0.4	54.455	0.161	1.23	95	2.10	65.9	43.9	66	99.3	69	0.116	0.341	22.61
341	223.6	-0.2	54.616	0.161	1.23	95	2.10	65.8	43.9	66	99.8	68	0.117	0.342	22.55
342	223.8	0.2	54.778	0.162	1.24	95	2.03	65.8	44	66	100.3	68	0.118	0.344	22.64
343	224.0	0.3	54.939	0.161	1.24	95	2.08	65.8	44	66	99.3	68	0.118	0.344	22.68
344	224.1	0.0	55.099	0.160	1.23	95	2.10	65.9	44.1	66	98.7	68	0.116	0.341	22.58
345	223.7	-0.3	55.259	0.160	1.25	95	2.04	65.9	44.1	66	98.8	67	0.119	0.345	22.62
346	223.4	-0.3	55.422	0.163	1.25	95	2.09	65.8	44.2	66	100.2	67	0.119	0.345	22.76
347	223.5	0.1	55.583	0.161	1.25	95	2.03	65.8	44.3	66	99.1	67	0.115	0.339	22.57
348	223.8	0.3	55.743	0.160	1.24	95	1.96	65.8	44.4	66	98.7	67	0.122	0.349	22.71

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
349	223.9	0.1	55.904	0.161	1.24	95	2.07	65.8	44.5	66	98.5	67	0.120	0.346	22.95
350	224.1	0.2	56.066	0.162	1.24	95	1.96	65.9	44.5	66	99.1	69	0.118	0.344	22.78
351	223.9	-0.3	56.227	0.161	1.25	95	1.98	65.9	44.6	66	99.0	68	0.119	0.345	22.74
352	223.9	0.0	56.388	0.161	1.23	95	2.09	65.8	44.6	66	98.8	67	0.119	0.345	22.76
353	223.6	-0.3	56.548	0.160	1.23	95	2.01	65.8	44.8	66	98.6	67	0.114	0.338	22.51
354	223.2	-0.4	56.709	0.161	1.23	95	1.96	65.7	44.8	66	99.8	67	0.119	0.345	22.51
355	223.7	0.5	56.871	0.162	1.22	95	2.05	65.7	44.8	66	100.2	66	0.115	0.339	22.55
356	223.4	-0.2	57.032	0.161	1.25	95	1.97	65.6	44.9	65	100.5	66	0.110	0.332	22.11
357	223.9	0.4	57.193	0.161	1.23	95	2.07	65.6	45	65	100.8	66	0.121	0.348	22.40
358	223.7	-0.2	57.353	0.160	1.24	96	1.95	65.5	45	66	98.6	66	0.118	0.344	22.79
359	223.7	0.0	57.516	0.163	1.25	95	1.97	65.6	45	65	100.3	69	0.116	0.341	22.57
360	223.8	0.1	57.677	0.161	1.23	95	2.02	65.6	45.1	65	99.1	68	0.123	0.351	22.83
361	223.2	-0.5	57.838	0.161	1.23	95	1.96	65.5	45.1	65	98.1	67	0.119	0.345	22.95
362	223.8	0.6	57.998	0.160	1.23	95	2.06	65.5	45.2	65	97.7	67	0.118	0.344	22.71
363	223.4	-0.5	58.160	0.162	1.23	95	1.98	65.4	45.2	65	99.3	67	0.121	0.348	22.80
364	223.6	0.2	58.321	0.161	1.24	95	1.96	65.4	45.2	65	98.3	67	0.120	0.346	22.90
365	223.8	0.3	58.482	0.161	1.22	95	1.96	65.4	45.3	65	98.5	67	0.117	0.342	22.71
366	223.3	-0.5	58.643	0.161	1.23	95	1.95	65.4	45.3	65	99.0	68	0.119	0.345	22.67
367	223.3	-0.1	58.804	0.161	1.26	95	1.95	65.3	45.3	65	99.6	68	0.113	0.336	22.48
368	223.5	0.2	58.966	0.162	1.25	95	1.97	65.4	45.3	65	101.2	68	0.114	0.338	22.24
369	223.5	0.1	59.127	0.161	1.24	95	1.95	65.4	45.4	65	101.1	68	0.113	0.336	22.25
370	223.6	0.0	59.288	0.161	1.23	95	2.06	65.4	45.4	65	100.7	69	0.118	0.344	22.45
371	223.3	-0.3	59.448	0.160	1.22	95	2.07	65.5	45.5	65	99.6	69	0.114	0.338	22.50
372	223.5	0.2	59.610	0.162	1.25	95	1.95	65.5	45.5	65	101.2	69	0.114	0.338	22.31
373	223.8	0.2	59.772	0.162	1.24	95	1.95	65.6	45.5	65	100.3	69	0.127	0.356	22.95
374	223.7	0.0	59.933	0.161	1.25	95	1.95	65.5	45.5	66	97.9	69	0.118	0.344	23.14
375	223.2	-0.5	60.093	0.160	1.24	95	2.04	65.5	45.6	66	98.0	69	0.116	0.341	22.61
376	223.9	0.7	60.256	0.163	1.22	95	1.97	65.6	45.6	66	101.7	69	0.112	0.335	22.32
377	223.5	-0.4	60.416	0.160	1.24	95	2.01	65.6	45.6	65	100.7	69	0.113	0.336	22.18
378	223.6	0.1	60.577	0.161	1.22	95	2.08	65.7	45.6	65	101.0	70	0.119	0.345	22.52
379	223.9	0.2	60.737	0.160	1.22	95	2.06	65.7	45.7	66	99.5	70	0.114	0.338	22.58
380	223.4	-0.5	60.898	0.161	1.24	95	2.07	65.7	45.7	66	100.0	70	0.119	0.345	22.58
381	223.8	0.5	61.060	0.162	1.23	95	1.98	65.8	45.7	66	101.0	73	0.113	0.336	22.56
382	223.1	-0.7	61.221	0.161	1.24	95	2.08	65.9	45.8	66	100.2	71	0.121	0.348	22.67
383	223.6	0.4	61.382	0.161	1.24	95	2.06	65.9	45.8	66	100.0	71	0.111	0.333	22.55
384	223.0	-0.6	61.542	0.160	1.24	95	1.98	65.9	45.7	66	99.9	71	0.119	0.345	22.45
385	223.6	0.7	61.706	0.164	1.24	95	2.06	65.9	45.8	66	102.0	71	0.117	0.342	22.74
386	223.1	-0.5	61.868	0.162	1.25	95	1.97	66	45.9	66	100.8	71	0.113	0.336	22.45
387	223.3	0.2	62.026	0.158	1.24	95	2.08	66	45.9	66	99.2	71	0.114	0.338	22.30
388	223.4	0.0	62.186	0.160	1.23	95	2.09	66	45.9	66	100.0	71	0.120	0.346	22.64
389	223.1	-0.3	62.348	0.162	1.22	95	1.96	66	45.8	66	100.8	71	0.111	0.333	22.50
390	223.5	0.4	62.509	0.161	1.24	95	1.96	66.1	45.9	66	101.0	71	0.116	0.341	22.30
391	223.6	0.1	62.670	0.161	1.24	95	2.01	66.1	45.9	66	100.9	71	0.116	0.341	22.55
392	223.1	-0.5	62.830	0.160	1.24	95	1.96	66.2	46	66	99.5	71	0.118	0.344	22.65

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
393	223.0	-0.1	62.991	0.161	1.24	95	2.10	66.2	45.9	66	99.7	71	0.119	0.345	22.80
394	223.0	0.0	63.153	0.162	1.24	95	2.04	66.3	46	66	100.9	73	0.111	0.333	22.48
395	223.0	-0.1	63.314	0.161	1.23	95	1.96	66.4	46	66	101.2	73	0.117	0.342	22.40
396	223.1	0.1	63.478	0.164	1.24	95	1.95	66.4	46	66	102.6	71	0.116	0.341	22.62
397	223.2	0.1	63.635	0.157	1.26	95	2.03	66.3	46.1	66	97.3	70	0.120	0.346	22.73
398	223.6	0.3	63.797	0.162	1.22	95	2.10	66.3	46.1	66	99.8	69	0.118	0.344	22.81
399	223.1	-0.5	63.958	0.161	1.24	95	2.06	66.3	46.1	66	99.0	69	0.119	0.345	22.75
400	223.9	0.8	64.119	0.161	1.24	95	2.02	66.2	46.2	66	98.8	68	0.120	0.346	22.84
401	223.3	-0.6	64.279	0.160	1.23	95	2.07	66.2	46.2	66	98.9	68	0.110	0.332	22.40
402	223.0	-0.3	64.441	0.162	1.23	95	1.94	66.2	46.2	66	101.3	68	0.118	0.344	22.29
403	222.9	0.0	64.602	0.161	1.23	95	2.05	66.1	46.2	66	100.6	67	0.113	0.336	22.43
404	223.1	0.1	64.763	0.161	1.25	95	2.03	66.1	46.2	66	99.9	69	0.122	0.349	22.64
405	223.4	0.3	64.923	0.160	1.24	95	1.95	66.3	46.3	66	98.9	70	0.114	0.338	22.72
406	223.6	0.2	65.086	0.163	1.24	95	2.02	66.2	46.3	66	100.9	68	0.119	0.345	22.56
407	223.6	0.0	65.249	0.163	1.23	95	1.95	66.2	46.3	66	100.6	68	0.118	0.344	22.73
408	223.5	0.0	65.407	0.158	1.23	95	1.94	66.2	46.3	66	96.5	68	0.125	0.354	23.01
409	223.6	0.1	65.567	0.160	1.22	95	2.02	66.1	46.3	66	97.6	68	0.114	0.338	22.83
410	223.6	0.0	65.728	0.161	1.24	95	1.99	66.1	46.3	66	99.2	68	0.119	0.345	22.54
411	223.4	-0.3	65.890	0.162	1.24	95	2.04	66.1	46.3	66	99.8	69	0.121	0.348	22.89
412	222.7	-0.6	66.051	0.161	1.24	95	2.11	66.2	46.3	66	99.4	72	0.112	0.335	22.59
413	223.0	0.3	66.211	0.160	1.21	96	2.08	66.2	46.4	66	99.8	70	0.118	0.344	22.45
414	223.4	0.4	66.371	0.160	1.24	95	1.95	66.2	46.4	66	99.5	70	0.116	0.341	22.62
415	223.0	-0.4	66.534	0.163	1.24	96	1.98	66.2	46.4	66	101.1	71	0.118	0.344	22.63
416	222.3	-0.7	66.697	0.163	1.22	96	2.04	66.4	46.4	66	101.0	76	0.120	0.346	22.89
417	222.2	-0.1	66.857	0.160	1.25	96	2.09	66.6	46.6	66	99.3	77	0.115	0.339	22.81
418	221.9	-0.3	67.014	0.157	1.24	95	2.01	66.8	46.6	66	98.8	78	0.111	0.333	22.40
419	220.6	-1.4	67.176	0.162	1.22	95	1.97	66.9	46.7	66	102.6	81	0.121	0.348	22.74
420	220.1	-0.4	67.337	0.161	1.24	95	1.98	67.2	46.7	66	100.8	83	0.118	0.344	23.13
421	219.6	-0.5	67.497	0.160	1.24	96	1.95	67.5	46.9	66	100.1	85	0.115	0.339	22.88
422	218.5	-1.1	67.656	0.159	1.23	96	1.96	67.7	47	66	100.1	86	0.119	0.345	22.96
423	217.3	-1.2	67.818	0.162	1.23	95	1.97	67.9	47.1	66	101.4	86	0.120	0.346	23.21
424	216.7	-0.6	67.978	0.160	1.24	95	2.05	68.1	47.2	66	100.1	89	0.116	0.341	23.09
425	216.4	-0.3	68.138	0.160	1.23	95	1.96	68.2	47.3	66	101.2	86	0.112	0.335	22.70
426	215.1	-1.4	68.301	0.163	1.24	95	2.09	68.4	47.4	66	104.3	85	0.112	0.335	22.47
427	213.8	-1.3	68.462	0.161	1.23	95	2.11	68.5	47.5	66	103.5	85	0.112	0.335	22.45
428	213.6	-0.2	68.622	0.160	1.22	95	2.06	68.6	47.6	66	102.1	85	0.118	0.344	22.75
429	211.9	-1.7	68.778	0.156	1.22	96	2.01	68.7	47.7	66	98.9	84	0.111	0.333	22.69
430	211.0	-1.0	68.939	0.161	1.21	95	2.01	68.8	47.8	67	102.4	84	0.116	0.341	22.58
431	210.3	-0.6	69.099	0.160	1.22	96	2.11	68.9	47.9	67	101.5	84	0.116	0.341	22.83
432	209.4	-1.0	69.259	0.160	1.23	95	2.04	68.9	48	67	101.2	84	0.113	0.336	22.68
433	208.3	-1.0	69.418	0.159	1.23	95	2.05	69	48	66	101.1	86	0.116	0.341	22.70
434	207.0	-1.4	69.579	0.161	1.23	95	2.09	69.1	48.2	66	101.3	84	0.123	0.351	23.19
435	206.4	-0.6	69.739	0.160	1.22	96	1.96	69.2	48.3	66	99.1	83	0.118	0.344	23.26
436	205.3	-1.1	69.901	0.162	1.22	96	1.97	69.2	48.4	66	100.7	83	0.117	0.342	22.96

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
437	204.5	-0.7	70.060	0.159	1.20	96	1.97	69.3	48.5	66	99.8	84	0.115	0.339	22.82
438	203.7	-0.8	70.221	0.161	1.23	95	2.08	69.4	48.5	66	101.1	84	0.121	0.348	23.02
439	203.1	-0.6	70.381	0.160	1.24	96	1.97	69.5	48.5	66	99.6	87	0.121	0.348	23.34
440	201.9	-1.2	70.537	0.156	1.22	96	2.11	69.6	48.6	66	96.7	86	0.119	0.345	23.27
441	201.4	-0.6	70.698	0.161	1.24	95	1.98	69.6	48.8	65	100.7	86	0.114	0.338	22.92
442	200.0	-1.4	70.858	0.160	1.22	95	1.98	69.8	48.8	66	101.3	87	0.116	0.341	22.78
443	199.5	-0.5	71.017	0.159	1.20	96	2.00	69.6	49	66	100.5	82	0.115	0.339	22.79
444	198.7	-0.8	71.176	0.159	1.23	96	2.10	69.3	49	67	100.5	76	0.109	0.330	22.32
445	198.4	-0.4	71.338	0.162	1.23	95	2.11	69	48.9	67	102.1	74	0.122	0.349	22.59
446	197.8	-0.6	71.501	0.163	1.22	96	1.96	68.9	48.8	66	100.5	74	0.123	0.351	23.24
447	197.7	-0.1	71.661	0.160	1.23	95	2.10	68.8	48.8	66	97.7	73	0.117	0.342	22.99
448	197.5	-0.2	71.821	0.160	1.24	96	2.10	68.7	48.7	66	98.7	72	0.117	0.342	22.68
449	197.4	0.0	71.983	0.162	1.24	95	2.07	68.6	48.6	66	101.0	73	0.113	0.336	22.48
450	197.3	-0.1	72.144	0.161	1.22	96	1.98	68.5	48.5	66	100.8	72	0.117	0.342	22.49
451	197.2	-0.1	72.301	0.157	1.23	96	2.09	68.5	48.4	66	98.2	72	0.114	0.338	22.53
452	197.3	0.1	72.461	0.160	1.24	95	2.00	68.4	48.3	66	100.0	72	0.117	0.342	22.53
453	197.4	0.1	72.623	0.162	1.23	95	2.10	68.3	48.2	66	101.0	72	0.116	0.341	22.62
454	197.4	0.0	72.784	0.161	1.23	96	1.95	68.2	48.1	66	100.3	72	0.115	0.339	22.52
455	197.7	0.3	72.944	0.160	1.21	96	2.09	68.2	48	67	99.4	72	0.121	0.348	22.76
456	197.6	-0.1	73.104	0.160	1.25	95	2.08	68.1	47.9	66	98.9	71	0.115	0.339	22.76
457	197.2	-0.4	73.269	0.165	1.22	95	2.10	68	47.8	66	102.6	72	0.116	0.341	22.52
458	196.9	-0.3	73.430	0.161	1.23	95	1.96	68	47.8	66	100.6	72	0.116	0.341	22.57
459	197.0	0.1	73.591	0.161	1.24	95	2.11	68	47.8	66	100.6	74	0.116	0.341	22.60
460	197.6	0.6	73.751	0.160	1.23	95	1.99	68	47.7	67	99.4	72	0.120	0.346	22.79
461	197.2	-0.4	73.910	0.159	1.23	95	1.95	67.8	47.5	66	98.6	71	0.112	0.335	22.56
462	197.1	-0.1	74.071	0.161	1.24	96	1.98	67.8	47.6	66	100.9	70	0.113	0.336	22.20
463	197.3	0.1	74.231	0.160	1.24	96	1.98	67.7	47.6	66	100.9	70	0.113	0.336	22.23
464	197.7	0.4	74.391	0.160	1.24	96	2.07	67.6	47.6	67	100.6	69	0.114	0.338	22.27
465	197.4	-0.3	74.553	0.162	1.24	96	1.97	67.5	47.5	67	101.4	69	0.116	0.341	22.41
466	197.4	0.0	74.714	0.161	1.24	96	2.09	67.4	47.4	66	100.1	69	0.117	0.342	22.55
467	197.6	0.2	74.874	0.160	1.26	95	2.09	67.3	47.5	67	99.2	68	0.116	0.341	22.55
468	197.3	-0.3	75.037	0.163	1.24	95	1.98	67.3	47.5	67	101.6	68	0.112	0.335	22.30
469	197.0	-0.3	75.197	0.160	1.24	96	2.10	67.2	47.5	67	100.2	68	0.116	0.341	22.30
470	197.3	0.3	75.360	0.163	1.24	95	2.11	67.2	47.5	67	101.2	68	0.120	0.346	22.68
471	197.5	0.2	75.520	0.160	1.24	95	1.97	67.1	47.6	67	98.6	68	0.115	0.339	22.63
472	197.0	-0.4	75.680	0.160	1.24	96	2.04	67.1	47.6	67	99.1	68	0.116	0.341	22.44
473	197.0	-0.1	75.839	0.159	1.22	96	1.94	67	47.5	67	98.6	68	0.117	0.342	22.53
474	197.7	0.7	76.000	0.161	1.23	96	1.94	66.9	47.6	66	99.6	68	0.117	0.342	22.58
475	197.4	-0.2	76.161	0.161	1.23	96	2.03	66.8	47.7	66	99.4	67	0.117	0.342	22.58
476	197.2	-0.3	76.321	0.160	1.24	96	2.08	66.8	47.7	66	98.7	67	0.118	0.344	22.62
477	197.2	0.1	76.482	0.161	1.23	95	1.96	66.8	47.7	66	99.5	67	0.115	0.339	22.52
478	197.2	0.0	76.647	0.165	1.24	96	1.99	66.6	47.6	66	102.5	67	0.115	0.339	22.37
479	197.4	0.1	76.808	0.161	1.22	96	2.10	66.5	47.6	66	100.2	67	0.116	0.341	22.42
480	197.0	-0.4	76.968	0.160	1.25	96	2.09	66.5	47.6	66	99.4	67	0.115	0.339	22.42

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH ("H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP ("H ₂ O)	√dP	vs
481	197.2	0.2	77.129	0.161	1.23	96	2.09	66.4	47.7	66	99.2	67	0.124	0.352	22.80
482	197.6	0.5	77.290	0.161	1.24	96	2.01	66.3	47.7	66	98.2	67	0.116	0.341	22.85
483	196.9	-0.8	77.452	0.162	1.23	96	2.04	66.2	47.7	66	99.1	67	0.120	0.346	22.65
484	197.2	0.3	77.609	0.157	1.23	95	1.98	66.2	47.8	66	96.5	69	0.118	0.344	22.77
485	197.2	0.0	77.769	0.160	1.21	96	1.94	66.2	47.8	66	97.7	68	0.124	0.352	22.98
486	197.2	-0.1	77.932	0.163	1.24	96	2.09	66.1	47.8	65	99.0	68	0.118	0.344	22.96
487	197.0	-0.2	78.093	0.161	1.23	96	2.05	66.1	47.8	65	98.6	68	0.117	0.342	22.62
488	197.3	0.3	78.254	0.161	1.24	95	2.08	66	47.8	65	99.0	67	0.121	0.348	22.76
489	197.6	0.3	78.417	0.163	1.24	95	2.09	65.9	47.8	65	100.2	67	0.114	0.338	22.62
490	197.5	-0.2	78.577	0.160	1.25	96	1.95	65.8	47.7	65	98.7	68	0.121	0.348	22.62
491	197.4	-0.1	78.740	0.163	1.25	95	1.99	65.8	47.7	65	100.6	68	0.114	0.338	22.63
492	196.8	-0.5	78.901	0.161	1.24	95	1.94	65.7	47.7	65	100.5	68	0.111	0.333	22.14
493	197.1	0.2	79.062	0.161	1.24	96	1.95	65.8	47.8	65	100.8	68	0.121	0.348	22.49
494	197.0	-0.1	79.219	0.157	1.24	95	1.94	65.8	47.8	65	96.7	68	0.119	0.345	22.88
495	197.2	0.2	79.381	0.162	1.24	96	2.10	65.8	47.8	65	99.7	69	0.114	0.338	22.55
496	197.5	0.3	79.542	0.161	1.24	96	2.08	65.7	47.8	65	99.6	69	0.121	0.348	22.65
497	197.7	0.3	79.703	0.161	1.23	96	2.10	65.7	47.7	65	99.0	69	0.118	0.344	22.84
498	197.5	-0.2	79.863	0.160	1.24	95	1.98	65.7	47.7	65	98.6	69	0.115	0.339	22.56
499	197.2	-0.3	80.027	0.164	1.23	95	2.05	65.8	47.8	65	101.7	69	0.119	0.345	22.61
500	197.4	0.1	80.189	0.162	1.25	95	1.94	65.8	47.7	65	100.1	70	0.118	0.344	22.77
501	197.8	0.5	80.350	0.161	1.23	95	2.08	65.8	47.7	65	99.9	70	0.112	0.335	22.43
502	197.2	-0.6	80.511	0.161	1.24	96	2.01	65.9	47.7	66	100.6	70	0.118	0.344	22.43
503	197.9	0.6	80.671	0.160	1.23	95	1.95	65.8	47.7	66	99.4	70	0.117	0.342	22.68
504	197.3	-0.5	80.833	0.162	1.24	96	1.96	65.9	47.7	66	100.4	70	0.116	0.341	22.58
505	197.8	0.4	80.994	0.161	1.23	96	1.94	65.9	47.7	65	99.5	71	0.121	0.348	22.78
506	197.4	-0.3	81.152	0.158	1.24	96	2.10	66	47.7	66	97.3	70	0.116	0.341	22.78
507	197.5	0.1	81.312	0.160	1.24	95	2.02	66	47.7	66	98.5	71	0.122	0.349	22.83
508	197.5	-0.1	81.474	0.162	1.22	95	2.06	66	47.7	66	99.5	71	0.118	0.344	22.93
509	197.8	0.4	81.635	0.161	1.24	96	2.10	66	47.7	66	99.1	71	0.117	0.342	22.69
510	197.4	-0.4	81.799	0.164	1.25	96	2.10	66	47.7	66	101.5	70	0.117	0.342	22.64
511	197.6	0.2	81.959	0.160	1.22	96	1.95	66	47.7	66	99.1	70	0.117	0.342	22.63
512	197.2	-0.4	82.120	0.161	1.22	95	2.10	66	47.6	66	100.2	70	0.113	0.336	22.44
513	197.5	0.2	82.281	0.161	1.23	96	2.01	66.3	47.8	66	101.2	75	0.115	0.339	22.39
514	196.9	-0.5	82.442	0.161	1.23	95	2.09	66.3	47.8	66	101.0	71	0.117	0.342	22.60
515	197.3	0.4	82.602	0.160	1.23	95	1.95	66.3	47.8	66	99.6	71	0.115	0.339	22.55
516	196.7	-0.6	82.761	0.159	1.23	96	2.08	66.2	47.7	66	98.8	71	0.119	0.345	22.64
517	197.4	0.6	82.922	0.161	1.25	95	2.08	66.3	47.7	66	100.3	71	0.111	0.333	22.45
518	196.7	-0.7	83.083	0.161	1.24	96	2.09	66.3	47.8	66	101.3	71	0.114	0.338	22.21
519	197.2	0.5	83.243	0.160	1.24	95	2.10	66.4	47.7	66	100.3	71	0.119	0.345	22.60
520	196.9	-0.2	83.406	0.163	1.24	96	1.97	66.3	47.8	66	101.0	71	0.117	0.342	22.75
521	197.2	0.3	83.569	0.163	1.23	95	2.01	66.3	47.7	66	101.2	71	0.114	0.338	22.51
522	197.2	0.0	83.730	0.161	1.23	95	1.98	66.4	47.7	66	100.7	71	0.116	0.341	22.46
523	196.8	-0.4	83.890	0.160	1.23	95	2.09	66.4	47.7	66	100.3	71	0.113	0.336	22.41
524	197.3	0.5	84.051	0.161	1.23	95	2.01	66.4	47.7	66	101.1	71	0.116	0.341	22.41

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
525	197.1	-0.2	84.213	0.162	1.24	95	2.03	66.4	47.7	66	101.1	71	0.118	0.344	22.65
526	196.8	-0.3	84.374	0.161	1.23	96	1.95	66.4	47.8	66	99.7	71	0.118	0.344	22.75
527	197.1	0.3	84.532	0.158	1.23	95	1.96	66.5	47.7	66	98.5	72	0.110	0.332	22.36
528	197.5	0.4	84.692	0.160	1.25	96	2.11	66.6	47.8	66	100.7	73	0.118	0.344	22.39
529	197.5	0.0	84.854	0.162	1.24	95	2.00	66.6	47.8	66	101.0	71	0.118	0.344	22.77
530	197.4	-0.1	85.015	0.161	1.24	96	1.95	66.5	47.8	66	99.6	70	0.115	0.339	22.59
531	197.3	-0.1	85.179	0.164	1.24	95	2.09	66.5	47.8	66	101.9	69	0.117	0.342	22.52
532	197.3	0.0	85.339	0.160	1.22	95	2.09	66.5	47.8	66	99.3	69	0.117	0.342	22.61
533	197.4	0.1	85.500	0.161	1.24	95	2.05	66.4	47.8	66	99.3	68	0.120	0.346	22.74
534	196.9	-0.5	85.662	0.162	1.24	96	2.00	66.4	47.7	66	99.6	68	0.117	0.342	22.74
535	197.3	0.4	85.823	0.161	1.24	96	2.10	66.3	47.7	66	98.9	68	0.120	0.346	22.73
536	197.0	-0.4	85.983	0.160	1.24	96	2.09	66.3	47.7	66	98.0	68	0.119	0.345	22.82
537	197.3	0.3	86.144	0.161	1.23	95	2.06	66.3	47.8	66	99.2	68	0.113	0.336	22.48
538	197.2	-0.1	86.306	0.162	1.24	95	1.99	66.3	47.7	66	100.2	67	0.123	0.351	22.67
539	196.9	-0.3	86.464	0.158	1.21	96	2.11	66.2	47.8	66	96.6	67	0.119	0.345	22.95
540	197.6	0.7	86.624	0.160	1.23	95	2.09	66.2	47.8	66	97.8	67	0.117	0.342	22.66
541	197.0	-0.6	86.788	0.164	1.24	96	2.01	66.1	47.8	66	100.7	67	0.121	0.348	22.76
542	197.2	0.2	86.950	0.162	1.23	96	1.97	66.1	47.8	66	99.6	67	0.113	0.336	22.56
543	197.2	0.0	87.111	0.161	1.24	95	2.07	66.1	47.8	66	100.2	67	0.114	0.338	22.22
544	197.0	-0.2	87.272	0.161	1.24	96	2.10	66.2	48	66	100.1	69	0.122	0.349	22.68
545	196.7	-0.3	87.432	0.160	1.24	95	1.98	66.2	48	66	98.6	67	0.113	0.336	22.63
546	196.5	-0.2	87.593	0.161	1.23	96	1.96	66	47.9	66	99.7	67	0.117	0.342	22.37
547	196.8	0.3	87.755	0.162	1.24	95	1.96	66	48	66	100.7	67	0.115	0.339	22.46
548	197.0	0.2	87.916	0.161	1.23	96	2.11	65.9	48	66	99.9	66	0.116	0.341	22.41
549	196.7	-0.3	88.076	0.160	1.23	95	2.03	65.8	47.9	66	98.8	66	0.121	0.348	22.69
550	196.4	-0.3	88.235	0.159	1.23	96	2.10	65.7	47.9	66	97.4	66	0.117	0.342	22.74
551	196.5	0.1	88.396	0.161	1.24	95	2.10	65.7	48	65	98.3	66	0.124	0.352	22.88
552	196.8	0.3	88.560	0.164	1.24	96	1.99	65.7	48	65	100.7	68	0.110	0.332	22.57
553	196.6	-0.2	88.721	0.161	1.24	95	1.96	65.7	48	65	100.3	67	0.117	0.342	22.24
554	196.7	0.1	88.881	0.160	1.23	96	1.95	65.6	48	65	100.1	66	0.112	0.335	22.31
555	197.1	0.4	89.043	0.162	1.23	95	1.94	65.6	48	65	101.1	67	0.118	0.344	22.36
556	196.9	-0.2	89.205	0.162	1.24	95	2.09	65.5	48	65	99.8	67	0.123	0.351	22.90
557	196.8	-0.2	89.366	0.161	1.23	96	2.00	65.4	47.9	65	97.9	67	0.119	0.345	22.95
558	197.1	0.3	89.526	0.160	1.23	95	1.96	65.4	47.9	65	97.3	67	0.122	0.349	22.90
559	197.0	-0.1	89.687	0.161	1.23	96	1.99	65.3	47.8	65	98.5	67	0.114	0.338	22.67
560	197.1	0.2	89.846	0.159	1.24	95	1.94	65.4	47.9	65	98.2	68	0.119	0.345	22.53
561	197.0	-0.2	90.007	0.161	1.23	96	2.01	65.3	47.9	65	99.7	68	0.115	0.339	22.59
562	196.7	-0.3	90.171	0.164	1.23	95	2.02	65.4	47.8	65	102.7	68	0.108	0.329	22.05
563	196.5	-0.2	90.331	0.160	1.24	96	1.96	65.5	47.8	65	100.8	68	0.120	0.346	22.30
564	197.0	0.5	90.494	0.163	1.23	95	1.95	65.5	47.9	65	101.4	69	0.115	0.339	22.64
565	197.0	0.0	90.655	0.161	1.24	95	1.94	65.5	47.9	65	99.4	69	0.121	0.348	22.70
566	196.6	-0.4	90.815	0.160	1.24	95	2.02	65.4	47.9	65	98.7	69	0.115	0.339	22.70
567	197.1	0.5	90.975	0.160	1.24	95	1.97	65.4	47.8	65	99.5	69	0.113	0.336	22.31
568	197.2	0.1	91.138	0.163	1.23	96	2.02	65.4	47.8	65	102.0	69	0.117	0.342	22.41

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
569	196.6	-0.6	91.299	0.161	1.24	95	2.00	65.5	47.9	65	100.2	69	0.116	0.341	22.56
570	197.2	0.6	91.460	0.161	1.23	95	1.95	65.5	47.9	65	99.9	69	0.118	0.344	22.61
571	196.9	-0.3	91.617	0.157	1.23	95	2.06	65.5	47.9	65	97.8	69	0.111	0.333	22.37
572	196.6	-0.3	91.780	0.163	1.24	95	2.04	65.5	47.9	65	101.8	70	0.121	0.348	22.52
573	197.3	0.7	91.944	0.164	1.24	95	2.03	65.5	47.9	66	101.9	69	0.112	0.335	22.57
574	196.6	-0.7	92.105	0.161	1.24	95	2.06	65.6	47.9	65	100.2	71	0.120	0.346	22.53
575	196.6	0.0	92.265	0.160	1.24	95	2.03	65.7	47.9	66	99.3	72	0.116	0.341	22.75
576	196.8	0.2	92.426	0.161	1.24	95	2.02	65.6	47.9	65	99.6	70	0.118	0.344	22.65
577	196.1	-0.7	92.588	0.162	1.24	95	1.97	65.6	47.9	66	100.8	70	0.112	0.335	22.43
578	196.9	0.7	92.749	0.161	1.23	95	1.97	65.7	47.9	65	100.7	70	0.117	0.342	22.38
579	196.8	0.0	92.910	0.161	1.23	95	2.09	65.7	47.9	65	100.4	70	0.116	0.341	22.58
580	196.3	-0.5	93.070	0.160	1.24	95	1.96	65.8	48	65	99.8	73	0.116	0.341	22.56
581	196.9	0.6	93.232	0.162	1.23	95	2.11	65.9	48	66	100.7	70	0.119	0.345	22.71
582	196.3	-0.6	93.391	0.159	1.24	95	2.00	65.9	48	66	98.2	69	0.117	0.342	22.72
583	196.7	0.4	93.551	0.160	1.23	95	2.06	65.8	48	66	98.9	68	0.117	0.342	22.61
584	196.4	-0.2	93.714	0.163	1.23	95	2.01	65.8	48	66	101.6	68	0.111	0.333	22.30
585	196.8	0.4	93.875	0.161	1.24	96	2.00	65.7	48	66	100.9	68	0.117	0.342	22.29
586	196.5	-0.3	94.037	0.162	1.25	96	2.11	65.7	48	66	100.9	68	0.116	0.341	22.53
587	196.4	-0.1	94.198	0.161	1.22	95	1.98	65.7	48	65	99.4	67	0.120	0.346	22.67
588	196.3	-0.1	94.359	0.161	1.24	95	2.10	65.7	48	66	99.2	67	0.115	0.339	22.62
589	196.6	0.3	94.519	0.160	1.24	95	2.03	65.6	48	66	99.4	67	0.113	0.336	22.27
590	196.8	0.1	94.681	0.162	1.25	96	1.98	65.6	48	66	101.5	67	0.114	0.338	22.22
591	196.6	-0.2	94.842	0.161	1.24	95	2.11	65.6	48.1	66	100.5	67	0.117	0.342	22.41
592	196.4	-0.1	95.003	0.161	1.24	95	2.09	65.6	48.1	66	99.5	67	0.120	0.346	22.70
593	196.8	0.4	95.160	0.157	1.24	95	2.10	65.6	48.1	66	95.9	67	0.122	0.349	22.94
594	196.3	-0.6	95.325	0.165	1.25	96	1.94	65.5	48.2	66	99.9	66	0.123	0.351	23.08
595	196.5	0.2	95.486	0.161	1.22	95	2.10	65.5	48.1	66	97.5	66	0.118	0.344	22.88
596	196.7	0.2	95.647	0.161	1.23	95	1.95	65.5	48.2	65	98.7	66	0.116	0.341	22.55
597	196.4	-0.3	95.807	0.160	1.24	95	2.02	65.5	48.2	65	99.1	68	0.117	0.342	22.52
598	196.4	0.0	95.969	0.162	1.23	96	2.04	65.4	48.2	65	100.1	67	0.119	0.345	22.67
599	196.7	0.3	96.130	0.161	1.24	95	1.95	65.3	48.2	65	98.8	67	0.119	0.345	22.75
600	197.0	0.3	96.291	0.161	1.24	95	2.01	65.3	48.3	65	98.8	67	0.117	0.342	22.65
601	196.4	-0.7	96.452	0.161	1.23	95	2.09	65.3	48.3	65	98.7	66	0.123	0.351	22.84
602	196.3	-0.1	96.612	0.160	1.24	95	2.10	65.2	48.3	65	97.7	66	0.116	0.341	22.79
603	196.6	0.3	96.775	0.163	1.23	95	1.93	65.2	48.3	65	100.5	67	0.115	0.339	22.41
604	196.8	0.3	96.933	0.158	1.23	95	1.99	65.2	48.3	65	97.4	67	0.125	0.354	22.85
605	196.9	0.0	97.096	0.163	1.22	96	1.93	65.2	48.2	64	99.5	70	0.117	0.342	22.98
606	196.1	-0.8	97.256	0.160	1.24	96	1.97	65.3	48.3	65	98.1	69	0.118	0.344	22.66
607	196.5	0.5	97.418	0.162	1.22	95	1.98	65.3	48.3	65	99.9	68	0.118	0.344	22.69
608	196.3	-0.2	97.580	0.162	1.24	95	2.00	65.2	48.2	65	100.3	68	0.114	0.338	22.49
609	196.4	0.1	97.740	0.160	1.24	95	1.95	65.2	48.2	65	99.8	68	0.115	0.339	22.35
610	196.4	0.0	97.901	0.161	1.24	95	2.12	65.2	48.3	65	100.2	68	0.119	0.345	22.59
611	196.5	0.2	98.062	0.161	1.24	95	2.11	65.2	48.4	65	98.6	68	0.125	0.354	23.07
612	196.1	-0.4	98.224	0.162	1.23	95	2.07	65.3	48.4	65	98.3	68	0.118	0.344	23.02

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
613	196.8	0.7	98.384	0.160	1.24	95	2.12	65.3	48.4	65	98.0	69	0.118	0.344	22.69
614	196.6	-0.2	98.545	0.161	1.23	95	1.94	65.4	48.4	65	99.5	69	0.116	0.341	22.60
615	195.9	-0.6	98.705	0.160	1.23	94	1.94	65.3	48.3	65	99.4	69	0.116	0.341	22.51
616	196.2	0.2	98.867	0.162	1.24	95	2.08	65.3	48.4	65	100.4	69	0.120	0.346	22.70
617	196.5	0.4	99.028	0.161	1.23	94	2.07	65.3	48.4	65	99.1	69	0.119	0.345	22.85
618	196.7	0.2	99.189	0.161	1.23	95	1.95	65.4	48.5	65	99.1	69	0.117	0.342	22.71
619	196.5	-0.2	99.349	0.160	1.24	95	2.05	65.4	48.5	65	98.8	69	0.118	0.344	22.66
620	196.2	-0.3	99.512	0.163	1.24	95	2.10	65.5	48.5	65	100.9	70	0.117	0.342	22.66
621	196.1	-0.1	99.673	0.161	1.24	95	2.05	65.4	48.5	65	99.3	69	0.121	0.348	22.81
622	196.1	-0.1	99.833	0.160	1.22	95	2.10	65.5	48.5	65	98.5	70	0.115	0.339	22.72
623	196.1	0.0	99.993	0.160	1.24	95	1.95	65.5	48.5	65	99.1	70	0.118	0.344	22.57
624	196.2	0.1	100.155	0.162	1.24	95	1.96	65.6	48.6	65	99.7	70	0.124	0.352	23.01
625	196.4	0.2	100.316	0.161	1.24	95	2.08	65.6	48.7	65	98.4	70	0.116	0.341	22.92
626	196.4	0.0	100.477	0.161	1.24	95	1.95	65.6	48.6	65	99.7	70	0.114	0.338	22.43
627	196.6	0.2	100.637	0.160	1.24	95	2.05	65.6	48.6	65	100.4	70	0.113	0.336	22.28
628	196.8	0.3	100.799	0.162	1.25	95	1.95	65.7	48.6	65	102.1	70	0.113	0.336	22.24
629	196.8	0.0	100.960	0.161	1.24	95	2.10	65.7	48.7	65	101.4	70	0.115	0.339	22.34
630	196.8	0.1	101.121	0.161	1.24	94	1.94	65.7	48.7	65	101.1	70	0.114	0.338	22.39
631	196.6	-0.2	101.281	0.160	1.25	95	1.94	65.7	48.7	65	100.5	70	0.114	0.338	22.33
632	196.5	-0.1	101.442	0.161	1.23	94	2.08	65.7	48.7	66	101.2	70	0.114	0.338	22.34
633	196.1	-0.4	101.604	0.162	1.24	95	2.06	65.8	48.8	65	101.8	71	0.115	0.339	22.39
634	196.0	-0.1	101.765	0.161	1.22	95	2.08	65.9	48.7	66	101.1	73	0.115	0.339	22.47
635	195.9	-0.2	101.925	0.160	1.23	94	1.96	66.1	48.9	66	100.4	76	0.117	0.342	22.62
636	195.9	0.1	102.085	0.160	1.22	95	1.96	66.2	49	66	100.4	77	0.115	0.339	22.66
637	195.6	-0.3	102.247	0.162	1.24	95	2.01	66.4	48.9	65	102.2	80	0.113	0.336	22.52
638	195.3	-0.3	102.407	0.160	1.23	95	1.96	66.6	49	65	101.4	79	0.116	0.341	22.59
639	194.8	-0.5	102.567	0.160	1.23	95	1.96	66.7	49	65	101.2	80	0.114	0.338	22.64
640	194.0	-0.8	102.727	0.160	1.24	95	2.10	66.9	49	66	101.2	82	0.116	0.341	22.67
641	192.6	-1.4	102.889	0.162	1.24	95	2.02	67.1	49.1	65	102.5	84	0.115	0.339	22.75
642	192.2	-0.4	103.050	0.161	1.23	95	2.07	67.3	49.3	66	101.7	84	0.117	0.342	22.83
643	191.4	-0.9	103.209	0.159	1.23	95	2.06	67.5	49.4	66	101.0	85	0.110	0.332	22.60
644	190.9	-0.5	103.369	0.160	1.22	95	2.06	67.6	49.5	66	102.7	84	0.112	0.335	22.34
645	190.2	-0.7	103.531	0.162	1.24	95	1.96	67.7	49.6	66	103.7	84	0.116	0.341	22.63
646	188.8	-1.4	103.690	0.159	1.23	95	1.96	67.8	49.7	66	101.0	83	0.113	0.336	22.67
647	187.8	-1.1	103.850	0.160	1.21	95	2.03	68	49.9	66	102.0	85	0.113	0.336	22.53
648	186.5	-1.3	104.010	0.160	1.23	95	2.11	68	50	66	101.9	83	0.116	0.341	22.68
649	186.1	-0.4	104.171	0.161	1.22	95	2.06	68.2	50.2	66	101.9	85	0.116	0.341	22.83
650	185.1	-1.0	104.331	0.160	1.23	95	1.97	68.2	50.2	66	100.6	84	0.120	0.346	23.03
651	184.4	-0.7	104.490	0.159	1.24	95	1.97	68.3	50.5	66	99.1	84	0.119	0.345	23.16
652	182.8	-1.6	104.651	0.161	1.23	95	1.97	68.4	50.5	65	99.9	84	0.121	0.348	23.22
653	181.7	-1.2	104.811	0.160	1.23	95	2.10	68.5	50.6	65	98.9	84	0.122	0.349	23.36
654	180.9	-0.7	104.970	0.159	1.24	95	1.98	68.4	50.6	65	98.7	84	0.114	0.338	23.02
655	179.8	-1.2	105.130	0.160	1.22	95	1.96	68.6	50.7	65	100.6	84	0.117	0.342	22.78
656	179.6	-0.1	105.290	0.160	1.22	95	2.12	68.6	50.9	65	100.5	84	0.120	0.346	23.07

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
657	177.7	-2.0	105.450	0.160	1.21	95	2.06	68.7	51	66	100.2	86	0.115	0.339	23.00
658	176.9	-0.8	105.609	0.159	1.24	95	2.12	68.9	51.1	66	100.0	88	0.120	0.346	23.04
659	176.1	-0.8	105.770	0.161	1.21	95	2.10	69	51.2	64	100.6	89	0.123	0.351	23.46
660	175.3	-0.8	105.929	0.159	1.23	95	2.08	69	51.2	64	98.7	86	0.117	0.342	23.29
661	174.4	-0.9	106.088	0.159	1.20	95	2.02	68.9	51.4	65	99.5	85	0.116	0.341	22.91
662	173.5	-0.9	106.247	0.159	1.22	95	2.08	69	51.4	64	100.3	86	0.116	0.341	22.85
663	172.6	-0.9	106.408	0.161	1.22	95	1.96	69	51.5	65	102.2	86	0.111	0.333	22.61
664	172.0	-0.6	106.567	0.159	1.22	95	2.12	68.6	51.6	65	100.8	75	0.115	0.339	22.45
665	171.5	-0.5	106.726	0.159	1.23	95	1.99	68.3	51.6	66	99.8	73	0.116	0.341	22.56
666	170.8	-0.7	106.888	0.162	1.24	95	1.96	68.1	51.6	66	101.3	72	0.114	0.338	22.48
667	170.2	-0.6	107.049	0.161	1.24	95	1.96	67.9	51.5	65	100.5	71	0.118	0.344	22.56
668	170.0	-0.2	107.209	0.160	1.24	95	2.04	67.7	51.5	65	99.3	70	0.117	0.342	22.69
669	170.5	0.5	107.368	0.159	1.24	95	2.11	67.5	51.3	65	98.2	70	0.120	0.346	22.77
670	170.3	-0.2	107.531	0.163	1.25	95	2.10	67.5	51.2	65	100.6	70	0.116	0.341	22.72
671	169.6	-0.6	107.691	0.160	1.24	95	1.96	67.3	51.1	65	99.4	70	0.114	0.338	22.43
672	170.2	0.6	107.852	0.161	1.22	94	2.03	67.2	51	65	100.9	70	0.114	0.338	22.33
673	169.5	-0.8	108.011	0.159	1.23	95	2.02	67.2	50.8	65	99.8	69	0.115	0.339	22.38
674	170.4	0.9	108.173	0.162	1.23	95	2.02	67	50.7	65	101.9	69	0.110	0.332	22.17
675	169.3	-1.1	108.334	0.161	1.21	95	2.09	67	50.7	65	101.4	69	0.118	0.344	22.32
676	170.0	0.7	108.495	0.161	1.26	95	2.10	66.9	50.7	65	99.8	69	0.121	0.348	22.85
677	169.7	-0.3	108.655	0.160	1.23	95	2.09	66.9	50.7	65	97.9	69	0.120	0.346	22.95
678	169.5	-0.2	108.816	0.161	1.24	95	2.03	66.7	50.5	65	98.7	69	0.117	0.342	22.76
679	170.1	0.7	108.978	0.162	1.24	95	1.98	66.7	50.5	65	100.0	69	0.118	0.344	22.66
680	169.7	-0.4	109.138	0.160	1.24	94	1.97	66.6	50.5	65	98.8	69	0.119	0.345	22.76
681	169.4	-0.3	109.298	0.160	1.24	95	2.07	66.6	50.5	65	98.4	70	0.120	0.346	22.86
682	169.2	-0.3	109.459	0.161	1.25	95	1.95	66.5	50.4	65	98.6	70	0.120	0.346	22.91
683	169.8	0.6	109.621	0.162	1.23	95	1.97	66.5	50.4	66	99.4	70	0.118	0.344	22.81
684	169.9	0.1	109.781	0.160	1.23	95	1.97	66.5	50.3	66	99.4	70	0.110	0.332	22.33
685	170.0	0.0	109.942	0.161	1.23	95	2.02	66.4	50.4	65	101.7	70	0.113	0.336	22.09
686	169.7	-0.2	110.102	0.160	1.23	95	2.10	66.4	50.5	65	100.7	70	0.119	0.345	22.53
687	169.7	0.0	110.264	0.162	1.22	95	2.10	66.4	50.4	65	100.3	70	0.119	0.345	22.82
688	169.3	-0.5	110.424	0.160	1.24	95	1.96	66.4	50.4	66	98.6	70	0.117	0.342	22.73
689	169.4	0.1	110.585	0.161	1.23	95	2.02	66.4	50.4	66	99.5	70	0.118	0.344	22.68
690	169.8	0.4	110.745	0.160	1.24	95	1.97	66.3	50.5	66	99.2	70	0.115	0.339	22.58
691	169.9	0.1	110.907	0.162	1.23	95	2.05	66.3	50.5	66	100.6	70	0.119	0.345	22.63
692	169.7	-0.2	111.068	0.161	1.24	95	2.09	66.3	50.6	66	99.3	70	0.120	0.346	22.87
693	169.3	-0.4	111.228	0.160	1.22	95	2.01	66.3	50.5	66	98.9	71	0.113	0.336	22.59
694	169.9	0.7	111.388	0.160	1.23	95	2.01	66.3	50.5	66	99.3	70	0.122	0.349	22.69
695	169.5	-0.4	111.551	0.163	1.24	95	1.98	66.2	50.5	66	100.5	70	0.116	0.341	22.83
696	169.5	0.0	111.711	0.160	1.22	95	2.09	66.2	50.6	66	99.0	70	0.117	0.342	22.58
697	169.5	0.0	111.871	0.160	1.23	95	2.08	66.3	50.7	66	99.1	70	0.120	0.346	22.78
698	169.6	0.1	112.031	0.160	1.23	95	1.97	66.3	50.8	66	98.6	70	0.117	0.342	22.78
699	169.6	0.0	112.194	0.163	1.23	95	2.08	66.3	50.8	66	100.8	70	0.117	0.342	22.64
700	170.0	0.4	112.355	0.161	1.24	94	2.09	66.2	50.7	66	100.2	70	0.115	0.339	22.54

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
701	169.1	-0.9	112.515	0.160	1.24	95	1.98	66.2	50.7	66	100.0	70	0.115	0.339	22.44
702	169.9	0.8	112.675	0.160	1.24	95	2.06	66.2	50.8	65	99.3	70	0.123	0.351	22.83
703	169.8	-0.1	112.837	0.162	1.23	94	2.02	66.2	50.8	65	99.8	70	0.114	0.338	22.78
704	169.4	-0.4	112.998	0.161	1.24	95	2.08	66.2	50.8	66	100.1	71	0.116	0.341	22.45
705	170.2	0.8	113.158	0.160	1.22	95	2.06	66.2	50.9	66	99.8	70	0.117	0.342	22.59
706	169.5	-0.7	113.318	0.160	1.23	95	2.01	66.2	50.9	66	98.9	71	0.121	0.348	22.83
707	169.6	0.1	113.480	0.162	1.23	95	1.97	66.2	51	65	99.5	71	0.119	0.345	22.94
708	169.9	0.3	113.641	0.161	1.25	95	2.06	66.2	51	66	98.9	71	0.119	0.345	22.84
709	169.3	-0.5	113.801	0.160	1.25	95	2.08	66.3	51	65	98.8	72	0.116	0.341	22.70
710	169.9	0.6	113.961	0.160	1.24	95	2.02	66.3	51	66	99.6	73	0.116	0.341	22.58
711	169.9	0.0	114.123	0.162	1.24	95	2.10	66.3	50.9	66	100.4	71	0.122	0.349	22.86
712	169.3	-0.6	114.284	0.161	1.23	95	1.98	66.2	50.9	66	98.9	70	0.117	0.342	22.87
713	169.6	0.3	114.445	0.161	1.22	95	2.10	66.2	50.9	66	99.0	69	0.119	0.345	22.71
714	169.3	-0.2	114.605	0.160	1.23	95	1.99	66.1	50.9	66	98.8	69	0.116	0.341	22.65
715	169.3	-0.1	114.765	0.160	1.24	95	2.03	66.1	50.9	66	98.8	68	0.119	0.345	22.64
716	169.9	0.6	114.927	0.162	1.23	95	1.98	66.1	51	66	100.0	68	0.116	0.341	22.63
717	170.1	0.2	115.087	0.160	1.23	95	1.96	66.1	51	66	98.5	68	0.122	0.349	22.77
718	169.4	-0.7	115.248	0.161	1.23	95	2.05	66	51	66	98.7	67	0.116	0.341	22.77
719	170.1	0.7	115.408	0.160	1.24	96	2.10	65.9	51	66	98.7	67	0.116	0.341	22.47
720	169.3	-0.8	115.570	0.162	1.24	95	2.09	65.8	51	66	100.2	67	0.119	0.345	22.61
721	170.1	0.8	115.731	0.161	1.23	95	2.04	65.8	51	66	99.1	67	0.118	0.344	22.71
722	169.8	-0.3	115.891	0.160	1.24	95	1.97	65.8	51	66	98.1	67	0.121	0.348	22.80
723	169.5	-0.3	116.051	0.160	1.22	95	1.97	65.7	51	66	97.8	67	0.118	0.344	22.80
724	169.8	0.3	116.213	0.162	1.23	96	1.97	65.8	51.1	66	99.6	67	0.116	0.341	22.56
725	170.2	0.3	116.374	0.161	1.24	95	2.06	65.7	51.1	65	99.2	66	0.120	0.346	22.65
726	170.1	0.0	116.534	0.160	1.24	96	1.97	65.6	51.1	65	98.1	66	0.119	0.345	22.79
727	170.2	0.0	116.694	0.160	1.23	95	2.09	65.5	51	65	97.9	66	0.118	0.344	22.69
728	169.8	-0.4	116.857	0.163	1.24	95	1.95	65.5	51	65	100.0	66	0.119	0.345	22.69
729	169.7	-0.1	117.018	0.161	1.24	95	2.07	65.4	51	64	99.1	66	0.115	0.339	22.54
730	170.0	0.3	117.178	0.160	1.25	95	1.95	65.3	51	63	99.6	68	0.113	0.336	22.27
731	170.1	0.1	117.338	0.160	1.24	95	2.01	65.3	51.1	62	99.9	68	0.119	0.345	22.49
732	170.3	0.2	117.501	0.163	1.23	95	1.96	65.1	51	63	100.8	67	0.117	0.342	22.67
733	169.1	-1.2	117.662	0.161	1.23	95	1.96	65.3	51.1	63	99.7	73	0.117	0.342	22.63
734	169.4	0.2	117.822	0.160	1.24	95	2.11	64.9	51.2	63	99.2	67	0.118	0.344	22.69
735	169.0	-0.4	117.983	0.161	1.24	95	2.11	64.8	51.1	62	98.8	68	0.122	0.349	22.86
736	169.6	0.6	118.144	0.161	1.24	95	2.10	64.7	51.1	63	98.5	68	0.117	0.342	22.82
737	169.7	0.1	118.306	0.162	1.24	95	1.97	64.7	51.1	63	99.4	68	0.120	0.346	22.73
738	169.4	-0.2	118.467	0.161	1.23	96	2.08	64.6	51.1	63	99.1	68	0.116	0.341	22.69
739	169.6	0.2	118.628	0.161	1.25	95	2.00	64.6	51	64	98.9	69	0.123	0.351	22.83
740	169.5	0.0	118.788	0.160	1.23	95	1.97	64.6	51.1	64	97.9	69	0.117	0.342	22.89
741	169.6	0.1	118.951	0.163	1.24	95	2.02	64.6	51.1	64	100.3	68	0.117	0.342	22.59
742	169.7	0.1	119.112	0.161	1.23	95	2.10	64.6	51.1	64	100.2	69	0.112	0.335	22.35
743	168.9	-0.8	119.272	0.160	1.23	95	1.96	64.5	51	64	100.2	69	0.116	0.341	22.31
744	169.7	0.9	119.432	0.160	1.24	95	2.06	64.6	51	64	100.4	69	0.112	0.335	22.31

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
745	169.5	-0.2	119.595	0.163	1.25	95	2.11	64.6	51	64	102.6	69	0.114	0.338	22.21
746	169.0	-0.5	119.756	0.161	1.23	95	1.95	64.7	51	64	100.8	69	0.119	0.345	22.55
747	169.1	0.2	119.916	0.160	1.24	95	2.04	64.7	50.9	64	98.6	69	0.121	0.348	22.89
748	169.7	0.6	120.077	0.161	1.25	94	1.98	64.7	51	64	98.5	69	0.119	0.345	22.89
749	169.0	-0.7	120.238	0.161	1.23	94	2.06	64.7	51	65	99.6	69	0.112	0.335	22.46
750	169.7	0.8	120.400	0.162	1.23	95	2.02	64.7	51.1	65	101.4	69	0.116	0.341	22.32
751	169.1	-0.7	120.561	0.161	1.24	95	1.99	64.8	51.1	65	100.4	69	0.118	0.344	22.61
752	169.0	-0.1	120.721	0.160	1.24	95	2.01	64.8	51.1	64	99.9	70	0.109	0.330	22.27
753	169.3	0.3	120.882	0.161	1.24	95	2.10	64.8	51.1	65	101.2	69	0.119	0.345	22.32
754	168.9	-0.4	121.045	0.163	1.23	94	1.98	64.8	51.1	65	102.1	69	0.112	0.335	22.47
755	169.9	1.0	121.206	0.161	1.24	94	2.04	64.9	51.1	65	100.8	69	0.117	0.342	22.37
756	169.3	-0.6	121.366	0.160	1.24	95	1.97	65	51.1	65	99.8	69	0.117	0.342	22.61
757	169.1	-0.2	121.526	0.160	1.24	95	2.09	65	51.1	65	99.0	69	0.119	0.345	22.71
758	169.1	0.1	121.688	0.162	1.24	95	2.07	65	51.1	65	99.7	69	0.120	0.346	22.85
759	169.7	0.6	121.849	0.161	1.24	95	2.02	65	51.1	65	98.8	69	0.119	0.345	22.85
760	168.9	-0.8	122.010	0.161	1.23	95	1.96	65.1	51.1	65	99.4	70	0.115	0.339	22.62
761	169.0	0.1	122.170	0.160	1.22	94	1.96	65.1	51.1	65	99.4	70	0.118	0.344	22.58
762	169.0	0.0	122.332	0.162	1.23	94	2.11	65.2	51.1	65	100.8	70	0.115	0.339	22.57
763	169.6	0.6	122.493	0.161	1.25	94	1.97	65.2	51.1	65	100.3	70	0.117	0.342	22.52
764	169.0	-0.7	122.654	0.161	1.24	94	1.97	65.6	51.1	65	100.8	75	0.115	0.339	22.58
765	169.6	0.6	122.814	0.160	1.24	95	1.96	65.4	51.3	66	100.0	70	0.118	0.344	22.64
766	169.6	0.0	122.975	0.161	1.22	95	2.09	65.4	51.3	65	99.9	70	0.116	0.341	22.64
767	169.5	-0.1	123.136	0.161	1.25	95	1.98	65.4	51.2	65	100.2	70	0.115	0.339	22.49
768	169.0	-0.5	123.297	0.161	1.22	94	1.96	65.4	51.3	65	100.4	70	0.118	0.344	22.59
769	169.0	0.0	123.457	0.160	1.22	95	1.94	65.5	51.4	65	99.6	72	0.116	0.341	22.66
770	168.9	-0.1	123.618	0.161	1.24	95	1.96	65.6	51.3	65	100.4	71	0.115	0.339	22.52
771	169.6	0.7	123.780	0.162	1.25	95	2.01	65.7	51.3	66	101.2	70	0.116	0.341	22.50
772	169.1	-0.5	123.941	0.161	1.24	95	2.09	65.6	51.3	65	99.8	69	0.121	0.348	22.76
773	169.1	0.0	124.101	0.160	1.23	95	1.95	65.6	51.4	65	98.0	69	0.121	0.348	22.99
774	169.4	0.3	124.261	0.160	1.22	94	2.10	65.5	51.4	65	97.8	68	0.118	0.344	22.83
775	169.2	-0.2	124.423	0.162	1.23	94	1.97	65.5	51.5	65	100.3	68	0.112	0.335	22.39
776	169.0	-0.2	124.584	0.161	1.22	95	1.99	65.5	51.6	65	100.7	67	0.116	0.341	22.29
777	169.2	0.2	124.745	0.161	1.23	95	1.98	65.4	51.5	66	100.2	67	0.118	0.344	22.57
778	168.9	-0.4	124.905	0.160	1.23	95	1.99	65.4	51.5	65	99.2	67	0.114	0.338	22.47
779	168.7	-0.2	125.067	0.162	1.25	94	2.07	65.4	51.5	65	100.7	67	0.117	0.342	22.41
780	169.5	0.7	125.228	0.161	1.25	95	1.95	65.3	51.6	66	100.3	66	0.113	0.336	22.36
781	168.9	-0.6	125.389	0.161	1.23	94	2.10	65.3	51.6	65	100.1	68	0.121	0.348	22.57
782	169.3	0.4	125.549	0.160	1.22	94	2.09	65.3	51.6	64	98.8	68	0.117	0.342	22.78
783	168.7	-0.6	125.710	0.161	1.26	95	1.97	65.3	51.6	64	99.3	67	0.117	0.342	22.58
784	169.1	0.4	125.872	0.162	1.23	95	2.10	65.2	51.6	64	100.0	67	0.119	0.345	22.66
785	169.2	0.1	126.033	0.161	1.23	95	2.11	65.1	51.6	64	99.7	67	0.112	0.335	22.42
786	169.1	-0.1	126.193	0.160	1.22	95	2.03	65	51.6	64	100.3	67	0.113	0.336	22.12
787	168.8	-0.3	126.354	0.161	1.25	95	2.03	65	51.6	64	100.6	67	0.121	0.348	22.57
788	169.3	0.5	126.516	0.162	1.24	94	1.96	65	51.6	64	99.7	68	0.119	0.345	22.86

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Test Start Time: 19:36
Test Length: 2460 min
Recording Interval: 1 min

Test Date: 2/27/25
Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
789	169.3	-0.1	126.677	0.161	1.24	94	1.94	65.1	51.7	65	98.9	68	0.117	0.342	22.68
790	168.7	-0.5	126.837	0.160	1.24	95	1.97	65.2	51.7	65	98.7	68	0.119	0.345	22.69
791	168.8	0.1	126.997	0.160	1.23	94	2.10	65.1	51.7	65	98.9	69	0.116	0.341	22.65
792	169.4	0.5	127.160	0.163	1.23	95	2.07	65.1	51.7	65	101.4	69	0.114	0.338	22.41
793	168.8	-0.6	127.321	0.161	1.24	94	2.01	65.1	51.7	65	100.6	69	0.117	0.342	22.46
794	169.0	0.2	127.481	0.160	1.24	94	2.02	65.1	51.7	65	99.3	69	0.120	0.346	22.76
795	168.8	-0.2	127.641	0.160	1.23	95	1.97	65.4	51.8	65	98.6	74	0.120	0.346	22.95
796	168.6	-0.2	127.803	0.162	1.24	95	1.97	65.3	51.9	65	99.7	70	0.118	0.344	22.86
797	168.6	0.1	127.964	0.161	1.23	94	1.99	65.3	51.8	65	99.3	70	0.117	0.342	22.67
798	168.8	0.2	128.125	0.161	1.22	95	1.98	65.3	51.9	65	100.0	73	0.117	0.342	22.65
799	168.8	0.0	128.286	0.161	1.23	95	2.09	65.4	51.9	65	100.3	70	0.114	0.338	22.51
800	168.3	-0.5	128.447	0.161	1.24	95	2.08	65.4	51.8	65	100.7	69	0.115	0.339	22.38
801	168.5	0.2	128.609	0.162	1.23	95	2.06	65.3	51.8	65	100.8	69	0.120	0.346	22.66
802	168.5	0.0	128.769	0.160	1.24	95	1.99	65.2	51.9	65	98.8	68	0.116	0.341	22.69
803	168.4	-0.1	128.930	0.161	1.24	95	2.02	65.2	51.9	64	98.9	68	0.123	0.351	22.82
804	169.2	0.8	129.090	0.160	1.22	94	2.00	65.2	52	65	97.8	67	0.118	0.344	22.91
805	168.4	-0.8	129.253	0.163	1.23	95	2.07	65.1	51.9	65	100.2	67	0.115	0.339	22.52
806	169.0	0.5	129.414	0.161	1.22	94	2.07	65.1	52	65	100.0	67	0.116	0.341	22.41
807	169.0	0.0	129.574	0.160	1.24	94	2.03	65	51.9	65	99.9	68	0.114	0.338	22.38
808	168.5	-0.4	129.735	0.161	1.24	95	1.97	65.2	51.9	64	100.3	69	0.119	0.345	22.55
809	168.9	0.4	129.897	0.162	1.23	94	2.05	65	51.9	65	100.5	67	0.114	0.338	22.53
810	169.2	0.2	130.058	0.161	1.25	94	2.08	65	52	64	99.3	67	0.124	0.352	22.76
811	168.7	-0.5	130.219	0.161	1.25	95	2.09	65	52	65	98.5	68	0.117	0.342	22.91
812	168.4	-0.3	130.379	0.160	1.23	94	2.01	64.9	51.9	65	98.6	68	0.115	0.339	22.48
813	168.6	0.2	130.541	0.162	1.24	94	1.98	65	51.9	65	100.7	68	0.119	0.345	22.58
814	168.6	0.0	130.702	0.161	1.24	94	2.09	64.9	51.9	64	99.4	68	0.119	0.345	22.78
815	168.6	0.1	130.863	0.161	1.24	95	2.06	65	52	65	99.1	68	0.117	0.342	22.69
816	168.3	-0.3	131.024	0.161	1.23	94	1.96	65	51.9	65	98.8	69	0.125	0.354	22.99
817	168.7	0.4	131.184	0.160	1.23	94	2.09	65	52	65	97.1	69	0.122	0.349	23.23
818	169.3	0.6	131.347	0.163	1.25	94	1.99	65.1	52	65	99.9	72	0.113	0.336	22.69
819	168.6	-0.7	131.508	0.161	1.25	94	2.09	65.2	52.1	65	99.8	69	0.123	0.351	22.74
820	169.0	0.4	131.668	0.160	1.24	95	2.07	65.1	52.1	65	97.8	69	0.122	0.349	23.14
821	168.7	-0.3	131.829	0.161	1.25	94	1.96	65	52.1	64	98.1	68	0.117	0.342	22.84
822	168.9	0.2	131.991	0.162	1.26	95	1.99	65	52.1	63	99.9	68	0.117	0.342	22.59
823	168.7	-0.2	132.152	0.161	1.24	94	2.00	64.8	52.2	63	99.5	68	0.119	0.345	22.68
824	169.1	0.4	132.313	0.161	1.23	94	1.97	64.8	52.2	63	99.2	67	0.118	0.344	22.72
825	168.5	-0.6	132.474	0.161	1.24	95	1.97	64.6	52.2	63	99.7	68	0.113	0.336	22.44
826	168.5	-0.1	132.635	0.161	1.24	95	2.07	64.9	52.3	63	101.0	74	0.116	0.341	22.41
827	168.2	-0.3	132.797	0.162	1.25	95	1.97	64.7	52.2	63	101.3	69	0.117	0.342	22.61
828	168.4	0.2	132.957	0.160	1.24	94	2.06	64.7	52.2	64	99.6	68	0.112	0.335	22.35
829	168.3	-0.1	133.118	0.161	1.23	94	2.08	64.6	52.2	63	100.4	69	0.121	0.348	22.54
830	168.1	-0.2	133.278	0.160	1.23	94	1.97	64.6	52.1	64	98.8	69	0.118	0.344	22.84
831	168.6	0.5	133.441	0.163	1.23	94	2.10	64.6	52.1	64	99.7	69	0.124	0.352	22.99
832	168.0	-0.5	133.602	0.161	1.24	95	2.02	64.6	52.2	64	98.3	69	0.117	0.342	22.94

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
833	168.3	0.3	133.763	0.161	1.24	95	2.00	64.6	52.2	64	98.4	69	0.124	0.352	22.94
834	168.5	0.1	133.923	0.160	1.24	94	1.98	64.6	52.2	64	97.3	70	0.122	0.349	23.19
835	168.0	-0.4	134.085	0.162	1.24	95	2.07	64.7	52.2	64	98.6	70	0.119	0.345	22.96
836	168.9	0.8	134.247	0.162	1.21	94	2.08	64.7	52.2	64	99.7	70	0.116	0.341	22.67
837	168.2	-0.7	134.407	0.160	1.25	94	1.98	64.7	52.2	64	98.6	70	0.124	0.352	22.91
838	168.9	0.7	134.568	0.161	1.24	94	2.06	64.8	52.1	64	98.7	71	0.117	0.342	22.97
839	168.6	-0.3	134.729	0.161	1.24	94	2.02	64.9	52.2	65	100.1	73	0.112	0.335	22.42
840	168.2	-0.4	134.891	0.162	1.23	94	2.05	64.9	52.2	64	102.1	70	0.115	0.339	22.31
841	168.6	0.4	135.052	0.161	1.24	94	1.95	64.9	52.2	64	101.0	69	0.116	0.341	22.48
842	169.1	0.5	135.212	0.160	1.24	94	1.96	64.9	52.3	64	99.5	69	0.119	0.345	22.66
843	168.5	-0.7	135.372	0.160	1.23	94	2.03	64.8	52.2	64	99.5	69	0.112	0.335	22.46
844	168.2	-0.2	135.535	0.163	1.23	95	2.06	64.8	52.3	64	101.9	68	0.117	0.342	22.35
845	168.6	0.4	135.696	0.161	1.24	95	2.09	64.8	52.3	64	99.8	68	0.121	0.348	22.78
846	168.9	0.3	135.857	0.161	1.24	95	1.97	64.8	52.3	64	99.3	67	0.113	0.336	22.58
847	168.9	0.0	136.017	0.160	1.24	95	1.99	64.7	52.3	65	99.6	67	0.116	0.341	22.33
848	168.4	-0.4	136.179	0.162	1.24	94	1.97	64.7	52.3	64	101.1	67	0.116	0.341	22.47
849	168.4	0.0	136.340	0.161	1.23	94	2.09	64.7	52.4	64	99.9	67	0.118	0.344	22.56
850	168.3	-0.1	136.501	0.161	1.22	94	1.97	64.7	52.4	64	99.7	66	0.116	0.341	22.55
851	168.6	0.3	136.661	0.160	1.22	95	2.07	64.9	52.5	64	99.1	71	0.120	0.346	22.70
852	168.2	-0.4	136.822	0.161	1.23	95	2.10	65	52.5	64	99.6	73	0.118	0.344	22.87
853	167.9	-0.3	136.984	0.162	1.22	94	2.10	65.2	52.5	64	100.9	77	0.115	0.339	22.69
854	167.1	-0.8	137.144	0.160	1.23	94	1.98	65.4	52.6	64	100.6	78	0.116	0.341	22.64
855	166.4	-0.7	137.304	0.160	1.24	95	2.04	65.5	52.6	64	100.5	80	0.118	0.344	22.81
856	165.6	-0.8	137.465	0.161	1.23	94	1.99	65.7	52.6	64	101.0	82	0.116	0.341	22.85
857	165.0	-0.6	137.626	0.161	1.23	94	2.08	66	52.7	64	101.8	83	0.113	0.336	22.64
858	163.8	-1.2	137.786	0.160	1.24	94	1.99	66.1	52.8	64	101.6	84	0.118	0.344	22.77
859	162.7	-1.2	137.946	0.160	1.23	95	2.11	66.4	52.8	64	101.4	85	0.113	0.336	22.79
860	162.5	-0.2	138.107	0.161	1.22	94	1.97	66.5	53	65	102.0	86	0.120	0.346	22.91
861	161.0	-1.5	138.268	0.161	1.23	94	2.03	66.8	53.1	65	101.6	86	0.115	0.339	23.02
862	160.6	-0.4	138.428	0.160	1.24	94	2.01	66.8	53.1	64	101.3	85	0.113	0.336	22.66
863	159.3	-1.3	138.587	0.159	1.23	95	2.00	67	53.3	65	101.7	85	0.112	0.335	22.50
864	158.9	-0.3	138.748	0.161	1.25	94	2.03	67.3	53.4	65	103.4	86	0.114	0.338	22.56
865	158.5	-0.4	138.909	0.161	1.22	94	2.11	67.4	53.4	65	103.1	86	0.114	0.338	22.67
866	157.5	-1.0	139.068	0.159	1.22	95	1.98	67.5	53.5	65	101.1	86	0.118	0.344	22.87
867	156.4	-1.0	139.227	0.159	1.23	94	1.99	67.6	53.5	65	100.4	87	0.116	0.341	22.97
868	155.8	-0.7	139.389	0.162	1.25	94	1.99	67.8	53.6	65	102.9	87	0.112	0.335	22.69
869	155.1	-0.7	139.549	0.160	1.22	94	1.98	68	53.7	65	102.5	87	0.115	0.339	22.65
870	154.3	-0.8	139.708	0.159	1.22	94	2.11	68.1	53.7	65	101.7	88	0.114	0.338	22.75
871	153.0	-1.3	139.868	0.160	1.22	94	1.98	68.3	53.8	65	102.1	87	0.115	0.339	22.75
872	151.6	-1.4	140.029	0.161	1.23	94	2.03	68.2	53.9	65	102.1	86	0.119	0.345	22.98
873	151.1	-0.5	140.188	0.159	1.23	95	2.05	68.4	54	65	99.8	86	0.119	0.345	23.17
874	150.3	-0.8	140.347	0.159	1.23	94	1.99	68.6	54.1	65	100.2	88	0.113	0.336	22.90
875	148.8	-1.5	140.509	0.162	1.23	94	1.98	68.7	54.1	65	103.2	88	0.115	0.339	22.71
876	148.8	0.0	140.668	0.159	1.23	94	2.04	68.8	54.2	65	101.3	88	0.117	0.342	22.91

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 19:36
Test Length: 2460 min
Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
877	147.0	-1.7	140.827	0.159	1.22	94	2.00	68.9	54.2	65	101.1	88	0.113	0.336	22.82
878	146.9	-0.1	140.987	0.160	1.21	94	2.05	69	54.2	65	101.5	89	0.121	0.348	23.02
879	146.0	-0.9	141.148	0.161	1.24	94	1.97	68.6	54.3	65	100.3	79	0.121	0.348	23.31
880	145.3	-0.7	141.308	0.160	1.23	95	1.98	68.5	54.5	66	98.6	78	0.117	0.342	23.00
881	145.2	0.0	141.468	0.160	1.22	95	2.00	68.4	54.4	66	99.5	76	0.116	0.341	22.72
882	145.1	-0.1	141.628	0.160	1.23	94	2.10	68.3	54.3	66	100.2	76	0.116	0.341	22.66
883	144.8	-0.3	141.790	0.162	1.22	94	2.10	68.2	54.3	65	101.2	76	0.120	0.346	22.86
884	144.7	-0.1	141.950	0.160	1.22	94	2.07	68.2	54.2	65	99.2	74	0.118	0.344	22.93
885	144.4	-0.3	142.110	0.160	1.22	94	1.98	68	54.1	65	99.3	73	0.115	0.339	22.66
886	144.2	-0.3	142.271	0.161	1.23	94	1.98	67.9	54	65	100.7	72	0.115	0.339	22.49
887	143.3	-0.8	142.432	0.161	1.22	95	2.04	67.8	54	65	100.8	72	0.117	0.342	22.58
888	144.0	0.7	142.592	0.160	1.24	94	1.98	67.6	53.9	65	99.8	70	0.115	0.339	22.55
889	143.6	-0.4	142.752	0.160	1.23	95	2.01	67.4	53.7	65	99.5	70	0.119	0.345	22.63
890	143.5	-0.1	142.913	0.161	1.22	94	2.06	67.4	53.7	65	99.9	69	0.115	0.339	22.62
891	143.3	-0.2	143.075	0.162	1.23	94	2.09	67.2	53.7	65	100.6	69	0.118	0.344	22.56
892	143.3	0.0	143.235	0.160	1.24	95	1.97	67.1	53.6	65	99.1	69	0.118	0.344	22.70
893	143.1	-0.2	143.398	0.163	1.24	94	2.02	67	53.5	65	100.4	68	0.120	0.346	22.79
894	143.6	0.5	143.556	0.158	1.24	94	1.96	66.9	53.6	65	97.5	68	0.115	0.339	22.64
895	142.8	-0.8	143.718	0.162	1.23	94	1.96	66.8	53.6	65	100.7	68	0.115	0.339	22.40
896	143.5	0.6	143.878	0.160	1.23	94	1.98	66.6	53.6	65	99.9	68	0.116	0.341	22.44
897	142.9	-0.5	144.038	0.160	1.22	94	2.09	66.5	53.7	65	99.9	68	0.114	0.338	22.39
898	143.4	0.5	144.199	0.161	1.24	95	2.10	66.5	53.7	65	100.5	68	0.117	0.342	22.43
899	143.1	-0.2	144.361	0.162	1.24	94	2.02	66.4	53.8	65	100.9	68	0.115	0.339	22.48
900	142.8	-0.4	144.521	0.160	1.23	94	1.97	66.3	53.8	65	100.1	69	0.113	0.336	22.30
901	143.7	0.9	144.681	0.160	1.23	95	1.97	66.3	54	65	100.1	69	0.119	0.345	22.51
902	142.9	-0.8	144.842	0.161	1.24	95	2.09	66.2	53.9	64	99.7	68	0.118	0.344	22.75
903	142.8	-0.1	145.006	0.164	1.23	95	2.05	66.2	54	64	101.3	68	0.115	0.339	22.54
904	142.8	0.0	145.165	0.159	1.24	94	2.10	66.1	53.9	64	99.2	68	0.114	0.338	22.34
905	142.8	0.0	145.325	0.160	1.25	95	1.99	66	54	65	100.5	69	0.113	0.336	22.25
906	142.7	-0.1	145.485	0.160	1.23	94	2.02	65.9	54	65	100.2	69	0.119	0.345	22.50
907	142.9	0.2	145.647	0.162	1.24	94	1.97	65.9	54	65	100.8	69	0.115	0.339	22.61
908	142.8	-0.1	145.808	0.161	1.24	95	2.06	65.9	54	65	100.3	70	0.116	0.341	22.47
909	143.5	0.7	145.969	0.161	1.22	95	2.03	65.9	54	65	100.2	71	0.119	0.345	22.68
910	143.4	-0.1	146.128	0.159	1.24	94	2.08	65.9	53.9	65	98.1	70	0.120	0.346	22.88
911	143.7	0.3	146.290	0.162	1.23	94	1.96	65.9	54	65	99.5	71	0.120	0.346	22.93
912	143.0	-0.7	146.451	0.161	1.23	94	1.96	65.9	53.9	65	99.3	71	0.115	0.339	22.69
913	142.6	-0.3	146.614	0.163	1.24	94	1.96	65.9	54	65	101.2	72	0.120	0.346	22.71
914	143.5	0.8	146.771	0.157	1.25	94	2.10	66	54	65	96.8	71	0.121	0.348	23.00
915	143.6	0.1	146.933	0.162	1.23	94	2.03	66	54	65	99.2	72	0.121	0.348	23.05
916	143.0	-0.5	147.094	0.161	1.22	95	2.10	66	53.9	65	98.7	72	0.118	0.344	22.90
917	143.0	0.0	147.255	0.161	1.22	94	2.09	66	53.9	66	99.3	72	0.119	0.345	22.81
918	143.6	0.6	147.414	0.159	1.24	95	1.96	66.1	54	64	98.3	72	0.118	0.344	22.81
919	143.1	-0.4	147.576	0.162	1.22	95	2.02	66	54	64	99.6	72	0.123	0.351	23.01
920	143.2	0.0	147.737	0.161	1.24	94	2.00	66	54	64	98.6	72	0.118	0.344	23.01

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
921	143.0	-0.1	147.898	0.161	1.23	95	2.09	65.9	54	64	99.2	73	0.118	0.344	22.77
922	143.6	0.5	148.057	0.159	1.22	95	2.09	65.8	54	64	98.1	72	0.121	0.348	22.92
923	143.3	-0.3	148.221	0.164	1.22	95	1.96	65.8	54	63	101.1	73	0.116	0.341	22.83
924	143.0	-0.3	148.383	0.162	1.26	95	2.09	65.9	54.1	64	100.8	73	0.115	0.339	22.54
925	142.8	-0.2	148.541	0.158	1.23	95	1.97	65.8	54	64	98.4	73	0.121	0.348	22.79
926	143.3	0.5	148.701	0.160	1.23	95	1.98	65.8	54	64	99.1	73	0.115	0.339	22.79
927	142.9	-0.4	148.862	0.161	1.23	95	2.04	65.8	53.9	65	99.7	73	0.121	0.348	22.79
928	143.1	0.2	149.023	0.161	1.24	95	1.95	65.8	53.9	64	99.5	73	0.117	0.342	22.89
929	143.0	-0.1	149.184	0.161	1.22	95	2.12	65.8	53.8	64	99.8	74	0.117	0.342	22.70
930	143.8	0.9	149.344	0.160	1.23	95	1.98	65.8	53.8	64	99.4	73	0.119	0.345	22.80
931	142.9	-0.9	149.505	0.161	1.22	94	2.02	65.9	53.8	65	99.4	73	0.121	0.348	22.99
932	143.1	0.1	149.666	0.161	1.24	94	2.06	65.8	53.8	64	99.3	73	0.116	0.341	22.84
933	143.2	0.2	149.830	0.164	1.24	95	1.96	65.9	53.9	64	101.4	74	0.122	0.349	22.89
934	143.3	0.1	149.990	0.160	1.23	95	1.97	65.9	53.8	64	98.4	74	0.120	0.346	23.09
935	143.3	0.0	150.148	0.158	1.25	95	2.10	65.9	53.9	65	97.0	73	0.119	0.345	22.94
936	143.0	-0.2	150.309	0.161	1.23	95	1.99	66	53.8	65	99.5	73	0.117	0.342	22.80
937	143.0	0.0	150.470	0.161	1.23	95	1.99	66	53.9	64	100.1	74	0.116	0.341	22.65
938	143.1	0.1	150.630	0.160	1.23	95	1.99	66	53.9	64	99.1	74	0.124	0.352	23.00
939	143.1	0.0	150.790	0.160	1.22	94	2.08	66	53.9	65	98.3	74	0.117	0.342	23.04
940	143.8	0.7	150.953	0.163	1.23	95	2.00	66.1	53.9	64	100.9	74	0.116	0.341	22.66
941	143.5	-0.3	151.113	0.160	1.24	94	1.97	66	53.8	65	99.9	74	0.117	0.342	22.66
942	143.1	-0.4	151.277	0.164	1.22	94	2.02	66.1	53.8	65	102.7	74	0.114	0.338	22.56
943	143.2	0.0	151.436	0.159	1.23	94	1.95	66.1	53.8	64	99.3	74	0.121	0.348	22.76
944	143.7	0.5	151.598	0.162	1.24	94	2.09	66.1	53.8	65	100.1	74	0.120	0.346	23.05
945	143.9	0.3	151.756	0.158	1.26	94	1.99	66.2	53.8	65	97.2	74	0.119	0.345	22.95
946	143.7	-0.2	151.916	0.160	1.25	94	2.09	66.1	53.8	64	98.8	74	0.119	0.345	22.90
947	143.4	-0.3	152.076	0.160	1.25	95	1.96	66.2	53.8	64	99.0	74	0.118	0.344	22.86
948	142.8	-0.6	152.238	0.162	1.22	94	2.07	66.6	53.9	64	101.2	80	0.114	0.338	22.68
949	142.6	-0.2	152.399	0.161	1.23	94	2.08	66.3	54	65	100.8	75	0.121	0.348	22.83
950	142.6	0.0	152.559	0.160	1.23	94	2.09	66.3	53.9	65	99.3	75	0.116	0.341	22.87
951	142.5	-0.1	152.722	0.163	1.22	95	1.97	66.4	53.9	65	101.3	74	0.118	0.344	22.72
952	142.8	0.3	152.883	0.161	1.23	95	2.06	66.4	54	65	99.9	74	0.120	0.346	22.92
953	142.9	0.1	153.044	0.161	1.22	95	2.09	66.3	53.9	65	99.9	74	0.114	0.338	22.72
954	143.2	0.2	153.205	0.161	1.22	95	2.06	66.4	53.9	65	100.5	74	0.118	0.344	22.62
955	143.2	0.1	153.362	0.157	1.24	95	2.09	66.4	53.9	65	97.7	74	0.119	0.345	22.86
956	143.5	0.2	153.524	0.162	1.24	94	1.98	66.4	53.9	65	100.5	75	0.117	0.342	22.82
957	143.4	-0.1	153.685	0.161	1.22	94	2.00	66.5	53.9	65	100.8	75	0.112	0.335	22.48
958	143.4	0.0	153.846	0.161	1.24	95	2.06	66.5	53.9	65	101.2	74	0.119	0.345	22.58
959	142.8	-0.6	154.005	0.159	1.24	95	2.03	66.6	54	65	99.3	75	0.116	0.341	22.77
960	142.5	-0.3	154.167	0.162	1.23	95	2.06	66.6	53.9	65	101.0	75	0.117	0.342	22.68
961	143.2	0.7	154.331	0.164	1.23	95	2.08	66.7	53.9	65	102.3	75	0.117	0.342	22.73
962	142.9	-0.3	154.491	0.160	1.24	95	2.03	66.7	53.9	65	99.8	75	0.116	0.341	22.68
963	142.9	0.0	154.652	0.161	1.23	95	2.08	66.6	53.9	65	100.8	75	0.115	0.339	22.59
964	142.8	-0.1	154.812	0.160	1.22	94	2.08	66.7	53.9	65	100.4	75	0.116	0.341	22.59

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
965	143.5	0.7	154.971	0.159	1.24	94	1.99	66.7	53.9	65	99.3	75	0.120	0.346	22.83
966	142.5	-1.0	155.132	0.161	1.23	95	1.97	66.8	53.9	65	99.8	75	0.118	0.344	22.93
967	142.3	-0.2	155.292	0.160	1.23	95	2.05	66.8	53.9	65	99.7	75	0.112	0.335	22.54
968	142.6	0.2	155.453	0.161	1.23	95	1.99	66.8	54	65	101.8	75	0.113	0.336	22.30
969	142.7	0.1	155.614	0.161	1.24	94	2.00	66.8	53.9	65	101.6	75	0.119	0.345	22.64
970	142.5	-0.1	155.775	0.161	1.23	94	2.06	66.8	53.9	65	100.5	75	0.117	0.342	22.84
971	143.0	0.5	155.938	0.163	1.22	94	2.06	66.8	54	65	101.5	75	0.117	0.342	22.74
972	143.5	0.5	156.098	0.160	1.24	95	2.06	66.9	54	65	100.2	75	0.113	0.336	22.54
973	142.6	-0.9	156.260	0.162	1.24	95	1.97	66.9	54	65	101.3	75	0.122	0.349	22.79
974	143.2	0.6	156.421	0.161	1.23	95	2.02	66.9	54	65	99.8	75	0.116	0.341	22.93
975	142.5	-0.7	156.578	0.157	1.23	95	2.00	66.9	54	65	97.8	75	0.115	0.339	22.59
976	143.5	1.0	156.738	0.160	1.22	95	1.97	66.9	54.1	65	99.4	75	0.125	0.354	23.03
977	143.2	-0.3	156.900	0.162	1.25	94	2.06	67	54.1	65	99.7	76	0.116	0.341	23.08
978	142.6	-0.5	157.061	0.161	1.24	95	2.03	67.1	54.1	65	100.1	75	0.114	0.338	22.55
979	142.5	-0.1	157.221	0.160	1.24	95	1.97	67.3	54.1	65	100.5	81	0.121	0.348	22.85
980	142.2	-0.3	157.381	0.160	1.24	95	2.10	67.2	54.2	65	100.1	76	0.112	0.335	22.76
981	142.3	0.1	157.545	0.164	1.23	95	2.07	67.2	54.1	65	102.5	76	0.119	0.345	22.60
982	142.8	0.5	157.706	0.161	1.24	94	1.97	67.1	54.1	65	99.9	76	0.123	0.351	23.13
983	143.0	0.3	157.867	0.161	1.23	94	2.09	67.1	54	65	98.6	76	0.121	0.348	23.23
984	142.0	-1.0	158.026	0.159	1.24	94	2.06	67.1	54.1	65	98.1	75	0.114	0.338	22.80
985	142.9	0.9	158.188	0.162	1.24	95	1.99	67.2	54.1	65	101.4	76	0.116	0.341	22.55
986	142.0	-0.9	158.346	0.158	1.24	94	2.04	67.2	54.1	65	99.1	76	0.118	0.344	22.75
987	143.1	1.1	158.506	0.160	1.23	95	1.99	67.2	54.1	65	100.2	76	0.113	0.336	22.61
988	142.3	-0.7	158.666	0.160	1.23	94	2.05	67.2	54.1	65	100.4	76	0.119	0.345	22.66
989	142.3	0.0	158.829	0.163	1.23	95	2.00	67.3	54.1	65	101.8	76	0.116	0.341	22.80
990	142.2	-0.1	158.989	0.160	1.24	95	2.06	67.2	54.1	66	100.2	76	0.114	0.338	22.56
991	142.6	0.3	159.153	0.164	1.22	95	2.01	67.3	54.1	65	103.3	76	0.115	0.339	22.51
992	142.4	-0.1	159.313	0.160	1.23	94	2.10	67.3	54.1	66	100.8	76	0.115	0.339	22.56
993	142.4	0.0	159.474	0.161	1.24	94	2.09	67.3	54.1	66	101.3	76	0.116	0.341	22.61
994	142.1	-0.3	159.635	0.161	1.25	94	2.11	67.3	54.2	66	101.6	76	0.112	0.335	22.47
995	142.3	0.2	159.795	0.160	1.23	95	2.07	67.4	54.2	66	100.6	76	0.121	0.348	22.71
996	142.9	0.7	159.952	0.157	1.23	95	2.01	67.3	54.2	66	98.1	76	0.113	0.336	22.76
997	142.8	-0.1	160.114	0.162	1.24	95	2.09	67.4	54.2	66	101.1	76	0.121	0.348	22.76
998	142.1	-0.7	160.275	0.161	1.23	94	1.94	67.4	54.2	66	101.2	76	0.107	0.327	22.46
999	143.1	1.0	160.435	0.160	1.23	94	2.10	67.4	54.2	66	101.2	76	0.122	0.349	22.52
1000	142.4	-0.8	160.595	0.160	1.23	95	2.10	67.4	54.2	66	100.2	76	0.114	0.338	22.86
1001	143.0	0.6	160.759	0.164	1.23	94	2.03	67.4	54.2	66	102.5	76	0.117	0.342	22.62
1002	142.3	-0.7	160.921	0.162	1.23	95	2.09	67.5	54.2	66	102.2	76	0.110	0.332	22.42
1003	142.8	0.5	161.081	0.160	1.23	94	1.95	67.5	54.2	65	101.9	76	0.113	0.336	22.22
1004	143.0	0.2	161.241	0.160	1.23	94	2.01	67.5	54.2	66	101.9	77	0.114	0.338	22.42
1005	143.1	0.1	161.402	0.161	1.24	94	1.96	67.5	54.1	66	101.9	77	0.115	0.339	22.52
1006	142.7	-0.3	161.561	0.159	1.22	95	1.97	67.5	54.2	66	100.3	76	0.114	0.338	22.52
1007	142.8	0.0	161.721	0.160	1.23	95	2.09	67.5	54.2	66	101.1	75	0.112	0.335	22.36
1008	142.6	-0.2	161.881	0.160	1.24	94	2.08	67.4	54.1	65	101.8	74	0.111	0.333	22.19

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Start Time: 19:36

Test Length: 2460 min

Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.012

Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg

Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1009	143.0	0.4	162.043	0.162	1.23	95	1.97	67.4	54.2	66	103.0	74	0.115	0.339	22.33
1010	142.7	-0.3	162.203	0.160	1.23	95	1.97	67.6	54.2	66	101.1	78	0.116	0.341	22.62
1011	142.6	-0.1	162.366	0.163	1.23	95	2.05	67.4	54.2	66	102.6	73	0.112	0.335	22.46
1012	142.0	-0.6	162.526	0.160	1.23	95	2.02	67.3	54.3	66	100.7	73	0.116	0.341	22.40
1013	142.1	0.1	162.687	0.161	1.24	95	1.96	67.2	54.2	66	100.6	72	0.120	0.346	22.78
1014	142.7	0.6	162.849	0.162	1.24	95	1.96	67.2	54.3	66	99.8	72	0.121	0.348	23.01
1015	142.0	-0.7	163.010	0.161	1.24	95	2.04	67.1	54.3	66	99.0	72	0.116	0.341	22.81
1016	142.6	0.7	163.167	0.157	1.23	95	1.94	67.1	54.3	65	97.1	71	0.119	0.345	22.71
1017	142.1	-0.6	163.328	0.161	1.23	94	2.06	67	54.2	66	100.0	71	0.114	0.338	22.60
1018	142.8	0.7	163.489	0.161	1.24	94	2.07	67	54.2	66	100.5	70	0.116	0.341	22.45
1019	142.0	-0.8	163.650	0.161	1.22	95	1.94	66.9	54.3	65	100.2	70	0.119	0.345	22.69
1020	142.5	0.5	163.810	0.160	1.23	95	2.10	66.8	54.3	66	99.2	70	0.114	0.338	22.58
1021	142.1	-0.4	163.973	0.163	1.21	95	2.08	66.8	54.4	65	101.9	70	0.113	0.336	22.29
1022	142.3	0.2	164.135	0.162	1.24	95	1.97	66.8	54.3	65	102.0	70	0.114	0.338	22.29
1023	142.6	0.3	164.296	0.161	1.23	95	2.02	66.7	54.3	65	101.6	70	0.111	0.333	22.18
1024	141.9	-0.7	164.457	0.161	1.23	95	1.96	66.6	54.3	65	102.0	69	0.112	0.335	22.08
1025	142.4	0.5	164.616	0.159	1.24	95	1.98	66.5	54.3	66	100.0	69	0.120	0.346	22.52
1026	142.4	0.0	164.776	0.160	1.23	95	2.00	66.6	54.4	65	99.1	69	0.117	0.342	22.76
1027	142.0	-0.4	164.936	0.160	1.21	95	1.98	66.5	54.3	65	99.5	69	0.111	0.333	22.32
1028	142.1	0.1	165.097	0.161	1.22	95	2.05	66.4	54.3	65	100.7	69	0.120	0.346	22.46
1029	142.5	0.4	165.257	0.160	1.23	95	1.96	66.3	54.3	65	99.5	69	0.113	0.336	22.56
1030	142.6	0.1	165.422	0.165	1.22	95	1.96	66.3	54.3	65	102.6	69	0.118	0.344	22.46
1031	142.8	0.2	165.583	0.161	1.23	95	1.97	66.2	54.3	65	100.4	69	0.112	0.335	22.41
1032	142.3	-0.5	165.744	0.161	1.24	95	1.96	66.2	54.4	65	100.6	69	0.117	0.342	22.36
1033	141.8	-0.5	165.904	0.160	1.24	95	1.97	66.2	54.4	66	99.7	69	0.116	0.341	22.55
1034	142.5	0.7	166.065	0.161	1.24	95	2.03	66.2	54.3	65	99.7	68	0.119	0.345	22.65
1035	142.8	0.2	166.226	0.161	1.22	95	1.96	66.1	54.3	65	99.2	68	0.118	0.344	22.74
1036	142.2	-0.5	166.385	0.159	1.23	95	2.08	66	54.3	66	98.0	68	0.117	0.342	22.64
1037	142.0	-0.2	166.545	0.160	1.23	95	2.02	66	54.4	65	99.4	68	0.113	0.336	22.40
1038	142.6	0.6	166.706	0.161	1.23	95	1.98	66	54.4	65	100.5	68	0.117	0.342	22.40
1039	142.9	0.3	166.870	0.164	1.23	96	2.05	66	54.5	64	101.7	68	0.119	0.345	22.69
1040	142.9	-0.1	167.031	0.161	1.23	95	1.95	65.9	54.4	64	98.7	68	0.122	0.349	22.93
1041	142.7	-0.2	167.191	0.160	1.24	95	1.97	66	54.5	64	98.8	73	0.110	0.332	22.54
1042	142.4	-0.3	167.351	0.160	1.23	95	1.98	65.9	54.6	64	100.3	68	0.116	0.341	22.25
1043	141.8	-0.6	167.514	0.163	1.23	95	2.05	65.8	54.5	65	101.8	68	0.117	0.342	22.54
1044	142.2	0.4	167.675	0.161	1.23	95	2.03	65.7	54.5	65	100.1	68	0.114	0.338	22.43
1045	142.3	0.1	167.835	0.160	1.22	95	1.96	65.6	54.4	65	99.6	68	0.118	0.344	22.48
1046	141.9	-0.4	167.993	0.158	1.22	95	2.02	65.6	54.4	65	97.3	68	0.123	0.351	22.91
1047	142.5	0.6	168.155	0.162	1.21	95	2.01	65.5	54.4	65	98.9	68	0.116	0.341	22.82
1048	142.0	-0.5	168.315	0.160	1.23	95	2.07	65.4	54.4	66	98.8	67	0.115	0.339	22.43
1049	141.9	0.0	168.479	0.164	1.23	95	2.06	65.5	54.4	65	102.1	67	0.116	0.341	22.43
1050	142.5	0.6	168.639	0.160	1.23	95	1.97	65.4	54.4	65	99.3	67	0.118	0.344	22.57
1051	142.2	-0.3	168.800	0.161	1.23	95	1.97	65.5	54.5	65	99.8	67	0.115	0.339	22.53
1052	142.2	0.0	168.962	0.162	1.24	95	2.02	65.4	54.5	66	100.4	67	0.118	0.344	22.53

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1053	142.2	0.0	169.123	0.161	1.22	95	2.07	65.5	54.4	66	100.0	68	0.113	0.336	22.43
1054	142.5	0.3	169.283	0.160	1.21	95	1.99	65.4	54.4	65	100.3	67	0.112	0.335	22.14
1055	142.2	-0.3	169.444	0.161	1.22	95	1.99	65.4	54.4	65	100.8	67	0.120	0.346	22.48
1056	141.8	-0.4	169.603	0.159	1.22	95	2.08	65.4	54.4	65	98.7	67	0.113	0.336	22.53
1057	142.6	0.8	169.764	0.161	1.22	95	1.96	65.3	54.4	65	100.6	67	0.113	0.336	22.18
1058	141.8	-0.7	169.926	0.162	1.23	95	1.97	65.3	54.4	66	102.2	67	0.111	0.333	22.08
1059	142.2	0.4	170.087	0.161	1.22	95	2.07	65.3	54.4	65	101.5	67	0.116	0.341	22.23
1060	142.5	0.3	170.249	0.162	1.23	95	1.96	65.3	54.4	66	101.4	67	0.115	0.339	22.43
1061	142.1	-0.4	170.410	0.161	1.23	95	2.07	65.3	54.4	66	100.2	67	0.117	0.342	22.48
1062	142.1	0.0	170.570	0.160	1.23	95	2.00	65.3	54.4	66	99.7	67	0.113	0.336	22.38
1063	142.2	0.2	170.730	0.160	1.22	95	1.95	65.3	54.4	66	100.1	67	0.114	0.338	22.23
1064	142.5	0.3	170.893	0.163	1.23	95	1.96	65.2	54.4	66	102.2	67	0.114	0.338	22.28
1065	142.0	-0.5	171.053	0.160	1.22	95	2.05	65.2	54.5	65	99.8	67	0.118	0.344	22.47
1066	142.1	0.1	171.211	0.158	1.22	95	2.08	65.2	54.5	65	98.1	67	0.115	0.339	22.52
1067	142.4	0.3	171.371	0.160	1.24	95	2.05	65.3	54.4	65	99.2	67	0.118	0.344	22.52
1068	142.1	-0.3	171.536	0.165	1.23	94	1.98	65.2	54.5	65	102.8	67	0.111	0.333	22.33
1069	141.9	-0.2	171.697	0.161	1.23	95	1.96	65.2	54.5	66	101.1	67	0.114	0.338	22.13
1070	142.3	0.5	171.858	0.161	1.24	95	2.02	65.2	54.5	66	101.6	67	0.111	0.333	22.13
1071	142.5	0.2	172.018	0.160	1.23	95	1.99	65.2	54.5	66	100.6	67	0.117	0.342	22.28
1072	142.4	-0.1	172.179	0.161	1.23	95	2.03	65.3	54.5	65	100.8	70	0.114	0.338	22.46
1073	142.2	-0.2	172.340	0.161	1.24	95	2.06	65.2	54.4	66	100.1	68	0.120	0.346	22.60
1074	142.2	0.0	172.501	0.161	1.23	95	1.96	65.4	54.5	65	100.1	73	0.113	0.336	22.59
1075	141.4	-0.8	172.660	0.159	1.23	95	1.96	65.6	54.5	66	100.4	77	0.111	0.333	22.24
1076	140.2	-1.1	172.819	0.159	1.23	95	1.95	65.9	54.6	65	101.7	80	0.113	0.336	22.31
1077	140.0	-0.2	172.980	0.161	1.23	95	1.96	66.1	54.6	65	102.7	80	0.115	0.339	22.55
1078	139.3	-0.7	173.143	0.163	1.22	95	2.11	66.3	54.6	65	103.2	82	0.116	0.341	22.72
1079	138.0	-1.3	173.302	0.159	1.23	95	2.12	66.6	54.7	65	99.9	84	0.121	0.348	23.05
1080	137.3	-0.7	173.464	0.162	1.23	95	2.04	66.7	54.7	65	101.5	86	0.115	0.339	23.05
1081	136.6	-0.7	173.624	0.160	1.21	95	1.97	67	54.8	65	100.7	86	0.118	0.344	22.92
1082	136.1	-0.6	173.784	0.160	1.23	95	1.98	67.1	54.8	66	100.7	88	0.118	0.344	23.09
1083	135.3	-0.8	173.943	0.159	1.21	95	1.99	67.5	55	66	100.3	89	0.114	0.338	22.92
1084	134.0	-1.3	174.104	0.161	1.22	95	1.97	67.7	55	66	101.6	87	0.121	0.348	23.06
1085	134.3	0.3	174.264	0.160	1.22	94	2.05	67.8	55.1	66	100.3	87	0.117	0.342	23.19
1086	132.6	-1.7	174.420	0.156	1.22	95	1.98	68	55.1	66	98.6	88	0.111	0.333	22.70
1087	131.9	-0.7	174.583	0.163	1.21	95	1.98	68.1	55.2	66	104.5	88	0.114	0.338	22.56
1088	130.9	-1.0	174.744	0.161	1.23	95	1.99	68.4	55.3	66	104.0	89	0.108	0.329	22.43
1089	130.4	-0.5	174.904	0.160	1.22	95	2.11	68.6	55.3	66	103.8	88	0.113	0.336	22.38
1090	130.1	-0.3	175.063	0.159	1.22	95	2.07	68.7	55.4	66	102.3	89	0.116	0.341	22.77
1091	128.5	-1.6	175.224	0.161	1.22	95	2.06	68.8	55.4	66	102.2	88	0.117	0.342	22.97
1092	127.8	-0.7	175.384	0.160	1.21	95	2.04	69	55.5	66	101.2	89	0.116	0.341	22.97
1093	127.1	-0.7	175.543	0.159	1.21	95	1.99	69.2	55.6	66	100.7	90	0.116	0.341	22.93
1094	125.9	-1.2	175.702	0.159	1.21	95	2.10	69.4	55.6	67	101.0	90	0.116	0.341	22.95
1095	125.5	-0.4	175.861	0.159	1.22	95	2.03	69.5	55.7	67	101.1	91	0.115	0.339	22.91
1096	124.8	-0.7	176.023	0.162	1.21	95	2.05	69.7	55.8	67	103.2	91	0.115	0.339	22.87

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1097	124.5	-0.3	176.182	0.159	1.21	95	2.05	69.9	55.9	67	101.2	90	0.117	0.342	22.97
1098	123.3	-1.2	176.343	0.161	1.23	95	2.08	70	55.9	67	102.7	90	0.110	0.332	22.71
1099	122.7	-0.6	176.503	0.160	1.23	95	2.07	70	55.9	67	102.9	90	0.114	0.338	22.55
1100	121.9	-0.8	176.662	0.159	1.22	95	2.11	70.1	56	67	102.5	89	0.111	0.333	22.59
1101	120.8	-1.1	176.821	0.159	1.21	95	2.04	70.2	56	67	102.1	89	0.116	0.341	22.69
1102	121.0	0.2	176.982	0.161	1.22	95	2.09	70.1	56	67	102.3	82	0.114	0.338	22.76
1103	118.9	-2.0	177.142	0.160	1.21	95	2.11	70	56.1	67	101.2	81	0.114	0.338	22.58
1104	118.9	0.0	177.301	0.159	1.22	95	2.10	70	56	67	100.7	80	0.115	0.339	22.61
1105	118.9	0.0	177.460	0.159	1.22	95	2.10	69.9	55.9	67	100.4	80	0.116	0.341	22.69
1106	119.0	0.1	177.622	0.162	1.22	95	2.10	69.9	55.9	67	102.4	79	0.111	0.333	22.48
1107	118.0	-1.0	177.782	0.160	1.22	95	2.10	69.8	55.8	67	101.4	79	0.117	0.342	22.52
1108	118.2	0.2	177.942	0.160	1.22	95	2.09	69.8	55.7	67	100.1	78	0.122	0.349	23.05
1109	118.5	0.3	178.103	0.161	1.22	95	2.01	69.7	55.7	67	99.8	79	0.115	0.339	22.95
1110	118.2	-0.3	178.263	0.160	1.22	96	2.08	69.8	55.7	67	100.0	78	0.116	0.341	22.66
1111	117.7	-0.5	178.423	0.160	1.22	95	2.06	69.7	55.6	67	100.3	78	0.117	0.342	22.75
1112	117.4	-0.4	178.582	0.159	1.22	95	2.08	69.6	55.6	67	99.6	77	0.115	0.339	22.69
1113	117.8	0.5	178.744	0.162	1.22	95	2.08	69.6	55.6	67	101.8	78	0.115	0.339	22.59
1114	117.7	-0.1	178.905	0.161	1.23	95	2.02	69.5	55.6	67	101.1	78	0.118	0.344	22.74
1115	117.5	-0.2	179.064	0.159	1.21	95	1.97	69.6	55.6	67	99.6	78	0.114	0.338	22.69
1116	117.7	0.2	179.224	0.160	1.23	96	2.00	69.5	55.6	67	100.9	78	0.113	0.336	22.45
1117	117.1	-0.5	179.386	0.162	1.22	95	1.97	69.5	55.7	67	102.8	78	0.113	0.336	22.40
1118	117.6	0.4	179.546	0.160	1.22	95	2.05	69.5	55.7	67	101.2	78	0.117	0.342	22.60
1119	117.1	-0.5	179.705	0.159	1.22	95	1.95	69.5	55.8	67	99.9	78	0.115	0.339	22.70
1120	116.8	-0.3	179.866	0.161	1.23	95	2.03	69.5	55.8	67	100.9	78	0.118	0.344	22.75
1121	116.9	0.1	180.027	0.161	1.23	96	2.02	69.5	55.8	67	100.7	78	0.115	0.339	22.75
1122	117.5	0.6	180.187	0.160	1.22	96	1.96	69.5	56	67	100.2	78	0.117	0.342	22.70
1123	117.1	-0.5	180.347	0.160	1.23	96	1.97	69.4	55.9	67	100.8	79	0.111	0.333	22.51
1124	117.5	0.4	180.508	0.161	1.21	96	1.97	69.4	56	68	102.6	77	0.110	0.332	22.16
1125	116.9	-0.6	180.669	0.161	1.22	95	2.05	69.4	56	67	103.5	77	0.109	0.330	22.03
1126	116.7	-0.1	180.829	0.160	1.22	95	2.06	69.4	56	67	102.4	76	0.116	0.341	22.32
1127	116.8	0.0	180.989	0.160	1.24	95	2.06	69.3	55.9	68	100.8	76	0.117	0.342	22.70
1128	117.4	0.6	181.150	0.161	1.22	96	1.99	69.2	56	68	101.0	75	0.111	0.333	22.45
1129	117.2	-0.2	181.311	0.161	1.23	96	2.07	69.2	56	67	102.1	74	0.111	0.333	22.14
1130	117.4	0.2	181.471	0.160	1.21	96	2.06	69.1	56	67	101.9	74	0.113	0.336	22.23
1131	116.8	-0.6	181.631	0.160	1.21	96	1.99	69.1	56	67	101.5	74	0.112	0.335	22.27
1132	116.7	-0.1	181.792	0.161	1.22	95	1.99	69	56	68	101.6	73	0.117	0.342	22.46
1133	117.3	0.6	181.953	0.161	1.21	96	1.99	68.9	55.9	68	100.7	73	0.116	0.341	22.65
1134	117.6	0.3	182.113	0.160	1.20	96	1.99	68.9	55.9	68	98.8	73	0.124	0.352	22.98
1135	116.7	-0.9	182.273	0.160	1.21	96	1.98	68.8	55.9	67	97.8	72	0.118	0.344	23.07
1136	117.4	0.6	182.434	0.161	1.21	96	2.02	68.8	56	67	98.8	72	0.118	0.344	22.78
1137	117.0	-0.3	182.595	0.161	1.22	96	2.04	68.7	56	67	99.2	72	0.121	0.348	22.92
1138	116.9	-0.1	182.755	0.160	1.24	96	2.02	68.6	56.1	67	98.7	72	0.113	0.336	22.67
1139	116.7	-0.2	182.915	0.160	1.23	95	2.02	68.6	55.8	68	99.7	72	0.117	0.342	22.47
1140	116.9	0.2	183.076	0.161	1.23	96	2.07	68.5	55.4	67	100.4	72	0.116	0.341	22.61

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1141	117.3	0.4	183.237	0.161	1.22	96	2.06	68.5	55.1	68	100.1	71	0.116	0.341	22.56
1142	117.5	0.3	183.398	0.161	1.21	96	2.00	68.4	54.8	68	100.5	71	0.113	0.336	22.41
1143	117.0	-0.6	183.558	0.160	1.23	96	1.99	68.4	54.5	67	100.3	71	0.115	0.339	22.36
1144	117.0	0.0	183.719	0.161	1.23	96	2.04	68.3	54.2	67	100.4	71	0.119	0.345	22.65
1145	117.5	0.4	183.880	0.161	1.21	96	2.01	68.3	53.9	67	99.6	71	0.116	0.341	22.70
1146	117.2	-0.3	184.041	0.161	1.22	96	1.99	68.3	53.7	67	100.0	71	0.115	0.339	22.51
1147	116.8	-0.4	184.201	0.160	1.24	96	1.99	68.2	53.4	68	100.3	71	0.111	0.333	22.26
1148	117.5	0.7	184.362	0.161	1.20	97	2.05	68.1	53.1	67	101.9	71	0.111	0.333	22.06
1149	117.5	0.0	184.523	0.161	1.23	97	2.05	68.1	52.8	67	101.6	71	0.117	0.342	22.35
1150	117.0	-0.5	184.684	0.161	1.22	96	2.05	68.1	52.6	67	100.2	71	0.118	0.344	22.69
1151	116.9	0.0	184.843	0.159	1.22	96	1.96	68	52.4	67	98.5	71	0.115	0.339	22.59
1152	117.2	0.3	185.004	0.161	1.24	96	2.06	68	52.1	67	99.7	70	0.120	0.346	22.69
1153	117.5	0.3	185.166	0.162	1.22	97	1.98	67.9	51.8	67	100.2	70	0.113	0.336	22.59
1154	117.3	-0.2	185.326	0.160	1.22	96	1.93	67.8	51.6	67	99.2	70	0.120	0.346	22.58
1155	117.1	-0.2	185.486	0.160	1.20	96	1.94	67.8	51.4	67	99.0	70	0.115	0.339	22.68
1156	117.0	-0.1	185.647	0.161	1.23	96	2.09	67.7	51.2	67	100.0	70	0.115	0.339	22.43
1157	116.9	-0.1	185.808	0.161	1.23	96	1.94	67.7	51	67	100.6	70	0.114	0.338	22.38
1158	117.2	0.2	185.968	0.160	1.22	96	2.05	67.7	50.8	67	100.1	70	0.115	0.339	22.38
1159	117.2	0.0	186.128	0.160	1.23	96	2.04	67.6	50.5	67	100.2	70	0.113	0.336	22.33
1160	117.5	0.3	186.289	0.161	1.23	97	2.01	67.6	50.4	67	100.6	70	0.117	0.342	22.43
1161	117.6	0.1	186.450	0.161	1.23	96	2.02	67.6	50.1	67	100.1	70	0.116	0.341	22.58
1162	117.6	0.0	186.611	0.161	1.24	97	2.03	67.6	49.9	67	99.9	70	0.116	0.341	22.53
1163	117.4	-0.2	186.770	0.159	1.22	96	2.02	67.5	49.7	67	99.1	70	0.113	0.336	22.39
1164	117.7	0.3	186.931	0.161	1.22	96	2.11	67.5	49.5	67	101.1	70	0.112	0.335	22.19
1165	117.6	-0.1	187.093	0.162	1.23	97	2.02	67.5	49.3	67	102.3	70	0.112	0.335	22.14
1166	117.3	-0.2	187.253	0.160	1.23	97	2.08	67.4	49.1	67	101.4	70	0.109	0.330	21.99
1167	117.2	-0.2	187.413	0.160	1.22	97	1.97	67.4	48.9	67	101.4	70	0.115	0.339	22.14
1168	117.1	-0.1	187.574	0.161	1.23	96	2.09	67.4	48.8	67	102.0	70	0.107	0.327	22.04
1169	117.5	0.4	187.735	0.161	1.22	97	2.06	67.3	48.6	67	103.1	70	0.107	0.327	21.64
1170	117.4	-0.1	187.895	0.160	1.23	96	1.95	67.3	48.5	67	103.1	70	0.110	0.332	21.79
1171	116.9	-0.5	188.055	0.160	1.21	97	2.09	67.7	48.4	67	102.7	76	0.111	0.333	22.05
1172	117.3	0.4	188.216	0.161	1.21	97	2.05	67.4	48.3	67	102.4	71	0.113	0.336	22.21
1173	116.5	-0.7	188.377	0.161	1.22	96	2.06	67.4	48.2	67	101.6	70	0.111	0.333	22.14
1174	117.1	0.5	188.538	0.161	1.21	97	2.01	67.3	48.1	67	101.3	70	0.117	0.342	22.33
1175	116.8	-0.3	188.697	0.159	1.22	96	2.10	67.3	47.9	67	99.3	70	0.114	0.338	22.48
1176	116.7	0.0	188.859	0.162	1.23	96	2.09	67.3	47.8	67	101.3	70	0.113	0.336	22.28
1177	117.3	0.6	189.020	0.161	1.22	97	2.08	67.3	47.8	67	101.2	70	0.113	0.336	22.23
1178	116.6	-0.7	189.180	0.160	1.21	96	2.10	67.3	47.7	67	100.5	70	0.114	0.338	22.28
1179	116.6	-0.1	189.340	0.160	1.22	97	1.97	67.2	47.5	67	100.1	70	0.116	0.341	22.43
1180	117.2	0.6	189.501	0.161	1.24	97	2.04	67.2	47.4	67	100.7	70	0.111	0.333	22.28
1181	116.9	-0.3	189.663	0.162	1.22	97	1.94	67.2	47.2	67	101.9	70	0.114	0.338	22.18
1182	116.6	-0.3	189.823	0.160	1.21	97	1.95	67.2	47.1	67	100.4	70	0.115	0.339	22.38
1183	117.0	0.4	189.983	0.160	1.21	97	2.06	67.2	47.1	67	99.9	70	0.114	0.338	22.38
1184	117.2	0.2	190.144	0.161	1.23	96	2.05	67.2	47	67	101.0	70	0.111	0.333	22.18

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1185	116.7	-0.5	190.306	0.162	1.22	97	2.07	67.2	46.9	67	102.2	70	0.113	0.336	22.13
1186	116.4	-0.2	190.466	0.160	1.23	97	1.96	67.2	46.8	67	101.3	70	0.109	0.330	22.03
1187	116.6	0.1	190.626	0.160	1.23	97	2.07	67.1	46.7	67	101.4	70	0.114	0.338	22.08
1188	116.9	0.3	190.787	0.161	1.24	96	2.07	67.1	46.7	67	100.9	70	0.118	0.344	22.52
1189	117.1	0.3	190.949	0.162	1.21	97	1.98	67.1	46.6	67	100.1	70	0.118	0.344	22.72
1190	117.0	-0.1	191.109	0.160	1.22	97	2.08	67.1	46.6	67	98.6	70	0.116	0.341	22.62
1191	116.8	-0.3	191.269	0.160	1.22	96	2.03	67.1	46.5	67	99.1	70	0.116	0.341	22.52
1192	116.6	-0.2	191.430	0.161	1.22	96	1.96	67.1	46.4	67	99.8	70	0.118	0.344	22.62
1193	116.7	0.1	191.592	0.162	1.24	97	2.09	67.1	46.4	67	100.0	70	0.117	0.342	22.67
1194	117.0	0.3	191.752	0.160	1.22	97	2.09	67.1	46.4	67	98.3	69	0.121	0.348	22.81
1195	117.3	0.3	191.913	0.161	1.21	96	1.95	67	46.2	67	98.6	69	0.118	0.344	22.86
1196	117.1	-0.2	192.073	0.160	1.23	97	1.97	67	46.2	67	98.8	69	0.112	0.335	22.42
1197	116.7	-0.5	192.235	0.162	1.23	97	2.08	67.1	46.1	68	101.3	69	0.115	0.339	22.28
1198	116.6	0.0	192.395	0.160	1.21	97	2.00	67	46.1	67	100.4	69	0.112	0.335	22.27
1199	116.6	-0.1	192.556	0.161	1.22	97	1.95	67	46.1	68	100.7	69	0.117	0.342	22.37
1200	116.6	0.1	192.716	0.160	1.22	97	2.04	67	46	67	99.0	69	0.120	0.346	22.76
1201	116.5	-0.2	192.878	0.162	1.21	96	1.95	67.1	46	67	99.7	69	0.115	0.339	22.66
1202	116.3	-0.2	193.039	0.161	1.22	97	2.09	67.3	46	67	100.1	75	0.116	0.341	22.53
1203	116.1	-0.1	193.199	0.160	1.22	97	2.03	67.1	46.1	67	99.3	70	0.120	0.346	22.78
1204	116.2	0.0	193.358	0.159	1.22	97	1.95	67.1	46.1	67	97.1	69	0.122	0.349	23.00
1205	116.2	0.0	193.521	0.163	1.23	97	1.96	67.1	46	67	99.7	69	0.113	0.336	22.66
1206	116.5	0.3	193.682	0.161	1.23	97	2.06	67	46	67	100.0	69	0.115	0.339	22.32
1207	116.8	0.2	193.842	0.160	1.22	97	1.95	67	46	67	99.7	69	0.117	0.342	22.51
1208	116.8	0.1	194.002	0.160	1.22	96	2.05	67	46	67	99.2	69	0.116	0.341	22.56
1209	116.9	0.0	194.164	0.162	1.22	97	2.10	67	45.9	68	100.9	69	0.112	0.335	22.32
1210	116.8	0.0	194.324	0.160	1.21	97	2.07	67	46	67	100.2	69	0.115	0.339	22.27
1211	116.9	0.0	194.485	0.161	1.22	97	2.08	66.9	46	67	100.6	69	0.115	0.339	22.42
1212	116.8	-0.1	194.645	0.160	1.24	97	2.05	66.9	46	67	99.5	69	0.116	0.341	22.46
1213	116.8	0.0	194.806	0.161	1.22	97	1.96	66.9	46	67	99.8	69	0.117	0.342	22.56
1214	116.7	-0.1	194.967	0.161	1.23	96	2.08	66.9	46	67	99.5	69	0.118	0.344	22.66
1215	116.7	-0.1	195.128	0.161	1.21	97	1.95	66.9	46	67	99.4	69	0.116	0.341	22.61
1216	116.5	-0.1	195.288	0.160	1.24	97	1.96	66.9	46	68	99.0	69	0.116	0.341	22.51
1217	116.3	-0.2	195.449	0.161	1.22	97	1.99	66.9	46	67	100.1	69	0.114	0.338	22.42
1218	116.1	-0.2	195.610	0.161	1.23	97	2.06	66.9	46	68	100.8	69	0.112	0.335	22.22
1219	116.6	0.4	195.771	0.161	1.21	97	2.03	66.9	46	68	101.3	69	0.113	0.336	22.17
1220	116.7	0.1	195.931	0.160	1.22	96	2.09	66.9	45.9	68	100.2	69	0.117	0.342	22.41
1221	116.2	-0.5	196.092	0.161	1.24	97	1.94	66.9	45.9	68	100.3	69	0.113	0.336	22.41
1222	116.6	0.3	196.253	0.161	1.22	96	2.10	66.9	45.9	68	99.7	69	0.123	0.351	22.70
1223	116.8	0.2	196.414	0.161	1.21	96	1.95	66.9	45.9	68	99.4	69	0.110	0.332	22.56
1224	117.0	0.2	196.574	0.160	1.21	97	2.09	66.9	45.9	68	99.8	69	0.116	0.341	22.22
1225	116.8	-0.2	196.735	0.161	1.23	96	1.96	66.9	45.9	68	100.5	69	0.117	0.342	22.56
1226	116.6	-0.2	196.896	0.161	1.22	97	2.01	66.9	45.9	68	99.9	69	0.114	0.338	22.46
1227	116.4	-0.2	197.057	0.161	1.21	96	2.03	66.9	45.9	68	100.4	69	0.114	0.338	22.32
1228	116.3	-0.2	197.217	0.160	1.23	97	2.08	67	46	68	100.0	69	0.115	0.339	22.37

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1229	116.5	0.2	197.377	0.160	1.23	96	1.96	66.9	45.9	68	100.1	69	0.113	0.336	22.32
1230	116.6	0.1	197.539	0.162	1.24	97	2.07	67	46	68	101.7	69	0.112	0.335	22.17
1231	116.2	-0.4	197.699	0.160	1.21	97	1.94	66.9	45.9	67	100.3	69	0.117	0.342	22.37
1232	116.8	0.6	197.859	0.160	1.21	97	1.97	66.9	45.9	68	99.8	69	0.113	0.336	22.41
1233	116.1	-0.6	198.020	0.161	1.22	97	2.06	67.1	46.1	68	100.8	74	0.116	0.341	22.42
1234	116.4	0.3	198.181	0.161	1.23	96	2.03	67.1	46	68	100.8	69	0.113	0.336	22.42
1235	116.6	0.2	198.342	0.161	1.22	96	1.93	67	46.1	67	100.9	69	0.112	0.335	22.17
1236	116.4	-0.2	198.502	0.160	1.22	96	2.09	67	46	67	100.7	69	0.114	0.338	22.22
1237	116.6	0.2	198.662	0.160	1.23	97	1.99	67	46	67	99.7	69	0.120	0.346	22.61
1238	116.5	-0.1	198.824	0.162	1.22	97	2.09	67	46	68	100.1	69	0.114	0.338	22.61
1239	116.0	-0.5	198.984	0.160	1.21	97	1.99	67	46.1	67	99.7	69	0.112	0.335	22.22
1240	116.5	0.5	199.144	0.160	1.22	97	2.05	67	46.1	67	100.5	69	0.114	0.338	22.22
1241	116.0	-0.5	199.305	0.161	1.23	96	1.96	67	46	68	100.8	69	0.116	0.341	22.41
1242	116.1	0.1	199.467	0.162	1.23	97	1.97	67	46	67	100.9	69	0.115	0.339	22.46
1243	116.2	0.1	199.627	0.160	1.23	97	1.95	67	46	67	99.1	69	0.119	0.345	22.61
1244	116.3	0.1	199.787	0.160	1.23	96	1.96	67.1	46.1	67	98.5	69	0.118	0.344	22.75
1245	116.0	-0.3	199.948	0.161	1.24	96	2.02	67	46	68	98.8	69	0.120	0.346	22.80
1246	115.9	-0.1	200.109	0.161	1.22	96	2.04	67	46	68	98.5	69	0.120	0.346	22.89
1247	116.7	0.8	200.270	0.161	1.22	97	1.98	67	46	68	98.9	69	0.113	0.336	22.56
1248	115.9	-0.8	200.430	0.160	1.23	97	1.96	67	46	68	99.7	69	0.113	0.336	22.22
1249	116.1	0.2	200.590	0.160	1.22	97	2.09	67.1	46	68	99.7	69	0.120	0.346	22.56
1250	116.6	0.5	200.752	0.162	1.23	97	2.00	67.1	46.1	68	100.3	69	0.112	0.335	22.51
1251	116.3	-0.2	200.912	0.160	1.22	97	2.06	67.1	46	68	99.1	69	0.121	0.348	22.56
1252	116.5	0.2	201.073	0.161	1.22	97	2.01	67.1	46.1	68	99.4	69	0.114	0.338	22.66
1253	116.4	-0.1	201.233	0.160	1.22	97	2.07	67.1	46.1	68	99.6	69	0.112	0.335	22.22
1254	116.1	-0.3	201.395	0.162	1.21	97	2.10	67.1	46.1	68	101.7	69	0.115	0.339	22.27
1255	116.3	0.2	201.555	0.160	1.23	97	2.11	67.1	46.1	68	100.1	69	0.114	0.338	22.37
1256	116.0	-0.3	201.715	0.160	1.21	97	1.96	67.1	46.1	68	100.5	69	0.109	0.330	22.07
1257	116.5	0.5	201.875	0.160	1.21	97	1.94	67.1	46.1	68	100.8	69	0.118	0.344	22.27
1258	116.0	-0.5	202.037	0.162	1.21	97	2.09	67.1	46.1	67	100.5	69	0.119	0.345	22.75
1259	115.9	-0.1	202.198	0.161	1.22	97	1.99	67.1	46.1	68	99.6	69	0.110	0.332	22.37
1260	115.9	0.0	202.358	0.160	1.20	97	2.09	67.1	46.1	68	100.3	69	0.115	0.339	22.17
1261	116.0	0.1	202.518	0.160	1.22	97	2.06	67.2	46.2	68	100.3	69	0.115	0.339	22.42
1262	116.2	0.2	202.680	0.162	1.23	97	2.04	67.2	46.2	68	100.7	69	0.117	0.342	22.51
1263	116.5	0.3	202.840	0.160	1.21	97	2.04	67.1	46.1	68	99.2	69	0.115	0.339	22.51
1264	115.9	-0.6	203.000	0.160	1.22	97	2.00	67.3	46.1	68	99.7	74	0.115	0.339	22.47
1265	116.4	0.5	203.160	0.160	1.22	97	1.97	67.3	46.2	68	99.5	69	0.118	0.344	22.61
1266	115.9	-0.5	203.322	0.162	1.21	97	2.04	67.2	46.2	68	100.8	69	0.109	0.330	22.27
1267	116.1	0.3	203.483	0.161	1.22	97	1.97	67.2	46.1	68	100.9	69	0.118	0.344	22.27
1268	116.4	0.2	203.643	0.160	1.21	97	2.07	67.2	46.2	68	100.2	69	0.110	0.332	22.32
1269	116.3	-0.1	203.803	0.160	1.22	97	1.96	67.3	46.2	68	100.5	69	0.114	0.338	22.12
1270	116.4	0.1	203.965	0.162	1.24	97	1.96	67.3	46.2	68	101.8	69	0.114	0.338	22.32
1271	116.2	-0.3	204.125	0.160	1.21	97	2.08	67.3	46.1	68	100.4	69	0.111	0.333	22.17
1272	115.9	-0.3	204.286	0.161	1.21	97	2.02	67.3	46.2	68	100.9	69	0.118	0.344	22.37

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1273	116.0	0.1	204.445	0.159	1.22	97	1.95	67.3	46.2	68	99.2	69	0.111	0.333	22.37
1274	116.2	0.2	204.608	0.163	1.22	97	1.95	67.3	46.3	68	101.6	69	0.119	0.345	22.42
1275	115.8	-0.4	204.768	0.160	1.22	97	1.95	67.3	46.2	68	99.5	69	0.112	0.335	22.47
1276	116.1	0.3	204.928	0.160	1.22	97	2.08	67.3	46.2	68	100.0	69	0.114	0.338	22.22
1277	116.4	0.2	205.088	0.160	1.22	97	1.96	67.3	46.3	68	100.0	69	0.117	0.342	22.46
1278	115.9	-0.5	205.250	0.162	1.23	97	1.95	67.3	46.3	68	100.4	69	0.116	0.341	22.56
1279	115.5	-0.4	205.411	0.161	1.21	97	1.96	67.3	46.3	68	100.0	69	0.114	0.338	22.42
1280	115.7	0.1	205.571	0.160	1.21	97	2.05	67.3	46.3	68	99.5	69	0.117	0.342	22.46
1281	115.6	0.0	205.731	0.160	1.23	97	1.96	67.3	46.3	68	99.1	69	0.117	0.342	22.61
1282	115.7	0.1	205.893	0.162	1.21	97	1.95	67.3	46.3	68	100.0	69	0.117	0.342	22.61
1283	115.8	0.1	206.053	0.160	1.23	97	2.09	67.3	46.3	68	99.1	69	0.115	0.339	22.51
1284	116.2	0.5	206.213	0.160	1.22	97	2.01	67.3	46.2	68	99.7	69	0.113	0.336	22.32
1285	116.4	0.1	206.373	0.160	1.21	97	2.06	67.3	46.3	68	100.1	69	0.115	0.339	22.32
1286	115.8	-0.5	206.536	0.163	1.24	97	1.98	67.3	46.2	68	101.6	69	0.117	0.342	22.51
1287	115.9	0.1	206.696	0.160	1.20	97	2.01	67.3	46.3	68	98.0	69	0.127	0.356	23.09
1288	115.8	-0.1	206.857	0.161	1.24	97	2.00	67.3	46.3	68	97.9	69	0.112	0.335	22.85
1289	116.2	0.3	207.016	0.159	1.23	97	1.99	67.3	46.2	68	98.5	69	0.114	0.338	22.22
1290	115.9	-0.3	207.179	0.163	1.23	97	2.06	67.3	46.2	68	102.0	69	0.116	0.341	22.41
1291	116.3	0.4	207.339	0.160	1.23	97	1.96	67.3	46.3	68	99.6	69	0.114	0.338	22.41
1292	115.8	-0.5	207.500	0.161	1.21	97	2.06	67.3	46.2	68	100.3	69	0.115	0.339	22.36
1293	116.1	0.3	207.660	0.160	1.21	97	2.07	67.3	46.3	68	100.2	69	0.111	0.333	22.22
1294	116.2	0.1	207.821	0.161	1.22	97	1.95	67.4	46.2	68	101.5	69	0.112	0.335	22.07
1295	115.9	-0.3	207.982	0.161	1.22	97	1.99	67.5	46.3	68	101.3	72	0.118	0.344	22.44
1296	115.7	-0.2	208.143	0.161	1.22	97	2.08	67.5	46.4	68	100.4	69	0.113	0.336	22.50
1297	115.4	-0.3	208.302	0.159	1.21	97	2.02	67.5	46.3	68	99.8	74	0.112	0.335	22.22
1298	115.2	-0.2	208.464	0.162	1.22	97	1.96	67.8	46.4	68	103.2	76	0.109	0.330	22.10
1299	114.7	-0.4	208.624	0.160	1.22	97	1.95	68	46.5	68	102.0	78	0.116	0.341	22.33
1300	114.4	-0.3	208.784	0.160	1.23	97	2.05	68.2	46.5	68	101.8	80	0.109	0.330	22.38
1301	113.4	-1.0	208.944	0.160	1.23	97	2.04	68.4	46.5	68	102.0	82	0.115	0.339	22.37
1302	112.8	-0.6	209.106	0.162	1.21	97	1.97	68.6	46.6	68	102.9	83	0.114	0.338	22.64
1303	111.8	-1.0	209.266	0.160	1.23	96	2.03	68.8	46.7	68	101.5	84	0.113	0.336	22.57
1304	111.5	-0.3	209.425	0.159	1.21	97	1.99	68.9	46.6	68	100.8	85	0.117	0.342	22.73
1305	111.3	-0.2	209.585	0.160	1.20	97	2.06	69.1	46.7	68	100.9	85	0.116	0.341	22.90
1306	109.9	-1.5	209.746	0.161	1.21	97	1.99	69.3	46.8	68	102.0	86	0.110	0.332	22.56
1307	109.6	-0.3	209.906	0.160	1.20	97	2.09	69.3	46.9	68	101.5	85	0.121	0.348	22.80
1308	109.1	-0.5	210.066	0.160	1.21	97	2.08	69.5	47	68	100.8	84	0.110	0.332	22.78
1309	108.5	-0.6	210.226	0.160	1.21	97	2.03	69.5	47	68	101.2	84	0.117	0.342	22.58
1310	107.5	-1.0	210.386	0.160	1.21	97	2.05	69.6	47.1	68	100.9	84	0.117	0.342	22.92
1311	106.6	-0.9	210.546	0.160	1.20	97	2.02	69.7	47.1	68	100.6	83	0.112	0.335	22.67
1312	106.2	-0.4	210.705	0.159	1.21	97	1.99	69.8	47.3	68	101.4	84	0.110	0.332	22.33
1313	104.9	-1.3	210.867	0.162	1.22	97	2.04	70	47.3	68	104.4	84	0.109	0.330	22.18
1314	104.9	0.0	211.026	0.159	1.22	97	2.00	70	47.4	68	102.9	84	0.109	0.330	22.12
1315	103.7	-1.2	211.186	0.160	1.22	97	2.06	70.1	47.5	68	103.7	84	0.109	0.330	22.12
1316	102.7	-0.9	211.345	0.159	1.22	97	2.04	70.2	47.6	68	102.3	84	0.116	0.341	22.48

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1317	102.5	-0.2	211.506	0.161	1.22	97	2.09	70.2	47.6	69	102.4	84	0.113	0.336	22.68
1318	101.7	-0.9	211.666	0.160	1.20	97	1.97	70.4	47.7	68	101.8	85	0.112	0.335	22.49
1319	100.2	-1.4	211.825	0.159	1.21	97	1.97	70.4	47.7	68	101.8	85	0.112	0.335	22.45
1320	99.8	-0.4	211.985	0.160	1.21	97	2.10	70.5	47.7	69	102.3	85	0.114	0.338	22.56
1321	99.2	-0.6	212.145	0.160	1.22	97	2.05	70.5	47.8	69	102.3	85	0.110	0.332	22.45
1322	97.8	-1.4	212.304	0.159	1.21	97	2.08	70.5	47.9	69	102.0	84	0.112	0.335	22.34
1323	97.0	-0.8	212.463	0.159	1.19	97	2.06	70.6	48	69	102.1	85	0.111	0.333	22.39
1324	96.6	-0.4	212.624	0.161	1.22	98	2.00	70.8	48.1	69	102.8	87	0.117	0.342	22.66
1325	95.6	-1.1	212.784	0.160	1.19	98	2.06	70.4	48.2	68	100.3	76	0.117	0.342	22.87
1326	95.4	-0.2	212.944	0.160	1.21	98	1.97	70.2	48.1	69	98.7	75	0.120	0.346	22.89
1327	94.6	-0.7	213.104	0.160	1.23	97	2.09	70	48.1	69	99.2	74	0.111	0.333	22.57
1328	94.8	0.2	213.265	0.161	1.20	98	1.97	69.9	48.1	69	101.0	73	0.114	0.338	22.26
1329	93.9	-1.0	213.425	0.160	1.24	98	2.08	69.7	48	69	101.0	72	0.110	0.332	22.19
1330	94.0	0.1	213.584	0.159	1.22	97	1.97	69.7	47.9	69	100.6	72	0.113	0.336	22.13
1331	94.1	0.2	213.746	0.162	1.21	97	1.97	69.6	47.8	69	102.0	72	0.116	0.341	22.42
1332	94.1	0.0	213.906	0.160	1.21	97	2.11	69.5	47.8	69	99.7	71	0.116	0.341	22.56
1333	93.7	-0.4	214.066	0.160	1.22	97	2.08	69.4	47.7	68	98.9	71	0.120	0.346	22.75
1334	93.8	0.1	214.225	0.159	1.22	97	1.96	69.3	47.8	68	97.6	70	0.119	0.345	22.88
1335	93.4	-0.4	214.387	0.162	1.22	97	1.97	69.2	47.6	69	99.4	70	0.117	0.342	22.73
1336	93.1	-0.3	214.548	0.161	1.21	97	1.96	69.1	47.5	68	99.5	70	0.115	0.339	22.53
1337	93.6	0.5	214.707	0.159	1.21	98	2.06	69.1	47.4	68	98.8	70	0.115	0.339	22.43
1338	93.0	-0.5	214.867	0.160	1.21	97	2.08	68.9	47.4	68	99.6	70	0.115	0.339	22.43
1339	93.3	0.3	215.029	0.162	1.21	97	1.96	68.8	47.4	68	101.3	70	0.112	0.335	22.28
1340	93.4	0.1	215.189	0.160	1.21	98	2.10	68.8	47.4	69	100.3	70	0.115	0.339	22.28
1341	92.9	-0.5	215.349	0.160	1.21	97	2.03	68.7	47.3	68	99.3	70	0.121	0.348	22.72
1342	92.7	-0.2	215.509	0.160	1.20	98	2.02	68.7	47.3	68	98.1	70	0.118	0.344	22.87
1343	93.0	0.3	215.671	0.162	1.22	97	2.06	68.6	47.3	69	99.3	70	0.117	0.342	22.67
1344	92.8	-0.2	215.831	0.160	1.23	98	2.08	68.6	47.3	69	98.9	70	0.114	0.338	22.48
1345	92.9	0.1	215.991	0.160	1.22	98	1.97	68.5	47.2	69	99.4	70	0.117	0.342	22.48
1346	92.9	0.1	216.151	0.160	1.23	97	1.97	68.4	47.1	69	99.3	70	0.115	0.339	22.53
1347	93.3	0.4	216.313	0.162	1.22	97	2.02	68.4	47.1	68	100.4	70	0.117	0.342	22.52
1348	92.8	-0.5	216.473	0.160	1.20	97	1.97	68.4	47.1	68	99.4	70	0.113	0.336	22.43
1349	93.2	0.4	216.633	0.160	1.21	97	2.07	68.3	47.2	68	99.8	70	0.116	0.341	22.38
1350	92.8	-0.3	216.793	0.160	1.23	97	1.99	68.3	47.1	68	99.6	70	0.116	0.341	22.52
1351	93.1	0.3	216.955	0.162	1.22	97	2.06	68.2	47.1	68	101.0	69	0.111	0.333	22.28
1352	92.7	-0.4	217.115	0.160	1.23	98	1.97	68.2	47.1	68	100.4	70	0.115	0.339	22.23
1353	93.3	0.6	217.275	0.160	1.23	97	2.03	68.1	47.1	68	100.1	69	0.115	0.339	22.42
1354	93.1	-0.2	217.436	0.161	1.21	97	2.06	68.1	47.1	68	100.8	70	0.110	0.332	22.18
1355	92.7	-0.4	217.597	0.161	1.21	97	2.10	68.1	47.1	68	101.2	69	0.116	0.341	22.23
1356	93.1	0.3	217.757	0.160	1.22	97	2.00	68	47.1	68	99.7	70	0.117	0.342	22.57
1357	93.1	0.0	217.917	0.160	1.21	97	1.97	68	47	68	99.2	70	0.114	0.338	22.47
1358	92.7	-0.4	218.078	0.161	1.22	98	2.09	68	47	68	100.8	70	0.110	0.332	22.13
1359	92.8	0.1	218.239	0.161	1.22	97	1.95	67.9	46.9	68	101.2	69	0.117	0.342	22.28
1360	93.0	0.2	218.400	0.161	1.23	97	1.99	67.8	46.9	68	100.4	69	0.115	0.339	22.52

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1361	93.3	0.3	218.559	0.159	1.23	97	2.08	67.9	46.9	68	98.5	69	0.118	0.344	22.57
1362	93.3	0.0	218.720	0.161	1.24	98	2.09	67.8	46.9	68	99.3	69	0.117	0.342	22.66
1363	93.4	0.1	218.881	0.161	1.20	97	1.96	67.8	47	68	99.2	69	0.117	0.342	22.62
1364	93.1	-0.3	219.042	0.161	1.22	97	2.01	67.9	47	68	99.7	69	0.114	0.338	22.47
1365	93.3	0.1	219.202	0.160	1.22	97	1.96	67.8	47	68	99.5	69	0.116	0.341	22.42
1366	93.3	0.0	219.362	0.160	1.22	98	1.98	67.8	46.9	68	99.1	69	0.118	0.344	22.61
1367	93.3	0.0	219.524	0.162	1.21	98	1.95	67.8	46.9	68	99.6	69	0.119	0.345	22.76
1368	93.2	-0.1	219.684	0.160	1.22	98	1.98	67.7	46.9	68	98.7	69	0.112	0.335	22.47
1369	93.2	0.0	219.844	0.160	1.22	98	1.97	67.7	46.9	68	99.1	69	0.121	0.348	22.56
1370	93.2	-0.1	220.005	0.161	1.23	98	2.09	67.7	46.8	68	99.6	69	0.111	0.333	22.52
1371	93.3	0.2	220.166	0.161	1.21	97	1.96	67.6	46.8	68	99.8	69	0.121	0.348	22.52
1372	93.0	-0.3	220.326	0.160	1.21	97	1.95	67.7	46.9	68	99.2	69	0.111	0.333	22.51
1373	92.8	-0.3	220.486	0.160	1.22	97	2.07	67.6	46.9	68	99.4	69	0.119	0.345	22.42
1374	93.2	0.4	220.647	0.161	1.22	98	2.04	67.6	46.9	68	99.6	69	0.116	0.341	22.66
1375	92.9	-0.3	220.808	0.161	1.23	98	2.10	67.6	46.9	68	99.4	69	0.116	0.341	22.51
1376	93.3	0.3	220.968	0.160	1.22	97	2.08	67.6	46.9	68	99.0	69	0.117	0.342	22.56
1377	93.1	-0.2	221.128	0.160	1.22	98	2.06	67.5	46.9	68	99.1	69	0.114	0.338	22.46
1378	92.9	-0.2	221.289	0.161	1.23	97	2.07	67.5	46.9	68	99.8	69	0.118	0.344	22.51
1379	92.8	-0.2	221.450	0.161	1.22	97	2.08	67.5	46.9	68	99.4	69	0.118	0.344	22.70
1380	92.8	0.0	221.610	0.160	1.22	97	1.96	67.5	46.9	68	98.6	69	0.115	0.339	22.56
1381	92.7	0.0	221.770	0.160	1.22	97	2.00	67.5	46.8	68	98.6	69	0.121	0.348	22.70
1382	93.2	0.5	221.931	0.161	1.22	98	2.06	67.5	46.8	68	98.8	69	0.116	0.341	22.75
1383	93.4	0.2	222.092	0.161	1.21	98	2.09	67.4	46.8	68	98.8	69	0.119	0.345	22.65
1384	92.9	-0.5	222.253	0.161	1.21	97	1.97	67.5	46.8	68	99.4	69	0.113	0.336	22.51
1385	93.5	0.6	222.412	0.159	1.22	98	1.97	67.4	46.8	68	98.8	69	0.116	0.341	22.36
1386	93.0	-0.4	222.576	0.164	1.23	97	2.01	67.4	46.8	68	101.7	69	0.118	0.344	22.60
1387	93.1	0.1	222.735	0.159	1.22	97	2.08	67.4	46.8	68	98.1	69	0.116	0.341	22.60
1388	93.1	-0.1	222.895	0.160	1.22	98	2.07	67.4	46.8	68	99.0	69	0.115	0.339	22.46
1389	93.1	0.1	223.055	0.160	1.20	97	1.96	67.3	46.8	68	99.0	69	0.119	0.345	22.60
1390	93.0	-0.1	223.216	0.161	1.23	97	2.10	67.3	46.8	68	99.5	69	0.113	0.336	22.51
1391	93.2	0.2	223.377	0.161	1.23	97	2.08	67.3	46.8	68	100.7	69	0.110	0.332	22.06
1392	93.5	0.2	223.538	0.161	1.21	98	1.98	67.3	46.8	68	101.6	69	0.114	0.338	22.11
1393	93.0	-0.5	223.697	0.159	1.22	97	1.96	67.3	46.8	68	99.9	69	0.113	0.336	22.26
1394	92.6	-0.4	223.859	0.162	1.20	97	2.09	67.7	46.8	68	101.8	75	0.116	0.341	22.43
1395	92.9	0.3	224.019	0.160	1.22	98	2.08	67.3	47	68	99.6	69	0.118	0.344	22.68
1396	92.7	-0.2	224.182	0.163	1.21	98	2.04	67.3	46.8	68	100.4	69	0.116	0.341	22.61
1397	92.8	0.0	224.340	0.158	1.24	97	1.96	67.3	46.9	68	97.6	69	0.117	0.342	22.56
1398	92.4	-0.4	224.501	0.161	1.23	97	1.97	67.3	46.8	68	99.4	69	0.117	0.342	22.60
1399	92.4	0.1	224.662	0.161	1.23	97	2.00	67.2	46.8	68	98.6	69	0.124	0.352	22.94
1400	92.7	0.3	224.823	0.161	1.22	97	2.09	67.2	46.8	68	98.0	69	0.116	0.341	22.89
1401	92.9	0.2	224.982	0.159	1.23	98	2.04	67.2	46.8	68	97.9	69	0.114	0.338	22.41
1402	92.4	-0.5	225.144	0.162	1.23	98	1.96	67.2	46.9	68	100.9	69	0.114	0.338	22.31
1403	92.2	-0.1	225.305	0.161	1.20	98	1.99	67.2	46.8	68	100.4	68	0.115	0.339	22.35
1404	92.7	0.4	225.465	0.160	1.21	97	2.08	67.1	46.7	68	99.5	69	0.116	0.341	22.45

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1405	92.9	0.2	225.628	0.163	1.22	97	2.02	67.2	46.7	68	101.1	69	0.116	0.341	22.50
1406	92.7	-0.2	225.786	0.158	1.21	97	1.97	67.2	46.7	68	97.7	69	0.118	0.344	22.60
1407	92.3	-0.4	225.948	0.162	1.23	97	1.97	67.1	46.7	68	99.9	68	0.116	0.341	22.60
1408	92.4	0.1	226.108	0.160	1.21	98	2.00	67.1	46.7	68	99.2	68	0.113	0.336	22.35
1409	92.6	0.2	226.268	0.160	1.21	97	2.05	67	46.8	67	100.2	68	0.112	0.335	22.16
1410	93.0	0.4	226.429	0.161	1.24	97	2.06	67.1	46.8	67	100.9	68	0.117	0.342	22.35
1411	93.0	0.0	226.591	0.162	1.23	97	2.01	67.1	46.8	67	100.4	68	0.118	0.344	22.64
1412	92.9	-0.1	226.751	0.160	1.22	97	1.99	67	46.7	67	98.8	68	0.114	0.338	22.50
1413	92.9	0.0	226.911	0.160	1.23	97	1.98	67	46.7	67	99.3	68	0.117	0.342	22.45
1414	92.6	-0.2	227.072	0.161	1.22	98	1.96	67	46.8	67	99.3	68	0.120	0.346	22.74
1415	92.7	0.0	227.236	0.164	1.23	97	2.06	67	46.7	67	101.2	68	0.110	0.332	22.40
1416	92.6	0.0	227.397	0.161	1.24	97	1.98	67	46.7	67	100.8	68	0.114	0.338	22.10
1417	93.0	0.3	227.554	0.157	1.22	97	1.97	66.9	46.7	67	98.4	68	0.115	0.339	22.35
1418	93.0	0.0	227.715	0.161	1.24	97	2.08	67	46.7	67	99.9	68	0.118	0.344	22.54
1419	92.9	-0.1	227.877	0.162	1.23	97	2.07	66.9	46.7	67	100.2	68	0.115	0.339	22.54
1420	92.5	-0.4	228.037	0.160	1.23	97	1.98	66.9	46.7	67	98.5	68	0.122	0.349	22.73
1421	92.8	0.3	228.197	0.160	1.22	97	1.98	66.9	46.7	67	98.2	68	0.114	0.338	22.69
1422	92.7	0.0	228.358	0.161	1.22	98	2.07	66.9	46.7	67	99.2	68	0.118	0.344	22.49
1423	92.8	0.0	228.520	0.162	1.22	97	2.05	66.9	46.7	67	100.3	68	0.114	0.338	22.49
1424	92.8	0.0	228.683	0.163	1.23	97	2.05	66.9	46.7	67	101.0	68	0.117	0.342	22.44
1425	92.7	-0.1	228.843	0.160	1.23	97	1.98	67.2	46.8	67	99.4	74	0.118	0.344	22.70
1426	92.2	-0.5	229.000	0.157	1.22	97	1.99	66.9	46.8	67	97.0	68	0.117	0.342	22.71
1427	92.1	-0.1	229.162	0.162	1.23	97	2.06	66.9	46.7	67	99.8	68	0.116	0.341	22.54
1428	92.4	0.3	229.323	0.161	1.23	97	1.97	66.8	46.8	67	100.2	68	0.110	0.332	22.20
1429	92.7	0.3	229.483	0.160	1.22	97	2.06	66.9	46.8	67	101.1	68	0.110	0.332	21.90
1430	92.6	-0.1	229.643	0.160	1.23	97	2.06	66.8	46.7	67	101.2	68	0.115	0.339	22.15
1431	92.7	0.1	229.805	0.162	1.20	97	1.97	66.8	46.7	67	100.7	68	0.120	0.346	22.63
1432	92.5	-0.2	229.966	0.161	1.22	97	1.98	66.8	46.7	67	99.0	68	0.115	0.339	22.63
1433	92.1	-0.4	230.126	0.160	1.22	97	1.99	66.7	46.7	67	98.7	68	0.118	0.344	22.54
1434	92.0	-0.1	230.289	0.163	1.23	97	1.99	66.8	46.8	67	100.9	68	0.114	0.338	22.49
1435	92.6	0.6	230.450	0.161	1.23	97	1.99	66.7	46.7	67	100.1	68	0.115	0.339	22.34
1436	92.1	-0.5	230.609	0.159	1.22	97	1.97	66.7	46.7	67	98.8	68	0.117	0.342	22.49
1437	92.7	0.6	230.769	0.160	1.22	97	2.01	66.7	46.7	67	99.5	68	0.111	0.333	22.29
1438	92.4	-0.3	230.929	0.160	1.23	97	2.08	66.6	46.7	67	99.8	68	0.119	0.345	22.39
1439	92.0	-0.4	231.091	0.162	1.21	97	2.07	66.6	46.6	67	100.3	68	0.116	0.341	22.63
1440	92.1	0.1	231.252	0.161	1.21	97	2.01	66.6	46.6	67	99.5	68	0.115	0.339	22.44
1441	92.0	-0.1	231.413	0.161	1.21	97	1.99	66.6	46.7	66	99.8	68	0.118	0.344	22.53
1442	92.0	0.0	231.572	0.159	1.22	97	1.99	66.6	46.7	67	98.5	68	0.113	0.336	22.43
1443	92.4	0.4	231.734	0.162	1.21	97	2.06	66.6	46.7	67	101.1	68	0.113	0.336	22.19
1444	92.7	0.3	231.898	0.164	1.22	97	2.06	66.6	46.7	66	102.4	68	0.118	0.344	22.43
1445	92.1	-0.6	232.058	0.160	1.22	97	2.06	66.5	46.7	66	98.9	68	0.117	0.342	22.63
1446	92.6	0.6	232.216	0.158	1.22	97	2.07	66.5	46.7	67	96.7	68	0.123	0.351	22.87
1447	92.1	-0.5	232.377	0.161	1.23	97	2.06	66.5	46.7	67	98.8	68	0.110	0.332	22.53
1448	92.6	0.4	232.538	0.161	1.22	97	2.07	66.5	46.7	66	99.7	68	0.121	0.348	22.43

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1449	92.6	0.1	232.699	0.161	1.23	97	2.05	66.5	46.7	67	99.6	68	0.113	0.336	22.58
1450	92.2	-0.4	232.859	0.160	1.22	97	2.05	66.5	46.7	66	99.7	68	0.111	0.333	22.09
1451	92.0	-0.2	233.020	0.161	1.22	97	1.98	66.5	46.7	67	101.0	68	0.117	0.342	22.29
1452	92.2	0.1	233.181	0.161	1.23	96	2.05	66.5	46.7	66	100.1	68	0.116	0.341	22.53
1453	92.0	-0.2	233.345	0.164	1.22	97	2.08	66.4	46.7	66	101.0	68	0.121	0.348	22.72
1454	92.1	0.1	233.505	0.160	1.22	96	2.06	66.4	46.7	66	98.1	68	0.116	0.341	22.72
1455	92.3	0.2	233.665	0.160	1.23	96	2.03	66.4	46.7	66	98.3	68	0.119	0.345	22.63
1456	92.6	0.3	233.827	0.162	1.21	97	1.97	66.7	46.7	66	100.0	72	0.116	0.341	22.67
1457	92.4	-0.2	233.985	0.158	1.23	96	2.02	66.5	46.7	66	97.8	68	0.116	0.341	22.53
1458	91.8	-0.6	234.145	0.160	1.20	97	2.07	66.5	46.7	66	99.5	68	0.112	0.335	22.29
1459	92.6	0.8	234.305	0.160	1.23	96	2.05	66.4	46.6	66	100.6	68	0.111	0.333	22.04
1460	91.7	-0.9	234.467	0.162	1.22	97	2.08	66.4	46.7	66	101.9	68	0.116	0.341	22.24
1461	92.4	0.7	234.628	0.161	1.23	96	2.07	66.4	46.7	66	100.8	68	0.112	0.335	22.29
1462	92.1	-0.2	234.788	0.160	1.23	97	2.02	66.4	46.7	66	99.8	68	0.118	0.344	22.38
1463	92.0	-0.2	234.951	0.163	1.21	97	2.07	66.3	46.7	66	100.8	68	0.117	0.342	22.63
1464	92.4	0.4	235.113	0.162	1.24	97	2.02	66.3	46.6	66	99.9	68	0.116	0.341	22.53
1465	92.3	-0.1	235.274	0.161	1.23	97	2.00	66.3	46.6	66	99.4	68	0.118	0.344	22.58
1466	91.8	-0.5	235.434	0.160	1.22	97	2.06	66.3	46.6	66	98.3	68	0.119	0.345	22.72
1467	91.8	0.0	235.591	0.157	1.22	97	1.99	66.3	46.6	66	96.5	68	0.115	0.339	22.58
1468	92.2	0.3	235.753	0.162	1.23	97	2.07	66.3	46.6	66	100.2	68	0.116	0.341	22.43
1469	92.3	0.1	235.914	0.161	1.22	97	1.99	66.3	46.7	66	100.0	67	0.115	0.339	22.43
1470	92.4	0.1	236.074	0.160	1.22	96	2.05	66.3	46.7	66	99.4	68	0.116	0.341	22.43
1471	92.3	-0.1	236.234	0.160	1.22	97	2.05	66.2	46.6	66	99.5	67	0.114	0.338	22.38
1472	92.5	0.2	236.396	0.162	1.23	97	2.05	66.2	46.7	66	101.1	68	0.113	0.336	22.23
1473	92.4	-0.1	236.560	0.164	1.22	97	1.98	66.3	46.7	66	102.7	67	0.114	0.338	22.23
1474	92.1	-0.3	236.720	0.160	1.24	96	2.01	66.2	46.7	66	99.8	67	0.117	0.342	22.43
1475	91.9	-0.2	236.880	0.160	1.23	96	2.06	66.2	46.7	66	99.0	67	0.118	0.344	22.62
1476	91.9	0.0	237.041	0.161	1.23	96	1.97	66.2	46.6	66	99.4	67	0.115	0.339	22.52
1477	92.4	0.5	237.200	0.159	1.22	96	1.99	66.2	46.7	66	98.6	67	0.116	0.341	22.43
1478	92.4	0.0	237.361	0.161	1.23	96	1.98	66.1	46.6	66	99.7	67	0.118	0.344	22.57
1479	91.8	-0.6	237.521	0.160	1.22	97	1.99	66.2	46.7	66	98.5	67	0.118	0.344	22.67
1480	92.3	0.5	237.683	0.162	1.23	97	2.05	66.2	46.7	66	99.4	67	0.119	0.345	22.72
1481	92.3	0.0	237.843	0.160	1.22	96	2.06	66.1	46.7	66	98.1	67	0.118	0.344	22.72
1482	91.7	-0.6	238.004	0.161	1.22	96	2.01	66.1	46.7	66	98.8	67	0.118	0.344	22.67
1483	92.0	0.3	238.167	0.163	1.22	96	1.99	66.1	46.7	66	100.6	67	0.114	0.338	22.47
1484	92.4	0.3	238.327	0.160	1.23	97	2.08	66.1	46.6	66	99.6	67	0.113	0.336	22.23
1485	92.1	-0.2	238.489	0.162	1.23	96	2.08	66.1	46.7	66	101.3	67	0.116	0.341	22.33
1486	92.1	0.0	238.650	0.161	1.22	97	2.07	66.1	46.7	66	100.4	67	0.113	0.336	22.33
1487	91.9	-0.3	238.807	0.157	1.22	97	1.96	66.2	46.7	66	98.2	70	0.114	0.338	22.26
1488	92.3	0.5	238.968	0.161	1.22	96	2.06	66.1	46.7	66	100.8	67	0.115	0.339	22.35
1489	91.9	-0.4	239.129	0.161	1.26	97	2.06	66.2	46.6	66	99.8	67	0.119	0.345	22.57
1490	92.4	0.5	239.290	0.161	1.23	96	2.07	66.1	46.7	66	99.4	67	0.114	0.338	22.52
1491	91.7	-0.7	239.450	0.160	1.23	97	2.06	66.1	46.7	66	98.7	67	0.121	0.348	22.62
1492	91.9	0.2	239.613	0.163	1.24	96	1.97	66.1	46.6	66	100.4	67	0.114	0.338	22.62

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1493	92.1	0.2	239.775	0.162	1.22	96	2.06	66	46.6	66	100.2	67	0.117	0.342	22.42
1494	92.3	0.2	239.936	0.161	1.23	96	2.06	66.1	46.6	66	99.5	67	0.119	0.345	22.66
1495	92.1	-0.2	240.096	0.160	1.23	96	2.05	66	46.6	66	98.3	67	0.117	0.342	22.66
1496	91.7	-0.4	240.254	0.158	1.22	96	1.97	66	46.7	66	97.3	67	0.117	0.342	22.57
1497	92.2	0.4	240.416	0.162	1.23	96	2.05	66	46.7	66	100.5	67	0.112	0.335	22.33
1498	92.3	0.1	240.576	0.160	1.23	96	2.07	66	46.7	66	100.3	67	0.113	0.336	22.13
1499	91.7	-0.6	240.736	0.160	1.24	96	2.07	66	46.7	66	100.3	67	0.116	0.341	22.32
1500	92.0	0.3	240.897	0.161	1.23	96	2.07	65.9	46.6	66	100.4	67	0.114	0.338	22.37
1501	92.2	0.2	241.059	0.162	1.22	96	2.08	65.9	46.6	66	101.0	67	0.115	0.339	22.32
1502	91.6	-0.6	241.222	0.163	1.24	96	1.99	65.9	46.6	66	101.7	67	0.114	0.338	22.32
1503	91.9	0.3	241.383	0.161	1.24	97	2.06	65.9	46.6	66	100.5	67	0.114	0.338	22.27
1504	92.4	0.4	241.543	0.160	1.23	97	1.96	65.9	46.6	66	99.5	67	0.118	0.344	22.47
1505	92.0	-0.3	241.704	0.161	1.23	96	1.99	65.9	46.6	65	99.9	67	0.112	0.335	22.37
1506	91.8	-0.2	241.865	0.161	1.21	96	2.07	65.9	46.6	66	100.6	67	0.114	0.338	22.17
1507	91.6	-0.2	242.023	0.158	1.23	96	2.03	65.8	46.6	66	98.3	67	0.120	0.346	22.56
1508	91.8	0.2	242.183	0.160	1.23	96	1.96	65.8	46.6	65	98.5	67	0.116	0.341	22.66
1509	92.0	0.2	242.345	0.162	1.23	96	2.06	65.8	46.6	66	100.2	67	0.114	0.338	22.37
1510	92.0	0.0	242.506	0.161	1.24	96	2.08	65.8	46.6	66	100.2	67	0.116	0.341	22.37
1511	91.9	-0.1	242.666	0.160	1.21	96	2.06	65.8	46.6	66	99.7	67	0.113	0.336	22.32
1512	91.8	-0.1	242.829	0.163	1.22	96	2.06	65.7	46.5	65	102.3	67	0.110	0.332	22.02
1513	91.7	-0.1	242.990	0.161	1.22	96	2.07	65.8	46.6	66	101.4	67	0.116	0.341	22.17
1514	92.2	0.5	243.152	0.162	1.22	96	2.06	65.8	46.6	65	101.1	67	0.115	0.339	22.42
1515	92.5	0.3	243.312	0.160	1.23	96	1.98	65.7	46.6	65	99.6	67	0.114	0.338	22.32
1516	91.7	-0.7	243.472	0.160	1.21	96	2.05	65.7	46.6	66	99.6	67	0.117	0.342	22.41
1517	92.4	0.6	243.631	0.159	1.23	96	1.98	65.8	46.7	65	98.5	67	0.117	0.342	22.56
1518	91.6	-0.8	243.792	0.161	1.23	96	2.03	65.9	46.7	66	99.3	68	0.118	0.344	22.63
1519	92.2	0.6	243.953	0.161	1.22	96	2.04	65.9	46.6	66	99.8	70	0.113	0.336	22.47
1520	92.2	0.1	244.112	0.159	1.22	96	1.98	65.9	46.6	66	99.4	69	0.115	0.339	22.33
1521	92.2	-0.1	244.274	0.162	1.22	96	2.06	65.9	46.7	66	100.8	69	0.119	0.345	22.61
1522	91.5	-0.7	244.437	0.163	1.23	96	1.99	66.1	46.7	65	101.1	74	0.115	0.339	22.66
1523	91.2	-0.3	244.598	0.161	1.22	96	1.99	66.3	46.8	66	100.1	75	0.120	0.346	22.77
1524	90.7	-0.5	244.758	0.160	1.22	95	2.09	66.4	46.7	66	99.2	76	0.118	0.344	22.94
1525	89.8	-0.9	244.918	0.160	1.22	96	1.98	66.6	46.7	65	99.3	79	0.118	0.344	22.89
1526	89.1	-0.7	245.079	0.161	1.23	96	2.08	66.8	46.7	65	100.6	82	0.116	0.341	22.85
1527	89.1	0.0	245.237	0.158	1.23	95	2.00	67	46.7	66	99.9	86	0.113	0.336	22.68
1528	87.9	-1.2	245.396	0.159	1.23	96	1.99	67.3	46.8	66	101.1	86	0.116	0.341	22.72
1529	87.5	-0.4	245.558	0.162	1.22	96	2.04	67.6	46.9	66	102.5	86	0.116	0.341	22.86
1530	86.2	-1.3	245.718	0.160	1.23	95	2.02	67.8	47.1	66	100.7	86	0.119	0.345	23.01
1531	86.1	-0.1	245.877	0.159	1.20	95	2.07	67.9	47.2	66	99.8	83	0.114	0.338	22.89
1532	85.2	-0.9	246.039	0.162	1.22	96	1.99	68	47.3	66	102.2	84	0.115	0.339	22.67
1533	84.7	-0.5	246.200	0.161	1.22	95	2.07	68.2	47.4	66	102.0	83	0.115	0.339	22.72
1534	84.1	-0.6	246.360	0.160	1.22	96	1.98	68.4	47.5	66	101.1	84	0.116	0.341	22.77
1535	82.5	-1.6	246.519	0.159	1.22	96	1.97	68.6	47.6	67	100.3	84	0.116	0.341	22.83
1536	81.5	-1.0	246.679	0.160	1.20	96	1.98	68.7	47.6	67	100.8	84	0.116	0.341	22.83

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1537	81.1	-0.5	246.837	0.158	1.22	96	2.07	68.8	47.8	67	100.0	84	0.112	0.335	22.64
1538	80.4	-0.7	246.996	0.159	1.21	96	2.08	69	47.9	67	101.5	85	0.112	0.335	22.44
1539	78.9	-1.5	247.155	0.159	1.22	96	2.04	69.2	48	67	101.6	85	0.115	0.339	22.59
1540	78.0	-0.9	247.316	0.161	1.21	96	2.00	69.2	48.1	67	102.9	85	0.109	0.330	22.45
1541	77.2	-0.8	247.479	0.163	1.20	96	2.03	69.3	48.2	67	105.1	85	0.111	0.333	22.25
1542	75.9	-1.3	247.638	0.159	1.22	96	1.99	69.4	48.3	67	102.7	85	0.111	0.333	22.35
1543	75.5	-0.5	247.797	0.159	1.21	96	2.10	69.5	48.3	67	101.9	84	0.116	0.341	22.59
1544	74.6	-0.9	247.958	0.161	1.22	96	2.02	69.5	48.5	66	102.0	84	0.116	0.341	22.83
1545	73.8	-0.8	248.117	0.159	1.20	96	2.07	69.6	48.5	67	99.9	85	0.119	0.345	22.98
1546	72.3	-1.4	248.276	0.159	1.22	96	1.98	69.6	48.7	67	100.0	84	0.112	0.335	22.79
1547	71.8	-0.6	248.437	0.161	1.20	96	1.99	69.7	48.7	67	101.9	85	0.117	0.342	22.69
1548	71.6	-0.2	248.593	0.156	1.20	96	2.02	69.7	48.8	67	98.7	85	0.115	0.339	22.85
1549	70.6	-1.0	248.752	0.159	1.21	96	2.09	69.2	48.9	67	99.7	74	0.115	0.339	22.63
1550	69.9	-0.7	248.913	0.161	1.21	96	2.09	69	48.8	67	101.1	73	0.110	0.332	22.26
1551	69.7	-0.2	249.074	0.161	1.22	96	1.97	68.8	48.8	67	102.2	72	0.112	0.335	22.09
1552	69.5	-0.1	249.236	0.162	1.22	96	1.98	68.6	48.8	66	102.7	71	0.113	0.336	22.22
1553	69.5	0.0	249.396	0.160	1.21	96	2.06	68.5	48.7	66	100.8	70	0.114	0.338	22.30
1554	68.9	-0.6	249.557	0.161	1.23	96	2.08	68.4	48.7	66	100.9	70	0.115	0.339	22.38
1555	68.6	-0.3	249.718	0.161	1.22	96	2.08	68.3	48.6	67	100.7	70	0.114	0.338	22.38
1556	69.1	0.5	249.878	0.160	1.22	96	2.11	68.1	48.4	66	100.3	69	0.113	0.336	22.27
1557	68.3	-0.8	250.037	0.159	1.24	96	1.98	68	48.4	66	99.3	69	0.119	0.345	22.51
1558	68.8	0.5	250.196	0.159	1.22	96	2.00	67.9	48.4	66	98.3	68	0.116	0.341	22.65
1559	68.8	0.0	250.356	0.160	1.22	96	1.99	67.7	48.3	66	98.9	68	0.116	0.341	22.49
1560	68.5	-0.2	250.516	0.160	1.21	96	1.97	67.6	48.2	66	99.0	68	0.119	0.345	22.63
1561	68.3	-0.2	250.679	0.163	1.21	96	2.07	67.5	48	66	99.7	68	0.123	0.351	22.97
1562	68.3	0.0	250.840	0.161	1.22	96	1.99	67.4	48	66	98.3	68	0.114	0.338	22.73
1563	68.2	-0.1	251.001	0.161	1.22	96	1.99	67.3	48	66	99.2	68	0.120	0.346	22.58
1564	68.4	0.2	251.162	0.161	1.21	95	1.96	67.3	47.9	66	99.4	68	0.115	0.339	22.63
1565	68.5	0.1	251.321	0.159	1.21	96	2.05	67.2	47.9	66	98.3	68	0.118	0.344	22.53
1566	67.9	-0.6	251.483	0.162	1.23	96	2.06	67.1	47.7	66	100.1	68	0.117	0.342	22.63
1567	67.9	0.0	251.643	0.160	1.23	96	2.08	67	47.7	66	98.6	68	0.118	0.344	22.63
1568	67.9	0.0	251.804	0.161	1.21	95	1.97	67	47.7	66	99.9	68	0.111	0.333	22.33
1569	68.2	0.3	251.961	0.157	1.21	96	2.11	66.8	47.7	66	98.3	68	0.116	0.341	22.24
1570	68.1	-0.1	252.122	0.161	1.22	96	1.96	66.8	47.6	66	100.1	68	0.119	0.345	22.62
1571	67.7	-0.4	252.282	0.160	1.23	96	2.10	66.7	47.6	66	98.5	67	0.117	0.342	22.67
1572	67.8	0.1	252.446	0.164	1.24	96	1.96	66.7	47.6	66	101.1	67	0.117	0.342	22.57
1573	67.9	0.1	252.605	0.159	1.22	96	2.07	66.6	47.6	67	98.4	68	0.116	0.341	22.54
1574	68.4	0.4	252.767	0.162	1.21	96	2.03	66.7	47.6	66	100.8	71	0.115	0.339	22.48
1575	68.1	-0.3	252.928	0.161	1.22	95	1.96	66.7	47.5	66	100.4	69	0.116	0.341	22.48
1576	67.9	-0.1	253.088	0.160	1.21	95	2.02	66.6	47.5	66	98.9	68	0.121	0.348	22.74
1577	68.0	0.0	253.247	0.159	1.23	96	2.09	66.5	47.4	66	97.3	69	0.120	0.346	22.93
1578	67.7	-0.3	253.409	0.162	1.22	95	2.03	66.4	47.4	66	99.4	68	0.114	0.338	22.59
1579	67.9	0.3	253.570	0.161	1.23	96	2.09	66.4	47.4	66	99.7	68	0.119	0.345	22.54
1580	68.1	0.2	253.727	0.157	1.22	95	1.97	66.4	47.4	66	96.9	68	0.118	0.344	22.74

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1581	68.0	-0.1	253.887	0.160	1.24	96	1.94	66.4	47.4	66	98.5	69	0.118	0.344	22.70
1582	67.7	-0.3	254.051	0.164	1.22	96	2.03	66.4	47.3	66	101.1	70	0.118	0.344	22.71
1583	67.6	-0.1	254.212	0.161	1.24	95	1.98	66.5	47.2	66	99.3	73	0.120	0.346	22.85
1584	68.2	0.6	254.372	0.160	1.22	95	1.98	66.4	47.2	66	98.2	69	0.120	0.346	22.94
1585	68.0	-0.2	254.531	0.159	1.21	96	1.99	66.4	47.1	66	97.4	69	0.117	0.342	22.76
1586	67.6	-0.3	254.694	0.163	1.23	96	2.06	66.5	47.2	66	100.7	69	0.115	0.339	22.51
1587	67.7	0.1	254.854	0.160	1.22	96	1.99	66.5	47.3	67	99.7	69	0.114	0.338	22.36
1588	68.3	0.7	255.014	0.160	1.22	96	1.99	66.5	47.3	67	100.0	69	0.115	0.339	22.36
1589	67.7	-0.7	255.174	0.160	1.23	96	2.06	66.5	47.3	67	99.9	68	0.115	0.339	22.40
1590	67.8	0.1	255.333	0.159	1.23	95	2.06	66.5	47.3	67	99.0	68	0.117	0.342	22.50
1591	67.5	-0.3	255.494	0.161	1.24	96	2.07	66.6	47.3	67	100.0	68	0.115	0.339	22.50
1592	68.3	0.8	255.657	0.163	1.24	95	2.07	66.5	47.2	67	101.1	68	0.118	0.344	22.54
1593	68.1	-0.2	255.816	0.159	1.22	96	2.04	66.5	47.2	67	98.3	68	0.117	0.342	22.64
1594	67.7	-0.4	255.979	0.163	1.22	95	2.06	66.5	47.2	67	100.7	68	0.117	0.342	22.59
1595	67.6	-0.1	256.139	0.160	1.23	96	1.99	66.5	47.1	66	99.0	68	0.116	0.341	22.54
1596	67.5	-0.1	256.299	0.160	1.21	95	2.03	66.4	47.1	66	99.2	68	0.116	0.341	22.48
1597	67.5	0.1	256.459	0.160	1.22	96	1.98	66.4	47.2	67	98.9	68	0.120	0.346	22.67
1598	67.5	-0.1	256.621	0.162	1.22	95	2.07	66.4	47.2	66	99.6	68	0.117	0.342	22.72
1599	67.5	0.0	256.781	0.160	1.23	95	2.00	66.4	47.2	66	98.6	68	0.117	0.342	22.58
1600	67.5	0.0	256.938	0.157	1.23	96	1.98	66.4	47.2	66	96.7	67	0.120	0.346	22.72
1601	67.7	0.2	257.099	0.161	1.22	95	2.07	66.4	47.2	67	98.7	67	0.118	0.344	22.77
1602	67.4	-0.3	257.263	0.164	1.23	95	2.06	66.3	47.2	66	100.9	67	0.116	0.341	22.57
1603	67.6	0.2	257.424	0.161	1.22	96	2.06	66.3	47.2	66	100.3	67	0.110	0.332	22.18
1604	67.8	0.3	257.584	0.160	1.22	96	2.06	66.3	47.2	66	99.7	67	0.124	0.352	22.57
1605	68.3	0.5	257.744	0.160	1.21	96	1.99	66.2	47.2	66	98.3	67	0.115	0.339	22.81
1606	67.6	-0.8	257.906	0.162	1.23	96	2.06	66.2	47.1	66	99.5	67	0.119	0.345	22.57
1607	68.3	0.7	258.066	0.160	1.22	96	2.05	66.1	47.1	66	98.8	67	0.115	0.339	22.57
1608	67.6	-0.7	258.226	0.160	1.23	95	2.06	66.2	47.1	66	99.0	67	0.118	0.344	22.52
1609	67.5	-0.1	258.386	0.160	1.22	96	1.99	66.1	47	66	99.1	67	0.115	0.339	22.52
1610	67.5	0.1	258.546	0.160	1.24	95	1.98	66.1	47.1	66	99.3	67	0.116	0.341	22.42
1611	67.6	0.0	258.709	0.163	1.21	95	2.00	66	47.1	66	101.3	67	0.116	0.341	22.47
1612	68.0	0.5	258.869	0.160	1.23	96	2.02	66	47.1	66	98.9	67	0.119	0.345	22.61
1613	68.1	0.0	259.029	0.160	1.22	96	2.06	66	47.1	66	98.2	67	0.120	0.346	22.80
1614	68.1	0.1	259.191	0.162	1.20	95	2.05	66	47.1	66	98.6	67	0.123	0.351	22.99
1615	67.5	-0.6	259.352	0.161	1.23	95	2.05	65.9	47.1	66	98.2	67	0.114	0.338	22.71
1616	67.6	0.1	259.512	0.160	1.23	96	2.05	65.9	47.1	66	98.8	67	0.117	0.342	22.41
1617	68.1	0.4	259.672	0.160	1.22	96	2.01	65.9	47.1	66	99.0	67	0.117	0.342	22.56
1618	68.0	-0.1	259.834	0.162	1.21	95	2.01	66.4	47.1	66	100.4	74	0.118	0.344	22.68
1619	67.7	-0.3	259.995	0.161	1.23	96	2.04	65.9	47.3	65	99.7	67	0.116	0.341	22.64
1620	67.5	-0.2	260.152	0.157	1.23	96	2.05	65.9	47.1	66	96.9	68	0.118	0.344	22.58
1621	67.6	0.2	260.315	0.163	1.21	95	2.01	66	47.2	65	101.1	70	0.115	0.339	22.56
1622	67.8	0.2	260.477	0.162	1.22	95	2.04	66	47.1	65	100.6	68	0.118	0.344	22.56
1623	67.6	-0.2	260.637	0.160	1.22	96	2.00	65.9	47.1	65	98.8	68	0.118	0.344	22.68
1624	67.5	-0.1	260.798	0.161	1.22	95	2.00	65.9	47.2	66	99.0	67	0.119	0.345	22.72

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1625	67.2	-0.2	260.958	0.160	1.22	96	1.99	65.8	47.2	66	97.7	67	0.123	0.351	22.96
1626	67.1	-0.2	261.119	0.161	1.23	95	2.05	65.8	47.1	65	97.9	68	0.119	0.345	22.96
1627	67.5	0.5	261.280	0.161	1.22	95	2.06	65.8	47	65	99.0	69	0.114	0.338	22.55
1628	67.3	-0.3	261.441	0.161	1.25	95	2.00	65.9	47	68	100.2	71	0.118	0.344	22.54
1629	67.3	0.0	261.601	0.160	1.23	96	2.00	65.9	47	66	99.0	68	0.119	0.345	22.77
1630	67.3	0.0	261.762	0.161	1.23	95	2.06	65.8	47	66	98.9	68	0.118	0.344	22.74
1631	67.4	0.2	261.923	0.161	1.23	96	2.00	65.9	47.1	66	99.1	68	0.118	0.344	22.69
1632	67.4	0.0	262.084	0.161	1.21	96	2.04	65.9	47	66	99.7	68	0.112	0.335	22.39
1633	67.9	0.4	262.244	0.160	1.24	95	2.01	65.9	47	66	100.1	68	0.115	0.339	22.24
1634	67.8	-0.1	262.405	0.161	1.23	95	2.02	66	47.1	66	100.8	68	0.115	0.339	22.39
1635	67.5	-0.2	262.566	0.161	1.22	96	2.00	66	47.1	66	100.7	68	0.112	0.335	22.24
1636	67.0	-0.5	262.727	0.161	1.22	96	2.05	66	47.1	66	100.8	68	0.117	0.342	22.34
1637	67.5	0.4	262.887	0.160	1.21	95	2.05	66	47.1	66	99.3	68	0.118	0.344	22.63
1638	68.1	0.6	263.047	0.160	1.24	96	2.05	66	47.1	66	98.9	68	0.115	0.339	22.53
1639	67.5	-0.6	263.209	0.162	1.24	96	2.05	66	47	66	100.3	68	0.118	0.344	22.53
1640	67.9	0.4	263.369	0.160	1.21	95	2.05	66	47	66	99.1	67	0.115	0.339	22.53
1641	67.3	-0.6	263.529	0.160	1.23	96	1.99	66	47	66	99.1	67	0.118	0.344	22.52
1642	67.8	0.5	263.690	0.161	1.22	96	2.03	65.9	46.9	66	99.0	67	0.121	0.348	22.81
1643	67.9	0.2	263.852	0.162	1.22	96	1.99	66	47	66	99.1	67	0.117	0.342	22.76
1644	67.8	-0.1	264.012	0.160	1.22	96	2.01	65.9	47	66	98.7	67	0.114	0.338	22.42
1645	67.5	-0.3	264.172	0.160	1.23	96	2.06	65.9	47	66	100.3	67	0.109	0.330	22.03
1646	67.3	-0.2	264.333	0.161	1.22	95	2.02	65.9	47	66	101.3	67	0.119	0.345	22.27
1647	67.4	0.1	264.494	0.161	1.22	96	2.02	65.9	47	66	99.4	67	0.122	0.349	22.90
1648	67.2	-0.2	264.655	0.161	1.22	96	2.06	65.8	46.9	66	98.2	67	0.117	0.342	22.80
1649	67.4	0.2	264.815	0.160	1.22	96	2.02	66.2	47.1	66	98.8	72	0.115	0.339	22.52
1650	67.7	0.3	264.975	0.160	1.22	96	1.99	65.9	47.2	66	99.4	67	0.117	0.342	22.52
1651	67.7	0.1	265.137	0.162	1.23	95	2.06	65.9	47.1	66	100.6	67	0.113	0.336	22.37
1652	67.1	-0.6	265.297	0.160	1.22	96	2.00	65.8	47.1	66	100.3	67	0.111	0.333	22.07
1653	67.4	0.3	265.457	0.160	1.21	95	2.03	65.8	47.1	66	100.9	67	0.114	0.338	22.12
1654	67.2	-0.2	265.618	0.161	1.22	95	2.00	65.7	47	66	101.0	67	0.115	0.339	22.32
1655	67.6	0.4	265.780	0.162	1.23	96	2.03	65.7	47	65	100.7	67	0.118	0.344	22.51
1656	67.3	-0.4	265.940	0.160	1.23	95	2.05	65.7	47.1	66	99.2	67	0.114	0.338	22.46
1657	67.2	-0.1	266.100	0.160	1.22	96	2.04	65.7	47.1	66	99.1	67	0.119	0.345	22.51
1658	67.3	0.1	266.261	0.161	1.24	96	1.99	65.7	47.1	66	100.1	70	0.111	0.333	22.40
1659	67.7	0.4	266.423	0.162	1.22	96	2.06	65.8	47.1	65	101.3	68	0.117	0.342	22.31
1660	67.0	-0.7	266.583	0.160	1.23	96	2.02	65.7	47.1	65	99.1	67	0.120	0.346	22.72
1661	67.5	0.5	266.744	0.161	1.23	95	2.06	65.7	47	65	99.0	67	0.115	0.339	22.62
1662	67.2	-0.3	266.904	0.160	1.23	96	2.07	65.6	47	65	99.1	67	0.116	0.341	22.42
1663	67.8	0.7	267.066	0.162	1.24	95	2.05	65.7	47	66	101.0	68	0.113	0.336	22.33
1664	67.0	-0.8	267.226	0.160	1.23	96	2.05	65.6	47	65	99.3	68	0.122	0.349	22.63
1665	67.4	0.4	267.387	0.161	1.22	96	2.00	65.6	46.9	65	99.4	68	0.112	0.335	22.58
1666	67.7	0.3	267.546	0.159	1.23	95	1.99	65.6	46.9	65	99.0	71	0.118	0.344	22.43
1667	67.4	-0.3	267.709	0.163	1.23	96	2.00	65.8	46.9	66	101.6	69	0.115	0.339	22.59
1668	67.1	-0.3	267.869	0.160	1.22	95	2.04	65.7	46.9	66	99.5	68	0.115	0.339	22.41

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1669	67.6	0.5	268.030	0.161	1.24	95	2.00	65.7	46.9	66	100.5	68	0.115	0.339	22.39
1670	67.7	0.1	268.189	0.159	1.24	95	2.00	65.8	47	66	98.8	68	0.119	0.345	22.58
1671	67.0	-0.7	268.352	0.163	1.21	95	2.02	65.7	46.9	66	101.2	68	0.112	0.335	22.44
1672	67.9	0.9	268.512	0.160	1.22	95	1.99	65.8	46.9	66	99.6	68	0.119	0.345	22.43
1673	67.6	-0.3	268.673	0.161	1.22	96	2.05	65.8	47	66	99.4	68	0.119	0.345	22.77
1674	67.2	-0.4	268.832	0.159	1.22	95	2.03	65.8	47	66	98.0	68	0.114	0.338	22.53
1675	67.1	-0.1	268.995	0.163	1.22	96	1.99	65.8	47	66	101.4	68	0.115	0.339	22.33
1676	67.2	0.2	269.155	0.160	1.21	95	1.99	65.8	47	66	100.2	67	0.112	0.335	22.23
1677	67.8	0.5	269.316	0.161	1.23	96	2.07	65.9	47	66	101.6	67	0.110	0.332	21.99
1678	67.7	-0.1	269.475	0.159	1.23	96	2.00	65.9	47	66	101.3	67	0.108	0.329	21.79
1679	67.7	0.1	269.637	0.162	1.22	96	2.01	65.8	47	66	103.1	67	0.115	0.339	22.03
1680	67.4	-0.3	269.798	0.161	1.22	95	2.01	66	47.1	66	100.9	70	0.119	0.345	22.60
1681	67.6	0.1	269.958	0.160	1.22	95	2.06	65.9	47	66	99.4	67	0.112	0.335	22.45
1682	67.5	-0.1	270.118	0.160	1.23	96	2.06	65.9	47	66	100.0	67	0.114	0.338	22.18
1683	67.7	0.2	270.280	0.162	1.22	95	2.00	65.7	46.9	66	101.1	67	0.118	0.344	22.47
1684	67.6	-0.1	270.440	0.160	1.22	95	2.05	65.7	47	66	99.2	67	0.115	0.339	22.51
1685	67.6	0.0	270.601	0.161	1.22	96	1.99	65.8	47.1	66	100.2	67	0.113	0.336	22.27
1686	67.5	-0.1	270.761	0.160	1.21	95	1.98	65.8	47	66	100.2	67	0.114	0.338	22.22
1687	67.7	0.2	270.922	0.161	1.21	95	1.99	65.7	47	66	100.7	67	0.116	0.341	22.36
1688	67.5	-0.2	271.083	0.161	1.22	96	1.99	65.7	47	65	100.0	67	0.117	0.342	22.51
1689	67.6	0.1	271.244	0.161	1.21	96	2.06	65.7	47	66	99.3	66	0.119	0.345	22.65
1690	67.5	-0.1	271.404	0.160	1.21	95	2.02	65.6	47	65	98.5	67	0.116	0.341	22.60
1691	67.1	-0.3	271.565	0.161	1.22	96	1.95	65.7	47	65	99.5	66	0.116	0.341	22.46
1692	66.8	-0.3	271.726	0.161	1.23	96	1.95	65.6	47	66	100.3	66	0.111	0.333	22.21
1693	67.4	0.6	271.886	0.160	1.23	95	2.08	65.7	47.1	66	100.8	69	0.113	0.336	22.09
1694	66.9	-0.5	272.046	0.160	1.22	96	2.03	65.7	47.1	65	100.0	69	0.122	0.349	22.65
1695	67.3	0.4	272.208	0.162	1.20	96	1.96	65.7	47.1	65	99.5	67	0.117	0.342	22.83
1696	67.6	0.3	272.368	0.160	1.21	95	1.96	65.7	47.1	65	98.1	67	0.119	0.345	22.67
1697	67.5	-0.1	272.529	0.161	1.22	96	1.95	65.6	47.1	65	99.1	67	0.116	0.341	22.62
1698	67.5	0.0	272.689	0.160	1.23	96	2.09	65.6	47	65	99.3	68	0.113	0.336	22.33
1699	67.4	-0.2	272.850	0.161	1.23	96	2.10	65.6	47.1	65	100.1	68	0.120	0.346	22.53
1700	67.2	-0.2	273.011	0.161	1.20	95	1.95	65.7	47.1	66	99.9	72	0.114	0.338	22.62
1701	67.1	-0.1	273.171	0.160	1.22	96	2.03	65.8	47.1	66	99.2	69	0.120	0.346	22.64
1702	67.4	0.4	273.331	0.160	1.22	96	2.10	65.7	47.1	66	98.5	68	0.118	0.344	22.79
1703	67.4	-0.1	273.492	0.161	1.22	95	2.10	65.6	47	66	99.1	68	0.116	0.341	22.58
1704	67.0	-0.3	273.653	0.161	1.23	95	1.97	65.6	47.1	66	99.9	68	0.115	0.339	22.43
1705	67.3	0.3	273.813	0.160	1.24	95	1.97	65.6	47.1	66	99.6	67	0.116	0.341	22.43
1706	67.4	0.1	273.973	0.160	1.22	96	2.07	65.7	47.1	66	99.5	67	0.115	0.339	22.43
1707	67.2	-0.2	274.135	0.162	1.22	95	1.99	65.7	47.1	66	101.2	67	0.112	0.335	22.23
1708	66.9	-0.3	274.295	0.160	1.23	95	1.98	65.7	47.2	66	100.7	67	0.113	0.336	22.14
1709	67.2	0.3	274.456	0.161	1.20	96	2.06	65.7	47.2	66	100.8	67	0.118	0.344	22.43
1710	67.5	0.2	274.615	0.159	1.20	95	2.02	65.7	47.2	66	98.4	67	0.118	0.344	22.67
1711	67.5	0.0	274.777	0.162	1.22	96	2.05	65.8	47.2	66	100.2	69	0.114	0.338	22.49
1712	67.2	-0.2	274.937	0.160	1.23	96	2.08	65.8	47.2	66	99.8	67	0.114	0.338	22.30

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1713	66.9	-0.3	275.098	0.161	1.23	95	1.97	65.8	47.1	66	101.0	67	0.112	0.335	22.18
1714	66.9	0.0	275.257	0.159	1.24	95	1.96	65.7	47.2	66	99.8	67	0.116	0.341	22.27
1715	67.1	0.2	275.419	0.162	1.23	96	2.07	65.7	47.2	66	100.8	67	0.117	0.342	22.51
1716	67.4	0.4	275.580	0.161	1.22	95	2.06	65.7	47.1	66	99.3	67	0.119	0.345	22.65
1717	67.3	-0.1	275.740	0.160	1.21	96	2.08	65.6	47.1	66	98.9	67	0.112	0.335	22.41
1718	66.9	-0.5	275.899	0.159	1.25	95	2.07	65.6	47.2	66	99.5	67	0.113	0.336	22.12
1719	67.3	0.4	276.061	0.162	1.23	95	2.07	65.6	47.2	66	101.4	66	0.118	0.344	22.41
1720	67.2	-0.1	276.222	0.161	1.23	96	1.98	65.5	47.2	66	99.5	66	0.118	0.344	22.65
1721	66.9	-0.3	276.382	0.160	1.23	95	1.98	65.5	47.2	66	98.4	66	0.118	0.344	22.65
1722	66.7	-0.1	276.542	0.160	1.22	96	2.09	65.5	47.3	65	98.5	66	0.117	0.342	22.60
1723	67.0	0.3	276.704	0.162	1.21	95	2.01	65.5	47.3	65	99.7	66	0.119	0.345	22.65
1724	67.5	0.4	276.864	0.160	1.22	96	1.96	65.5	47.3	65	98.6	66	0.115	0.339	22.55
1725	67.0	-0.5	277.024	0.160	1.23	96	2.09	65.5	47.3	65	98.7	66	0.119	0.345	22.55
1726	67.1	0.1	277.184	0.160	1.22	96	2.07	65.4	47.3	65	99.3	66	0.110	0.332	22.30
1727	67.1	0.0	277.346	0.162	1.23	96	2.01	65.4	47.3	65	101.7	66	0.113	0.336	22.01
1728	66.9	-0.2	277.507	0.161	1.24	95	2.03	65.4	47.3	65	101.6	68	0.113	0.336	22.18
1729	67.2	0.3	277.667	0.160	1.23	95	2.03	65.4	47.3	65	100.5	68	0.116	0.341	22.35
1730	67.0	-0.3	277.827	0.160	1.21	95	1.97	65.4	47.3	65	100.2	67	0.111	0.333	22.23
1731	67.4	0.4	277.989	0.162	1.22	95	2.04	65.4	47.3	65	101.3	67	0.119	0.345	22.37
1732	67.0	-0.3	278.149	0.160	1.21	95	1.98	65.4	47.3	65	99.6	67	0.113	0.336	22.46
1733	66.8	-0.2	278.309	0.160	1.22	95	2.09	65.4	47.4	65	98.9	67	0.123	0.351	22.66
1734	67.3	0.5	278.469	0.160	1.23	95	2.06	65.3	47.3	65	98.3	67	0.115	0.339	22.76
1735	67.4	0.0	278.631	0.162	1.21	95	1.96	65.3	47.3	64	100.2	67	0.115	0.339	22.37
1736	67.0	-0.4	278.792	0.161	1.23	95	2.05	65.2	47.2	65	99.5	67	0.124	0.352	22.81
1737	67.4	0.4	278.952	0.160	1.21	95	2.05	65.3	47.2	65	97.5	68	0.120	0.346	23.05
1738	67.4	0.0	279.112	0.160	1.22	95	2.08	65.4	47.2	66	98.3	72	0.113	0.336	22.57
1739	66.8	-0.6	279.274	0.162	1.24	95	1.96	65.4	47.3	65	101.4	68	0.113	0.336	22.24
1740	67.0	0.2	279.434	0.160	1.22	95	2.04	65.4	47.2	65	100.1	68	0.119	0.345	22.49
1741	67.0	0.0	279.595	0.161	1.21	95	1.97	65.4	47.3	66	99.5	69	0.119	0.345	22.79
1742	67.0	0.0	279.754	0.159	1.20	95	1.95	65.5	47.3	66	98.0	69	0.116	0.341	22.65
1743	67.0	0.0	279.916	0.162	1.21	95	2.06	65.5	47.3	66	100.4	67	0.115	0.339	22.44
1744	67.3	0.3	280.077	0.161	1.19	95	2.05	65.5	47.3	66	100.4	67	0.114	0.338	22.33
1745	66.5	-0.8	280.237	0.160	1.22	95	2.06	65.6	47.4	66	100.4	71	0.115	0.339	22.37
1746	66.9	0.4	280.396	0.159	1.23	95	2.08	65.8	47.3	66	100.0	74	0.115	0.339	22.49
1747	65.8	-1.1	280.558	0.162	1.23	95	2.07	66	47.4	66	101.4	75	0.119	0.345	22.73
1748	65.7	-0.1	280.718	0.160	1.21	95	2.09	66.2	47.6	66	99.6	79	0.119	0.345	22.97
1749	64.6	-1.1	280.878	0.160	1.23	95	2.10	66.5	47.6	66	100.2	81	0.112	0.335	22.69
1750	63.8	-0.8	281.037	0.159	1.22	96	2.07	66.8	47.7	66	101.6	83	0.108	0.329	22.18
1751	63.6	-0.3	281.199	0.162	1.24	95	1.97	67.1	47.8	66	104.4	84	0.116	0.341	22.41
1752	62.3	-1.3	281.358	0.159	1.22	95	2.10	67.2	47.9	66	100.6	82	0.120	0.346	23.00
1753	61.8	-0.4	281.518	0.160	1.23	95	2.11	67.3	47.9	66	100.0	82	0.115	0.339	22.93
1754	61.4	-0.5	281.678	0.160	1.22	95	2.10	67.3	48	66	101.8	84	0.106	0.326	22.26
1755	60.5	-0.8	281.839	0.161	1.21	95	2.07	67.5	48.1	66	103.6	82	0.118	0.344	22.41
1756	59.8	-0.7	281.998	0.159	1.22	95	1.97	67.5	48.2	65	100.5	82	0.118	0.344	22.98

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1757	59.5	-0.4	282.157	0.159	1.22	96	2.10	67.6	48.3	66	98.8	82	0.122	0.349	23.17
1758	58.7	-0.8	282.318	0.161	1.23	96	1.97	67.7	48.4	65	99.7	82	0.117	0.342	23.13
1759	58.0	-0.7	282.478	0.160	1.23	95	1.98	67.8	48.4	65	100.4	83	0.112	0.335	22.65
1760	57.1	-1.0	282.637	0.159	1.18	95	2.08	68	48.5	65	101.0	84	0.117	0.342	22.66
1761	55.9	-1.2	282.797	0.160	1.20	95	2.07	68	48.6	65	101.4	83	0.114	0.338	22.77
1762	55.5	-0.4	282.958	0.161	1.21	95	2.11	68.1	48.7	65	102.1	84	0.114	0.338	22.62
1763	54.9	-0.5	283.117	0.159	1.21	95	1.97	68.2	48.8	65	100.7	83	0.118	0.344	22.82
1764	53.8	-1.2	283.276	0.159	1.20	95	1.97	68.2	48.9	65	100.3	83	0.113	0.336	22.76
1765	53.3	-0.5	283.437	0.161	1.23	96	2.03	68.3	49	65	102.1	84	0.114	0.338	22.57
1766	52.7	-0.6	283.596	0.159	1.22	95	1.99	68.4	49.1	65	100.9	84	0.117	0.342	22.77
1767	51.4	-1.3	283.755	0.159	1.20	95	2.11	68.4	49.2	65	100.1	84	0.118	0.344	22.96
1768	50.8	-0.6	283.915	0.160	1.22	95	2.11	68.4	49.2	65	101.1	86	0.111	0.333	22.69
1769	50.1	-0.7	284.076	0.161	1.21	95	1.98	68.6	49.3	66	102.6	85	0.117	0.342	22.66
1770	49.4	-0.8	284.235	0.159	1.23	95	2.09	68.6	49.4	66	100.8	83	0.114	0.338	22.78
1771	48.9	-0.5	284.394	0.159	1.22	95	2.00	68.5	49.5	67	100.1	77	0.116	0.341	22.64
1772	48.1	-0.7	284.555	0.161	1.22	95	1.96	68.3	49.6	66	101.2	74	0.112	0.335	22.45
1773	48.0	-0.2	284.715	0.160	1.22	95	1.99	68.1	49.5	66	100.4	72	0.118	0.344	22.50
1774	47.3	-0.7	284.875	0.160	1.21	95	1.97	68	49.5	67	99.7	71	0.117	0.342	22.71
1775	47.1	-0.2	285.034	0.159	1.22	95	2.09	67.9	49.4	66	99.2	70	0.111	0.333	22.35
1776	47.0	0.0	285.196	0.162	1.22	95	1.96	67.8	49.4	66	101.8	70	0.116	0.341	22.29
1777	47.0	0.0	285.355	0.159	1.19	95	1.94	67.7	49.4	66	99.4	70	0.117	0.342	22.57
1778	46.8	-0.2	285.515	0.160	1.22	95	2.07	67.7	49.4	67	99.1	69	0.118	0.344	22.67
1779	46.8	0.0	285.676	0.161	1.22	96	2.10	67.6	49.3	67	99.3	69	0.119	0.345	22.76
1780	46.6	-0.3	285.836	0.160	1.22	95	2.09	67.5	49.4	66	98.4	68	0.118	0.344	22.75
1781	46.6	0.1	285.997	0.161	1.22	95	2.06	67.4	49.4	66	99.6	68	0.113	0.336	22.45
1782	46.5	-0.2	286.156	0.159	1.21	95	1.99	67.3	49.3	67	99.0	68	0.118	0.344	22.44
1783	46.3	-0.1	286.317	0.161	1.23	95	2.09	67.2	49.3	66	100.0	68	0.115	0.339	22.53
1784	46.4	0.0	286.478	0.161	1.22	95	2.06	67.1	49.2	66	99.8	68	0.118	0.344	22.53
1785	46.3	-0.1	286.638	0.160	1.23	95	1.97	67	49.2	66	98.8	67	0.118	0.344	22.67
1786	46.2	-0.1	286.797	0.159	1.21	95	2.01	66.9	49.3	66	98.3	67	0.114	0.338	22.48
1787	45.7	-0.5	286.959	0.162	1.22	95	2.11	66.9	49.2	66	100.8	67	0.116	0.341	22.38
1788	45.6	-0.1	287.119	0.160	1.22	95	2.10	66.8	49.3	66	99.2	67	0.120	0.346	22.67
1789	45.9	0.3	287.279	0.160	1.21	95	1.98	66.6	49.2	66	98.5	67	0.117	0.342	22.71
1790	45.5	-0.5	287.438	0.159	1.23	95	1.99	66.6	49.3	66	97.8	67	0.119	0.345	22.67
1791	45.8	0.4	287.600	0.162	1.22	95	2.09	66.5	49.4	66	99.7	67	0.118	0.344	22.71
1792	45.4	-0.4	287.761	0.161	1.22	95	2.10	66.4	49.3	66	99.0	67	0.118	0.344	22.66
1793	45.8	0.4	287.920	0.159	1.22	95	1.96	66.3	49.3	66	98.6	67	0.111	0.333	22.32
1794	45.5	-0.3	288.080	0.160	1.22	96	2.11	66.3	49.3	66	100.2	67	0.116	0.341	22.23
1795	45.5	0.0	288.242	0.162	1.22	95	1.96	66.2	49.3	65	101.0	67	0.117	0.342	22.51
1796	45.4	-0.1	288.402	0.160	1.24	95	1.96	66.1	49.3	66	98.9	67	0.118	0.344	22.61
1797	45.6	0.2	288.562	0.160	1.23	95	2.08	66.1	49.4	66	99.2	67	0.112	0.335	22.37
1798	45.9	0.3	288.722	0.160	1.23	95	2.02	66	49.3	65	99.7	69	0.120	0.346	22.48
1799	45.3	-0.6	288.884	0.162	1.23	95	1.96	66	49.3	65	100.1	68	0.119	0.345	22.84
1800	45.7	0.3	289.044	0.160	1.22	95	1.96	66	49.3	65	98.3	67	0.117	0.342	22.68

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1801	45.6	-0.1	289.204	0.160	1.20	95	1.97	65.9	49.3	65	98.8	67	0.117	0.342	22.57
1802	45.2	-0.4	289.364	0.160	1.22	95	1.97	65.9	49.4	65	98.7	67	0.120	0.346	22.72
1803	45.5	0.3	289.526	0.162	1.24	95	2.09	65.8	49.4	65	99.5	67	0.117	0.342	22.72
1804	45.6	0.1	289.686	0.160	1.22	95	2.07	65.7	49.4	64	98.4	67	0.119	0.345	22.67
1805	45.6	0.0	289.846	0.160	1.22	95	2.10	65.7	49.4	65	99.1	68	0.112	0.335	22.43
1806	45.2	-0.4	290.006	0.160	1.23	95	1.99	65.6	49.3	65	99.7	68	0.119	0.345	22.44
1807	45.7	0.5	290.168	0.162	1.22	94	1.98	65.7	49.3	65	100.8	70	0.115	0.339	22.60
1808	45.1	-0.6	290.328	0.160	1.23	95	1.98	65.8	49.3	67	99.5	71	0.119	0.345	22.64
1809	45.3	0.2	290.488	0.160	1.21	95	2.06	65.8	49.3	65	99.1	69	0.116	0.341	22.68
1810	45.6	0.3	290.648	0.160	1.23	94	1.98	65.7	49.3	66	99.1	68	0.117	0.342	22.54
1811	45.7	0.1	290.810	0.162	1.23	95	2.06	65.7	49.4	66	101.0	68	0.112	0.335	22.34
1812	45.6	-0.1	290.970	0.160	1.22	95	2.00	65.7	49.4	66	99.7	68	0.121	0.348	22.54
1813	45.3	-0.3	291.130	0.160	1.22	95	1.98	65.8	49.5	66	99.1	68	0.113	0.336	22.58
1814	45.6	0.3	291.290	0.160	1.21	95	1.99	65.8	49.5	66	99.4	68	0.117	0.342	22.39
1815	45.3	-0.3	291.451	0.161	1.22	95	2.08	65.8	49.5	66	99.6	68	0.121	0.348	22.77
1816	45.7	0.4	291.612	0.161	1.23	95	1.99	65.8	49.5	66	98.8	68	0.116	0.341	22.72
1817	45.7	0.0	291.771	0.159	1.22	95	2.04	65.8	49.5	66	98.2	68	0.116	0.341	22.48
1818	45.6	0.0	291.933	0.162	1.22	95	1.97	65.7	49.5	66	100.1	67	0.121	0.348	22.72
1819	45.6	0.0	292.093	0.160	1.24	95	1.97	65.8	49.5	66	98.4	67	0.116	0.341	22.71
1820	45.7	0.1	292.254	0.161	1.21	95	2.06	65.8	49.5	66	99.5	67	0.116	0.341	22.47
1821	45.4	-0.4	292.413	0.159	1.23	95	2.02	65.7	49.5	66	98.7	67	0.116	0.341	22.47
1822	45.5	0.1	292.575	0.162	1.24	95	2.00	65.7	49.6	66	100.1	67	0.120	0.346	22.66
1823	45.4	-0.1	292.735	0.160	1.24	95	2.02	65.7	49.6	66	98.5	67	0.116	0.341	22.66
1824	45.3	-0.1	292.895	0.160	1.22	95	2.00	65.6	49.7	66	98.9	67	0.116	0.341	22.46
1825	45.5	0.3	293.055	0.160	1.22	95	2.03	65.6	49.7	65	99.6	67	0.113	0.336	22.31
1826	45.6	0.1	293.217	0.162	1.22	95	1.96	65.6	49.7	66	101.5	67	0.113	0.336	22.17
1827	45.7	0.1	293.377	0.160	1.23	95	2.07	65.6	49.8	66	100.1	67	0.117	0.342	22.36
1828	45.2	-0.5	293.538	0.161	1.21	95	1.97	65.5	49.8	66	100.2	66	0.114	0.338	22.41
1829	45.3	0.0	293.697	0.159	1.22	95	2.07	65.5	49.8	65	99.1	66	0.115	0.339	22.31
1830	45.3	0.0	293.859	0.162	1.24	95	2.02	65.4	49.8	65	100.8	66	0.118	0.344	22.50
1831	45.8	0.6	294.020	0.161	1.23	95	2.00	65.4	49.8	65	99.4	66	0.117	0.342	22.60
1832	45.3	-0.6	294.179	0.159	1.22	95	1.99	65.3	49.7	65	98.2	66	0.116	0.341	22.50
1833	45.5	0.2	294.339	0.160	1.22	95	2.07	65.3	49.8	65	99.3	66	0.115	0.339	22.40
1834	45.4	-0.1	294.501	0.162	1.23	95	1.96	65.3	49.7	65	101.0	66	0.114	0.338	22.31
1835	45.4	0.0	294.662	0.161	1.23	95	2.08	65.2	49.8	65	100.4	66	0.117	0.342	22.40
1836	45.7	0.3	294.822	0.160	1.23	95	2.09	65.3	49.8	65	99.4	69	0.117	0.342	22.58
1837	45.6	-0.1	294.981	0.159	1.23	95	2.04	65.3	49.8	65	98.6	68	0.117	0.342	22.59
1838	45.5	-0.1	295.143	0.162	1.23	95	2.09	65.3	49.8	65	100.1	67	0.117	0.342	22.57
1839	45.9	0.4	295.304	0.161	1.22	95	2.09	65.2	49.8	65	99.2	67	0.119	0.345	22.65
1840	45.7	-0.2	295.464	0.160	1.24	95	2.02	65.2	49.9	65	98.9	67	0.113	0.336	22.47
1841	45.1	-0.6	295.623	0.159	1.24	95	1.97	65.4	49.9	65	99.5	69	0.114	0.338	22.25
1842	45.4	0.2	295.785	0.162	1.22	95	1.98	65.2	49.9	64	101.4	67	0.117	0.342	22.44
1843	45.6	0.2	295.945	0.160	1.23	94	2.08	65.2	49.9	64	99.4	67	0.116	0.341	22.52
1844	45.7	0.1	296.105	0.160	1.22	95	1.96	65.1	49.8	65	99.3	67	0.116	0.341	22.47

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel				
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs	
1845	45.5	-0.2	296.265	0.160	1.22	95	2.10	65.1	49.7	65	99.8	67	0.113	0.336	22.33	
1846	45.5	0.0	296.427	0.162	1.23	95	1.97	65.1	49.8	65	101.3	68	0.117	0.342	22.38	
1847	45.6	0.0	296.587	0.160	1.22	95	2.09	65.1	49.9	65	99.1	68	0.121	0.348	22.77	
1848	45.0	-0.6	296.747	0.160	1.21	95	1.97	65.2	49.8	65	98.4	69	0.116	0.341	22.74	
1849	45.1	0.0	296.907	0.160	1.23	94	2.09	65.3	49.8	67	99.2	72	0.117	0.342	22.60	
1850	45.6	0.5	297.069	0.162	1.21	94	2.08	65.3	49.8	65	100.9	69	0.115	0.339	22.54	
1851	45.1	-0.5	297.229	0.160	1.21	95	1.97	65.3	49.8	65	99.8	68	0.114	0.338	22.35	
1852	45.4	0.2	297.389	0.160	1.21	95	2.06	65.3	49.9	66	100.0	68	0.116	0.341	22.39	
1853	45.7	0.3	297.549	0.160	1.22	95	1.99	65.4	49.9	66	99.4	68	0.118	0.344	22.58	
1854	45.4	-0.3	297.711	0.162	1.22	95	1.99	65.3	50	66	100.0	67	0.118	0.344	22.67	
1855	45.1	-0.2	297.871	0.160	1.22	94	2.05	65.3	50	66	98.9	67	0.115	0.339	22.52	
1856	45.4	0.3	298.031	0.160	1.21	95	2.08	65.4	50.1	66	99.3	67	0.117	0.342	22.47	
1857	45.4	0.0	298.192	0.161	1.22	95	1.98	65.4	50.1	66	100.4	67	0.111	0.333	22.28	
1858	45.0	-0.3	298.353	0.161	1.23	95	1.97	65.4	50.1	66	101.5	67	0.111	0.333	21.98	
1859	45.7	0.6	298.513	0.160	1.21	95	2.06	65.4	50.1	66	101.5	67	0.111	0.333	21.98	
1860	45.1	-0.5	298.673	0.160	1.22	95	2.08	65.4	50.1	66	101.0	67	0.116	0.341	22.22	
1861	45.4	0.3	298.834	0.161	1.22	94	2.03	65.4	50.1	66	100.8	67	0.113	0.336	22.32	
1862	45.4	0.0	298.995	0.161	1.22	95	2.00	65.4	50.1	66	100.4	66	0.118	0.344	22.41	
1863	45.3	-0.2	299.155	0.160	1.22	95	2.08	65.4	50.1	66	98.8	66	0.120	0.346	22.74	
1864	45.8	0.5	299.315	0.160	1.23	95	2.08	65.3	50.2	65	98.1	66	0.117	0.342	22.69	
1865	45.5	-0.3	299.476	0.161	1.21	95	1.98	65.3	50.2	65	99.0	66	0.119	0.345	22.64	
1866	45.3	-0.2	299.637	0.161	1.22	94	2.09	65.3	50.2	66	99.9	66	0.110	0.332	22.30	
1867	45.3	0.0	299.797	0.160	1.22	95	2.03	65.2	50.2	65	100.2	66	0.117	0.342	22.20	
1868	45.6	0.3	299.957	0.160	1.23	95	2.08	65.2	50.2	65	99.7	66	0.116	0.341	22.50	
1869	45.6	0.0	300.118	0.161	1.24	95	2.06	65.2	50.3	65	100.7	66	0.108	0.329	22.06	
1870	45.5	-0.1	300.279	0.161	1.23	95	1.98	65.2	50.3	65	101.4	66	0.118	0.344	22.16	
1871	45.0	-0.4	300.439	0.160	1.22	95	2.09	65.3	50.3	65	100.2	70	0.114	0.338	22.49	
1872	45.1	0.1	300.599	0.160	1.22	95	2.09	65.3	50.4	65	99.8	68	0.116	0.341	22.41	
1873	45.3	0.1	300.760	0.161	1.24	95	1.97	65.3	50.5	65	100.5	67	0.113	0.336	22.33	
1874	45.5	0.2	300.921	0.161	1.22	95	2.09	65.2	50.4	64	100.6	67	0.115	0.339	22.27	
1875	45.4	-0.1	301.081	0.160	1.24	95	2.09	65.2	50.5	65	99.2	67	0.122	0.349	22.70	
1876	45.0	-0.4	301.241	0.160	1.22	95	2.08	65.2	50.5	65	98.2	67	0.116	0.341	22.75	
1877	45.4	0.4	301.402	0.161	1.23	94	2.08	65.1	50.4	64	98.9	67	0.121	0.348	22.70	
1878	45.6	0.2	301.563	0.161	1.23	94	2.02	65.1	50.3	65	98.9	67	0.117	0.342	22.75	
1879	45.4	-0.2	301.724	0.161	1.22	95	1.97	65	50.4	65	100.3	67	0.107	0.327	22.08	
1880	45.3	-0.1	301.883	0.159	1.23	95	2.00	65	50.4	65	100.9	67	0.114	0.338	21.93	
1881	45.4	0.1	302.045	0.162	1.21	94	1.99	65.1	50.4	65	102.5	67	0.113	0.336	22.23	
1882	45.7	0.3	302.205	0.160	1.23	95	1.99	65.1	50.3	65	100.7	68	0.113	0.336	22.19	
1883	45.4	-0.3	302.366	0.161	1.22	94	2.08	65.2	50.3	67	101.4	71	0.116	0.341	22.37	
1884	45.1	-0.3	302.525	0.159	1.23	94	1.97	65.3	50.4	65	100.1	68	0.110	0.332	22.23	
1885	45.6	0.5	302.687	0.162	1.22	95	2.06	65.2	50.3	65	102.4	68	0.113	0.336	22.05	
1886	45.0	-0.6	302.848	0.161	1.23	94	2.10	65.2	50.4	65	101.4	67	0.116	0.341	22.33	
1887	45.1	0.1	303.008	0.160	1.23	95	2.08	65.2	50.3	65	99.5	67	0.119	0.345	22.62	
1888	45.4	0.3	303.167	0.159	1.22	95	2.08	65.1	50.3	65	98.0	67	0.117	0.342	22.66	

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 19:36
Test Length: 2460 min
Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1889	45.5	0.0	303.329	0.162	1.22	94	2.07	65.2	50.4	65	99.8	67	0.119	0.345	22.66
1890	45.1	-0.4	303.490	0.161	1.22	95	1.99	65.2	50.4	65	99.3	67	0.116	0.341	22.61
1891	45.3	0.2	303.650	0.160	1.23	95	1.98	65.2	50.4	65	99.4	67	0.112	0.335	22.27
1892	45.3	-0.1	303.810	0.160	1.20	94	1.97	65.2	50.5	66	100.5	67	0.114	0.338	22.17
1893	45.2	0.0	303.972	0.162	1.24	95	2.09	65.2	50.5	66	100.8	67	0.122	0.349	22.65
1894	45.2	-0.1	304.132	0.160	1.22	95	1.97	65.3	50.5	66	97.9	67	0.119	0.345	22.89
1895	45.1	0.0	304.292	0.160	1.22	94	2.07	65.2	50.5	66	98.0	66	0.117	0.342	22.65
1896	45.1	0.0	304.452	0.160	1.22	95	1.97	65.2	50.6	66	98.8	66	0.116	0.341	22.50
1897	45.1	0.0	304.614	0.162	1.22	94	1.99	65.2	50.6	66	100.7	66	0.114	0.338	22.36
1898	45.0	-0.1	304.775	0.161	1.22	95	2.00	65.1	50.6	65	100.5	66	0.115	0.339	22.30
1899	45.1	0.1	304.935	0.160	1.22	95	1.96	65.1	50.6	65	98.7	66	0.125	0.354	22.83
1900	45.1	0.0	305.094	0.159	1.22	94	2.02	65.1	50.7	65	96.4	66	0.121	0.348	23.11
1901	45.4	0.3	305.258	0.164	1.23	95	2.06	65	50.7	65	99.8	66	0.116	0.341	22.69
1902	45.5	0.1	305.417	0.159	1.21	95	2.07	65.1	50.7	66	97.9	69	0.120	0.346	22.67
1903	45.2	-0.3	305.577	0.160	1.22	95	2.06	65.3	50.8	65	98.5	69	0.118	0.344	22.80
1904	45.3	0.1	305.736	0.159	1.22	95	2.07	65.2	50.8	65	97.7	67	0.118	0.344	22.67
1905	45.0	-0.3	305.898	0.162	1.24	95	2.02	65.1	50.8	65	100.2	67	0.114	0.338	22.46
1906	45.5	0.5	306.059	0.161	1.23	95	1.98	65.1	50.8	65	100.1	67	0.117	0.342	22.41
1907	45.2	-0.3	306.219	0.160	1.22	94	2.07	65.1	50.9	65	99.0	67	0.120	0.346	22.70
1908	44.9	-0.3	306.378	0.159	1.23	95	2.03	65.1	50.9	65	98.9	67	0.106	0.326	22.17
1909	45.6	0.6	306.541	0.163	1.22	94	2.06	65	50.8	64	102.6	67	0.120	0.346	22.17
1910	45.1	-0.5	306.701	0.160	1.22	94	2.02	64.9	50.7	64	99.6	67	0.117	0.342	22.71
1911	45.6	0.5	306.864	0.163	1.23	95	2.09	65	50.7	65	101.0	68	0.113	0.336	22.38
1912	45.1	-0.5	307.021	0.157	1.23	95	2.03	65	50.7	65	98.2	67	0.115	0.339	22.28
1913	45.5	0.4	307.183	0.162	1.23	94	1.97	65	50.7	65	101.0	68	0.119	0.345	22.58
1914	45.1	-0.4	307.344	0.161	1.21	94	2.01	65.1	50.8	64	100.0	72	0.116	0.341	22.67
1915	45.0	-0.1	307.504	0.160	1.21	94	1.98	65.2	50.8	65	99.6	68	0.115	0.339	22.48
1916	45.0	0.1	307.663	0.159	1.24	95	1.97	65.1	50.8	65	99.1	68	0.116	0.341	22.44
1917	45.1	0.0	307.825	0.162	1.22	95	2.00	65.1	50.9	65	100.8	67	0.116	0.341	22.48
1918	45.0	0.0	307.986	0.161	1.23	94	2.06	65.1	50.9	65	100.1	67	0.116	0.341	22.47
1919	45.5	0.4	308.146	0.160	1.22	95	2.05	65.2	50.9	65	99.6	67	0.114	0.338	22.37
1920	45.1	-0.4	308.305	0.159	1.22	95	1.98	65.2	50.9	66	98.4	67	0.123	0.351	22.71
1921	45.5	0.4	308.468	0.163	1.22	95	2.09	65.2	50.9	65	100.4	67	0.112	0.335	22.61
1922	45.3	-0.2	308.631	0.163	1.21	95	2.07	65.2	50.9	65	101.2	67	0.117	0.342	22.32
1923	45.1	-0.2	308.791	0.160	1.21	94	2.09	65.2	51	65	99.2	67	0.120	0.346	22.70
1924	45.3	0.2	308.948	0.157	1.22	95	2.02	65.2	51.1	66	96.1	67	0.121	0.348	22.89
1925	45.4	0.1	309.110	0.162	1.23	95	2.08	65.2	51	66	99.5	66	0.112	0.335	22.51
1926	45.1	-0.3	309.270	0.160	1.23	94	2.06	65.1	51.1	66	99.7	66	0.116	0.341	22.26
1927	45.2	0.1	309.430	0.160	1.20	95	2.07	65.2	51.1	65	100.0	66	0.114	0.338	22.36
1928	45.6	0.4	309.590	0.160	1.22	94	2.08	65.1	51.1	65	100.2	66	0.112	0.335	22.16
1929	45.7	0.2	309.752	0.162	1.23	95	1.98	65.1	51.1	65	101.8	66	0.115	0.339	22.21
1930	45.7	0.0	309.912	0.160	1.21	94	1.98	65.1	51.1	65	99.6	66	0.119	0.345	22.54
1931	45.7	-0.1	310.072	0.160	1.21	95	2.07	65	51.2	65	98.4	66	0.120	0.346	22.78
1932	45.1	-0.5	310.235	0.163	1.22	95	1.99	65	51.2	65	99.7	66	0.118	0.344	22.73

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1933	45.5	0.4	310.396	0.161	1.22	95	1.98	65.1	51.2	65	99.4	69	0.115	0.339	22.53
1934	45.1	-0.4	310.554	0.158	1.21	95	2.07	65.1	51.2	65	98.3	66	0.115	0.339	22.39
1935	45.1	0.0	310.714	0.160	1.22	94	2.08	65	51.2	65	98.8	66	0.123	0.351	22.74
1936	45.0	-0.1	310.874	0.160	1.22	95	1.98	65	51.2	64	98.2	66	0.113	0.336	22.63
1937	45.1	0.1	311.036	0.162	1.22	95	1.98	65	51.3	64	100.6	68	0.116	0.341	22.32
1938	45.6	0.5	311.196	0.160	1.22	94	2.02	64.9	51.2	64	99.5	67	0.120	0.346	22.68
1939	45.3	-0.3	311.356	0.160	1.22	95	2.06	64.9	51.2	65	98.8	67	0.113	0.336	22.51
1940	45.1	-0.2	311.516	0.160	1.22	95	2.08	64.9	51.3	64	99.1	66	0.120	0.346	22.50
1941	44.9	-0.2	311.678	0.162	1.22	95	2.06	64.9	51.3	65	99.7	66	0.118	0.344	22.74
1942	45.0	0.1	311.838	0.160	1.23	95	1.98	64.8	51.3	65	98.1	66	0.119	0.345	22.69
1943	45.0	0.1	312.002	0.164	1.23	95	2.05	64.8	51.2	64	101.0	66	0.116	0.341	22.60
1944	45.4	0.4	312.161	0.159	1.22	95	2.06	64.8	51.2	64	98.6	67	0.115	0.339	22.41
1945	45.4	0.0	312.321	0.160	1.22	95	1.98	64.8	51.3	64	99.7	67	0.115	0.339	22.37
1946	44.8	-0.6	312.481	0.160	1.21	95	2.07	64.7	51.3	65	99.6	67	0.117	0.342	22.47
1947	45.6	0.8	312.641	0.160	1.22	95	1.99	64.8	51.3	65	99.5	68	0.115	0.339	22.48
1948	45.0	-0.6	312.801	0.160	1.23	94	1.98	64.8	51.2	65	99.7	68	0.116	0.341	22.44
1949	45.3	0.3	312.963	0.162	1.23	94	2.00	64.8	51.3	65	100.9	68	0.117	0.342	22.54
1950	45.5	0.2	313.123	0.160	1.22	95	1.98	64.9	51.3	65	99.8	70	0.113	0.336	22.42
1951	45.5	0.0	313.283	0.160	1.21	95	2.02	65	51.3	66	100.2	70	0.116	0.341	22.39
1952	45.3	-0.2	313.443	0.160	1.22	94	1.99	65	51.3	65	99.8	68	0.117	0.342	22.55
1953	45.4	0.1	313.608	0.165	1.21	94	1.98	64.9	51.3	65	102.1	67	0.119	0.345	22.67
1954	45.7	0.3	313.769	0.161	1.24	94	1.98	65	51.4	65	99.1	67	0.119	0.345	22.76
1955	45.2	-0.5	313.928	0.159	1.21	95	2.07	65	51.4	65	98.5	67	0.110	0.332	22.32
1956	45.3	0.0	314.086	0.158	1.22	95	2.06	64.9	51.4	65	99.1	67	0.116	0.341	22.17
1957	45.4	0.1	314.247	0.161	1.20	95	1.99	65	51.4	65	100.7	67	0.115	0.339	22.41
1958	45.4	0.0	314.407	0.160	1.22	95	1.97	64.9	51.4	65	99.8	66	0.114	0.338	22.31
1959	45.2	-0.2	314.567	0.160	1.22	95	1.99	65	51.5	65	99.4	66	0.120	0.346	22.55
1960	45.4	0.2	314.728	0.161	1.23	95	2.07	65	51.5	65	99.8	66	0.111	0.333	22.40
1961	45.3	-0.1	314.889	0.161	1.23	95	2.06	65	51.5	65	100.3	66	0.118	0.344	22.30
1962	45.2	-0.1	315.049	0.160	1.21	95	2.07	65	51.5	65	99.4	66	0.116	0.341	22.54
1963	45.4	0.2	315.209	0.160	1.23	94	2.07	65	51.5	65	99.1	66	0.116	0.341	22.45
1964	45.1	-0.3	315.372	0.163	1.21	94	2.00	65.1	51.6	65	101.4	69	0.117	0.342	22.53
1965	45.4	0.4	315.534	0.162	1.22	95	2.01	65	51.6	65	100.6	66	0.116	0.341	22.53
1966	45.5	0.0	315.694	0.160	1.23	95	1.96	65	51.5	65	98.5	66	0.122	0.349	22.73
1967	45.6	0.1	315.851	0.157	1.22	94	2.07	65	51.7	65	96.6	68	0.113	0.336	22.61
1968	45.4	-0.1	316.012	0.161	1.23	95	2.08	64.9	51.6	65	100.1	66	0.116	0.341	22.32
1969	45.3	-0.2	316.173	0.161	1.22	94	2.08	64.9	51.6	65	100.2	66	0.117	0.342	22.50
1970	44.8	-0.5	316.333	0.160	1.22	94	2.01	64.8	51.6	65	98.9	66	0.119	0.345	22.64
1971	45.4	0.7	316.493	0.160	1.23	95	2.03	64.8	51.6	65	98.1	66	0.121	0.348	22.83
1972	44.8	-0.6	316.654	0.161	1.22	94	1.96	65.1	51.6	65	99.0	71	0.115	0.339	22.69
1973	44.9	0.1	316.815	0.161	1.23	95	2.09	65.1	51.6	65	99.8	73	0.121	0.348	22.77
1974	44.0	-0.9	316.977	0.162	1.22	95	2.10	65.3	51.6	65	100.3	75	0.117	0.342	22.91
1975	43.8	-0.2	317.137	0.160	1.23	94	2.07	65.5	51.7	65	99.7	78	0.116	0.341	22.72
1976	42.5	-1.3	317.297	0.160	1.22	95	1.98	65.7	51.7	65	101.0	80	0.112	0.335	22.52

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Start Time: 19:36
Test Length: 2460 min
Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
Meter Box Y Regression Slope: 0
Meter Box Dynamic Y: 1.012
Sampling Box ID: 692
Sample Train Leak Checks
 Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
1977	42.1	-0.4	317.456	0.159	1.22	95	2.00	65.8	51.6	65	100.8	82	0.118	0.344	22.66
1978	41.9	-0.2	317.615	0.159	1.22	94	2.03	66.1	51.7	65	100.3	83	0.116	0.341	22.89
1979	41.3	-0.7	317.774	0.159	1.22	94	2.02	66.3	51.8	65	100.6	84	0.113	0.336	22.67
1980	40.3	-1.0	317.936	0.162	1.22	94	1.99	66.5	51.8	64	103.8	85	0.110	0.332	22.40
1981	39.6	-0.7	318.095	0.159	1.22	94	1.99	66.7	51.9	65	102.6	86	0.114	0.338	22.47
1982	39.0	-0.6	318.255	0.160	1.21	94	1.97	66.9	51.9	66	101.9	86	0.120	0.346	22.97
1983	38.5	-0.5	318.415	0.160	1.21	94	2.09	67	52	65	100.1	84	0.119	0.345	23.18
1984	38.0	-0.6	318.578	0.163	1.23	94	1.99	67.1	52	65	101.9	83	0.115	0.339	22.91
1985	38.1	0.1	318.738	0.160	1.21	94	2.07	67.2	52.1	65	100.5	82	0.119	0.345	22.90
1986	36.8	-1.3	318.897	0.159	1.22	94	2.07	67.3	52.1	65	100.5	82	0.109	0.330	22.60
1987	36.2	-0.6	319.057	0.160	1.22	95	2.03	67.4	52.2	65	102.2	82	0.115	0.339	22.40
1988	35.9	-0.3	319.214	0.157	1.21	95	2.07	67.5	52.3	65	99.7	83	0.118	0.344	22.84
1989	35.3	-0.6	319.374	0.160	1.22	94	1.99	67.6	52.4	65	100.9	82	0.113	0.336	22.75
1990	34.1	-1.2	319.534	0.160	1.22	94	2.09	67.7	52.5	66	101.0	83	0.120	0.346	22.85
1991	33.6	-0.5	319.694	0.160	1.21	95	2.07	67.8	52.6	66	100.8	83	0.112	0.335	22.80
1992	33.3	-0.3	319.853	0.159	1.22	94	2.05	67.8	52.6	66	99.7	82	0.125	0.354	23.04
1993	31.9	-1.4	320.012	0.159	1.20	94	2.00	68	52.7	66	98.9	83	0.115	0.339	23.18
1994	31.8	-0.1	320.175	0.163	1.20	95	2.00	68	52.8	66	101.7	83	0.120	0.346	22.95
1995	31.1	-0.7	320.335	0.160	1.22	95	2.08	68.1	52.8	66	100.5	83	0.113	0.336	22.86
1996	30.0	-1.1	320.494	0.159	1.20	94	2.09	68.2	52.8	66	100.5	83	0.116	0.341	22.66
1997	29.2	-0.8	320.653	0.159	1.20	94	2.01	68.1	52.9	66	101.1	83	0.112	0.335	22.61
1998	28.5	-0.7	320.814	0.161	1.21	94	2.00	68.3	52.9	65	102.4	85	0.118	0.344	22.73
1999	27.9	-0.6	320.971	0.157	1.21	95	2.08	68.1	53	65	98.7	76	0.116	0.341	22.85
2000	27.7	-0.2	321.130	0.159	1.21	94	2.06	67.8	52.9	65	98.8	72	0.117	0.342	22.66
2001	28.2	0.6	321.292	0.162	1.22	95	2.07	67.6	52.9	66	100.8	72	0.116	0.341	22.62
2002	27.5	-0.8	321.452	0.160	1.22	95	2.07	67.4	52.8	65	99.7	70	0.115	0.339	22.50
2003	27.1	-0.4	321.611	0.159	1.21	95	2.06	67.3	52.8	65	98.6	69	0.121	0.348	22.72
2004	27.5	0.4	321.771	0.160	1.22	94	2.06	67.1	52.7	65	98.7	69	0.116	0.341	22.75
2005	27.4	-0.1	321.935	0.164	1.23	95	2.08	67	52.6	65	101.7	69	0.115	0.339	22.46
2006	27.2	-0.2	322.096	0.161	1.22	95	2.04	66.9	52.7	65	100.1	69	0.119	0.345	22.61
2007	27.0	-0.3	322.255	0.159	1.21	95	1.99	66.8	52.6	65	98.3	69	0.118	0.344	22.76
2008	27.2	0.2	322.415	0.160	1.23	94	2.07	66.8	52.6	65	99.5	71	0.112	0.335	22.44
2009	27.2	0.0	322.577	0.162	1.21	94	1.98	66.9	52.6	65	101.9	71	0.115	0.339	22.31
2010	27.0	-0.2	322.734	0.157	1.22	94	2.07	66.7	52.6	66	97.9	69	0.121	0.348	22.72
2011	26.4	-0.5	322.894	0.160	1.21	94	2.06	66.6	52.6	65	98.6	68	0.116	0.341	22.74
2012	27.0	0.5	323.055	0.161	1.22	94	2.09	66.5	52.6	65	100.1	68	0.112	0.335	22.30
2013	26.4	-0.5	323.215	0.160	1.23	95	2.08	66.4	52.6	65	100.9	68	0.111	0.333	22.05
2014	26.3	-0.1	323.375	0.160	1.20	95	2.00	66.3	52.6	65	101.1	68	0.115	0.339	22.19
2015	26.2	-0.1	323.538	0.163	1.21	94	2.03	66.3	52.7	66	102.0	68	0.117	0.342	22.48
2016	26.6	0.4	323.698	0.160	1.22	94	1.98	66.2	52.7	66	99.5	67	0.115	0.339	22.48
2017	26.9	0.2	323.859	0.161	1.22	95	2.06	66.2	52.6	65	100.3	67	0.115	0.339	22.38
2018	26.8	-0.1	324.019	0.160	1.21	94	1.98	66.1	52.6	65	99.7	67	0.117	0.342	22.47
2019	26.0	-0.7	324.179	0.160	1.22	94	2.07	66	52.7	66	99.6	67	0.114	0.338	22.42
2020	26.6	0.5	324.338	0.159	1.22	95	2.02	66	52.8	66	99.3	67	0.115	0.339	22.32

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2021	26.8	0.2	324.498	0.160	1.22	95	2.06	66	52.8	66	99.9	67	0.116	0.341	22.42
2022	26.1	-0.6	324.657	0.159	1.21	95	1.97	65.9	52.7	66	98.7	67	0.117	0.342	22.51
2023	26.8	0.7	324.817	0.160	1.22	95	1.97	65.8	52.7	66	98.9	67	0.118	0.344	22.61
2024	26.6	-0.2	324.979	0.162	1.23	95	2.08	65.8	52.7	66	100.1	67	0.116	0.341	22.56
2025	26.2	-0.4	325.142	0.163	1.22	94	2.01	65.7	52.8	66	101.3	66	0.113	0.336	22.31
2026	26.1	-0.1	325.302	0.160	1.20	95	2.07	65.6	52.9	65	100.0	66	0.116	0.341	22.31
2027	26.3	0.2	325.461	0.159	1.23	95	2.00	65.5	52.8	65	98.9	66	0.117	0.342	22.50
2028	26.3	0.0	325.623	0.162	1.21	95	1.99	65.4	52.8	65	100.1	66	0.118	0.344	22.60
2029	26.7	0.4	325.783	0.160	1.23	95	1.97	65.4	52.7	64	99.6	68	0.110	0.332	22.28
2030	26.7	0.0	325.940	0.157	1.22	95	1.99	65.4	52.7	65	98.4	69	0.120	0.346	22.40
2031	26.2	-0.5	326.101	0.161	1.21	94	1.98	65.4	52.8	65	99.8	67	0.117	0.342	22.73
2032	26.2	0.0	326.262	0.161	1.22	95	2.03	65.3	52.9	65	99.4	67	0.116	0.341	22.52
2033	26.4	0.2	326.422	0.160	1.21	94	2.02	65.3	52.9	65	99.7	67	0.113	0.336	22.32
2034	26.9	0.5	326.582	0.160	1.22	95	2.06	65.2	52.8	64	99.5	67	0.121	0.348	22.56
2035	26.7	-0.2	326.745	0.163	1.22	94	2.07	65.1	52.8	64	100.4	67	0.117	0.342	22.75
2036	26.4	-0.3	326.906	0.161	1.22	94	1.97	65.1	52.7	64	99.9	67	0.111	0.333	22.27
2037	26.1	-0.3	327.066	0.160	1.21	95	1.99	65.1	52.7	65	100.4	67	0.117	0.342	22.28
2038	26.1	0.0	327.226	0.160	1.22	94	2.06	65.1	52.7	65	100.1	67	0.114	0.338	22.43
2039	26.2	0.1	327.387	0.161	1.23	95	1.98	65.1	52.7	65	100.2	67	0.118	0.344	22.47
2040	26.4	0.2	327.548	0.161	1.22	95	1.98	65.1	52.7	65	99.9	68	0.116	0.341	22.57
2041	26.9	0.5	327.706	0.158	1.24	94	1.98	65.1	52.7	65	98.1	68	0.116	0.341	22.48
2042	26.7	-0.2	327.865	0.159	1.20	95	2.07	65.1	52.7	65	98.6	68	0.119	0.345	22.63
2043	26.2	-0.5	328.027	0.162	1.23	94	1.99	65.2	52.7	64	99.9	71	0.120	0.346	22.85
2044	26.8	0.7	328.188	0.161	1.22	94	1.97	65.2	52.7	66	98.7	70	0.122	0.349	23.02
2045	26.4	-0.4	328.350	0.162	1.23	95	1.98	65.2	52.7	65	98.8	68	0.120	0.346	22.99
2046	26.5	0.0	328.510	0.160	1.22	95	1.98	65.2	52.7	65	98.0	68	0.116	0.341	22.68
2047	26.6	0.1	328.671	0.161	1.22	94	2.00	65.2	52.7	65	100.0	67	0.113	0.336	22.33
2048	26.8	0.3	328.832	0.161	1.22	95	2.06	65.1	52.7	65	100.1	67	0.122	0.349	22.62
2049	26.5	-0.3	328.992	0.160	1.23	95	2.08	65.1	52.7	65	98.4	67	0.117	0.342	22.80
2050	26.3	-0.2	329.152	0.160	1.22	94	1.99	65.1	52.7	65	98.4	67	0.118	0.344	22.61
2051	26.4	0.0	329.311	0.159	1.20	94	2.06	65.1	52.7	65	98.8	67	0.112	0.335	22.37
2052	26.8	0.4	329.471	0.160	1.23	94	1.96	65.1	52.8	65	99.8	67	0.119	0.345	22.41
2053	27.0	0.3	329.631	0.160	1.21	94	1.96	65.2	52.8	65	99.0	67	0.118	0.344	22.70
2054	26.9	-0.1	329.790	0.159	1.20	94	1.97	65.1	52.8	65	98.1	66	0.116	0.341	22.55
2055	26.9	0.0	329.954	0.164	1.22	95	2.00	65.1	52.8	65	101.2	67	0.121	0.348	22.70
2056	26.5	-0.4	330.115	0.161	1.22	94	2.09	65.2	52.8	65	98.7	68	0.120	0.346	22.91
2057	26.7	0.2	330.275	0.160	1.21	95	2.07	65.2	52.8	65	98.4	68	0.114	0.338	22.59
2058	26.5	-0.2	330.434	0.159	1.22	94	2.00	65.3	52.8	65	98.6	67	0.118	0.344	22.48
2059	26.5	0.0	330.596	0.162	1.23	94	2.02	65.2	52.7	65	100.5	67	0.116	0.341	22.56
2060	26.5	0.0	330.757	0.161	1.22	95	2.08	65.1	52.8	65	100.0	67	0.114	0.338	22.37
2061	26.3	-0.2	330.916	0.159	1.23	94	2.06	65.1	52.7	64	99.1	67	0.117	0.342	22.42
2062	26.7	0.4	331.074	0.158	1.23	94	1.99	65.1	52.7	64	98.4	67	0.115	0.339	22.47
2063	27.0	0.3	331.235	0.161	1.22	94	1.99	65.1	52.7	65	100.0	67	0.118	0.344	22.52
2064	26.4	-0.6	331.395	0.160	1.22	95	1.97	65	52.7	65	99.2	67	0.116	0.341	22.57

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2065	27.1	0.7	331.555	0.160	1.23	94	1.99	65.1	52.7	66	99.6	72	0.116	0.341	22.52
2066	26.3	-0.9	331.717	0.162	1.22	95	2.07	65.2	52.7	65	100.6	68	0.120	0.346	22.72
2067	27.1	0.8	331.879	0.162	1.22	94	2.02	65.2	52.7	65	99.6	68	0.119	0.345	22.83
2068	27.0	-0.1	332.039	0.160	1.21	94	1.98	65.3	52.8	65	98.5	70	0.118	0.344	22.74
2069	26.7	-0.3	332.199	0.160	1.22	94	1.98	65.4	52.8	65	99.7	71	0.111	0.333	22.39
2070	27.0	0.3	332.359	0.160	1.23	95	2.09	65.3	52.9	65	100.8	67	0.113	0.336	22.12
2071	26.8	-0.2	332.520	0.161	1.22	95	2.06	65.3	52.8	66	101.1	67	0.117	0.342	22.37
2072	26.3	-0.5	332.680	0.160	1.22	94	2.08	65.3	52.9	66	99.0	67	0.121	0.348	22.75
2073	27.1	0.8	332.837	0.157	1.22	95	2.06	65.2	52.9	66	96.5	67	0.115	0.339	22.66
2074	26.5	-0.6	332.999	0.162	1.22	95	1.99	65.2	52.9	66	100.1	67	0.118	0.344	22.51
2075	26.3	-0.1	333.159	0.160	1.21	95	2.07	65.2	52.8	66	98.9	67	0.117	0.342	22.60
2076	27.0	0.7	333.322	0.163	1.23	95	2.09	65.2	52.8	65	101.2	67	0.112	0.335	22.31
2077	26.4	-0.6	333.481	0.159	1.24	95	1.99	65.2	52.9	65	99.3	67	0.117	0.342	22.31
2078	26.9	0.5	333.643	0.162	1.21	95	1.98	65.2	52.8	66	100.5	66	0.119	0.345	22.65
2079	26.3	-0.6	333.803	0.160	1.22	95	2.06	65.2	52.8	65	98.5	69	0.119	0.345	22.77
2080	26.9	0.6	333.963	0.160	1.22	94	2.00	65.3	52.9	65	98.9	68	0.114	0.338	22.55
2081	26.9	0.0	334.122	0.159	1.20	95	1.98	65.2	52.9	65	98.7	67	0.118	0.344	22.48
2082	26.3	-0.6	334.284	0.162	1.23	95	2.02	65.2	52.9	65	100.4	67	0.116	0.341	22.56
2083	26.7	0.3	334.445	0.161	1.22	95	2.08	65.2	52.9	65	99.6	67	0.117	0.342	22.51
2084	26.9	0.2	334.601	0.156	1.22	95	2.07	65.1	52.9	65	96.1	67	0.121	0.348	22.75
2085	26.9	0.1	334.762	0.161	1.22	95	1.98	65.1	53	65	98.8	67	0.116	0.341	22.71
2086	26.9	0.0	334.923	0.161	1.22	95	2.07	65.1	52.9	65	100.3	67	0.109	0.330	22.13
2087	27.2	0.3	335.086	0.163	1.22	94	1.99	65.2	53	66	103.3	71	0.115	0.339	22.13
2088	27.0	-0.2	335.246	0.160	1.22	95	2.02	65.2	53	65	100.4	68	0.119	0.345	22.62
2089	26.6	-0.4	335.405	0.159	1.21	95	2.01	65.1	53	65	98.3	68	0.116	0.341	22.63
2090	26.6	-0.1	335.567	0.162	1.23	95	2.00	65.2	53.1	65	100.3	67	0.116	0.341	22.48
2091	26.9	0.3	335.727	0.160	1.23	95	2.07	65.1	53	65	98.9	67	0.120	0.346	22.66
2092	26.4	-0.5	335.887	0.160	1.21	95	1.99	65.1	53.1	65	98.6	67	0.115	0.339	22.61
2093	27.1	0.6	336.047	0.160	1.22	95	2.07	65.1	53.1	65	99.3	67	0.115	0.339	22.37
2094	26.9	-0.2	336.209	0.162	1.22	94	1.99	65.1	53.1	65	101.2	67	0.114	0.338	22.31
2095	26.4	-0.5	336.366	0.157	1.20	94	2.02	65.1	53.1	65	98.0	66	0.117	0.342	22.41
2096	26.5	0.1	336.525	0.159	1.22	95	2.08	65	53.1	65	98.6	66	0.117	0.342	22.55
2097	26.8	0.3	336.689	0.164	1.22	95	2.07	65	53.1	65	101.2	66	0.119	0.345	22.64
2098	27.0	0.3	336.850	0.161	1.22	95	2.09	65	53.1	65	99.6	66	0.112	0.335	22.40
2099	26.6	-0.5	337.010	0.160	1.20	95	2.07	65.2	53.1	65	100.0	70	0.117	0.342	22.34
2100	26.5	0.0	337.170	0.160	1.22	95	1.98	65.2	53.2	65	99.8	67	0.116	0.341	22.55
2101	27.1	0.5	337.331	0.161	1.21	94	1.99	65.1	53.1	65	99.8	66	0.116	0.341	22.46
2102	26.4	-0.7	337.492	0.161	1.20	94	2.00	65.1	53.2	65	100.1	68	0.117	0.342	22.52
2103	26.6	0.2	337.652	0.160	1.21	95	2.09	65.1	53.2	65	99.0	67	0.119	0.345	22.67
2104	27.0	0.4	337.811	0.159	1.21	95	2.06	65.1	53.2	65	97.7	67	0.119	0.345	22.75
2105	26.5	-0.4	337.973	0.162	1.21	95	2.00	65.1	53.2	65	99.7	67	0.115	0.339	22.56
2106	26.7	0.2	338.130	0.157	1.21	95	2.08	65	53.2	65	97.9	66	0.111	0.333	22.17
2107	27.0	0.2	338.290	0.160	1.21	95	1.98	65	53.2	64	100.9	67	0.114	0.338	22.12
2108	26.4	-0.5	338.452	0.162	1.22	95	2.07	65	53.2	64	101.7	67	0.116	0.341	22.37

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2109	27.2	0.7	338.614	0.162	1.23	94	1.98	64.9	53.2	64	100.3	67	0.121	0.348	22.71
2110	26.5	-0.6	338.775	0.161	1.22	94	1.97	65	53.2	64	99.2	68	0.116	0.341	22.72
2111	26.8	0.3	338.934	0.159	1.22	95	1.98	65.1	53.2	66	98.6	71	0.116	0.341	22.52
2112	27.1	0.3	339.094	0.160	1.23	94	2.08	65.1	53.2	65	99.6	68	0.117	0.342	22.57
2113	26.5	-0.6	339.256	0.162	1.23	95	2.02	65	53.2	65	99.8	67	0.122	0.349	22.82
2114	26.5	-0.1	339.416	0.160	1.22	95	2.08	65.1	53.2	65	97.9	67	0.117	0.342	22.81
2115	27.0	0.5	339.576	0.160	1.23	95	1.96	65	53.2	65	98.3	67	0.118	0.344	22.61
2116	27.0	0.0	339.736	0.160	1.22	94	2.06	65	53.2	65	98.6	67	0.119	0.345	22.71
2117	26.6	-0.3	339.895	0.159	1.21	95	1.98	65	53.2	65	97.3	67	0.122	0.349	22.89
2118	26.5	-0.1	340.057	0.162	1.22	95	1.99	65	53.2	65	99.0	67	0.116	0.341	22.75
2119	26.6	0.1	340.217	0.160	1.21	95	2.08	64.9	53.2	65	98.4	66	0.119	0.345	22.60
2120	26.5	0.0	340.378	0.161	1.24	95	2.02	64.9	53.2	65	99.3	66	0.116	0.341	22.60
2121	26.5	0.0	340.539	0.161	1.20	94	2.03	64.9	53.2	65	99.7	66	0.116	0.341	22.45
2122	27.0	0.5	340.699	0.160	1.22	95	1.96	64.9	53.2	65	99.3	66	0.117	0.342	22.50
2123	26.8	-0.2	340.859	0.160	1.21	95	2.04	64.9	53.3	65	98.9	66	0.118	0.344	22.60
2124	26.6	-0.2	341.019	0.160	1.22	95	2.09	64.9	53.3	65	98.5	66	0.119	0.345	22.69
2125	26.7	0.1	341.180	0.161	1.22	95	2.02	65	53.3	65	99.1	68	0.117	0.342	22.66
2126	27.2	0.5	341.340	0.160	1.21	95	2.09	64.9	53.3	65	98.9	67	0.117	0.342	22.58
2127	26.5	-0.7	341.500	0.160	1.22	95	2.09	64.9	53.3	65	98.8	66	0.118	0.344	22.60
2128	26.7	0.1	341.659	0.159	1.22	95	2.06	64.9	53.3	65	97.7	67	0.120	0.346	22.74
2129	27.1	0.5	341.822	0.163	1.23	95	2.03	64.9	53.3	65	99.7	67	0.120	0.346	22.84
2130	26.7	-0.4	341.982	0.160	1.20	95	2.03	64.9	53.3	64	98.1	70	0.118	0.344	22.78
2131	26.4	-0.3	342.141	0.159	1.21	95	1.97	64.9	53.4	64	97.8	68	0.119	0.345	22.75
2132	26.8	0.4	342.303	0.162	1.20	95	2.10	64.9	53.4	64	99.7	67	0.117	0.342	22.67
2133	27.0	0.2	342.463	0.160	1.23	95	2.07	64.9	53.3	64	98.9	68	0.116	0.341	22.53
2134	26.4	-0.6	342.622	0.159	1.23	95	2.01	64.9	53.3	65	98.4	68	0.119	0.345	22.63
2135	26.6	0.1	342.782	0.160	1.21	94	2.08	65	53.4	67	99.5	71	0.112	0.335	22.47
2136	27.0	0.5	342.944	0.162	1.21	95	1.97	65	53.4	65	100.9	68	0.121	0.348	22.57
2137	26.6	-0.5	343.104	0.160	1.23	94	2.00	65	53.3	65	98.9	68	0.115	0.339	22.68
2138	26.3	-0.2	343.264	0.160	1.22	94	2.00	65	53.4	65	99.4	67	0.114	0.338	22.33
2139	27.0	0.6	343.424	0.160	1.22	95	1.99	64.9	53.3	65	100.1	67	0.115	0.339	22.32
2140	26.6	-0.4	343.586	0.162	1.23	95	2.02	64.9	53.3	65	101.2	67	0.114	0.338	22.32
2141	26.9	0.3	343.746	0.160	1.23	95	2.01	64.9	53.4	65	100.6	67	0.110	0.332	22.07
2142	26.4	-0.5	343.906	0.160	1.22	95	2.04	65	53.3	65	100.5	67	0.120	0.346	22.36
2143	26.9	0.6	344.066	0.160	1.22	94	2.06	64.9	53.4	65	99.4	66	0.114	0.338	22.55
2144	26.3	-0.6	344.228	0.162	1.21	95	2.00	64.9	53.4	65	100.9	66	0.113	0.336	22.21
2145	26.9	0.6	344.388	0.160	1.21	95	2.07	64.8	53.4	65	100.0	66	0.118	0.344	22.41
2146	26.3	-0.6	344.547	0.159	1.22	94	1.99	64.9	53.4	65	98.2	66	0.120	0.346	22.74
2147	27.0	0.7	344.708	0.161	1.21	95	1.99	64.9	53.5	65	98.3	66	0.122	0.349	22.93
2148	27.1	0.1	344.869	0.161	1.21	95	2.08	64.8	53.4	65	98.1	66	0.117	0.342	22.79
2149	26.8	-0.2	345.029	0.160	1.20	95	1.99	64.9	53.5	66	98.7	67	0.115	0.339	22.46
2150	26.8	0.0	345.189	0.160	1.22	95	2.08	64.9	53.5	65	99.4	67	0.117	0.342	22.47
2151	26.6	-0.2	345.350	0.161	1.22	95	2.06	64.9	53.5	65	99.2	67	0.122	0.349	22.80
2152	26.6	0.0	345.511	0.161	1.23	95	2.08	65	53.5	65	98.6	66	0.115	0.339	22.70

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2153	26.6	0.0	345.671	0.160	1.23	95	2.03	64.9	53.5	65	98.9	66	0.116	0.341	22.41
2154	27.0	0.3	345.831	0.160	1.22	94	1.98	64.8	53.5	64	99.2	66	0.118	0.344	22.55
2155	27.0	0.0	345.992	0.161	1.22	95	1.97	64.8	53.5	64	99.7	67	0.115	0.339	22.51
2156	27.0	0.0	346.153	0.161	1.24	95	1.97	64.8	53.6	65	100.5	67	0.112	0.335	22.22
2157	26.8	-0.2	346.313	0.160	1.23	94	2.07	64.8	53.6	65	99.4	67	0.126	0.355	22.76
2158	26.7	-0.1	346.473	0.160	1.21	94	2.03	64.8	53.6	64	98.0	67	0.115	0.339	22.91
2159	26.4	-0.4	346.634	0.161	1.22	95	2.06	64.8	53.6	65	99.2	68	0.117	0.342	22.48
2160	26.6	0.3	346.795	0.161	1.21	94	2.08	64.9	53.6	65	100.1	71	0.118	0.344	22.66
2161	27.0	0.3	346.955	0.160	1.23	95	1.99	65	53.5	65	99.1	72	0.119	0.345	22.80
2162	27.1	0.1	347.114	0.159	1.22	95	2.06	65	53.5	65	98.1	68	0.117	0.342	22.73
2163	26.7	-0.4	347.276	0.162	1.22	94	2.09	65	53.6	65	100.5	67	0.113	0.336	22.39
2164	26.4	-0.3	347.436	0.160	1.21	95	2.09	65	53.5	65	99.7	67	0.119	0.345	22.47
2165	26.8	0.4	347.596	0.160	1.22	95	2.07	64.9	53.6	65	99.1	67	0.116	0.341	22.61
2166	26.5	-0.3	347.756	0.160	1.22	95	2.03	64.9	53.6	65	99.1	67	0.115	0.339	22.42
2167	26.9	0.4	347.918	0.162	1.22	95	2.05	64.9	53.6	65	100.2	67	0.122	0.349	22.70
2168	26.5	-0.4	348.078	0.160	1.22	95	2.04	64.9	53.5	65	98.4	67	0.114	0.338	22.65
2169	27.1	0.6	348.238	0.160	1.23	95	1.98	64.9	53.5	65	98.9	66	0.118	0.344	22.46
2170	26.3	-0.7	348.397	0.159	1.21	95	2.09	64.9	53.5	65	98.9	66	0.112	0.335	22.36
2171	26.8	0.5	348.559	0.162	1.22	95	2.05	64.9	53.6	65	101.5	66	0.113	0.336	22.11
2172	26.5	-0.3	348.719	0.160	1.22	95	2.07	64.9	53.7	65	100.6	66	0.114	0.338	22.21
2173	26.6	0.0	348.879	0.160	1.22	95	2.02	64.9	53.7	65	99.9	66	0.117	0.342	22.40
2174	27.1	0.5	349.039	0.160	1.22	94	1.99	64.9	53.7	65	99.1	66	0.118	0.344	22.59
2175	26.7	-0.4	349.201	0.162	1.22	95	1.97	64.9	53.7	65	99.8	66	0.118	0.344	22.64
2176	26.6	-0.1	349.361	0.160	1.21	95	1.97	64.9	53.7	65	98.8	66	0.115	0.339	22.49
2177	26.4	-0.2	349.521	0.160	1.22	95	1.99	64.8	53.8	65	99.5	66	0.114	0.338	22.30
2178	26.7	0.2	349.681	0.160	1.22	95	2.09	64.8	53.8	65	99.2	66	0.121	0.348	22.58
2179	27.0	0.3	349.842	0.161	1.22	95	2.09	64.8	53.8	65	99.0	66	0.116	0.341	22.68
2180	26.5	-0.5	350.003	0.161	1.22	95	1.99	64.8	53.8	65	99.3	67	0.117	0.342	22.50
2181	26.4	0.0	350.162	0.159	1.22	94	1.99	64.8	53.8	64	98.2	66	0.119	0.345	22.65
2182	26.8	0.4	350.323	0.161	1.23	95	2.01	64.7	53.8	64	98.7	67	0.121	0.348	22.84
2183	26.5	-0.3	350.484	0.161	1.22	95	2.01	64.8	53.9	65	98.7	66	0.115	0.339	22.65
2184	26.5	-0.1	350.644	0.160	1.21	95	1.98	64.8	53.9	65	98.9	67	0.117	0.342	22.46
2185	27.0	0.6	350.804	0.160	1.22	94	2.09	64.7	53.8	65	99.2	66	0.117	0.342	22.55
2186	26.7	-0.3	350.965	0.161	1.22	95	1.97	64.7	53.9	64	99.6	67	0.117	0.342	22.55
2187	26.7	0.0	351.126	0.161	1.20	95	1.96	64.8	53.8	64	100.0	67	0.113	0.336	22.36
2188	27.1	0.4	351.286	0.160	1.22	94	2.09	64.7	53.8	65	100.4	67	0.112	0.335	22.12
2189	26.6	-0.5	351.446	0.160	1.22	95	1.98	64.7	53.8	65	100.7	67	0.116	0.341	22.27
2190	26.5	-0.1	351.607	0.161	1.22	94	2.08	64.7	53.8	65	99.8	67	0.123	0.351	22.81
2191	27.1	0.5	351.767	0.160	1.21	95	1.97	64.8	53.8	65	97.8	71	0.121	0.348	23.09
2192	26.9	-0.1	351.927	0.160	1.24	94	1.98	64.9	53.7	65	98.3	71	0.115	0.339	22.76
2193	27.0	0.0	352.087	0.160	1.21	94	2.08	64.9	53.7	65	99.2	68	0.117	0.342	22.52
2194	26.8	-0.1	352.249	0.162	1.21	95	2.10	64.8	53.7	65	100.5	67	0.116	0.341	22.52
2195	27.0	0.2	352.409	0.160	1.22	95	2.03	64.9	53.8	65	98.9	67	0.119	0.345	22.61
2196	26.6	-0.4	352.569	0.160	1.23	95	2.00	64.8	53.8	65	99.0	67	0.113	0.336	22.46

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2197	26.4	-0.2	352.729	0.160	1.23	95	2.05	64.8	53.8	65	99.8	67	0.114	0.338	22.22
2198	27.1	0.8	352.891	0.162	1.22	95	2.02	64.8	53.8	65	101.8	66	0.112	0.335	22.16
2199	26.4	-0.7	353.051	0.160	1.24	94	2.04	64.9	53.9	65	99.8	66	0.122	0.349	22.55
2200	26.6	0.2	353.211	0.160	1.22	94	2.04	64.9	53.9	65	98.6	66	0.116	0.341	22.74
2201	26.5	-0.1	353.371	0.160	1.22	94	1.99	64.8	53.9	65	98.8	66	0.116	0.341	22.45
2202	26.8	0.3	353.533	0.162	1.25	95	2.05	64.8	53.9	65	100.7	66	0.115	0.339	22.40
2203	26.3	-0.5	353.694	0.161	1.22	95	2.00	64.8	53.9	65	99.8	66	0.119	0.345	22.54
2204	26.9	0.7	353.853	0.159	1.20	94	2.04	64.8	54	65	98.2	66	0.116	0.341	22.59
2205	26.6	-0.3	354.013	0.160	1.22	95	2.06	64.8	54	65	99.1	68	0.117	0.342	22.51
2206	26.3	-0.3	354.175	0.162	1.22	95	2.06	64.9	54	65	100.0	68	0.121	0.348	22.78
2207	26.8	0.5	354.335	0.160	1.19	95	2.07	64.9	54	65	98.0	67	0.119	0.345	22.86
2208	27.1	0.3	354.495	0.160	1.22	94	2.07	64.9	54	65	97.9	67	0.119	0.345	22.75
2209	27.2	0.1	354.655	0.160	1.23	95	1.99	64.8	54	64	98.9	67	0.112	0.335	22.42
2210	27.2	0.0	354.817	0.162	1.22	95	2.00	64.8	54	65	101.3	67	0.115	0.339	22.23
2211	27.1	-0.1	354.977	0.160	1.23	95	2.06	64.7	54	64	100.3	67	0.114	0.338	22.32
2212	27.0	-0.1	355.137	0.160	1.22	94	2.06	64.7	54	65	100.0	67	0.116	0.341	22.37
2213	26.8	-0.2	355.297	0.160	1.22	95	2.07	64.8	54.1	65	99.4	68	0.119	0.345	22.62
2214	26.2	-0.5	355.459	0.162	1.23	95	2.00	64.9	54	65	99.5	72	0.124	0.352	23.06
2215	26.0	-0.2	355.619	0.160	1.23	94	1.99	65.1	53.9	65	98.8	74	0.110	0.332	22.69
2216	26.0	0.0	355.779	0.160	1.21	95	1.98	65.3	53.9	65	100.9	78	0.116	0.341	22.36
2217	25.8	-0.2	355.939	0.160	1.24	94	2.00	65.6	54	65	100.9	76	0.118	0.344	22.78
2218	25.3	-0.5	356.100	0.161	1.21	95	2.00	65.6	54	65	100.4	78	0.118	0.344	22.88
2219	24.4	-0.9	356.260	0.160	1.22	95	1.99	65.8	54	65	100.2	80	0.114	0.338	22.72
2220	23.5	-0.9	356.420	0.160	1.22	94	2.03	66.1	54.1	65	101.2	81	0.114	0.338	22.55
2221	23.5	0.0	356.580	0.160	1.22	94	2.01	66.2	54	65	101.8	82	0.114	0.338	22.58
2222	22.9	-0.6	356.741	0.161	1.22	95	2.00	66.4	54.1	65	102.0	82	0.118	0.344	22.79
2223	21.9	-0.9	356.901	0.160	1.22	95	2.02	66.6	54.2	65	100.5	83	0.118	0.344	22.99
2224	21.7	-0.3	357.059	0.158	1.20	94	2.04	66.7	54.2	65	99.6	83	0.111	0.333	22.66
2225	20.7	-0.9	357.221	0.162	1.23	94	2.09	66.8	54.2	65	103.0	83	0.118	0.344	22.67
2226	20.1	-0.6	357.380	0.159	1.21	95	2.09	67	54.2	65	100.1	83	0.119	0.345	23.06
2227	20.0	-0.1	357.539	0.159	1.21	94	2.08	67	54.3	65	99.6	81	0.114	0.338	22.84
2228	18.7	-1.3	357.699	0.160	1.22	94	2.00	67.1	54.3	65	101.4	83	0.113	0.336	22.54
2229	18.9	0.2	357.860	0.161	1.22	95	2.10	67.2	54.4	65	102.5	81	0.115	0.339	22.59
2230	17.7	-1.2	358.020	0.160	1.21	95	2.00	67.3	54.4	65	101.2	82	0.117	0.342	22.78
2231	17.3	-0.4	358.178	0.158	1.22	95	2.00	67.5	54.5	65	99.4	83	0.117	0.342	22.89
2232	16.5	-0.8	358.340	0.162	1.22	95	1.99	67.5	54.6	65	102.3	81	0.111	0.333	22.59
2233	15.4	-1.1	358.499	0.159	1.22	95	2.09	67.6	54.6	65	101.1	82	0.116	0.341	22.54
2234	15.8	0.4	358.658	0.159	1.21	95	2.01	67.6	54.7	65	100.8	82	0.115	0.339	22.73
2235	14.6	-1.2	358.818	0.160	1.22	95	2.02	67.6	54.7	65	100.6	82	0.119	0.345	22.87
2236	13.8	-0.8	358.979	0.161	1.21	95	1.99	67.7	54.8	65	101.7	84	0.110	0.332	22.66
2237	13.3	-0.4	359.138	0.159	1.22	95	2.06	67.8	54.8	65	101.0	83	0.119	0.345	22.67
2238	12.8	-0.6	359.297	0.159	1.22	95	2.00	67.9	54.9	65	100.3	83	0.115	0.339	22.90
2239	12.5	-0.3	359.458	0.161	1.21	95	2.04	67.9	54.9	65	101.7	83	0.113	0.336	22.60
2240	11.9	-0.6	359.618	0.160	1.22	95	2.06	67.8	54.9	65	100.5	74	0.121	0.348	22.80

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dillution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2241	11.3	-0.7	359.777	0.159	1.23	95	1.99	67.5	54.9	64	97.9	72	0.120	0.346	23.02
2242	11.0	-0.2	359.937	0.160	1.22	95	1.99	67.3	54.9	65	99.0	71	0.110	0.332	22.46
2243	11.4	0.4	360.098	0.161	1.21	95	1.99	67.1	54.8	65	100.8	70	0.119	0.345	22.40
2244	10.8	-0.6	360.258	0.160	1.22	94	2.07	67	54.8	65	99.4	70	0.119	0.345	22.82
2245	11.2	0.4	360.418	0.160	1.21	94	2.00	67	54.8	67	98.9	73	0.117	0.342	22.76
2246	11.5	0.2	360.578	0.160	1.23	95	2.00	67	54.9	65	99.0	70	0.119	0.345	22.76
2247	10.9	-0.6	360.739	0.161	1.22	94	1.99	66.8	54.9	65	99.3	69	0.117	0.342	22.72
2248	11.1	0.2	360.899	0.160	1.22	94	2.08	66.8	54.9	66	98.8	69	0.119	0.345	22.71
2249	11.1	0.1	361.058	0.159	1.22	95	2.07	66.7	55	66	98.6	68	0.112	0.335	22.45
2250	11.1	-0.1	361.219	0.161	1.23	95	2.07	66.6	55	65	100.1	68	0.121	0.348	22.54
2251	10.3	-0.8	361.380	0.161	1.22	94	1.98	66.5	55	65	99.7	68	0.114	0.338	22.63
2252	11.0	0.7	361.539	0.159	1.22	95	1.98	66.4	54.9	66	98.9	68	0.115	0.339	22.34
2253	10.4	-0.6	361.699	0.160	1.22	94	2.08	66.3	54.9	65	99.3	67	0.122	0.349	22.72
2254	11.1	0.8	361.860	0.161	1.21	95	1.98	66.3	55	65	99.2	67	0.113	0.336	22.62
2255	10.7	-0.4	362.020	0.160	1.23	95	2.06	66.2	55	65	99.3	67	0.117	0.342	22.37
2256	10.3	-0.4	362.180	0.160	1.21	95	1.97	66.1	55	65	99.7	67	0.114	0.338	22.42
2257	10.3	0.0	362.340	0.160	1.22	95	1.97	66	54.9	65	99.7	67	0.116	0.341	22.37
2258	10.8	0.4	362.501	0.161	1.22	95	2.06	66	54.9	65	100.2	67	0.116	0.341	22.47
2259	10.3	-0.5	362.661	0.160	1.21	94	2.07	66	55	65	99.4	67	0.116	0.341	22.47
2260	10.5	0.3	362.821	0.160	1.21	95	2.06	65.9	54.9	65	99.2	67	0.118	0.344	22.56
2261	10.5	-0.1	362.981	0.160	1.22	95	2.07	65.9	54.9	65	99.2	70	0.116	0.341	22.59
2262	10.8	0.3	363.142	0.161	1.22	95	2.03	65.9	54.9	65	100.2	68	0.115	0.339	22.46
2263	10.4	-0.4	363.302	0.160	1.23	94	2.07	65.8	54.9	65	99.9	68	0.114	0.338	22.34
2264	11.0	0.7	363.462	0.160	1.22	95	1.98	65.8	55.1	65	99.7	67	0.119	0.345	22.53
2265	10.1	-0.9	363.623	0.161	1.23	95	1.99	65.7	55	65	99.6	68	0.116	0.341	22.62
2266	10.8	0.7	363.783	0.160	1.20	95	2.08	65.7	55	65	99.1	67	0.116	0.341	22.48
2267	10.6	-0.2	363.943	0.160	1.21	95	2.00	65.7	55	65	98.7	68	0.123	0.351	22.82
2268	10.4	-0.2	364.102	0.159	1.21	94	1.98	65.6	54.9	65	97.3	68	0.117	0.342	22.87
2269	10.3	-0.2	364.264	0.162	1.22	95	2.06	65.6	54.8	65	99.5	68	0.119	0.345	22.69
2270	10.3	0.0	364.424	0.160	1.24	95	2.06	65.7	54.9	65	99.0	72	0.117	0.342	22.73
2271	10.5	0.2	364.584	0.160	1.21	94	2.06	65.7	54.9	65	98.9	69	0.120	0.346	22.79
2272	11.1	0.6	364.743	0.159	1.22	95	1.99	65.6	54.9	66	98.1	69	0.115	0.339	22.65
2273	10.6	-0.4	364.905	0.162	1.24	95	2.01	65.6	54.9	66	100.3	68	0.118	0.344	22.55
2274	10.4	-0.2	365.065	0.160	1.23	94	2.06	65.6	54.8	66	99.2	68	0.116	0.341	22.59
2275	11.1	0.7	365.225	0.160	1.22	95	2.07	65.5	54.8	66	99.2	68	0.117	0.342	22.53
2276	10.4	-0.7	365.385	0.160	1.22	95	1.99	65.5	54.8	65	98.8	68	0.120	0.346	22.72
2277	10.8	0.4	365.546	0.161	1.22	95	2.08	65.5	54.9	66	99.3	67	0.114	0.338	22.57
2278	10.8	0.0	365.706	0.160	1.22	95	2.02	65.5	54.8	65	99.4	67	0.117	0.342	22.43
2279	10.4	-0.4	365.866	0.160	1.23	94	2.04	65.5	54.9	66	99.6	67	0.115	0.339	22.47
2280	10.8	0.4	366.026	0.160	1.24	95	2.00	65.5	54.9	65	100.0	67	0.112	0.335	22.23
2281	11.4	0.6	366.187	0.161	1.22	95	2.06	65.4	54.9	66	100.5	67	0.120	0.346	22.47
2282	11.2	-0.2	366.347	0.160	1.22	95	2.08	65.4	54.9	65	99.0	67	0.116	0.341	22.66
2283	11.2	0.0	366.507	0.160	1.23	95	2.07	65.4	54.8	65	98.8	67	0.117	0.342	22.51
2284	11.3	0.0	366.668	0.161	1.22	95	1.99	65.4	54.8	66	99.5	67	0.119	0.345	22.66

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2285	11.1	-0.2	366.828	0.160	1.21	95	2.02	65.4	54.8	66	98.2	67	0.120	0.346	22.80
2286	10.5	-0.6	366.988	0.160	1.22	95	2.00	65.3	54.8	65	98.3	67	0.115	0.339	22.61
2287	10.4	-0.1	367.147	0.159	1.22	95	2.06	65.3	54.7	66	98.5	67	0.116	0.341	22.41
2288	10.8	0.4	367.309	0.162	1.22	95	2.06	65.3	54.8	66	100.8	67	0.115	0.339	22.41
2289	11.0	0.2	367.469	0.160	1.21	95	2.00	65.2	54.8	65	99.8	67	0.114	0.338	22.31
2290	11.2	0.2	367.629	0.160	1.21	95	2.00	65.3	54.8	65	100.1	70	0.116	0.341	22.40
2291	11.0	-0.2	367.789	0.160	1.23	95	1.97	65.4	54.9	65	99.5	68	0.119	0.345	22.65
2292	11.4	0.4	367.950	0.161	1.23	95	2.05	65.3	54.9	65	99.5	67	0.115	0.339	22.57
2293	11.1	-0.2	368.110	0.160	1.21	95	2.03	65.4	54.9	65	99.2	67	0.117	0.342	22.47
2294	11.3	0.2	368.269	0.159	1.21	95	2.07	65.3	54.9	65	98.0	67	0.122	0.349	22.81
2295	11.1	-0.2	368.430	0.161	1.22	95	2.03	65.3	54.9	65	98.7	68	0.116	0.341	22.76
2296	10.7	-0.3	368.591	0.161	1.21	95	2.00	65.3	54.9	65	99.7	68	0.114	0.338	22.38
2297	10.7	-0.1	368.751	0.160	1.21	95	2.01	65.3	54.9	65	100.1	68	0.114	0.338	22.29
2298	11.2	0.5	368.910	0.159	1.22	95	1.98	65.3	54.9	65	99.8	71	0.115	0.339	22.38
2299	10.6	-0.6	369.071	0.161	1.22	94	1.98	65.4	54.9	66	100.9	70	0.115	0.339	22.44
2300	11.2	0.6	369.232	0.161	1.23	94	1.99	65.4	54.9	66	100.3	69	0.118	0.344	22.56
2301	11.1	-0.2	369.392	0.160	1.21	94	1.97	65.4	54.9	66	98.6	68	0.122	0.349	22.88
2302	10.6	-0.5	369.551	0.159	1.21	94	1.99	65.4	54.8	66	97.4	68	0.117	0.342	22.83
2303	10.7	0.1	369.713	0.162	1.24	95	2.08	65.4	54.9	66	100.3	68	0.112	0.335	22.34
2304	10.8	0.2	369.873	0.160	1.21	95	1.98	65.4	54.9	66	100.8	68	0.111	0.333	22.04
2305	10.7	-0.1	370.032	0.159	1.21	94	2.06	65.4	54.9	66	100.8	67	0.112	0.335	22.04
2306	10.5	-0.2	370.192	0.160	1.24	95	2.05	65.3	54.8	66	101.0	67	0.115	0.339	22.23
2307	10.7	0.2	370.353	0.161	1.22	95	2.05	65.4	54.9	66	100.4	67	0.119	0.345	22.57
2308	10.9	0.2	370.513	0.160	1.20	95	2.09	65.3	54.9	66	98.8	67	0.117	0.342	22.66
2309	11.3	0.4	370.673	0.160	1.21	95	1.98	65.4	54.8	66	98.9	71	0.118	0.344	22.65
2310	11.2	-0.1	370.833	0.160	1.23	95	2.03	65.5	55	65	99.3	70	0.116	0.341	22.63
2311	11.0	-0.2	370.994	0.161	1.20	95	1.97	65.4	54.9	66	99.6	67	0.118	0.344	22.59
2312	10.5	-0.5	371.154	0.160	1.21	94	2.03	65.4	54.9	66	99.0	67	0.115	0.339	22.52
2313	11.0	0.5	371.313	0.159	1.24	95	2.08	65.4	55	66	98.6	67	0.118	0.344	22.51
2314	10.7	-0.3	371.474	0.161	1.21	95	2.09	65.3	55	66	100.2	67	0.111	0.333	22.32
2315	11.1	0.3	371.634	0.160	1.22	95	2.07	65.3	54.9	66	100.3	67	0.115	0.339	22.17
2316	10.6	-0.5	371.794	0.160	1.20	94	2.07	65.3	54.9	66	100.0	67	0.117	0.342	22.46
2317	11.1	0.5	371.953	0.159	1.22	95	2.04	65.2	54.9	65	98.7	67	0.115	0.339	22.46
2318	10.9	-0.2	372.115	0.162	1.24	95	2.01	65.2	54.9	65	100.5	67	0.118	0.344	22.51
2319	10.7	-0.2	372.275	0.160	1.22	95	2.08	65.2	54.9	65	98.6	67	0.120	0.346	22.75
2320	11.2	0.5	372.434	0.159	1.22	95	2.08	65.2	54.9	65	98.0	66	0.113	0.336	22.51
2321	11.2	-0.1	372.594	0.160	1.24	95	2.09	65.2	54.9	65	99.3	66	0.118	0.344	22.41
2322	10.8	-0.3	372.755	0.161	1.21	95	2.07	65.2	54.9	65	99.6	66	0.118	0.344	22.65
2323	10.6	-0.2	372.915	0.160	1.23	95	2.08	65.1	54.9	65	99.0	66	0.113	0.336	22.41
2324	10.8	0.2	373.075	0.160	1.22	95	2.08	65.1	55	65	99.8	66	0.116	0.341	22.31
2325	11.0	0.1	373.236	0.161	1.22	95	2.09	65.1	55	65	100.2	66	0.117	0.342	22.50
2326	11.1	0.1	373.396	0.160	1.22	95	1.99	65.1	55	65	99.2	66	0.115	0.339	22.45
2327	10.9	-0.2	373.556	0.160	1.22	95	2.09	65.1	55	65	99.2	66	0.117	0.342	22.45
2328	10.8	-0.1	373.715	0.159	1.22	95	2.02	65.1	55	65	98.8	66	0.114	0.338	22.40

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2329	10.7	-0.1	373.877	0.162	1.21	95	2.07	65.1	55	65	101.4	66	0.111	0.333	22.11
2330	10.7	0.1	374.037	0.160	1.22	95	1.99	65.1	55	65	101.3	69	0.112	0.335	22.04
2331	11.5	0.7	374.197	0.160	1.22	95	1.97	65.2	55.1	65	101.0	68	0.116	0.341	22.31
2332	10.9	-0.6	374.356	0.159	1.22	95	2.02	65.1	55	66	99.4	68	0.114	0.338	22.39
2333	10.8	-0.1	374.518	0.162	1.21	95	2.00	65.1	55	65	100.5	67	0.121	0.348	22.62
2334	11.3	0.4	374.678	0.160	1.21	95	1.97	65	55	65	98.2	67	0.119	0.345	22.85
2335	10.8	-0.5	374.838	0.160	1.22	95	2.07	65	55.1	65	98.3	68	0.116	0.341	22.62
2336	11.3	0.5	374.998	0.160	1.21	95	2.00	65.1	55.1	65	99.2	68	0.115	0.339	22.43
2337	11.0	-0.3	375.159	0.161	1.22	95	2.09	65.1	55	65	100.4	68	0.115	0.339	22.39
2338	10.9	-0.1	375.319	0.160	1.22	95	1.97	65.1	55	65	99.7	70	0.118	0.344	22.56
2339	11.2	0.3	375.479	0.160	1.20	94	2.06	65.3	55	66	99.7	71	0.114	0.338	22.55
2340	11.5	0.2	375.640	0.161	1.21	95	2.07	65.4	55	66	100.7	72	0.117	0.342	22.52
2341	11.4	-0.1	375.801	0.161	1.22	94	2.00	65.4	55	66	100.2	69	0.117	0.342	22.64
2342	11.3	-0.1	375.961	0.160	1.21	95	2.08	65.4	55	66	99.0	68	0.117	0.342	22.60
2343	11.4	0.1	376.121	0.160	1.23	94	1.98	65.4	55.1	66	99.3	68	0.114	0.338	22.44
2344	11.3	-0.1	376.281	0.160	1.22	95	2.07	65.4	55.1	66	99.5	68	0.119	0.345	22.53
2345	11.3	0.0	376.442	0.161	1.22	95	1.99	65.3	55	65	99.3	67	0.119	0.345	22.77
2346	11.0	-0.3	376.602	0.160	1.22	95	2.02	65.3	55.1	66	98.3	67	0.118	0.344	22.72
2347	10.6	-0.5	376.762	0.160	1.21	95	2.08	65.3	55.1	65	98.9	67	0.114	0.338	22.47
2348	10.8	0.2	376.923	0.161	1.23	94	2.00	65.3	55.1	66	100.3	67	0.116	0.341	22.37
2349	11.2	0.4	377.084	0.161	1.22	95	2.05	65.4	55.1	66	100.0	67	0.119	0.345	22.61
2350	11.2	0.1	377.244	0.160	1.21	94	2.00	65.3	55.1	66	99.0	67	0.114	0.338	22.52
2351	10.5	-0.7	377.403	0.159	1.21	94	2.03	65.3	55.1	66	98.9	67	0.116	0.341	22.37
2352	10.8	0.3	377.565	0.162	1.22	95	2.06	65.3	55.1	66	100.7	67	0.118	0.344	22.56
2353	11.3	0.4	377.725	0.160	1.22	95	2.07	65.3	55	66	99.0	67	0.116	0.341	22.56
2354	11.0	-0.2	377.885	0.160	1.22	95	2.00	65.3	55.1	66	99.1	67	0.117	0.342	22.51
2355	10.7	-0.4	378.044	0.159	1.20	94	2.05	65.3	55	66	99.3	67	0.109	0.330	22.17
2356	11.1	0.4	378.206	0.162	1.22	95	2.05	65.3	55.1	66	101.8	67	0.118	0.344	22.22
2357	11.2	0.1	378.367	0.161	1.20	95	2.01	65.3	55	66	100.5	67	0.114	0.338	22.46
2358	10.7	-0.5	378.526	0.159	1.21	95	2.01	65.3	55	66	99.1	67	0.115	0.339	22.32
2359	10.9	0.2	378.686	0.160	1.20	95	1.99	65.3	55.1	66	100.1	67	0.114	0.338	22.32
2360	11.3	0.4	378.848	0.162	1.22	95	2.08	65.3	55.1	66	100.4	67	0.123	0.351	22.71
2361	11.0	-0.3	379.008	0.160	1.23	95	2.04	65.3	55.1	65	98.2	67	0.115	0.339	22.75
2362	10.7	-0.4	379.168	0.160	1.21	95	1.98	65.3	55.1	66	98.4	67	0.120	0.346	22.61
2363	11.2	0.5	379.328	0.160	1.22	94	2.04	65.2	55.1	66	98.7	67	0.116	0.341	22.65
2364	11.2	0.1	379.489	0.161	1.21	95	2.05	65.3	55.2	65	99.2	67	0.120	0.346	22.65
2365	10.7	-0.6	379.649	0.160	1.22	95	1.98	65.3	55.1	65	98.4	67	0.117	0.342	22.70
2366	11.1	0.4	379.809	0.160	1.23	95	1.98	65.3	55.1	66	98.5	67	0.118	0.344	22.61
2367	11.5	0.5	379.970	0.161	1.23	95	1.99	65.3	55.1	66	99.2	67	0.119	0.345	22.70
2368	11.1	-0.4	380.131	0.161	1.22	95	2.08	65.3	55.2	66	99.5	67	0.112	0.335	22.41
2369	10.8	-0.3	380.291	0.160	1.22	95	2.06	65.2	55.2	66	99.5	67	0.120	0.346	22.46
2370	10.9	0.2	380.450	0.159	1.22	95	2.07	65.2	55.2	66	97.7	67	0.122	0.349	22.94
2371	11.3	0.3	380.611	0.161	1.22	95	2.08	65.3	55.1	65	98.6	70	0.115	0.339	22.74
2372	11.3	0.0	380.772	0.161	1.23	95	1.99	65.4	55.2	66	100.4	67	0.110	0.332	22.16

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2373	11.1	-0.1	380.932	0.160	1.21	94	2.07	65.3	55.2	66	100.5	67	0.118	0.344	22.27
2374	10.7	-0.4	381.091	0.159	1.21	95	1.97	65.2	55.2	66	99.0	67	0.115	0.339	22.51
2375	10.6	-0.1	381.253	0.162	1.22	95	2.06	65.2	55.2	66	100.6	67	0.116	0.341	22.41
2376	10.7	0.1	381.413	0.160	1.21	95	2.00	65.2	55.3	65	99.4	66	0.117	0.342	22.51
2377	10.6	-0.1	381.572	0.159	1.20	95	2.08	65.2	55.3	65	99.1	66	0.110	0.332	22.21
2378	10.6	0.0	381.732	0.160	1.22	95	1.99	65.2	55.2	66	100.5	66	0.116	0.341	22.16
2379	10.6	0.0	381.894	0.162	1.21	95	2.06	65.2	55.2	65	100.7	66	0.120	0.346	22.65
2380	10.6	0.0	382.053	0.159	1.22	94	2.08	65.2	55.2	65	98.4	66	0.111	0.333	22.41
2381	10.8	0.2	382.213	0.160	1.22	94	2.06	65.2	55.2	66	100.3	66	0.114	0.338	22.11
2382	11.0	0.2	382.373	0.160	1.22	94	1.99	65.2	55.2	66	100.1	66	0.119	0.345	22.50
2383	11.2	0.2	382.535	0.162	1.23	95	2.06	65.2	55.3	66	99.8	66	0.120	0.346	22.79
2384	11.4	0.1	382.695	0.160	1.19	95	1.97	65.2	55.3	66	98.2	66	0.116	0.341	22.65
2385	11.1	-0.2	382.854	0.159	1.23	95	2.05	65.2	55.2	66	98.0	66	0.118	0.344	22.55
2386	10.9	-0.2	383.015	0.161	1.22	95	2.06	65.2	55.3	66	99.3	66	0.118	0.344	22.65
2387	10.7	-0.2	383.176	0.161	1.22	95	2.08	65.2	55.3	66	99.5	66	0.114	0.338	22.45
2388	10.8	0.0	383.336	0.160	1.21	95	2.08	65.2	55.3	66	99.8	67	0.114	0.338	22.26
2389	11.1	0.4	383.495	0.159	1.21	95	1.99	65.2	55.3	66	99.4	66	0.116	0.341	22.36
2390	11.5	0.4	383.657	0.162	1.22	95	2.09	65.2	55.3	66	101.4	66	0.111	0.333	22.21
2391	11.4	0.0	383.817	0.160	1.20	95	2.01	65.2	55.4	66	100.4	66	0.117	0.342	22.26
2392	11.2	-0.3	383.977	0.160	1.22	95	1.99	65.2	55.3	66	99.5	66	0.117	0.342	22.55
2393	11.0	-0.1	384.136	0.159	1.22	94	2.07	65.2	55.3	66	98.2	66	0.118	0.344	22.60
2394	10.7	-0.3	384.298	0.162	1.22	95	2.06	65.1	55.4	66	99.6	66	0.121	0.348	22.79
2395	10.7	0.0	384.458	0.160	1.21	95	2.09	65.2	55.4	66	97.9	66	0.118	0.344	22.79
2396	10.9	0.2	384.618	0.160	1.23	95	2.04	65.1	55.4	65	98.6	66	0.113	0.336	22.41
2397	11.1	0.2	384.777	0.159	1.22	95	1.97	65.2	55.4	65	99.0	66	0.117	0.342	22.36
2398	11.2	0.1	384.939	0.162	1.22	95	1.98	65.2	55.4	65	101.6	66	0.108	0.329	22.11
2399	11.4	0.2	385.099	0.160	1.22	95	2.01	65.2	55.4	65	100.8	66	0.118	0.344	22.16
2400	11.2	-0.2	385.259	0.160	1.22	95	2.06	65.2	55.4	65	99.2	66	0.121	0.348	22.79
2401	10.8	-0.4	385.419	0.160	1.22	95	2.03	65.1	55.5	66	98.0	66	0.116	0.341	22.69
2402	10.7	-0.1	385.580	0.161	1.23	95	2.07	65.2	55.4	66	99.7	70	0.116	0.341	22.49
2403	10.7	-0.1	385.741	0.161	1.21	95	1.98	65.2	55.4	65	100.1	67	0.116	0.341	22.50
2404	10.8	0.1	385.900	0.159	1.21	95	2.03	65.2	55.4	65	97.8	66	0.123	0.351	22.79
2405	11.0	0.2	386.061	0.161	1.20	95	2.07	65.1	55.5	65	98.3	66	0.117	0.342	22.84
2406	11.0	0.0	386.222	0.161	1.21	95	2.08	65.2	55.5	65	99.1	66	0.115	0.339	22.45
2407	11.1	0.1	386.382	0.160	1.21	94	2.08	65.1	55.5	65	99.6	66	0.115	0.339	22.36
2408	11.4	0.3	386.541	0.159	1.21	95	2.08	65.1	55.4	65	98.9	66	0.117	0.342	22.45
2409	11.4	0.0	386.703	0.162	1.21	95	2.07	65.1	55.4	66	100.9	66	0.112	0.335	22.31
2410	11.3	-0.1	386.863	0.160	1.22	95	1.99	65.1	55.4	66	100.3	66	0.114	0.338	22.16
2411	10.9	-0.4	387.023	0.160	1.21	95	1.98	65.1	55.4	66	100.3	66	0.115	0.339	22.31
2412	10.8	-0.1	387.182	0.159	1.21	95	2.00	65.1	55.4	66	98.5	66	0.122	0.349	22.69
2413	10.7	-0.1	387.344	0.162	1.20	95	2.05	65.1	55.5	65	99.7	66	0.113	0.336	22.60
2414	10.6	-0.1	387.504	0.160	1.21	95	2.06	65.1	55.5	66	99.2	66	0.117	0.342	22.36
2415	10.6	0.1	387.664	0.160	1.23	95	2.01	65.1	55.5	66	99.7	66	0.113	0.336	22.36
2416	10.7	0.0	387.823	0.159	1.21	95	1.99	65.1	55.5	65	99.1	66	0.117	0.342	22.36

Train A - Particulate Sampling and Dilution Tunnel Data

ASTM E2515

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Start Time: 19:36
 Test Length: 2460 min
 Recording Interval: 1 min

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0122
 Meter Box Y Regression Slope: 0
 Meter Box Dynamic Y: 1.012
 Sampling Box ID: 692

Sample Train Leak Checks

Pre-test 0 cfm @ 16.9 in. Hg
 Post-Test 0 cfm @ 5.38 in. Hg

0	Fuel Consumption			Train A Sampling System								Dilution Tunnel			
Elapsed Time (min)	Scale Reading (lb.)	Weight Change	Meter Volume (ft ³)	Sample Rate (CFM)	Meter Δ H (" H ₂ O)	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Room Ambient (°F)	Pro - Rate	Tunnel Temp (°F)	Center dP (" H ₂ O)	√dP	vs
2417	10.9	0.2	387.985	0.162	1.23	95	1.99	65.1	55.5	65	100.7	66	0.116	0.341	22.50
2418	11.2	0.3	388.145	0.160	1.21	94	1.99	65.1	55.5	66	98.5	66	0.123	0.351	22.79
2419	11.2	0.0	388.305	0.160	1.22	95	2.03	65.1	55.5	65	98.3	66	0.112	0.335	22.60
2420	11.2	0.0	388.465	0.160	1.21	95	1.97	65.1	55.5	66	99.2	66	0.118	0.344	22.36
2421	11.2	0.1	388.627	0.162	1.22	95	1.98	65.1	55.6	66	100.7	66	0.115	0.339	22.50
2422	11.3	0.1	388.786	0.159	1.22	95	2.00	65.1	55.6	66	99.0	66	0.113	0.336	22.26
2423	11.1	-0.2	388.946	0.160	1.21	95	2.02	65.1	55.6	65	99.3	66	0.123	0.351	22.65
2424	11.3	0.2	389.107	0.161	1.21	95	2.07	65.1	55.6	66	98.9	66	0.115	0.339	22.74
2425	11.2	-0.1	389.268	0.161	1.23	95	2.03	65.1	55.6	65	99.6	66	0.114	0.338	22.31
2426	11.1	-0.1	389.431	0.163	1.22	95	2.05	65.1	55.6	66	102.1	66	0.113	0.336	22.21
2427	11.2	0.1	389.588	0.157	1.22	95	2.00	65.1	55.6	66	98.1	66	0.118	0.344	22.41
2428	11.2	0.0	389.748	0.160	1.21	95	1.99	65.1	55.6	65	99.5	66	0.114	0.338	22.45
2429	11.1	-0.1	389.909	0.161	1.22	95	2.01	65.1	55.6	65	100.0	66	0.118	0.344	22.45
2430	11.2	0.0	390.069	0.160	1.22	94	2.06	65.1	55.6	66	99.9	66	0.109	0.330	22.21
2431	11.3	0.1	390.229	0.160	1.21	95	2.06	65.1	55.6	65	101.1	66	0.112	0.335	21.91
2432	11.3	0.0	390.390	0.161	1.21	95	2.05	65.1	55.6	66	101.6	66	0.116	0.341	22.26
2433	11.2	-0.1	390.551	0.161	1.23	94	1.98	65.1	55.5	66	100.8	70	0.115	0.339	22.44
2434	11.1	-0.1	390.710	0.159	1.22	95	2.00	65.2	55.7	66	99.3	67	0.115	0.339	22.40
2435	11.1	0.0	390.869	0.159	1.21	94	2.03	65.1	55.6	66	99.2	66	0.114	0.338	22.31
2436	11.3	0.2	391.031	0.162	1.22	95	2.08	65.1	55.6	66	101.2	66	0.116	0.341	22.36
2437	10.9	-0.4	391.191	0.160	1.20	95	2.06	65.1	55.6	65	99.7	66	0.115	0.339	22.40
2438	11.1	0.1	391.354	0.163	1.23	94	2.05	65.1	55.6	66	101.7	66	0.114	0.338	22.31
2439	10.8	-0.2	391.511	0.157	1.22	95	2.07	65.2	55.7	66	98.8	71	0.112	0.335	22.21
2440	10.4	-0.5	391.672	0.161	1.22	95	1.99	65.4	55.7	66	102.1	73	0.113	0.336	22.23
2441	9.5	-0.8	391.832	0.160	1.23	95	2.07	65.6	55.6	66	101.1	75	0.117	0.342	22.52
2442	9.0	-0.5	391.992	0.160	1.22	95	2.07	65.8	55.6	66	100.4	77	0.116	0.341	22.71
2443	8.2	-0.8	392.152	0.160	1.21	95	2.07	66.1	55.7	66	100.5	80	0.115	0.339	22.66
2444	8.0	-0.2	392.313	0.161	1.21	95	1.99	66.3	55.8	66	101.3	81	0.118	0.344	22.80
2445	7.7	-0.4	392.472	0.159	1.20	95	2.01	66.4	55.7	66	100.0	82	0.115	0.339	22.82
2446	6.9	-0.7	392.631	0.159	1.22	95	2.00	66.6	55.8	66	99.9	82	0.119	0.345	22.88
2447	5.8	-1.2	392.792	0.161	1.21	95	2.08	66.8	55.8	66	101.5	83	0.111	0.333	22.70
2448	5.7	0.0	392.954	0.162	1.21	95	1.99	67	55.9	66	102.7	83	0.118	0.344	22.65
2449	5.4	-0.4	393.114	0.160	1.20	95	2.03	67.1	55.9	66	101.1	83	0.115	0.339	22.85
2450	4.6	-0.8	393.271	0.157	1.22	95	2.09	67.2	55.9	66	98.8	84	0.118	0.344	22.86
2451	3.8	-0.9	393.431	0.160	1.19	94	2.03	67.3	55.9	66	100.4	82	0.117	0.342	22.95
2452	3.3	-0.5	393.590	0.159	1.21	95	2.08	67.4	55.9	66	99.8	82	0.115	0.339	22.79
2453	3.4	0.1	393.749	0.159	1.18	95	2.00	67.5	55.9	66	100.8	84	0.112	0.335	22.56
2454	2.9	-0.5	393.910	0.161	1.20	95	2.00	67.6	56	66	103.2	83	0.111	0.333	22.37
2455	2.2	-0.7	394.069	0.159	1.21	95	2.05	67.8	56	66	102.3	82	0.111	0.333	22.30
2456	1.4	-0.8	394.228	0.159	1.21	95	2.01	67.9	56	66	101.3	83	0.121	0.348	22.80
2457	0.6	-0.8	394.388	0.160	1.21	95	2.02	67.9	56.1	66	101.2	84	0.108	0.329	22.67
2458	0.1	-0.5	394.548	0.160	1.21	95	2.02	68	56.1	66	102.3	84	0.115	0.339	22.37
2459	0.0	-0.1	394.707	0.159	1.20	95	2.10	68.1	56.2	66	101.8	84	0.113	0.336	22.62
2460	0.0	0.0	394.868	0.161	1.19	95	2.10	68.3	56.2	66	102.5	86	0.116	0.341	22.69

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	394.502	0.160	1.23	90.4	2.18	65.69	47.11	100.0
Minimum	0.000	0.139	0.05	68	0.07	64	37	89.8
Max	394.502	0.165	1.28	94	2.28	70	57	107.7
0	0.000		0.05	68	0.07	65.1	45.9	
1	0.139	0.139	1.23	68	2.31	65.5	43.8	89.8
2	0.300	0.161	1.22	68	2.24	65.8	43.3	105.8
3	0.459	0.159	1.24	68	2.32	66.1	42.9	105.0
4	0.620	0.161	1.23	68	2.28	66.2	42.6	106.4
5	0.778	0.158	1.21	68	2.32	66.4	42.4	104.3
6	0.937	0.159	1.24	68	2.29	66.4	42.2	104.7
7	1.094	0.157	1.20	68	2.21	66.4	41.9	103.2
8	1.251	0.157	1.22	68	2.29	66.5	41.8	103.6
9	1.408	0.157	1.22	68	2.32	66.6	41.6	103.3
10	1.564	0.156	1.22	69	2.33	66.8	41.4	101.2
11	1.723	0.159	1.20	69	2.25	66.9	41.3	103.5
12	1.880	0.157	1.22	69	2.24	66.9	41.1	104.0
13	2.040	0.160	1.24	69	2.32	67.1	41	105.9
14	2.201	0.161	1.25	69	2.32	67.2	40.9	105.6
15	2.364	0.163	1.25	69	2.34	67.3	40.8	107.6
16	2.524	0.160	1.26	70	2.32	67.3	40.6	106.0
17	2.684	0.160	1.26	70	2.32	67.2	40.6	104.9
18	2.845	0.161	1.25	70	2.31	67	40.5	104.6
19	3.005	0.160	1.27	71	2.30	66.9	40.3	104.0
20	3.167	0.162	1.25	71	2.30	66.9	40.2	105.7
21	3.328	0.161	1.26	71	2.30	66.8	40.1	105.5
22	3.492	0.164	1.28	71	2.29	66.7	40.1	107.7
23	3.653	0.161	1.26	72	2.28	66.7	40	105.1
24	3.815	0.162	1.26	72	2.29	66.7	39.9	104.7
25	3.977	0.162	1.22	72	2.22	66.6	39.8	104.4
26	4.135	0.158	1.22	72	2.22	66.6	39.8	102.2
27	4.293	0.158	1.24	73	2.21	66.6	39.7	102.7
28	4.451	0.158	1.24	73	2.24	66.5	39.6	102.9
29	4.609	0.158	1.23	73	2.25	66.4	39.5	102.7
30	4.767	0.158	1.24	74	2.20	66.4	39.5	102.3
31	4.930	0.163	1.24	74	2.23	66.4	39.4	105.0
32	5.089	0.159	1.23	74	2.26	66.3	39.3	102.6
33	5.247	0.158	1.22	74	2.22	66.3	39.2	101.6
34	5.406	0.159	1.24	75	2.20	66.2	39.1	101.7
35	5.566	0.160	1.24	75	2.26	66.2	39.1	103.1
36	5.724	0.158	1.22	75	2.25	66.1	39	101.7
37	5.882	0.158	1.23	76	2.23	66.2	38.9	101.4
38	6.040	0.158	1.22	76	2.21	66.2	38.9	102.1
39	6.198	0.158	1.23	76	2.19	66.3	38.8	102.3
40	6.357	0.159	1.22	76	2.19	66.2	38.7	101.7

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
41	6.520	0.163	1.22	77	2.21	66.1	38.7	103.5
42	6.679	0.159	1.23	77	2.25	66.1	38.6	102.3
43	6.837	0.158	1.22	77	2.18	66	38.5	102.2
44	6.997	0.160	1.23	77	2.17	66	38.5	102.6
45	7.156	0.159	1.22	78	2.16	66.1	38.5	101.2
46	7.314	0.158	1.23	78	2.26	66.2	38.4	100.8
47	7.473	0.159	1.24	78	2.25	66.2	38.4	102.2
48	7.631	0.158	1.22	79	2.18	66.2	38.3	101.7
49	7.789	0.158	1.24	79	2.24	66.2	38.2	101.8
50	7.951	0.162	1.23	79	2.28	66.2	38.2	104.7
51	8.111	0.160	1.23	79	2.18	66.2	38.2	102.9
52	8.271	0.160	1.22	79	2.16	66.2	38.1	102.2
53	8.429	0.158	1.23	80	2.19	66.2	38.1	100.9
54	8.588	0.159	1.23	80	2.27	66.1	38.1	101.7
55	8.749	0.161	1.22	80	2.16	66.2	38	103.0
56	8.907	0.158	1.23	81	2.23	66.2	38	100.9
57	9.064	0.157	1.23	81	2.20	66.2	38	100.6
58	9.227	0.163	1.22	81	2.23	66.2	37.9	104.5
59	9.386	0.159	1.22	81	2.17	66.2	37.8	101.8
60	9.545	0.159	1.23	81	2.23	66.2	37.8	101.9
61	9.704	0.159	1.23	82	2.23	66.2	37.8	101.1
62	9.865	0.161	1.22	82	2.18	66.2	37.8	101.5
63	10.024	0.159	1.22	82	2.25	66.2	37.8	101.5
64	10.183	0.159	1.23	82	2.17	66.2	37.7	102.7
65	10.344	0.161	1.21	82	2.25	66.1	37.7	103.1
66	10.501	0.157	1.22	83	2.25	66.1	37.7	99.7
67	10.663	0.162	1.24	83	2.16	66.1	37.7	103.0
68	10.822	0.159	1.24	83	2.13	66.1	37.7	100.6
69	10.984	0.162	1.23	83	2.14	66.1	37.6	102.3
70	11.143	0.159	1.22	83	2.18	66.1	37.6	100.3
71	11.302	0.159	1.23	83	2.25	66.1	37.6	100.2
72	11.462	0.160	1.23	84	2.17	66	37.6	101.3
73	11.623	0.161	1.23	84	2.22	66	37.6	101.4
74	11.782	0.159	1.24	84	2.24	66	37.5	99.5
75	11.939	0.157	1.24	84	2.22	66	37.5	98.4
76	12.102	0.163	1.24	84	2.24	66	37.5	102.2
77	12.263	0.161	1.23	85	2.24	65.9	37.5	101.4
78	12.422	0.159	1.22	85	2.17	65.9	37.5	100.7
79	12.582	0.160	1.23	85	2.15	65.9	37.5	100.8
80	12.743	0.161	1.23	85	2.22	65.9	37.5	100.6
81	12.903	0.160	1.26	85	2.18	65.9	37.4	99.9
82	13.063	0.160	1.24	85	2.25	65.9	37.5	101.1
83	13.223	0.160	1.23	85	2.13	65.8	37.4	101.6
84	13.384	0.161	1.24	86	2.19	65.8	37.4	101.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
85	13.544	0.160	1.24	86	2.13	65.8	37.4	100.9
86	13.704	0.160	1.23	86	2.18	65.9	37.4	101.1
87	13.863	0.159	1.22	86	2.17	65.8	37.4	99.5
88	14.025	0.162	1.25	86	2.12	65.8	37.4	101.3
89	14.185	0.160	1.24	86	2.19	65.8	37.4	100.9
90	14.345	0.160	1.25	86	2.16	65.7	37.4	100.7
91	14.505	0.160	1.24	86	2.20	65.7	37.4	100.3
92	14.666	0.161	1.24	86	2.23	65.7	37.4	101.0
93	14.827	0.161	1.22	87	2.14	65.6	37.4	101.3
94	14.986	0.159	1.24	87	2.25	65.6	37.4	100.5
95	15.146	0.160	1.24	87	2.22	65.6	37.4	101.0
96	15.308	0.162	1.23	87	2.26	65.6	37.4	101.6
97	15.469	0.161	1.23	87	2.25	65.6	37.4	100.8
98	15.628	0.159	1.24	87	2.26	65.5	37.3	100.0
99	15.788	0.160	1.23	87	2.16	65.5	37.4	100.4
100	15.949	0.161	1.24	87	2.11	65.5	37.4	101.1
101	16.111	0.162	1.23	87	2.22	65.5	37.4	102.6
102	16.270	0.159	1.24	87	2.13	65.4	37.4	100.3
103	16.430	0.160	1.23	87	2.21	65.4	37.3	100.1
104	16.591	0.161	1.24	87	2.25	65.3	37.3	100.5
105	16.753	0.162	1.24	87	2.13	65.4	37.4	101.2
106	16.913	0.160	1.25	88	2.12	65.4	37.4	100.0
107	17.073	0.160	1.24	88	2.19	65.3	37.3	100.7
108	17.233	0.160	1.24	88	2.11	65.3	37.3	101.5
109	17.396	0.163	1.25	88	2.12	65.3	37.3	102.9
110	17.556	0.160	1.22	88	2.20	65.2	37.3	100.1
111	17.716	0.160	1.24	88	2.15	65.2	37.2	99.5
112	17.876	0.160	1.24	88	2.26	65.2	37.3	98.8
113	18.038	0.162	1.24	88	2.12	65.2	37.3	99.9
114	18.199	0.161	1.24	88	2.25	65.2	37.2	100.6
115	18.359	0.160	1.23	88	2.26	65.2	37.2	100.9
116	18.519	0.160	1.24	88	2.23	65.2	37.2	100.8
117	18.680	0.161	1.24	88	2.12	65.3	37.2	101.4
118	18.842	0.162	1.24	88	2.15	65.4	37.2	101.8
119	19.002	0.160	1.24	88	2.15	65.3	37.2	99.9
120	19.162	0.160	1.23	88	2.25	65.3	37.2	99.8
121	19.323	0.161	1.23	88	2.14	65.2	37.2	100.8
122	19.485	0.162	1.24	88	2.10	65.2	37.1	101.8
123	19.646	0.161	1.24	88	2.25	65.2	37.2	100.4
124	19.805	0.159	1.24	88	2.26	65.2	37.2	98.7
125	19.966	0.161	1.22	88	2.16	65.3	37.2	100.0
126	20.128	0.162	1.25	88	2.13	65.3	37.2	100.9
127	20.289	0.161	1.25	89	2.25	65.4	37.2	100.8
128	20.449	0.160	1.24	89	2.14	65.4	37.1	100.0

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
129	20.609	0.160	1.22	89	2.23	65.5	37.2	99.6
130	20.771	0.162	1.25	89	2.19	65.5	37.2	100.9
131	20.933	0.162	1.23	89	2.15	65.5	37.2	101.3
132	21.093	0.160	1.23	89	2.12	65.5	37.2	100.4
133	21.253	0.160	1.23	89	2.14	65.4	37.2	100.4
134	21.414	0.161	1.26	89	2.11	65.5	37.2	101.4
135	21.576	0.162	1.24	89	2.18	65.5	37.2	102.0
136	21.737	0.161	1.24	89	2.23	65.5	37.2	100.7
137	21.897	0.160	1.23	89	2.17	65.5	37.1	100.0
138	22.057	0.160	1.23	89	2.15	65.5	37.1	99.5
139	22.219	0.162	1.25	89	2.24	65.6	37.2	100.1
140	22.381	0.162	1.23	89	2.24	65.6	37.1	100.6
141	22.541	0.160	1.25	89	2.11	65.6	37.1	100.1
142	22.701	0.160	1.23	89	2.23	65.6	37.2	100.1
143	22.862	0.161	1.24	89	2.17	65.6	37.2	100.8
144	23.025	0.163	1.25	89	2.25	65.6	37.2	101.9
145	23.185	0.160	1.24	89	2.21	65.6	37.2	99.8
146	23.345	0.160	1.23	89	2.23	65.5	37.2	99.9
147	23.506	0.161	1.24	89	2.21	65.5	37.2	100.5
148	23.667	0.161	1.24	90	2.14	65.6	37.2	100.8
149	23.829	0.162	1.24	90	2.18	65.6	37.2	101.1
150	23.989	0.160	1.24	90	2.24	65.5	37.2	99.2
151	24.150	0.161	1.23	90	2.11	65.5	37.2	100.5
152	24.310	0.160	1.25	90	2.13	65.5	37.2	100.7
153	24.473	0.163	1.24	90	2.18	65.4	37.2	103.1
154	24.634	0.161	1.24	90	2.18	65.3	37.2	101.6
155	24.794	0.160	1.22	90	2.12	65.3	37.2	100.0
156	24.955	0.161	1.24	90	2.23	65.3	37.3	99.8
157	25.116	0.161	1.24	90	2.23	65.3	37.3	99.4
158	25.278	0.162	1.24	90	2.11	65.3	37.3	99.9
159	25.439	0.161	1.24	90	2.23	65.3	37.3	100.1
160	25.599	0.160	1.24	90	2.20	65.2	37.3	100.3
161	25.760	0.161	1.24	90	2.21	65.2	37.3	100.7
162	25.922	0.162	1.24	90	2.23	65.2	37.3	101.2
163	26.084	0.162	1.24	90	2.23	65.1	37.3	101.0
164	26.244	0.160	1.26	90	2.20	65.1	37.3	99.6
165	26.404	0.160	1.24	90	2.15	65.1	37.3	99.8
166	26.566	0.162	1.24	90	2.24	65.1	37.3	100.3
167	26.728	0.162	1.23	90	2.15	65.1	37.3	99.6
168	26.889	0.161	1.24	90	2.12	65.1	37.3	99.6
169	27.049	0.160	1.24	90	2.21	65	37.3	99.7
170	27.210	0.161	1.24	90	2.16	65	37.3	100.5
171	27.372	0.162	1.25	90	2.18	65	37.3	101.0
172	27.534	0.162	1.24	90	2.22	65	37.3	101.4

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
173	27.694	0.160	1.24	90	2.20	65.1	37.3	101.1
174	27.854	0.160	1.23	90	2.12	65.1	37.3	101.6
175	28.015	0.161	1.23	90	2.12	65.2	37.3	102.3
176	28.178	0.163	1.23	90	2.20	65.2	37.3	102.5
177	28.339	0.161	1.25	90	2.11	65.2	37.3	100.4
178	28.499	0.160	1.24	90	2.23	65.3	37.3	100.1
179	28.659	0.160	1.25	90	2.17	65.3	37.4	100.1
180	28.821	0.162	1.24	90	2.11	65.3	37.3	100.8
181	28.983	0.162	1.23	90	2.22	65.3	37.3	100.7
182	29.143	0.160	1.24	90	2.20	65.3	37.3	100.2
183	29.304	0.161	1.24	90	2.10	65.3	37.3	101.1
184	29.464	0.160	1.26	90	2.23	65.3	37.4	99.3
185	29.627	0.163	1.25	90	2.22	65.3	37.3	100.2
186	29.788	0.161	1.24	90	2.24	65.3	37.4	99.3
187	29.948	0.160	1.24	90	2.18	65.3	37.4	99.7
188	30.109	0.161	1.23	90	2.13	65.3	37.4	100.3
189	30.270	0.161	1.24	90	2.19	65.3	37.4	100.0
190	30.432	0.162	1.23	90	2.13	65.3	37.4	100.9
191	30.593	0.161	1.24	90	2.21	65.4	37.4	99.7
192	30.753	0.160	1.24	90	2.22	65.3	37.4	98.6
193	30.914	0.161	1.23	90	2.15	65.4	37.4	100.1
194	31.076	0.162	1.23	90	2.23	65.6	37.4	101.7
195	31.236	0.160	1.24	90	2.21	65.9	37.5	101.5
196	31.396	0.160	1.22	90	2.17	66.1	37.6	102.1
197	31.556	0.160	1.24	90	2.18	66.2	37.7	101.5
198	31.717	0.161	1.23	90	2.24	66.2	37.7	101.7
199	31.877	0.160	1.23	90	2.20	66.3	37.7	101.3
200	32.037	0.160	1.21	90	2.15	66.4	37.8	100.3
201	32.196	0.159	1.23	90	2.20	66.5	37.8	98.6
202	32.358	0.162	1.22	90	2.21	66.6	37.9	101.0
203	32.517	0.159	1.21	90	2.23	66.7	38	99.5
204	32.675	0.158	1.22	90	2.16	66.8	38.1	98.9
205	32.835	0.160	1.23	90	2.18	66.8	38.1	100.9
206	32.996	0.161	1.22	90	2.16	66.9	38.2	101.9
207	33.155	0.159	1.26	90	2.23	66.7	38.3	100.1
208	33.314	0.159	1.20	90	2.24	66.8	38.3	99.8
209	33.475	0.161	1.24	90	2.23	66.8	38.4	101.6
210	33.634	0.159	1.22	90	2.26	67.1	38.5	100.5
211	33.792	0.158	1.22	90	2.23	67.2	38.6	99.2
212	33.952	0.160	1.22	90	2.22	67.2	38.6	100.1
213	34.113	0.161	1.22	90	2.18	67.2	38.7	102.0
214	34.271	0.158	1.22	90	2.24	67.3	38.8	100.7
215	34.431	0.160	1.23	90	2.20	67.3	38.8	101.6
216	34.591	0.160	1.21	90	2.20	67.3	38.9	101.1

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
217	34.751	0.160	1.21	90	2.19	67.4	38.9	100.5
218	34.909	0.158	1.20	90	2.24	67.5	39	99.5
219	35.068	0.159	1.22	90	2.19	67.3	39.1	100.4
220	35.230	0.162	1.23	90	2.17	67.3	39.1	102.0
221	35.390	0.160	1.23	90	2.16	67.2	39.1	100.8
222	35.550	0.160	1.23	90	2.16	67.1	39.1	100.8
223	35.710	0.160	1.24	90	2.18	67	39.2	100.6
224	35.873	0.163	1.22	90	2.15	66.9	39.2	101.8
225	36.033	0.160	1.25	90	2.15	66.9	39.2	99.4
226	36.193	0.160	1.24	90	2.15	66.7	39.1	99.8
227	36.353	0.160	1.24	90	2.21	66.7	39.1	99.1
228	36.515	0.162	1.25	90	2.14	66.7	39.1	99.3
229	36.677	0.162	1.26	90	2.17	66.6	39	100.1
230	36.837	0.160	1.25	90	2.17	66.5	39	99.4
231	36.997	0.160	1.24	90	2.18	66.5	39	98.7
232	37.158	0.161	1.24	90	2.15	66.4	39	99.3
233	37.321	0.163	1.23	91	2.15	66.4	39	100.6
234	37.482	0.161	1.25	90	2.22	66.3	38.9	99.3
235	37.642	0.160	1.24	90	2.16	66.2	38.9	99.3
236	37.802	0.160	1.24	90	2.21	66.1	38.9	99.5
237	37.964	0.162	1.23	91	2.19	66	38.8	100.3
238	38.126	0.162	1.24	90	2.15	66	38.8	100.7
239	38.286	0.160	1.26	91	2.20	66	38.8	100.1
240	38.446	0.160	1.24	91	2.15	65.8	38.8	100.0
241	38.607	0.161	1.24	91	2.15	65.8	38.7	100.5
242	38.770	0.163	1.24	91	2.15	65.8	38.7	101.6
243	38.931	0.161	1.24	91	2.21	65.7	38.7	99.5
244	39.091	0.160	1.24	91	2.19	65.6	38.6	98.7
245	39.252	0.161	1.24	91	2.15	65.6	38.6	99.7
246	39.413	0.161	1.25	91	2.20	65.5	38.5	99.6
247	39.576	0.163	1.26	91	2.15	65.4	38.5	101.0
248	39.736	0.160	1.24	90	2.19	65.3	38.5	99.3
249	39.897	0.161	1.24	91	2.14	65.2	38.5	99.8
250	40.058	0.161	1.24	91	2.12	65.2	38.5	100.0
251	40.220	0.162	1.23	91	2.21	65.2	38.4	100.1
252	40.381	0.161	1.23	91	2.20	65.1	38.4	99.1
253	40.541	0.160	1.25	90	2.16	65.1	38.4	99.3
254	40.702	0.161	1.25	91	2.24	65.1	38.4	100.7
255	40.863	0.161	1.24	91	2.10	65.1	38.4	99.7
256	41.025	0.162	1.28	91	2.18	65	38.3	99.1
257	41.186	0.161	1.23	90	2.18	65	38.3	98.1
258	41.346	0.160	1.22	90	2.13	64.9	38.2	97.4
259	41.507	0.161	1.24	90	2.13	64.9	38.2	98.7
260	41.668	0.161	1.24	90	2.11	64.8	38.2	99.6

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
261	41.830	0.162	1.24	90	2.21	64.8	38.2	100.3
262	41.990	0.160	1.23	90	2.24	64.9	38.2	98.2
263	42.150	0.160	1.23	90	2.11	64.9	38.1	97.9
264	42.311	0.161	1.23	90	2.12	65	38.1	99.8
265	42.474	0.163	1.24	90	2.24	65.1	38.1	101.8
266	42.635	0.161	1.23	90	2.14	65	38.1	99.7
267	42.795	0.160	1.26	90	2.13	65	38.1	99.2
268	42.955	0.160	1.23	90	2.25	65.1	38.1	99.6
269	43.117	0.162	1.24	90	2.24	65.1	38.1	100.3
270	43.278	0.161	1.23	90	2.10	65.1	38	99.4
271	43.438	0.160	1.22	90	2.16	65.1	38	98.4
272	43.599	0.161	1.23	90	2.09	65.1	38	99.1
273	43.760	0.161	1.24	90	2.14	65.1	38	99.3
274	43.922	0.162	1.25	90	2.23	65.1	37.9	99.8
275	44.083	0.161	1.24	90	2.25	65.1	38	99.1
276	44.243	0.160	1.24	90	2.25	65.1	37.9	98.0
277	44.403	0.160	1.24	90	2.25	65.1	37.9	97.3
278	44.565	0.162	1.23	91	2.23	65.1	37.9	99.2
279	44.727	0.162	1.25	90	2.23	65.1	37.9	100.9
280	44.887	0.160	1.25	90	2.18	65	37.9	100.1
281	45.047	0.160	1.24	91	2.15	65	37.9	99.8
282	45.208	0.161	1.23	90	2.11	65	37.9	100.2
283	45.370	0.162	1.23	90	2.10	65	37.9	100.8
284	45.531	0.161	1.24	90	2.24	65	37.9	99.7
285	45.691	0.160	1.24	90	2.21	64.9	38	97.9
286	45.852	0.161	1.23	90	2.19	64.9	38	98.6
287	46.014	0.162	1.24	90	2.17	64.9	38	100.0
288	46.175	0.161	1.24	90	2.15	64.8	38	99.9
289	46.335	0.160	1.21	90	2.20	64.9	38.1	99.5
290	46.495	0.160	1.22	90	2.25	64.9	38	98.5
291	46.657	0.162	1.23	91	2.12	64.9	38.1	99.1
292	46.819	0.162	1.24	90	2.10	65	38.2	100.0
293	46.979	0.160	1.25	90	2.14	64.9	38.1	99.8
294	47.139	0.160	1.24	90	2.22	65.1	38.1	99.8
295	47.300	0.161	1.24	90	2.20	65.1	38.2	100.3
296	47.462	0.162	1.24	90	2.21	65.1	38.1	102.0
297	47.623	0.161	1.22	90	2.21	65	38.2	101.7
298	47.784	0.161	1.23	90	2.11	65	38.2	100.9
299	47.944	0.160	1.24	90	2.19	65.1	38.3	99.5
300	48.105	0.161	1.24	90	2.26	65.1	38.3	99.7
301	48.267	0.162	1.24	90	2.11	65	38.3	100.2
302	48.428	0.161	1.21	90	2.11	65	38.3	99.4
303	48.588	0.160	1.24	91	2.10	65.1	38.4	98.5
304	48.749	0.161	1.24	90	2.12	65.1	38.5	99.1

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
305	48.911	0.162	1.23	90	2.14	65.1	38.5	99.8
306	49.072	0.161	1.24	90	2.25	65.1	38.5	99.5
307	49.232	0.160	1.24	90	2.25	65	38.6	98.8
308	49.392	0.160	1.23	90	2.11	65.1	38.6	98.3
309	49.554	0.162	1.23	90	2.24	65	38.6	100.2
310	49.716	0.162	1.23	90	2.25	64.9	38.6	101.0
311	49.876	0.160	1.24	91	2.20	65	38.7	99.3
312	50.036	0.160	1.25	90	2.24	64.9	38.8	99.1
313	50.197	0.161	1.24	90	2.15	64.9	38.8	100.3
314	50.360	0.163	1.24	91	2.09	64.9	38.8	101.6
315	50.521	0.161	1.24	91	2.21	64.8	38.8	100.0
316	50.681	0.160	1.24	90	2.15	64.9	38.9	98.8
317	50.841	0.160	1.24	90	2.20	64.8	38.9	98.9
318	51.003	0.162	1.23	90	2.11	64.8	38.9	100.4
319	51.165	0.162	1.22	90	2.12	64.8	39	100.1
320	51.325	0.160	1.23	90	2.11	64.8	39	98.1
321	51.485	0.160	1.26	90	2.24	64.8	39.1	97.9
322	51.646	0.161	1.25	90	2.20	64.7	39.1	99.1
323	51.808	0.162	1.24	90	2.24	64.7	39.1	99.4
324	51.969	0.161	1.24	90	2.20	64.7	39.1	98.4
325	52.130	0.161	1.24	90	2.15	64.8	39.1	98.9
326	52.290	0.160	1.23	90	2.24	64.8	39.2	99.4
327	52.451	0.161	1.24	90	2.15	64.8	39.2	100.6
328	52.614	0.163	1.24	90	2.21	64.8	39.2	101.9
329	52.774	0.160	1.24	90	2.14	64.8	39.2	100.0
330	52.934	0.160	1.25	90	2.09	64.9	39.3	99.7
331	53.095	0.161	1.24	90	2.19	64.9	39.2	99.5
332	53.257	0.162	1.23	90	2.24	64.9	39.3	99.5
333	53.419	0.162	1.24	90	2.22	65	39.3	99.8
334	53.579	0.160	1.24	90	2.14	65	39.4	99.1
335	53.739	0.160	1.25	90	2.10	65.1	39.4	98.6
336	53.900	0.161	1.25	90	2.09	65.1	39.5	99.0
337	54.063	0.163	1.23	90	2.21	65.2	39.5	100.1
338	54.223	0.160	1.24	90	2.11	65.3	39.6	97.9
339	54.383	0.160	1.24	90	2.10	65.2	39.6	98.2
340	54.544	0.161	1.23	90	2.10	65.2	39.7	99.5
341	54.706	0.162	1.24	90	2.23	65.2	39.8	100.6
342	54.867	0.161	1.23	90	2.24	65.3	39.9	99.8
343	55.027	0.160	1.25	90	2.19	65.2	39.9	98.9
344	55.187	0.160	1.23	90	2.18	65.2	40	98.9
345	55.349	0.162	1.22	90	2.17	65.2	40.1	100.3
346	55.511	0.162	1.23	90	2.24	65.2	40.1	99.8
347	55.671	0.160	1.24	90	2.13	65.2	40.2	98.7
348	55.832	0.161	1.24	90	2.10	65.2	40.3	99.4

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
349	55.992	0.160	1.23	91	2.21	65.2	40.4	98.0
350	56.154	0.162	1.22	90	2.14	65.3	40.5	99.2
351	56.315	0.161	1.25	90	2.15	65.3	40.6	99.1
352	56.475	0.160	1.24	90	2.11	65.2	40.7	98.4
353	56.636	0.161	1.25	91	2.21	65.2	40.8	99.3
354	56.797	0.161	1.23	90	2.15	65.2	40.9	99.9
355	56.959	0.162	1.25	90	2.12	65.1	40.9	100.4
356	57.120	0.161	1.24	91	2.18	65.1	41	100.6
357	57.280	0.160	1.24	90	2.15	65	41.1	100.3
358	57.441	0.161	1.22	90	2.23	64.9	41.1	99.4
359	57.603	0.162	1.24	90	2.21	64.9	41.2	99.9
360	57.765	0.162	1.24	90	2.21	64.9	41.3	100.0
361	57.925	0.160	1.23	90	2.17	64.9	41.4	97.7
362	58.085	0.160	1.24	91	2.21	64.9	41.4	97.9
363	58.246	0.161	1.24	90	2.21	64.8	41.5	98.9
364	58.409	0.163	1.25	90	2.21	64.8	41.5	99.7
365	58.570	0.161	1.24	90	2.13	64.7	41.6	98.7
366	58.730	0.160	1.24	90	2.25	64.8	41.6	98.6
367	58.891	0.161	1.23	90	2.20	64.7	41.7	99.8
368	59.052	0.161	1.24	90	2.15	64.7	41.7	100.8
369	59.214	0.162	1.24	90	2.24	64.8	41.8	102.0
370	59.375	0.161	1.24	90	2.12	64.8	41.8	101.0
371	59.535	0.160	1.24	90	2.15	64.8	41.8	99.8
372	59.696	0.161	1.22	90	2.12	64.8	41.9	100.8
373	59.859	0.163	1.23	90	2.19	64.9	42	101.1
374	60.019	0.160	1.24	90	2.21	64.8	41.9	97.5
375	60.180	0.161	1.24	90	2.22	64.9	42	98.8
376	60.343	0.163	1.24	90	2.17	65	42.1	101.9
377	60.502	0.159	1.23	90	2.12	64.9	42.1	100.4
378	60.664	0.162	1.24	90	2.20	65	42.2	101.8
379	60.824	0.160	1.24	90	2.13	65	42.2	99.7
380	60.984	0.160	1.24	90	2.22	65.1	42.2	99.6
381	61.145	0.161	1.24	90	2.16	65.2	42.3	100.6
382	61.307	0.162	1.24	90	2.14	65.2	42.3	101.1
383	61.468	0.161	1.23	90	2.21	65.3	42.3	100.3
384	61.628	0.160	1.23	90	2.21	65.3	42.4	100.1
385	61.792	0.164	1.24	90	2.12	65.3	42.4	102.2
386	61.952	0.160	1.24	90	2.13	65.3	42.5	99.7
387	62.112	0.160	1.24	90	2.14	65.4	42.5	100.6
388	62.273	0.161	1.25	91	2.22	65.4	42.5	100.8
389	62.433	0.160	1.23	90	2.13	65.4	42.5	99.8
390	62.594	0.161	1.24	90	2.15	65.5	42.6	101.2
391	62.756	0.162	1.24	90	2.23	65.5	42.6	101.7
392	62.917	0.161	1.25	91	2.20	65.5	42.6	100.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
393	63.077	0.160	1.24	90	2.22	65.5	42.6	99.2
394	63.238	0.161	1.24	91	2.15	65.6	42.7	100.4
395	63.399	0.161	1.24	91	2.13	65.7	42.7	101.4
396	63.563	0.164	1.24	91	2.10	65.7	42.7	102.7
397	63.721	0.158	1.22	91	2.12	65.7	42.7	98.0
398	63.881	0.160	1.22	91	2.24	65.7	42.8	98.7
399	64.042	0.161	1.24	91	2.19	65.7	42.8	99.1
400	64.205	0.163	1.24	91	2.10	65.6	42.8	100.2
401	64.365	0.160	1.25	91	2.22	65.6	42.8	99.1
402	64.526	0.161	1.24	91	2.19	65.6	42.8	100.8
403	64.686	0.160	1.23	91	2.12	65.6	42.9	100.1
404	64.847	0.161	1.22	91	2.14	65.6	42.9	100.0
405	65.009	0.162	1.24	91	2.21	65.7	42.9	100.3
406	65.173	0.164	1.24	91	2.22	65.6	42.9	101.6
407	65.333	0.160	1.23	91	2.14	65.6	42.9	98.9
408	65.491	0.158	1.24	91	2.24	65.6	43	96.6
409	65.653	0.162	1.24	91	2.11	65.5	42.9	98.9
410	65.814	0.161	1.23	91	2.11	65.5	42.9	99.4
411	65.974	0.160	1.24	91	2.24	65.5	42.9	98.7
412	66.135	0.161	1.23	91	2.13	65.6	43	99.5
413	66.296	0.161	1.25	91	2.23	65.6	43	100.6
414	66.458	0.162	1.24	91	2.10	65.6	43	100.9
415	66.618	0.160	1.23	91	2.17	65.6	43	99.3
416	66.781	0.163	1.25	91	2.11	65.8	43.1	101.2
417	66.941	0.160	1.24	91	2.16	65.9	43.1	99.5
418	67.101	0.160	1.22	91	2.11	66.1	43.2	100.9
419	67.261	0.160	1.24	91	2.11	66.3	43.2	101.4
420	67.420	0.159	1.23	91	2.14	66.5	43.2	99.6
421	67.580	0.160	1.22	91	2.26	66.7	43.3	100.3
422	67.742	0.162	1.20	91	2.18	66.9	43.4	102.2
423	67.902	0.160	1.24	91	2.22	67	43.4	100.2
424	68.061	0.159	1.23	91	2.22	67.2	43.5	99.6
425	68.221	0.160	1.24	91	2.23	67.3	43.5	101.4
426	68.385	0.164	1.23	91	2.13	67.4	43.6	105.0
427	68.545	0.160	1.23	91	2.16	67.6	43.7	102.9
428	68.705	0.160	1.23	91	2.26	67.6	43.7	102.2
429	68.861	0.156	1.23	91	2.23	67.7	43.8	99.0
430	69.023	0.162	1.22	91	2.27	67.8	43.9	103.2
431	69.182	0.159	1.22	91	2.24	67.8	43.9	101.0
432	69.341	0.159	1.23	91	2.23	67.9	44	100.7
433	69.501	0.160	1.22	91	2.25	68	44.1	101.8
434	69.661	0.160	1.22	91	2.13	68	44.2	100.7
435	69.820	0.159	1.21	91	2.17	68	44.3	98.6
436	69.982	0.162	1.22	91	2.20	68	44.3	100.9

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
437	70.142	0.160	1.20	91	2.14	68	44.4	100.7
438	70.302	0.160	1.22	91	2.24	68.1	44.4	100.6
439	70.460	0.158	1.23	91	2.17	68.2	44.5	98.5
440	70.617	0.157	1.21	91	2.17	68.3	44.6	97.5
441	70.777	0.160	1.23	91	2.16	68.3	44.7	100.2
442	70.935	0.158	1.21	91	2.19	68.5	44.7	100.1
443	71.094	0.159	1.23	91	2.14	68.3	44.8	100.7
444	71.255	0.161	1.23	91	2.15	68.2	44.9	101.9
445	71.414	0.159	1.23	91	2.24	68	44.9	100.4
446	71.576	0.162	1.21	91	2.18	67.9	45	100.0
447	71.737	0.161	1.23	91	2.12	67.8	45	98.4
448	71.899	0.162	1.23	91	2.22	67.8	45	100.1
449	72.059	0.160	1.23	91	2.22	67.7	45	99.9
450	72.219	0.160	1.24	91	2.21	67.6	45	100.4
451	72.377	0.158	1.21	91	2.22	67.6	45	99.0
452	72.539	0.162	1.24	91	2.20	67.6	45	101.4
453	72.699	0.160	1.23	91	2.11	67.5	44.9	99.8
454	72.859	0.160	1.24	91	2.14	67.4	44.9	99.8
455	73.019	0.160	1.21	91	2.23	67.4	45	99.5
456	73.181	0.162	1.24	91	2.17	67.3	44.9	100.2
457	73.345	0.164	1.25	91	2.14	67.2	44.9	102.0
458	73.505	0.160	1.23	91	2.10	67.2	44.8	100.0
459	73.665	0.160	1.22	91	2.21	67.2	44.8	100.0
460	73.826	0.161	1.24	91	2.24	67.2	44.8	100.1
461	73.985	0.159	1.23	91	2.12	67	44.7	98.7
462	74.145	0.160	1.24	91	2.23	67	44.7	100.4
463	74.306	0.161	1.24	91	2.22	66.9	44.6	101.7
464	74.466	0.160	1.23	91	2.24	66.9	44.6	100.8
465	74.629	0.163	1.24	91	2.16	66.7	44.6	102.2
466	74.789	0.160	1.23	91	2.21	66.7	44.5	99.6
467	74.949	0.160	1.21	91	2.09	66.6	44.5	99.3
468	75.112	0.163	1.24	91	2.22	66.6	44.5	101.7
469	75.273	0.161	1.23	91	2.17	66.5	44.4	101.0
470	75.436	0.163	1.21	91	2.22	66.4	44.4	101.3
471	75.596	0.160	1.24	91	2.23	66.4	44.4	98.7
472	75.756	0.160	1.21	91	2.21	66.3	44.4	99.2
473	75.914	0.158	1.25	91	2.22	66.2	44.3	98.2
474	76.076	0.162	1.24	91	2.11	66.1	44.3	100.3
475	76.237	0.161	1.24	91	2.21	66	44.3	99.6
476	76.397	0.160	1.24	91	2.10	66	44.3	98.9
477	76.557	0.160	1.24	91	2.19	65.9	44.3	98.9
478	76.722	0.165	1.23	91	2.14	65.8	44.3	102.6
479	76.884	0.162	1.23	91	2.21	65.8	44.3	100.9
480	77.044	0.160	1.23	91	2.10	65.7	44.3	99.6

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
481	77.204	0.160	1.23	91	2.21	65.6	44.3	98.7
482	77.365	0.161	1.24	91	2.22	65.5	44.3	98.4
483	77.527	0.162	1.22	91	2.16	65.4	44.2	99.3
484	77.685	0.158	1.23	91	2.21	65.4	44.2	97.2
485	77.845	0.160	1.26	91	2.10	65.4	44.3	97.9
486	78.006	0.161	1.23	91	2.23	65.3	44.2	97.9
487	78.169	0.163	1.24	91	2.12	65.3	44.2	99.9
488	78.329	0.160	1.24	91	2.20	65.2	44.2	98.5
489	78.493	0.164	1.24	91	2.24	65.1	44.2	100.9
490	78.653	0.160	1.25	91	2.21	65	44.2	98.8
491	78.814	0.161	1.24	91	2.22	65	44.2	99.5
492	78.976	0.162	1.24	91	2.12	65	44.2	101.2
493	79.137	0.161	1.23	91	2.16	65	44.2	100.9
494	79.294	0.157	1.23	91	2.22	65	44.2	96.9
495	79.455	0.161	1.22	91	2.20	65	44.2	99.3
496	79.617	0.162	1.24	91	2.16	65.1	44.1	100.4
497	79.778	0.161	1.24	91	2.13	65	44.2	99.2
498	79.938	0.160	1.24	91	2.11	65.1	44.2	98.8
499	80.101	0.163	1.21	91	2.14	65.1	44.2	101.2
500	80.262	0.161	1.23	91	2.21	65.1	44.2	99.6
501	80.425	0.163	1.23	91	2.14	65.1	44.2	101.3
502	80.585	0.160	1.22	91	2.10	65.2	44.2	100.1
503	80.746	0.161	1.23	91	2.11	65.2	44.2	100.2
504	80.906	0.160	1.24	91	2.13	65.2	44.2	99.3
505	81.067	0.161	1.24	91	2.24	65.3	44.2	99.7
506	81.226	0.159	1.24	91	2.24	65.3	44.2	98.1
507	81.386	0.160	1.24	91	2.24	65.3	44.2	98.6
508	81.547	0.161	1.24	91	2.17	65.4	44.2	99.0
509	81.708	0.161	1.24	91	2.22	65.4	44.2	99.3
510	81.873	0.165	1.24	91	2.24	65.4	44.2	102.3
511	82.033	0.160	1.24	91	2.14	65.4	44.2	99.3
512	82.193	0.160	1.24	91	2.11	65.5	44.2	99.8
513	82.353	0.160	1.21	91	2.08	65.6	44.2	100.7
514	82.515	0.162	1.23	91	2.24	65.6	44.2	101.7
515	82.676	0.161	1.24	91	2.18	65.6	44.2	100.4
516	82.833	0.157	1.24	91	2.20	65.6	44.2	97.7
517	82.994	0.161	1.23	91	2.21	65.6	44.2	100.4
518	83.156	0.162	1.24	91	2.22	65.6	44.2	102.1
519	83.317	0.161	1.24	91	2.10	65.6	44.2	101.1
520	83.480	0.163	1.24	91	2.24	65.7	44.2	101.2
521	83.640	0.160	1.24	91	2.17	65.7	44.2	99.5
522	83.800	0.160	1.23	91	2.21	65.7	44.2	100.2
523	83.963	0.163	1.23	91	2.15	65.7	44.3	102.3
524	84.123	0.160	1.23	91	2.10	65.7	44.2	100.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
525	84.284	0.161	1.24	91	2.14	65.8	44.3	100.6
526	84.444	0.160	1.24	91	2.22	65.8	44.3	99.2
527	84.604	0.160	1.25	91	2.14	65.8	44.3	99.9
528	84.764	0.160	1.24	91	2.24	65.9	44.3	100.9
529	84.924	0.160	1.22	91	2.11	65.9	44.3	99.9
530	85.085	0.161	1.24	91	2.21	65.9	44.4	99.7
531	85.248	0.163	1.24	91	2.11	65.8	44.3	101.4
532	85.410	0.162	1.25	91	2.25	65.8	44.3	100.6
533	85.571	0.161	1.24	91	2.14	65.8	44.3	99.4
534	85.731	0.160	1.23	91	2.09	65.7	44.3	98.5
535	85.891	0.160	1.21	91	2.10	65.7	44.4	98.4
536	86.053	0.162	1.24	91	2.24	65.7	44.3	99.4
537	86.214	0.161	1.22	91	2.23	65.7	44.3	99.3
538	86.374	0.160	1.24	91	2.20	65.6	44.3	99.0
539	86.532	0.158	1.23	91	2.22	65.6	44.3	96.7
540	86.694	0.162	1.23	91	2.12	65.5	44.3	99.2
541	86.858	0.164	1.24	91	2.24	65.5	44.3	100.8
542	87.018	0.160	1.22	91	2.12	65.5	44.3	98.6
543	87.178	0.160	1.23	91	2.15	65.4	44.3	99.7
544	87.338	0.160	1.23	91	2.18	65.5	44.4	99.7
545	87.501	0.163	1.25	91	2.19	65.5	44.3	100.6
546	87.662	0.161	1.24	91	2.24	65.4	44.4	99.8
547	87.822	0.160	1.22	91	2.15	65.3	44.4	99.6
548	87.982	0.160	1.24	91	2.24	65.2	44.3	99.5
549	88.144	0.162	1.23	91	2.24	65.1	44.3	100.2
550	88.303	0.159	1.25	91	2.10	65.1	44.4	97.6
551	88.463	0.160	1.24	91	2.12	65	44.4	97.8
552	88.626	0.163	1.24	91	2.09	65.1	44.4	100.2
553	88.787	0.161	1.25	91	2.15	65	44.4	100.4
554	88.950	0.163	1.23	91	2.21	64.9	44.4	102.1
555	89.110	0.160	1.26	91	2.24	64.8	44.4	99.9
556	89.270	0.160	1.24	91	2.23	64.8	44.4	98.7
557	89.431	0.161	1.24	91	2.11	64.8	44.4	98.1
558	89.593	0.162	1.22	91	2.24	64.7	44.4	98.7
559	89.754	0.161	1.24	91	2.13	64.7	44.4	98.7
560	89.912	0.158	1.23	91	2.11	64.7	44.5	97.8
561	90.072	0.160	1.23	91	2.10	64.7	44.5	99.3
562	90.235	0.163	1.23	91	2.19	64.7	44.4	102.2
563	90.398	0.163	1.25	91	2.08	64.7	44.4	102.9
564	90.559	0.161	1.25	91	2.15	64.7	44.4	100.3
565	90.719	0.160	1.24	91	2.22	64.8	44.5	98.9
566	90.879	0.160	1.23	91	2.19	64.8	44.5	98.8
567	91.041	0.162	1.25	91	2.14	64.8	44.5	100.9
568	91.203	0.162	1.23	91	2.13	64.8	44.5	101.6

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
569	91.363	0.160	1.24	91	2.23	64.9	44.5	99.8
570	91.524	0.161	1.23	91	2.24	64.8	44.5	100.0
571	91.683	0.159	1.24	91	2.24	64.8	44.5	99.2
572	91.844	0.161	1.24	91	2.15	64.9	44.5	100.6
573	92.008	0.164	1.23	91	2.23	65	44.6	102.1
574	92.168	0.160	1.25	91	2.13	65	44.5	99.7
575	92.328	0.160	1.24	91	2.13	65.1	44.6	99.5
576	92.490	0.162	1.23	91	2.22	65.1	44.7	100.4
577	92.651	0.161	1.23	91	2.11	65.1	44.6	100.3
578	92.812	0.161	1.24	91	2.11	65.1	44.6	100.9
579	92.972	0.160	1.23	91	2.11	65.1	44.6	99.9
580	93.133	0.161	1.24	91	2.13	65.2	44.7	100.5
581	93.295	0.162	1.25	91	2.20	65.3	44.6	100.8
582	93.452	0.157	1.21	91	2.24	65.3	44.7	97.1
583	93.612	0.160	1.25	91	2.18	65.2	44.7	99.0
584	93.776	0.164	1.24	91	2.10	65.2	44.7	102.2
585	93.938	0.162	1.24	91	2.24	65.2	44.7	101.6
586	94.099	0.161	1.24	91	2.25	65.2	44.7	100.4
587	94.259	0.160	1.24	91	2.23	65.1	44.8	98.9
588	94.420	0.161	1.24	91	2.09	65.1	44.8	99.3
589	94.581	0.161	1.24	91	2.10	65.1	44.7	100.2
590	94.743	0.162	1.23	91	2.21	65	44.8	101.7
591	94.903	0.160	1.23	91	2.14	65	44.8	100.1
592	95.063	0.160	1.24	91	2.09	65	44.8	99.0
593	95.222	0.159	1.24	91	2.21	65	44.8	97.2
594	95.386	0.164	1.23	91	2.09	65	44.8	99.5
595	95.547	0.161	1.25	91	2.18	64.9	44.8	97.7
596	95.707	0.160	1.24	91	2.24	64.9	44.8	98.2
597	95.868	0.161	1.24	91	2.14	64.8	44.9	99.8
598	96.029	0.161	1.22	91	2.17	64.8	44.9	99.6
599	96.191	0.162	1.23	91	2.15	64.8	44.9	99.6
600	96.351	0.160	1.24	91	2.12	64.8	44.9	98.4
601	96.511	0.160	1.24	91	2.20	64.7	45	98.1
602	96.672	0.161	1.23	91	2.21	64.7	45	98.4
603	96.835	0.163	1.24	91	2.22	64.7	45	100.7
604	96.992	0.157	1.23	91	2.25	64.6	45	96.9
605	97.156	0.164	1.22	91	2.09	64.7	45	100.3
606	97.316	0.160	1.24	91	2.08	64.7	45.1	98.4
607	97.477	0.161	1.24	91	2.20	64.6	45.1	99.4
608	97.639	0.162	1.22	91	2.10	64.6	45.2	100.4
609	97.799	0.160	1.26	91	2.08	64.7	45.2	99.9
610	97.959	0.160	1.24	91	2.15	64.6	45.2	99.7
611	98.120	0.161	1.23	91	2.11	64.7	45.3	98.8
612	98.283	0.163	1.24	91	2.20	64.8	45.4	99.0

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
613	98.443	0.160	1.22	91	2.21	64.8	45.4	98.1
614	98.603	0.160	1.20	91	2.23	64.8	45.4	99.0
615	98.763	0.160	1.23	91	2.14	64.8	45.5	99.4
616	98.925	0.162	1.23	91	2.19	64.9	45.5	100.5
617	99.086	0.161	1.22	91	2.11	64.9	45.6	99.1
618	99.246	0.160	1.25	91	2.22	64.9	45.6	98.5
619	99.406	0.160	1.24	91	2.24	64.9	45.6	99.0
620	99.568	0.162	1.24	91	2.21	64.9	45.6	100.3
621	99.730	0.162	1.24	91	2.14	64.9	45.6	100.0
622	99.890	0.160	1.23	91	2.24	64.9	45.6	98.7
623	100.050	0.160	1.24	91	2.11	65	45.7	99.2
624	100.211	0.161	1.23	91	2.13	65	45.8	99.2
625	100.373	0.162	1.23	91	2.17	65	45.8	99.1
626	100.534	0.161	1.23	91	2.09	65	45.9	99.7
627	100.694	0.160	1.23	91	2.09	65.1	45.9	100.5
628	100.854	0.160	1.24	91	2.15	65.1	45.9	101.0
629	101.015	0.161	1.22	91	2.10	65.1	46	101.5
630	101.177	0.162	1.24	91	2.21	65.2	46	101.8
631	101.337	0.160	1.24	91	2.21	65.2	46.1	100.5
632	101.497	0.160	1.23	91	2.10	65.2	46.1	100.6
633	101.658	0.161	1.21	91	2.11	65.2	46.1	101.2
634	101.820	0.162	1.22	91	2.17	65.3	46.2	101.8
635	101.980	0.160	1.22	91	2.26	65.5	46.3	100.5
636	102.139	0.159	1.23	91	2.24	65.6	46.3	99.8
637	102.300	0.161	1.23	91	2.15	65.7	46.3	101.8
638	102.462	0.162	1.22	91	2.20	65.8	46.3	102.8
639	102.622	0.160	1.23	91	2.21	66	46.4	101.2
640	102.781	0.159	1.23	91	2.24	66.1	46.4	100.7
641	102.941	0.160	1.22	91	2.22	66.3	46.5	101.4
642	103.103	0.162	1.23	91	2.25	66.5	46.6	102.5
643	103.263	0.160	1.23	91	2.26	66.7	46.7	101.7
644	103.422	0.159	1.22	91	2.13	66.8	46.8	102.1
645	103.582	0.160	1.24	91	2.26	66.8	46.8	102.6
646	103.743	0.161	1.22	91	2.22	66.9	46.9	102.4
647	103.902	0.159	1.22	91	2.26	67	47	101.5
648	104.061	0.159	1.23	91	2.27	67.1	47	101.4
649	104.222	0.161	1.22	91	2.25	67.2	47.1	102.1
650	104.383	0.161	1.22	91	2.12	67.1	47.2	101.3
651	104.542	0.159	1.21	91	2.13	67.2	47.3	99.2
652	104.701	0.159	1.22	91	2.15	67.3	47.4	98.9
653	104.862	0.161	1.21	91	2.21	67.2	47.5	99.7
654	105.021	0.159	1.23	91	2.24	67.2	47.5	98.8
655	105.179	0.158	1.22	91	2.24	67.3	47.7	99.5
656	105.339	0.160	1.22	91	2.25	67.3	47.8	100.7

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
657	105.500	0.161	1.22	91	2.16	67.4	47.9	101.0
658	105.658	0.158	1.23	91	2.27	67.4	48	99.5
659	105.817	0.159	1.22	91	2.28	67.5	48.1	99.4
660	105.978	0.161	1.22	91	2.11	67.5	48.1	100.0
661	106.137	0.159	1.22	91	2.21	67.4	48.2	99.6
662	106.295	0.158	1.21	91	2.12	67.4	48.3	99.8
663	106.454	0.159	1.22	91	2.16	67.5	48.4	101.2
664	106.615	0.161	1.22	91	2.25	67.2	48.5	102.3
665	106.774	0.159	1.22	91	2.15	67	48.6	100.0
666	106.933	0.159	1.23	91	2.11	66.8	48.7	99.6
667	107.095	0.162	1.23	91	2.14	66.6	48.7	101.3
668	107.255	0.160	1.22	91	2.15	66.5	48.8	99.5
669	107.415	0.160	1.24	90	2.25	66.4	48.8	98.9
670	107.575	0.160	1.23	90	2.26	66.3	48.8	98.8
671	107.736	0.161	1.22	90	2.10	66.2	48.8	100.2
672	107.898	0.162	1.24	90	2.10	66.1	48.8	101.7
673	108.057	0.159	1.23	90	2.24	66.1	48.8	99.9
674	108.217	0.160	1.22	90	2.21	66	48.7	100.8
675	108.378	0.161	1.23	90	2.15	66	48.8	101.6
676	108.540	0.162	1.23	90	2.22	65.9	48.7	100.7
677	108.701	0.161	1.23	90	2.23	65.9	48.8	98.7
678	108.860	0.159	1.24	90	2.21	65.8	48.7	97.7
679	109.021	0.161	1.22	90	2.20	65.8	48.7	99.5
680	109.183	0.162	1.23	90	2.11	65.7	48.7	100.2
681	109.344	0.161	1.23	90	2.24	65.8	48.7	99.2
682	109.504	0.160	1.22	90	2.20	65.7	48.7	98.2
683	109.664	0.160	1.24	90	2.25	65.6	48.7	98.3
684	109.826	0.162	1.23	90	2.23	65.6	48.7	100.8
685	109.986	0.160	1.23	90	2.21	65.6	48.7	101.2
686	110.146	0.160	1.23	90	2.11	65.6	48.7	100.8
687	110.306	0.160	1.23	90	2.22	65.6	48.7	99.2
688	110.468	0.162	1.23	90	2.10	65.6	48.7	100.0
689	110.629	0.161	1.23	90	2.18	65.5	48.7	99.7
690	110.789	0.160	1.23	90	2.13	65.5	48.7	99.4
691	110.949	0.160	1.22	90	2.22	65.5	48.7	99.5
692	111.110	0.161	1.24	90	2.23	65.5	48.7	99.5
693	111.272	0.162	1.24	90	2.14	65.5	48.7	100.3
694	111.432	0.160	1.24	90	2.13	65.5	48.7	99.4
695	111.592	0.160	1.22	90	2.12	65.5	48.7	98.9
696	111.752	0.160	1.22	90	2.18	65.5	48.7	99.1
697	111.915	0.163	1.23	90	2.23	65.5	48.7	101.1
698	112.075	0.160	1.23	90	2.19	65.5	48.7	98.8
699	112.235	0.160	1.23	91	2.23	65.5	48.8	99.1
700	112.395	0.160	1.22	90	2.21	65.5	48.7	99.6

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
701	112.557	0.162	1.24	90	2.17	65.5	48.8	101.3
702	112.718	0.161	1.21	91	2.24	65.5	48.8	100.0
703	112.878	0.160	1.21	91	2.14	65.4	48.7	98.7
704	113.038	0.160	1.23	91	2.11	65.5	48.7	99.5
705	113.199	0.161	1.23	91	2.14	65.5	48.8	100.6
706	113.361	0.162	1.22	91	2.19	65.5	48.7	100.3
707	113.520	0.159	1.23	90	2.24	65.4	48.7	97.8
708	113.680	0.160	1.23	91	2.19	65.5	48.7	98.4
709	113.841	0.161	1.25	91	2.20	65.5	48.8	99.5
710	114.003	0.162	1.23	91	2.24	65.5	48.8	101.0
711	114.163	0.160	1.24	91	2.17	65.5	48.7	99.3
712	114.323	0.160	1.23	91	2.11	65.5	48.8	98.4
713	114.483	0.160	1.23	91	2.23	65.5	48.8	98.5
714	114.646	0.163	1.24	91	2.20	65.5	48.9	100.7
715	114.806	0.160	1.25	91	2.24	65.4	48.8	99.0
716	114.966	0.160	1.23	91	2.25	65.4	48.8	98.9
717	115.126	0.160	1.23	91	2.14	65.3	48.8	98.6
718	115.288	0.162	1.24	91	2.24	65.3	48.8	99.5
719	115.449	0.161	1.23	91	2.20	65.3	48.8	99.5
720	115.609	0.160	1.22	91	2.17	65.2	48.8	99.2
721	115.769	0.160	1.23	91	2.12	65.1	48.8	98.6
722	115.930	0.161	1.23	91	2.25	65.1	48.9	98.8
723	116.091	0.161	1.23	91	2.22	65.1	48.8	98.6
724	116.251	0.160	1.23	91	2.18	65.1	48.9	98.5
725	116.411	0.160	1.23	91	2.24	65	48.9	98.8
726	116.572	0.161	1.26	91	2.16	65	48.9	98.9
727	116.734	0.162	1.24	91	2.24	64.9	48.9	99.4
728	116.895	0.161	1.23	91	2.12	64.8	48.9	98.9
729	117.054	0.159	1.23	91	2.10	64.8	49	98.0
730	117.215	0.161	1.23	91	2.21	64.8	49	100.3
731	117.377	0.162	1.24	91	2.12	64.8	49.1	101.3
732	117.538	0.161	1.23	91	2.12	64.6	49.1	99.7
733	117.698	0.160	1.22	91	2.18	64.9	49.1	99.3
734	117.858	0.160	1.24	91	2.10	64.5	49.3	99.3
735	118.019	0.161	1.24	91	2.11	64.4	49.3	98.8
736	118.181	0.162	1.24	91	2.16	64.2	49.3	99.2
737	118.342	0.161	1.23	91	2.10	64.1	49.2	98.9
738	118.502	0.160	1.23	91	2.23	64	49.1	98.6
739	118.663	0.161	1.24	91	2.14	63.8	49	99.1
740	118.825	0.162	1.25	91	2.15	63.8	49	99.3
741	118.986	0.161	1.23	91	2.24	63.8	49	99.2
742	119.146	0.160	1.22	91	2.16	63.8	49	99.7
743	119.307	0.161	1.25	90	2.21	63.8	49	101.1
744	119.468	0.161	1.24	91	2.24	63.8	48.9	101.2

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
745	119.630	0.162	1.23	90	2.20	63.9	49	102.0
746	119.790	0.160	1.24	90	2.20	63.9	49	100.2
747	119.950	0.160	1.25	90	2.12	63.9	49	98.8
748	120.111	0.161	1.24	90	2.17	64	48.9	98.7
749	120.274	0.163	1.23	90	2.13	64	49	100.8
750	120.434	0.160	1.24	91	2.20	64.1	49	100.3
751	120.594	0.160	1.26	91	2.11	64.2	49.1	99.9
752	120.755	0.161	1.24	90	2.17	64.2	49.1	100.7
753	120.916	0.161	1.24	90	2.21	64.2	49.1	101.4
754	121.078	0.162	1.22	90	2.24	64.3	49.1	101.5
755	121.238	0.160	1.24	91	2.22	64.3	49.1	100.2
756	121.398	0.160	1.23	90	2.14	64.4	49.2	99.8
757	121.559	0.161	1.24	91	2.11	64.4	49.2	99.7
758	121.721	0.162	1.24	91	2.22	64.5	49.2	99.8
759	121.882	0.161	1.23	90	2.14	64.5	49.2	98.9
760	122.042	0.160	1.24	91	2.20	64.6	49.2	98.8
761	122.202	0.160	1.24	91	2.11	64.6	49.3	99.5
762	122.364	0.162	1.25	90	2.13	64.6	49.3	100.8
763	122.525	0.161	1.22	91	2.11	64.7	49.3	100.3
764	122.685	0.160	1.24	91	2.11	65	49.3	100.2
765	122.845	0.160	1.22	91	2.23	64.9	49.4	100.0
766	123.006	0.161	1.23	91	2.14	64.9	49.4	100.0
767	123.168	0.162	1.24	90	2.15	64.9	49.4	100.9
768	123.328	0.160	1.24	90	2.15	64.9	49.4	99.8
769	123.488	0.160	1.23	91	2.24	65	49.4	99.7
770	123.648	0.160	1.24	91	2.10	65.1	49.4	99.9
771	123.810	0.162	1.24	91	2.20	65.1	49.5	101.2
772	123.971	0.161	1.23	91	2.11	65	49.4	99.9
773	124.130	0.159	1.23	91	2.17	65	49.5	97.5
774	124.291	0.161	1.24	91	2.25	65	49.5	98.4
775	124.453	0.162	1.23	91	2.16	65	49.5	100.3
776	124.614	0.161	1.24	91	2.23	64.9	49.5	100.8
777	124.774	0.160	1.24	91	2.14	64.9	49.5	99.7
778	124.934	0.160	1.23	91	2.13	64.8	49.6	99.3
779	125.096	0.162	1.25	91	2.11	64.8	49.6	100.8
780	125.257	0.161	1.23	91	2.21	64.8	49.6	100.4
781	125.417	0.160	1.23	91	2.24	64.7	49.6	99.5
782	125.577	0.160	1.23	91	2.17	64.7	49.6	98.8
783	125.738	0.161	1.22	91	2.19	64.7	49.6	99.3
784	125.900	0.162	1.23	91	2.21	64.6	49.7	100.0
785	126.061	0.161	1.24	91	2.10	64.6	49.7	99.8
786	126.221	0.160	1.24	91	2.10	64.5	49.7	100.4
787	126.381	0.160	1.23	91	2.21	64.6	49.8	100.1
788	126.544	0.163	1.23	91	2.22	64.6	49.9	100.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
789	126.704	0.160	1.24	91	2.19	64.7	49.9	98.3
790	126.865	0.161	1.23	91	2.23	64.6	49.9	99.4
791	127.025	0.160	1.24	91	2.11	64.7	49.9	98.9
792	127.186	0.161	1.24	91	2.22	64.7	49.9	100.2
793	127.348	0.162	1.24	91	2.21	64.7	49.9	101.3
794	127.508	0.160	1.23	91	2.21	64.7	49.9	99.3
795	127.668	0.160	1.23	91	2.25	65	50	98.7
796	127.829	0.161	1.23	91	2.11	64.9	50.1	99.1
797	127.991	0.162	1.22	91	2.24	64.9	50.1	99.9
798	128.152	0.161	1.24	91	2.21	64.9	50.1	100.0
799	128.311	0.159	1.25	91	2.17	64.9	50.1	99.2
800	128.472	0.161	1.23	91	2.14	64.9	50	100.7
801	128.634	0.162	1.24	91	2.20	64.8	50	100.9
802	128.795	0.161	1.24	91	2.21	64.7	50	99.5
803	128.955	0.160	1.24	91	2.14	64.7	50	98.4
804	129.116	0.161	1.23	91	2.13	64.7	49.9	98.5
805	129.277	0.161	1.25	90	2.12	64.6	50	99.1
806	129.439	0.162	1.23	91	2.15	64.6	50	100.7
807	129.600	0.161	1.24	91	2.12	64.5	50	100.5
808	129.760	0.160	1.24	91	2.22	64.6	50.1	99.8
809	129.920	0.160	1.24	91	2.16	64.5	50.1	99.3
810	130.082	0.162	1.24	91	2.11	64.5	50.1	100.0
811	130.243	0.161	1.23	91	2.16	64.5	50.1	98.6
812	130.404	0.161	1.23	91	2.24	64.5	50.1	99.2
813	130.564	0.160	1.24	91	2.22	64.5	50.2	99.4
814	130.725	0.161	1.23	91	2.21	64.6	50.2	99.4
815	130.887	0.162	1.24	91	2.11	64.6	50.3	99.8
816	131.048	0.161	1.23	91	2.21	64.6	50.3	98.8
817	131.208	0.160	1.24	91	2.24	64.6	50.3	97.1
818	131.368	0.160	1.24	91	2.24	64.7	50.4	98.0
819	131.531	0.163	1.26	91	2.12	64.7	50.4	100.9
820	131.691	0.160	1.23	91	2.22	64.7	50.3	97.8
821	131.852	0.161	1.26	91	2.14	64.6	50.3	98.2
822	132.012	0.160	1.24	91	2.18	64.6	50.2	98.6
823	132.174	0.162	1.23	91	2.11	64.4	50.3	100.2
824	132.335	0.161	1.24	91	2.13	64.4	50.4	99.2
825	132.496	0.161	1.24	91	2.19	64.2	50.3	99.8
826	132.656	0.160	1.23	91	2.21	64.3	50.3	100.5
827	132.816	0.160	1.24	90	2.14	64.1	50.2	100.1
828	132.979	0.163	1.24	91	2.12	64	50.3	101.6
829	133.140	0.161	1.24	91	2.20	63.9	50.2	100.5
830	133.300	0.160	1.24	90	2.24	63.9	50.2	98.8
831	133.460	0.160	1.24	90	2.24	63.9	50.2	97.9
832	133.622	0.162	1.24	91	2.11	64	50.3	98.9

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
833	133.784	0.162	1.23	91	2.23	64	50.3	99.1
834	133.944	0.160	1.24	91	2.11	64.1	50.3	97.4
835	134.104	0.160	1.23	91	2.14	64.1	50.4	97.4
836	134.265	0.161	1.24	90	2.22	64.1	50.4	99.1
837	134.428	0.163	1.23	91	2.09	64.2	50.5	100.5
838	134.588	0.160	1.25	90	2.10	64.2	50.4	98.1
839	134.749	0.161	1.22	90	2.16	64.4	50.4	100.0
840	134.909	0.160	1.23	91	2.17	64.4	50.4	100.8
841	135.071	0.162	1.23	91	2.17	64.4	50.5	101.6
842	135.232	0.161	1.24	91	2.23	64.4	50.4	100.1
843	135.392	0.160	1.24	90	2.23	64.3	50.4	99.5
844	135.553	0.161	1.24	91	2.21	64.3	50.4	100.7
845	135.713	0.160	1.24	91	2.11	64.2	50.4	99.3
846	135.876	0.163	1.24	90	2.13	64.2	50.4	100.6
847	136.037	0.161	1.24	90	2.22	64.2	50.4	100.3
848	136.197	0.160	1.22	90	2.11	64.2	50.5	99.9
849	136.357	0.160	1.23	90	2.10	64.2	50.5	99.3
850	136.519	0.162	1.23	90	2.12	64.2	50.5	100.3
851	136.680	0.161	1.23	90	2.20	64.4	50.5	99.8
852	136.840	0.160	1.23	91	2.18	64.4	50.6	99.1
853	137.000	0.160	1.23	90	2.21	64.6	50.6	99.7
854	137.161	0.161	1.23	90	2.12	64.7	50.6	101.3
855	137.322	0.161	1.23	90	2.24	64.8	50.6	101.2
856	137.482	0.160	1.23	90	2.25	65	50.6	100.5
857	137.642	0.160	1.23	90	2.20	65.2	50.6	101.2
858	137.802	0.160	1.23	90	2.23	65.4	50.7	101.6
859	137.963	0.161	1.23	90	2.18	65.6	50.7	102.1
860	138.123	0.160	1.23	90	2.15	65.7	50.8	101.3
861	138.282	0.159	1.23	90	2.11	66	50.9	100.3
862	138.443	0.161	1.23	90	2.15	66	51	102.0
863	138.604	0.161	1.22	90	2.15	66.2	51.1	103.1
864	138.763	0.159	1.23	90	2.11	66.3	51.1	102.1
865	138.922	0.159	1.21	90	2.13	66.4	51.1	101.8
866	139.083	0.161	1.23	90	2.14	66.5	51.3	102.4
867	139.243	0.160	1.23	90	2.26	66.6	51.3	101.1
868	139.402	0.159	1.23	90	2.14	66.8	51.3	101.0
869	139.561	0.159	1.24	90	2.21	66.9	51.4	101.8
870	139.723	0.162	1.21	90	2.17	67	51.5	103.7
871	139.882	0.159	1.21	90	2.13	67.1	51.6	101.5
872	140.041	0.159	1.22	90	2.23	67.1	51.6	100.8
873	140.201	0.160	1.24	90	2.23	67.2	51.7	100.5
874	140.361	0.160	1.23	90	2.22	67.4	51.8	100.8
875	140.520	0.159	1.23	90	2.17	67.5	51.8	101.3
876	140.679	0.159	1.22	90	2.24	67.6	51.9	101.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
877	140.840	0.161	1.22	90	2.25	67.7	52	102.4
878	140.999	0.159	1.21	90	2.25	67.8	52.1	101.0
879	141.158	0.159	1.23	90	2.21	67.5	52.2	99.0
880	141.318	0.160	1.23	91	2.23	67.4	52.2	98.6
881	141.480	0.162	1.23	91	2.19	67.3	52.3	100.9
882	141.640	0.160	1.23	91	2.16	67.2	52.3	100.2
883	141.799	0.159	1.24	91	2.22	67.3	52.3	99.3
884	141.959	0.160	1.23	91	2.20	67.1	52.3	99.2
885	142.122	0.163	1.21	91	2.12	67	52.3	101.2
886	142.282	0.160	1.23	91	2.25	67	52.3	100.1
887	142.441	0.159	1.22	91	2.24	66.9	52.3	99.5
888	142.601	0.160	1.24	91	2.12	66.7	52.2	99.8
889	142.764	0.163	1.23	91	2.25	66.7	52.2	101.4
890	142.924	0.160	1.23	91	2.20	66.8	52.3	99.3
891	143.084	0.160	1.20	91	2.15	66.8	52.2	99.4
892	143.244	0.160	1.22	91	2.12	66.6	52.2	99.1
893	143.407	0.163	1.22	91	2.21	66.5	52.3	100.4
894	143.566	0.159	1.22	91	2.10	66.4	52.3	98.1
895	143.726	0.160	1.21	91	2.23	66.4	52.3	99.5
896	143.886	0.160	1.22	91	2.19	66.2	52.4	99.9
897	144.048	0.162	1.23	91	2.13	66.2	52.4	101.1
898	144.209	0.161	1.22	91	2.23	66.1	52.3	100.5
899	144.369	0.160	1.21	91	2.24	66	52.3	99.6
900	144.529	0.160	1.22	91	2.18	65.8	52.3	100.0
901	144.690	0.161	1.21	91	2.16	65.8	52.3	100.8
902	144.852	0.162	1.24	91	2.11	65.7	52.2	100.4
903	145.015	0.163	1.23	91	2.21	65.7	52.3	100.8
904	145.172	0.157	1.21	91	2.14	65.5	52.2	97.9
905	145.332	0.160	1.23	91	2.14	65.5	52.2	100.5
906	145.495	0.163	1.24	91	2.14	65.4	52.2	102.1
907	145.655	0.160	1.23	91	2.24	65.4	52.2	99.5
908	145.815	0.160	1.23	91	2.19	65.4	52.2	99.6
909	145.975	0.160	1.23	91	2.12	65.4	52.1	99.6
910	146.137	0.162	1.22	91	2.24	65.3	52	100.0
911	146.297	0.160	1.22	91	2.08	65.3	52	98.2
912	146.457	0.160	1.22	91	2.18	65.3	52	98.7
913	146.620	0.163	1.22	91	2.13	65.3	51.9	101.2
914	146.778	0.158	1.22	91	2.21	65.3	51.9	97.5
915	146.940	0.162	1.22	91	2.21	65.4	51.9	99.2
916	147.100	0.160	1.23	91	2.22	65.4	51.9	98.2
917	147.260	0.160	1.23	91	2.14	65.4	51.9	98.7
918	147.420	0.160	1.20	91	2.13	65.4	51.9	98.9
919	147.582	0.162	1.24	91	2.21	65.3	51.8	99.7
920	147.742	0.160	1.24	91	2.22	65.3	51.9	98.1

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
921	147.902	0.160	1.22	91	2.21	65.3	51.9	98.6
922	148.062	0.160	1.23	91	2.26	65.1	51.9	98.8
923	148.227	0.165	1.24	91	2.22	65.1	51.9	101.8
924	148.388	0.161	1.22	91	2.11	65.1	51.9	100.2
925	148.545	0.157	1.23	91	2.11	65	51.8	97.9
926	148.705	0.160	1.23	91	2.25	65	51.8	99.2
927	148.867	0.162	1.24	91	2.12	64.9	51.8	100.4
928	149.028	0.161	1.23	91	2.08	64.9	51.8	99.6
929	149.188	0.160	1.24	91	2.25	65	51.8	99.2
930	149.348	0.160	1.24	91	2.21	65	51.8	99.5
931	149.509	0.161	1.23	91	2.24	65	51.9	99.4
932	149.671	0.162	1.24	91	2.12	65	51.9	100.0
933	149.834	0.163	1.23	91	2.23	65	51.8	100.8
934	149.993	0.159	1.23	91	2.23	65.1	51.9	97.8
935	150.152	0.159	1.21	91	2.10	65.1	51.9	97.7
936	150.313	0.161	1.23	91	2.24	65.1	51.9	99.5
937	150.473	0.160	1.24	91	2.24	65.2	51.8	99.6
938	150.633	0.160	1.23	91	2.23	65.2	51.9	99.2
939	150.794	0.161	1.23	91	2.11	65.1	51.8	99.0
940	150.956	0.162	1.24	91	2.22	65.2	51.8	100.3
941	151.117	0.161	1.24	90	2.25	65.2	51.8	100.6
942	151.279	0.162	1.24	90	2.23	65.2	51.8	101.4
943	151.439	0.160	1.22	91	2.14	65.2	51.9	99.9
944	151.600	0.161	1.22	91	2.24	65.3	51.9	99.5
945	151.759	0.159	1.23	91	2.11	65.4	51.9	97.8
946	151.919	0.160	1.25	91	2.17	65.3	51.9	98.8
947	152.079	0.160	1.22	91	2.21	65.3	51.9	99.0
948	152.240	0.161	1.21	91	2.11	65.8	52	100.6
949	152.401	0.161	1.22	91	2.12	65.4	52	100.8
950	152.561	0.160	1.23	91	2.11	65.5	52	99.3
951	152.723	0.162	1.24	91	2.24	65.5	52	100.7
952	152.884	0.161	1.22	91	2.22	65.5	52	100.0
953	153.046	0.162	1.25	91	2.17	65.5	52	100.6
954	153.206	0.160	1.23	91	2.23	65.6	52	100.0
955	153.363	0.157	1.23	91	2.20	65.6	52	97.7
956	153.524	0.161	1.21	91	2.12	65.6	52	99.8
957	153.686	0.162	1.22	91	2.11	65.6	52	101.4
958	153.846	0.160	1.24	91	2.24	65.7	52	100.6
959	154.006	0.160	1.25	91	2.16	65.6	52	100.0
960	154.166	0.160	1.24	91	2.22	65.7	52	99.8
961	154.330	0.164	1.23	91	2.16	65.7	52.1	102.4
962	154.492	0.162	1.25	91	2.20	65.7	52.1	101.2
963	154.651	0.159	1.23	91	2.20	65.7	52	99.6
964	154.811	0.160	1.24	91	2.23	65.8	52.1	100.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
965	154.971	0.160	1.24	91	2.23	65.8	52.1	99.9
966	155.131	0.160	1.23	91	2.23	65.9	52.1	99.2
967	155.291	0.160	1.23	91	2.24	65.8	52.1	99.8
968	155.451	0.160	1.23	91	2.16	65.8	52.1	101.2
969	155.613	0.162	1.23	91	2.12	65.8	52.1	102.3
970	155.774	0.161	1.24	91	2.15	65.9	52.1	100.5
971	155.937	0.163	1.23	91	2.23	65.9	52.1	101.5
972	156.097	0.160	1.21	91	2.15	65.9	52.1	100.2
973	156.257	0.160	1.22	91	2.20	65.9	52.1	100.1
974	156.419	0.162	1.24	91	2.20	65.9	52.1	100.5
975	156.576	0.157	1.23	91	2.12	66	52.2	97.8
976	156.736	0.160	1.22	91	2.15	66	52.2	99.5
977	156.897	0.161	1.24	91	2.25	66	52.2	99.1
978	157.059	0.162	1.23	91	2.19	66.1	52.2	100.8
979	157.219	0.160	1.23	91	2.19	66.3	52.2	100.5
980	157.378	0.159	1.24	91	2.22	66.1	52.3	99.5
981	157.541	0.163	1.23	91	2.24	66.1	52.3	102.0
982	157.703	0.162	1.23	91	2.23	66.2	52.2	100.6
983	157.864	0.161	1.24	91	2.10	66.2	52.3	98.6
984	158.023	0.159	1.23	91	2.24	66.2	52.3	98.1
985	158.183	0.160	1.22	91	2.17	66.2	52.3	100.1
986	158.343	0.160	1.23	91	2.15	66.2	52.4	100.3
987	158.503	0.160	1.23	91	2.17	66.3	52.4	100.2
988	158.663	0.160	1.23	91	2.13	66.3	52.4	100.4
989	158.823	0.160	1.22	91	2.21	66.3	52.4	100.0
990	158.985	0.162	1.22	91	2.23	66.4	52.5	101.4
991	159.148	0.163	1.23	91	2.17	66.3	52.5	102.7
992	159.308	0.160	1.23	91	2.23	66.4	52.5	100.8
993	159.468	0.160	1.23	91	2.11	66.4	52.5	100.6
994	159.628	0.160	1.21	91	2.08	66.5	52.5	100.8
995	159.791	0.163	1.23	91	2.22	66.5	52.6	102.5
996	159.947	0.156	1.23	91	2.19	66.5	52.6	97.5
997	160.107	0.160	1.23	91	2.18	66.5	52.6	99.9
998	160.268	0.161	1.22	91	2.21	66.5	52.6	101.1
999	160.430	0.162	1.23	91	2.11	66.6	52.6	102.3
1000	160.589	0.159	1.24	91	2.23	66.6	52.7	99.6
1001	160.752	0.163	1.23	91	2.21	66.6	52.7	101.8
1002	160.912	0.160	1.23	91	2.21	66.6	52.7	100.9
1003	161.074	0.162	1.26	91	2.14	66.7	52.7	103.1
1004	161.235	0.161	1.24	91	2.24	66.6	52.7	102.5
1005	161.395	0.160	1.22	91	2.23	66.7	52.7	101.2
1006	161.551	0.156	1.24	91	2.17	66.7	52.7	98.4
1007	161.714	0.163	1.24	91	2.17	66.6	52.7	103.1
1008	161.874	0.160	1.26	91	2.17	66.7	52.7	101.8

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1009	162.033	0.159	1.24	91	2.21	66.6	52.8	101.1
1010	162.193	0.160	1.22	91	2.24	66.8	52.7	101.1
1011	162.357	0.164	1.23	91	2.21	66.6	52.8	103.3
1012	162.518	0.161	1.23	91	2.22	66.5	52.8	101.3
1013	162.678	0.160	1.23	91	2.23	66.4	52.7	99.9
1014	162.838	0.160	1.24	91	2.22	66.3	52.6	98.5
1015	162.999	0.161	1.22	91	2.10	66.2	52.6	99.0
1016	163.158	0.159	1.23	91	2.25	66.2	52.7	98.3
1017	163.318	0.160	1.23	91	2.13	66.2	52.8	99.3
1018	163.478	0.160	1.23	91	2.11	66.2	52.8	99.8
1019	163.639	0.161	1.24	91	2.22	66.1	52.8	100.2
1020	163.800	0.161	1.23	91	2.12	66.1	52.8	99.9
1021	163.963	0.163	1.24	91	2.18	66	52.8	102.0
1022	164.122	0.159	1.23	91	2.19	65.9	52.8	100.1
1023	164.283	0.161	1.24	91	2.12	65.9	52.8	101.6
1024	164.445	0.162	1.23	91	2.21	65.9	52.8	102.6
1025	164.606	0.161	1.22	91	2.22	65.8	52.8	101.2
1026	164.762	0.156	1.23	91	2.23	65.8	52.8	96.6
1027	164.923	0.161	1.23	91	2.10	65.8	52.8	100.1
1028	165.085	0.162	1.22	91	2.13	65.6	52.9	101.4
1029	165.245	0.160	1.22	91	2.13	65.6	52.8	99.6
1030	165.408	0.163	1.23	91	2.19	65.6	52.9	101.4
1031	165.568	0.160	1.22	91	2.11	65.6	52.9	99.9
1032	165.729	0.161	1.23	91	2.14	65.5	52.9	100.7
1033	165.891	0.162	1.23	91	2.17	65.5	52.9	101.0
1034	166.051	0.160	1.24	91	2.12	65.4	52.9	99.1
1035	166.211	0.160	1.24	91	2.21	65.5	52.9	98.7
1036	166.370	0.159	1.23	91	2.20	65.4	52.9	98.1
1037	166.531	0.161	1.24	91	2.11	65.4	53	100.1
1038	166.691	0.160	1.24	91	2.11	65.3	52.9	100.0
1039	166.853	0.162	1.24	91	2.13	65.3	52.9	100.5
1040	167.014	0.161	1.23	91	2.21	65.2	52.9	98.7
1041	167.176	0.162	1.22	91	2.18	65.3	52.9	100.1
1042	167.336	0.160	1.23	91	2.24	65.2	53	100.4
1043	167.496	0.160	1.23	91	2.16	65.1	52.9	99.9
1044	167.656	0.160	1.22	91	2.21	65	53	99.4
1045	167.818	0.162	1.23	91	2.22	65	53	100.8
1046	167.976	0.158	1.23	91	2.17	65	53	97.3
1047	168.136	0.160	1.24	91	2.13	64.9	53	97.8
1048	168.296	0.160	1.25	91	2.13	64.9	53	98.8
1049	168.461	0.165	1.22	91	2.11	64.9	53.1	102.8
1050	168.622	0.161	1.23	91	2.24	64.9	53.1	99.9
1051	168.782	0.160	1.24	91	2.18	65	53.2	99.1
1052	168.942	0.160	1.23	91	2.17	64.9	53.2	99.2

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1053	169.103	0.161	1.23	91	2.22	64.9	53.2	100.0
1054	169.265	0.162	1.23	91	2.12	64.9	53.2	101.5
1055	169.425	0.160	1.23	91	2.21	64.9	53.2	100.2
1056	169.582	0.157	1.24	91	2.11	64.9	53.2	97.5
1057	169.743	0.161	1.22	91	2.21	64.9	53.2	100.6
1058	169.908	0.165	1.22	91	2.13	64.9	53.2	104.1
1059	170.068	0.160	1.22	91	2.23	64.8	53.2	100.8
1060	170.228	0.160	1.21	91	2.16	64.8	53.2	100.1
1061	170.388	0.160	1.23	91	2.10	64.8	53.2	99.5
1062	170.550	0.162	1.23	91	2.11	64.9	53.3	100.9
1063	170.711	0.161	1.23	91	2.22	64.9	53.3	100.8
1064	170.871	0.160	1.23	91	2.17	64.8	53.2	100.4
1065	171.031	0.160	1.23	91	2.11	64.9	53.3	99.8
1066	171.190	0.159	1.24	91	2.09	64.8	53.3	98.7
1067	171.351	0.161	1.22	91	2.22	64.8	53.3	99.8
1068	171.513	0.162	1.23	91	2.25	64.8	53.2	100.9
1069	171.673	0.160	1.22	91	2.25	64.8	53.3	100.5
1070	171.834	0.161	1.24	91	2.18	64.8	53.3	101.6
1071	171.996	0.162	1.23	91	2.24	64.8	53.3	101.9
1072	172.156	0.160	1.23	91	2.13	64.9	53.3	100.1
1073	172.316	0.160	1.23	91	2.15	64.9	53.4	99.5
1074	172.476	0.160	1.23	91	2.25	65	53.4	99.4
1075	172.638	0.162	1.23	91	2.16	65.1	53.4	102.4
1076	172.795	0.157	1.24	91	2.23	65.4	53.4	100.5
1077	172.954	0.159	1.23	91	2.15	65.5	53.5	101.4
1078	173.117	0.163	1.22	91	2.19	65.7	53.5	103.2
1079	173.279	0.162	1.22	91	2.15	65.9	53.6	101.8
1080	173.438	0.159	1.21	91	2.26	66.1	53.5	99.6
1081	173.597	0.159	1.21	91	2.12	66.3	53.6	100.1
1082	173.757	0.160	1.22	91	2.17	66.3	53.6	100.8
1083	173.918	0.161	1.20	91	2.10	66.6	53.7	101.6
1084	174.077	0.159	1.21	91	2.20	66.8	53.7	100.4
1085	174.236	0.159	1.22	91	2.24	66.9	53.7	99.7
1086	174.395	0.159	1.22	91	2.14	67.1	53.8	100.5
1087	174.557	0.162	1.22	91	2.12	67.3	53.9	103.9
1088	174.715	0.158	1.22	91	2.15	67.5	53.9	102.1
1089	174.875	0.160	1.21	91	2.25	67.6	54	103.8
1090	175.036	0.161	1.22	91	2.23	67.7	54	103.6
1091	175.195	0.159	1.21	91	2.18	67.8	54.1	101.0
1092	175.354	0.159	1.23	91	2.23	68	54.2	100.6
1093	175.514	0.160	1.22	91	2.15	68.2	54.3	101.4
1094	175.674	0.160	1.21	91	2.25	68.4	54.3	101.6
1095	175.830	0.156	1.22	91	2.18	68.4	54.4	99.2
1096	175.992	0.162	1.21	91	2.18	68.7	54.5	103.2

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1097	176.153	0.161	1.22	91	2.19	68.7	54.5	102.4
1098	176.312	0.159	1.21	91	2.22	68.8	54.6	101.4
1099	176.470	0.158	1.21	91	2.19	68.8	54.7	101.7
1100	176.630	0.160	1.21	91	2.26	68.9	54.8	103.1
1101	176.791	0.161	1.22	91	2.14	69	54.8	103.4
1102	176.950	0.159	1.22	91	2.20	69	54.9	101.1
1103	177.109	0.159	1.21	92	2.26	68.9	54.9	100.6
1104	177.270	0.161	1.22	91	2.20	68.8	54.9	102.0
1105	177.427	0.157	1.22	91	2.22	68.8	54.9	99.1
1106	177.589	0.162	1.22	92	2.17	68.7	54.9	102.4
1107	177.748	0.159	1.23	92	2.24	68.7	54.9	100.7
1108	177.910	0.162	1.22	92	2.17	68.7	55	101.3
1109	178.070	0.160	1.22	92	2.21	68.7	55	99.1
1110	178.229	0.159	1.22	92	2.11	68.7	55.1	99.3
1111	178.389	0.160	1.22	92	2.12	68.7	55.1	100.3
1112	178.551	0.162	1.22	92	2.12	68.6	55.1	101.4
1113	178.710	0.159	1.22	92	2.15	68.6	55.1	99.9
1114	178.869	0.159	1.22	92	2.13	68.5	55.1	99.8
1115	179.030	0.161	1.20	92	2.21	68.5	55.1	100.8
1116	179.191	0.161	1.20	92	2.25	68.5	55.2	101.5
1117	179.351	0.160	1.21	92	2.24	68.5	55.1	101.5
1118	179.510	0.159	1.21	92	2.12	68.5	55.2	100.5
1119	179.671	0.161	1.19	92	2.10	68.5	55.2	101.2
1120	179.832	0.161	1.23	92	2.24	68.5	55.2	100.8
1121	179.992	0.160	1.20	92	2.18	68.5	55.1	100.1
1122	180.151	0.159	1.21	92	2.14	68.5	55.1	99.6
1123	180.312	0.161	1.22	92	2.21	68.5	55	101.4
1124	180.473	0.161	1.21	92	2.23	68.5	55	102.6
1125	180.632	0.159	1.21	92	2.20	68.5	55	102.2
1126	180.792	0.160	1.21	92	2.18	68.4	55	102.3
1127	180.953	0.161	1.22	92	2.12	68.4	55	101.3
1128	181.114	0.161	1.23	92	2.11	68.3	54.9	100.9
1129	181.274	0.160	1.22	92	2.17	68.3	54.9	101.5
1130	181.433	0.159	1.22	92	2.13	68.2	54.9	101.2
1131	181.594	0.161	1.22	92	2.21	68.1	54.9	102.1
1132	181.756	0.162	1.23	92	2.21	68.1	54.9	102.2
1133	181.915	0.159	1.22	92	2.22	68	54.9	99.3
1134	182.075	0.160	1.21	92	2.22	68	54.8	98.8
1135	182.235	0.160	1.22	92	2.23	67.9	54.8	97.8
1136	182.397	0.162	1.23	92	2.14	67.9	54.9	99.5
1137	182.557	0.160	1.22	92	2.16	67.9	54.8	98.5
1138	182.717	0.160	1.23	92	2.22	67.9	52	98.7
1139	182.877	0.160	1.22	92	2.20	67.8	49.6	99.6
1140	183.040	0.163	1.22	92	2.19	67.8	48.2	101.6

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1141	183.200	0.160	1.22	92	2.19	67.7	47.1	99.5
1142	183.359	0.159	1.22	92	2.21	67.7	46	99.3
1143	183.520	0.161	1.23	92	2.13	67.6	45.1	101.0
1144	183.682	0.162	1.22	92	2.16	67.6	44.4	101.0
1145	183.842	0.160	1.23	92	2.16	67.5	43.6	99.0
1146	184.002	0.160	1.23	92	2.15	67.5	42.7	99.3
1147	184.162	0.160	1.22	92	2.21	67.4	41.7	100.3
1148	184.324	0.162	1.21	92	2.12	67.4	40.4	102.6
1149	184.485	0.161	1.23	93	2.22	67.4	40.5	101.7
1150	184.645	0.160	1.23	93	2.23	67.3	40.6	99.6
1151	184.804	0.159	1.23	93	2.08	67.3	40.8	98.4
1152	184.965	0.161	1.21	92	2.14	67.3	40.8	99.7
1153	185.126	0.161	1.23	93	2.10	67.2	40.8	99.7
1154	185.286	0.160	1.22	93	2.12	67.1	40.9	99.2
1155	185.446	0.160	1.23	93	2.12	67.1	40.9	99.0
1156	185.607	0.161	1.22	93	2.24	67.1	40.8	99.9
1157	185.768	0.161	1.22	92	2.13	67.1	40.9	100.6
1158	185.928	0.160	1.22	93	2.25	67.1	40.8	100.1
1159	186.087	0.159	1.22	93	2.14	67	40.8	99.5
1160	186.248	0.161	1.22	93	2.14	67	40.7	100.7
1161	186.410	0.162	1.22	93	2.15	67	40.7	100.8
1162	186.569	0.159	1.24	93	2.21	66.9	40.6	98.7
1163	186.729	0.160	1.22	93	2.21	66.9	40.6	99.7
1164	186.890	0.161	1.23	93	2.23	66.8	40.5	101.1
1165	187.051	0.161	1.22	93	2.10	66.8	40.4	101.7
1166	187.211	0.160	1.20	93	2.10	66.8	40.4	101.5
1167	187.370	0.159	1.22	93	2.12	66.8	40.4	100.9
1168	187.531	0.161	1.23	93	2.12	66.8	40.3	102.0
1169	187.693	0.162	1.23	93	2.21	66.7	40.3	103.8
1170	187.852	0.159	1.22	93	2.21	66.7	40.3	102.5
1171	188.012	0.160	1.21	93	2.17	67.1	40.2	102.7
1172	188.172	0.160	1.23	93	2.11	66.8	40.2	101.8
1173	188.334	0.162	1.22	93	2.10	66.8	40.2	102.3
1174	188.494	0.160	1.23	93	2.19	66.7	40.2	100.7
1175	188.653	0.159	1.22	93	2.09	66.7	40.2	99.3
1176	188.814	0.161	1.22	93	2.09	66.7	40.1	100.6
1177	188.976	0.162	1.25	93	2.08	66.7	40.1	101.8
1178	189.136	0.160	1.22	93	2.09	66.7	40.1	100.6
1179	189.295	0.159	1.23	93	2.16	66.7	40.1	99.5
1180	189.456	0.161	1.22	93	2.13	66.6	40.1	100.7
1181	189.618	0.162	1.23	93	2.22	66.6	40.1	101.9
1182	189.778	0.160	1.23	93	2.21	66.6	40.1	100.4
1183	189.937	0.159	1.23	93	2.16	66.6	40.1	99.4
1184	190.098	0.161	1.24	93	2.12	66.6	40.1	101.1

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1185	190.260	0.162	1.23	93	2.10	66.6	40.1	102.2
1186	190.420	0.160	1.23	93	2.23	66.5	40.2	101.3
1187	190.580	0.160	1.22	93	2.14	66.5	40.2	101.5
1188	190.740	0.160	1.21	93	2.11	66.5	40.2	100.3
1189	190.902	0.162	1.22	93	2.22	66.5	40.2	100.2
1190	191.062	0.160	1.23	93	2.24	66.5	40.2	98.7
1191	191.222	0.160	1.24	93	2.11	66.5	40.3	99.1
1192	191.382	0.160	1.24	93	2.10	66.5	40.3	99.1
1193	191.544	0.162	1.22	93	2.22	66.5	40.4	100.0
1194	191.705	0.161	1.23	93	2.20	66.5	40.4	99.0
1195	191.864	0.159	1.22	93	2.22	66.5	40.4	97.3
1196	192.024	0.160	1.21	93	2.23	66.4	40.5	98.8
1197	192.185	0.161	1.22	93	2.13	66.4	40.5	100.7
1198	192.347	0.162	1.23	93	2.13	66.4	40.6	101.7
1199	192.506	0.159	1.23	93	2.21	66.4	40.7	99.5
1200	192.666	0.160	1.22	93	2.11	66.4	40.8	99.1
1201	192.827	0.161	1.22	93	2.21	66.4	40.8	99.1
1202	192.989	0.162	1.22	93	2.11	66.6	40.9	100.7
1203	193.149	0.160	1.22	93	2.13	66.5	41	99.3
1204	193.308	0.159	1.20	93	2.17	66.5	41.1	97.1
1205	193.469	0.161	1.22	93	2.17	66.4	41.2	98.5
1206	193.631	0.162	1.22	93	2.14	66.4	41.2	100.6
1207	193.791	0.160	1.21	93	2.14	66.4	41.3	99.7
1208	193.951	0.160	1.20	93	2.22	66.4	41.4	99.2
1209	194.111	0.160	1.22	93	2.18	66.4	41.5	99.6
1210	194.273	0.162	1.23	93	2.21	66.4	41.5	101.5
1211	194.434	0.161	1.23	93	2.18	66.4	41.6	100.7
1212	194.594	0.160	1.23	93	2.21	66.3	41.6	99.6
1213	194.754	0.160	1.22	93	2.23	66.4	41.7	99.3
1214	194.915	0.161	1.22	93	2.13	66.4	41.8	99.5
1215	195.076	0.161	1.22	93	2.20	66.4	41.9	99.4
1216	195.236	0.160	1.20	93	2.11	66.3	41.9	99.0
1217	195.396	0.160	1.23	93	2.10	66.4	42	99.5
1218	195.557	0.161	1.23	93	2.23	66.4	42	100.7
1219	195.718	0.161	1.24	93	2.23	66.4	42.1	101.3
1220	195.878	0.160	1.23	93	2.22	66.4	42.1	100.2
1221	196.038	0.160	1.22	93	2.10	66.4	42.2	99.7
1222	196.199	0.161	1.23	93	2.23	66.4	42.2	99.7
1223	196.361	0.162	1.25	93	2.09	66.4	42.2	100.0
1224	196.521	0.160	1.23	93	2.23	66.4	42.3	99.8
1225	196.680	0.159	1.21	93	2.11	66.4	42.4	99.2
1226	196.841	0.161	1.22	93	2.09	66.5	42.4	99.9
1227	197.003	0.162	1.23	93	2.11	66.5	42.5	101.1
1228	197.163	0.160	1.23	93	2.14	66.5	42.5	100.0

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1229	197.323	0.160	1.21	93	2.21	66.5	42.5	100.0
1230	197.483	0.160	1.23	93	2.10	66.5	42.6	100.5
1231	197.645	0.162	1.23	93	2.12	66.5	42.6	101.6
1232	197.805	0.160	1.21	93	2.08	66.5	42.6	99.8
1233	197.965	0.160	1.22	93	2.25	66.7	42.7	100.2
1234	198.125	0.160	1.20	93	2.14	66.6	42.8	100.2
1235	198.287	0.162	1.22	93	2.15	66.6	42.8	101.5
1236	198.447	0.160	1.22	93	2.18	66.6	42.8	100.7
1237	198.607	0.160	1.22	93	2.25	66.6	42.9	99.7
1238	198.767	0.160	1.22	93	2.15	66.7	42.9	98.9
1239	198.929	0.162	1.24	93	2.09	66.6	42.9	100.9
1240	199.089	0.160	1.21	93	2.09	66.6	43	100.5
1241	199.249	0.160	1.22	93	2.14	66.6	43	100.1
1242	199.409	0.160	1.21	93	2.11	66.6	43	99.6
1243	199.570	0.161	1.21	93	2.17	66.7	43.1	99.8
1244	199.731	0.161	1.23	93	2.24	66.7	43.1	99.1
1245	199.891	0.160	1.23	93	2.22	66.7	43.1	98.1
1246	200.051	0.160	1.21	93	2.13	66.7	43.2	97.8
1247	200.212	0.161	1.22	93	2.19	66.7	43.1	98.9
1248	200.373	0.161	1.22	93	2.23	66.7	43.2	100.4
1249	200.533	0.160	1.22	93	2.22	66.7	43.2	99.8
1250	200.693	0.160	1.22	93	2.18	66.7	43.2	99.1
1251	200.854	0.161	1.23	93	2.22	66.7	43.2	99.8
1252	201.015	0.161	1.22	93	2.13	66.7	43.2	99.4
1253	201.175	0.160	1.22	93	2.25	66.7	43.3	99.6
1254	201.334	0.159	1.22	93	2.14	66.7	43.3	99.8
1255	201.495	0.161	1.23	93	2.16	66.8	43.3	100.7
1256	201.657	0.162	1.23	93	2.23	66.8	43.3	101.8
1257	201.817	0.160	1.21	93	2.23	66.8	43.3	100.8
1258	201.977	0.160	1.24	93	2.09	66.7	43.3	99.3
1259	202.137	0.160	1.24	93	2.10	66.8	43.4	99.0
1260	202.299	0.162	1.23	93	2.24	66.8	43.4	101.6
1261	202.459	0.160	1.23	93	2.20	66.9	43.4	100.2
1262	202.618	0.159	1.24	93	2.13	66.8	43.4	98.8
1263	202.779	0.161	1.23	93	2.12	66.8	43.4	99.9
1264	202.941	0.162	1.21	93	2.10	67	43.4	101.0
1265	203.101	0.160	1.20	93	2.14	66.9	43.4	99.6
1266	203.260	0.159	1.21	93	2.10	66.9	43.4	99.0
1267	203.421	0.161	1.22	93	2.23	66.9	43.4	101.0
1268	203.583	0.162	1.22	93	2.12	66.9	43.4	101.5
1269	203.743	0.160	1.22	93	2.23	66.9	43.4	100.5
1270	203.903	0.160	1.24	93	2.15	66.9	43.4	100.5
1271	204.063	0.160	1.23	93	2.22	66.9	43.4	100.4
1272	204.224	0.161	1.23	93	2.16	66.9	43.5	101.0

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1273	204.385	0.161	1.23	93	2.17	66.9	43.5	100.5
1274	204.545	0.160	1.22	93	2.23	66.9	43.5	99.8
1275	204.705	0.160	1.22	93	2.18	66.9	43.5	99.6
1276	204.866	0.161	1.23	93	2.19	66.9	43.5	100.6
1277	205.027	0.161	1.22	93	2.13	67	43.6	100.6
1278	205.187	0.160	1.23	93	2.16	67	43.5	99.2
1279	205.347	0.160	1.22	93	2.23	66.9	43.5	99.3
1280	205.508	0.161	1.23	93	2.12	67	43.6	100.2
1281	205.669	0.161	1.22	93	2.23	67	43.6	99.7
1282	205.829	0.160	1.22	93	2.13	67	43.6	98.8
1283	205.989	0.160	1.22	93	2.22	67	43.6	99.0
1284	206.150	0.161	1.21	93	2.14	67	43.6	100.3
1285	206.311	0.161	1.22	93	2.21	67	43.7	100.7
1286	206.471	0.160	1.22	93	2.13	67	43.6	99.6
1287	206.631	0.160	1.23	93	2.10	67	43.6	98.0
1288	206.792	0.161	1.23	93	2.23	67	43.6	97.9
1289	206.954	0.162	1.24	93	2.15	67.1	43.7	100.3
1290	207.114	0.160	1.23	93	2.22	67.1	43.6	100.0
1291	207.273	0.159	1.24	93	2.10	67.1	43.7	99.0
1292	207.434	0.161	1.21	93	2.18	67.1	43.7	100.4
1293	207.596	0.162	1.21	94	2.19	67.1	43.7	101.4
1294	207.756	0.160	1.21	93	2.17	67.1	43.7	100.8
1295	207.916	0.160	1.21	93	2.22	67.2	43.7	100.6
1296	208.076	0.160	1.23	93	2.22	67.1	43.7	99.7
1297	208.238	0.162	1.22	93	2.24	67.2	43.7	101.6
1298	208.398	0.160	1.23	93	2.23	67.4	43.7	101.9
1299	208.557	0.159	1.22	93	2.10	67.5	43.7	101.4
1300	208.717	0.160	1.22	93	2.21	67.7	43.8	101.8
1301	208.879	0.162	1.21	93	2.13	67.9	43.8	103.3
1302	209.039	0.160	1.22	94	2.10	68.1	43.8	101.7
1303	209.197	0.158	1.20	93	2.20	68.2	43.8	100.2
1304	209.357	0.160	1.21	93	2.12	68.4	43.9	101.4
1305	209.519	0.162	1.21	93	2.24	68.5	43.9	102.1
1306	209.678	0.159	1.21	93	2.24	68.7	44	100.7
1307	209.837	0.159	1.21	93	2.14	68.8	44	100.8
1308	209.997	0.160	1.20	93	2.13	68.9	44.1	100.8
1309	210.158	0.161	1.21	93	2.24	68.9	44.1	101.8
1310	210.317	0.159	1.21	93	2.23	69	44.2	100.3
1311	210.476	0.159	1.25	93	2.24	69	44.2	100.0
1312	210.637	0.161	1.21	93	2.14	69.1	44.3	102.7
1313	210.797	0.160	1.25	93	2.23	69.2	44.4	103.2
1314	210.955	0.158	1.22	93	2.12	69.2	44.5	102.3
1315	211.115	0.160	1.21	93	2.21	69.3	44.5	103.7
1316	211.276	0.161	1.22	93	2.23	69.4	44.6	103.6

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1317	211.435	0.159	1.22	93	2.14	69.4	44.6	101.1
1318	211.594	0.159	1.21	94	2.12	69.6	44.7	101.1
1319	211.754	0.160	1.21	93	2.23	69.6	44.7	102.4
1320	211.914	0.160	1.21	93	2.24	69.7	44.8	102.3
1321	212.073	0.159	1.21	93	2.23	69.7	44.8	101.6
1322	212.232	0.159	1.19	93	2.19	69.6	44.9	102.0
1323	212.393	0.161	1.23	93	2.12	69.7	45	103.4
1324	212.552	0.159	1.21	93	2.22	69.8	45	101.6
1325	212.711	0.159	1.20	93	2.19	69.6	45	99.7
1326	212.871	0.160	1.19	93	2.22	69.4	45	98.8
1327	213.032	0.161	1.23	93	2.11	69.3	45	99.8
1328	213.191	0.159	1.21	93	2.16	69.1	45.1	99.8
1329	213.351	0.160	1.23	93	2.17	69.1	45	101.1
1330	213.511	0.160	1.20	93	2.23	68.9	45	101.3
1331	213.673	0.162	1.22	93	2.11	68.8	45	102.0
1332	213.832	0.159	1.22	94	2.23	68.8	45	99.1
1333	213.991	0.159	1.21	93	2.14	68.7	44.9	98.3
1334	214.152	0.161	1.21	93	2.24	68.6	44.9	98.8
1335	214.313	0.161	1.22	93	2.23	68.5	44.9	98.7
1336	214.473	0.160	1.22	93	2.14	68.4	44.8	98.8
1337	214.632	0.159	1.21	93	2.18	68.4	44.8	98.9
1338	214.793	0.161	1.21	94	2.20	68.3	44.8	100.3
1339	214.955	0.162	1.22	94	2.24	68.3	44.7	101.2
1340	215.114	0.159	1.19	94	2.21	68.2	44.7	99.7
1341	215.274	0.160	1.21	93	2.23	68.2	44.7	99.4
1342	215.435	0.161	1.21	93	2.20	68.1	44.6	98.7
1343	215.596	0.161	1.17	94	2.23	68	44.6	98.8
1344	215.755	0.159	1.20	93	2.20	68	44.6	98.4
1345	215.915	0.160	1.20	93	2.12	67.9	44.5	99.5
1346	216.076	0.161	1.21	93	2.18	67.9	44.5	100.0
1347	216.237	0.161	1.20	94	2.19	67.8	44.5	99.8
1348	216.397	0.160	1.21	93	2.21	67.8	44.5	99.4
1349	216.557	0.160	1.21	93	2.14	67.8	44.5	99.8
1350	216.717	0.160	1.21	93	2.11	67.7	44.4	99.6
1351	216.879	0.162	1.21	93	2.13	67.7	44.4	101.0
1352	217.038	0.159	1.21	94	2.22	67.6	44.4	99.8
1353	217.198	0.160	1.21	93	2.21	67.6	44.4	100.1
1354	217.359	0.161	1.21	93	2.23	67.5	44.4	100.8
1355	217.520	0.161	1.22	93	2.22	67.5	44.3	101.3
1356	217.680	0.160	1.21	93	2.21	67.4	44.3	99.8
1357	217.839	0.159	1.23	93	2.11	67.4	44.3	98.6
1358	218.000	0.161	1.20	93	2.23	67.3	44.3	100.9
1359	218.162	0.162	1.22	93	2.12	67.3	44.2	101.9
1360	218.321	0.159	1.21	93	2.19	67.3	44.2	99.2

Train B - Particulate Sampling

ASTM E2515

Run: 4

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1361	218.481	0.160	1.23	93	2.23	67.2	44.2	99.1
1362	218.641	0.160	1.23	93	2.24	67.2	44.2	98.8
1363	218.803	0.162	1.22	93	2.14	67.2	44.2	100.0
1364	218.963	0.160	1.25	93	2.09	67.1	44.2	99.1
1365	219.122	0.159	1.22	93	2.22	67.1	44.2	98.9
1366	219.283	0.161	1.21	93	2.24	67.1	44.1	99.9
1367	219.444	0.161	1.23	93	2.24	67.1	44.1	99.1
1368	219.604	0.160	1.23	93	2.17	67.1	44.1	98.8
1369	219.764	0.160	1.23	93	2.21	67	44.1	99.2
1370	219.924	0.160	1.23	93	2.10	67	44.1	99.1
1371	220.086	0.162	1.22	93	2.21	67	44.1	100.5
1372	220.245	0.159	1.22	93	2.21	66.9	44.1	98.6
1373	220.405	0.160	1.21	93	2.10	66.9	44.1	99.5
1374	220.565	0.160	1.22	93	2.24	66.9	44.1	99.1
1375	220.727	0.162	1.21	93	2.23	66.9	44	100.1
1376	220.887	0.160	1.22	93	2.22	66.9	44.1	99.1
1377	221.047	0.160	1.22	93	2.09	66.9	44	99.2
1378	221.207	0.160	1.22	93	2.12	66.8	44.1	99.4
1379	221.369	0.162	1.22	93	2.20	66.8	44	100.1
1380	221.529	0.160	1.22	93	2.14	66.8	44	98.7
1381	221.688	0.159	1.21	93	2.12	66.8	44	98.1
1382	221.848	0.160	1.22	93	2.21	66.8	44	98.3
1383	222.010	0.162	1.23	93	2.24	66.8	44	99.6
1384	222.170	0.160	1.21	93	2.10	66.8	44	98.9
1385	222.330	0.160	1.22	93	2.20	66.7	44	99.6
1386	222.493	0.163	1.21	93	2.24	66.7	44	101.2
1387	222.652	0.159	1.23	93	2.22	66.7	44	98.2
1388	222.812	0.160	1.22	93	2.20	66.7	44	99.1
1389	222.971	0.159	1.21	93	2.12	66.7	44	98.5
1390	223.132	0.161	1.22	93	2.21	66.7	44	99.6
1391	223.294	0.162	1.22	93	2.14	66.7	44	101.5
1392	223.454	0.160	1.22	93	2.23	66.7	43.9	101.1
1393	223.613	0.159	1.22	93	2.15	66.7	44	100.0
1394	223.773	0.160	1.22	93	2.22	67.1	44	100.6
1395	223.935	0.162	1.22	93	2.23	66.8	44	100.9
1396	224.098	0.163	1.22	93	2.21	66.7	44	100.5
1397	224.254	0.156	1.21	93	2.11	66.7	44	96.4
1398	224.415	0.161	1.22	93	2.10	66.7	44	99.5
1399	224.576	0.161	1.21	93	2.16	66.7	44	98.7
1400	224.737	0.161	1.22	93	2.24	66.6	44	98.1
1401	224.897	0.160	1.22	93	2.18	66.6	44	98.6
1402	225.057	0.160	1.21	93	2.14	66.6	44	99.9
1403	225.218	0.161	1.21	93	2.21	66.6	44.1	100.6
1404	225.379	0.161	1.23	93	2.18	66.6	44	100.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1405	225.541	0.162	1.23	93	2.13	66.6	44.1	100.6
1406	225.698	0.157	1.23	93	2.23	66.5	44.1	97.2
1407	225.860	0.162	1.23	93	2.15	66.5	44.1	100.1
1408	226.021	0.161	1.23	93	2.10	66.5	44	100.0
1409	226.180	0.159	1.21	93	2.20	66.5	44	99.7
1410	226.340	0.160	1.20	93	2.19	66.5	44.1	100.3
1411	226.501	0.161	1.22	93	2.23	66.5	44	99.9
1412	226.663	0.162	1.23	93	2.16	66.4	44	100.1
1413	226.822	0.159	1.22	93	2.20	66.4	44	98.7
1414	226.982	0.160	1.21	93	2.14	66.4	44	98.8
1415	227.146	0.164	1.22	93	2.23	66.4	44	101.4
1416	227.307	0.161	1.21	93	2.14	66.4	44	101.0
1417	227.465	0.158	1.24	93	2.21	66.4	44	99.2
1418	227.624	0.159	1.23	93	2.19	66.3	44	98.9
1419	227.785	0.161	1.22	93	2.21	66.4	44.1	99.7
1420	227.947	0.162	1.23	93	2.21	66.4	44	99.9
1421	228.107	0.160	1.23	93	2.21	66.3	44	98.3
1422	228.266	0.159	1.23	93	2.17	66.3	44	98.2
1423	228.427	0.161	1.24	92	2.19	66.3	44	99.9
1424	228.591	0.164	1.24	92	2.22	66.3	44	101.9
1425	228.752	0.161	1.23	92	2.20	66.5	44.1	100.1
1426	228.908	0.156	1.22	92	2.16	66.3	44.1	96.5
1427	229.068	0.160	1.22	93	2.23	66.3	44.1	98.7
1428	229.231	0.163	1.23	93	2.15	66.3	44.1	101.7
1429	229.391	0.160	1.23	92	2.21	66.2	44	101.3
1430	229.550	0.159	1.23	92	2.20	66.2	44.1	100.7
1431	229.710	0.160	1.23	92	2.19	66.2	44.1	99.7
1432	229.872	0.162	1.22	92	2.19	66.2	44.1	99.9
1433	230.033	0.161	1.23	92	2.19	66.2	44.1	99.5
1434	230.195	0.162	1.23	92	2.13	66.1	44.1	100.4
1435	230.355	0.160	1.23	92	2.21	66.1	44.1	99.6
1436	230.514	0.159	1.22	92	2.13	66.1	44.1	99.0
1437	230.675	0.161	1.23	92	2.21	66.1	44.1	100.3
1438	230.834	0.159	1.22	92	2.11	66.1	44.1	99.3
1439	230.994	0.160	1.23	92	2.24	66	44.1	99.2
1440	231.156	0.162	1.20	92	2.19	66.1	44.1	100.3
1441	231.317	0.161	1.22	92	2.11	66.1	44.1	99.9
1442	231.476	0.159	1.24	92	2.18	66	44.1	98.7
1443	231.636	0.160	1.22	92	2.13	66	44.1	100.0
1444	231.799	0.163	1.21	92	2.20	66	44.1	101.9
1445	231.962	0.163	1.21	92	2.13	66	44.1	100.9
1446	232.118	0.156	1.24	92	2.20	66	44.1	95.7
1447	232.278	0.160	1.21	92	2.17	66	44.1	98.4
1448	232.439	0.161	1.21	92	2.19	66	44.1	99.9

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1449	232.601	0.162	1.22	92	2.17	65.9	44.1	100.4
1450	232.760	0.159	1.20	92	2.15	65.9	44.1	99.3
1451	232.920	0.160	1.23	92	2.22	65.9	44.1	100.6
1452	233.081	0.161	1.22	92	2.19	65.9	44.1	100.3
1453	233.245	0.164	1.23	92	2.13	65.9	44.1	101.1
1454	233.406	0.161	1.23	92	2.20	65.9	44.1	98.9
1455	233.565	0.159	1.21	92	2.20	65.9	44.1	97.8
1456	233.725	0.160	1.21	92	2.12	66	44.1	98.9
1457	233.884	0.159	1.23	92	2.11	65.9	44.1	98.6
1458	234.044	0.160	1.22	92	2.16	65.9	44.1	99.7
1459	234.204	0.160	1.22	92	2.19	65.9	44.1	100.7
1460	234.364	0.160	1.23	92	2.10	65.9	44.1	100.9
1461	234.526	0.162	1.22	92	2.19	65.8	44.1	101.6
1462	234.686	0.160	1.23	92	2.23	65.8	44.1	100.0
1463	234.849	0.163	1.22	92	2.21	65.8	44.1	101.1
1464	235.009	0.160	1.22	92	2.15	65.8	44.2	98.9
1465	235.170	0.161	1.23	92	2.15	65.8	44.2	99.6
1466	235.331	0.161	1.24	92	2.16	65.8	44.1	99.2
1467	235.488	0.157	1.23	92	2.20	65.8	44.2	96.7
1468	235.648	0.160	1.22	92	2.17	65.8	44.1	99.2
1469	235.810	0.162	1.22	92	2.12	65.8	44.1	100.8
1470	235.970	0.160	1.23	92	2.14	65.8	44.2	99.6
1471	236.130	0.160	1.22	92	2.18	65.7	44.1	99.7
1472	236.290	0.160	1.22	92	2.21	65.8	44.1	100.1
1473	236.453	0.163	1.19	92	2.16	65.7	44.2	102.3
1474	236.615	0.162	1.23	92	2.16	65.7	44.2	101.2
1475	236.775	0.160	1.22	92	2.24	65.7	44.2	99.1
1476	236.935	0.160	1.22	92	2.16	65.6	44.2	98.9
1477	237.093	0.158	1.22	92	2.21	65.7	44.2	98.1
1478	237.254	0.161	1.24	92	2.15	65.6	44.2	99.8
1479	237.414	0.160	1.22	92	2.17	65.6	44.2	98.7
1480	237.574	0.160	1.23	92	2.18	65.7	44.2	98.4
1481	237.735	0.161	1.22	92	2.13	65.7	44.2	98.9
1482	237.896	0.161	1.22	92	2.19	65.6	44.2	99.0
1483	238.059	0.163	1.24	92	2.22	65.6	44.2	100.8
1484	238.219	0.160	1.22	92	2.17	65.6	44.2	99.9
1485	238.379	0.160	1.24	92	2.17	65.6	44.2	100.2
1486	238.541	0.162	1.23	92	2.15	65.6	44.2	101.2
1487	238.698	0.157	1.23	92	2.16	65.7	44.2	98.5
1488	238.858	0.160	1.22	92	2.15	65.6	44.2	100.3
1489	239.018	0.160	1.24	92	2.24	65.6	44.2	99.4
1490	239.180	0.162	1.23	92	2.15	65.6	44.2	100.3
1491	239.340	0.160	1.23	92	2.20	65.5	44.2	98.9
1492	239.503	0.163	1.22	92	2.23	65.5	44.2	100.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1493	239.663	0.160	1.22	91	2.22	65.5	44.2	99.1
1494	239.824	0.161	1.24	92	2.13	65.5	44.2	99.7
1495	239.985	0.161	1.23	91	2.21	65.5	44.2	99.1
1496	240.141	0.156	1.23	92	2.23	65.5	44.2	96.3
1497	240.302	0.161	1.23	91	2.22	65.5	44.2	100.1
1498	240.464	0.162	1.22	92	2.20	65.5	44.2	101.7
1499	240.624	0.160	1.22	91	2.15	65.5	44.3	100.4
1500	240.784	0.160	1.23	92	2.21	65.4	44.2	99.9
1501	240.944	0.160	1.22	92	2.12	65.4	44.2	99.9
1502	241.107	0.163	1.22	91	2.12	65.4	44.2	101.9
1503	241.269	0.162	1.22	92	2.20	65.4	44.2	101.4
1504	241.428	0.159	1.22	91	2.13	65.4	44.3	99.2
1505	241.588	0.160	1.22	92	2.20	65.4	44.2	99.6
1506	241.749	0.161	1.20	92	2.22	65.4	44.2	100.8
1507	241.908	0.159	1.22	91	2.20	65.3	44.2	99.1
1508	242.067	0.159	1.24	91	2.16	65.4	44.2	98.1
1509	242.227	0.160	1.22	91	2.19	65.4	44.2	99.1
1510	242.389	0.162	1.23	91	2.22	65.4	44.2	101.0
1511	242.549	0.160	1.24	91	2.16	65.3	44.2	99.9
1512	242.712	0.163	1.22	91	2.22	65.3	44.2	102.6
1513	242.872	0.160	1.23	91	2.22	65.3	44.3	101.0
1514	243.032	0.160	1.22	91	2.15	65.3	44.2	100.1
1515	243.194	0.162	1.24	91	2.12	65.3	44.2	101.0
1516	243.354	0.160	1.22	91	2.14	65.2	44.2	99.8
1517	243.511	0.157	1.21	91	2.15	65.3	44.2	97.4
1518	243.672	0.161	1.25	91	2.23	65.3	44.3	99.6
1519	243.833	0.161	1.23	91	2.24	65.3	44.3	100.1
1520	243.993	0.160	1.24	91	2.20	65.4	44.2	100.2
1521	244.152	0.159	1.22	91	2.11	65.3	44.2	99.2
1522	244.315	0.163	1.22	91	2.19	65.5	44.3	101.3
1523	244.477	0.162	1.22	91	2.22	65.7	44.3	100.9
1524	244.637	0.160	1.22	91	2.24	65.7	44.3	99.3
1525	244.796	0.159	1.23	91	2.18	65.9	44.3	98.8
1526	244.956	0.160	1.20	91	2.14	66.1	44.3	100.1
1527	245.115	0.159	1.21	91	2.20	66.4	44.3	100.7
1528	245.274	0.159	1.22	91	2.12	66.7	44.4	101.3
1529	245.433	0.159	1.22	91	2.18	66.9	44.5	100.8
1530	245.594	0.161	1.21	91	2.14	67.1	44.6	101.5
1531	245.753	0.159	1.19	91	2.17	67.2	44.6	100.0
1532	245.915	0.162	1.21	91	2.25	67.3	44.6	102.4
1533	246.074	0.159	1.22	91	2.18	67.4	44.7	100.9
1534	246.235	0.161	1.23	91	2.12	67.5	44.8	101.9
1535	246.394	0.159	1.22	91	2.23	67.6	44.8	100.5
1536	246.552	0.158	1.22	91	2.16	67.7	44.8	99.8

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1537	246.710	0.158	1.22	91	2.15	67.8	44.9	100.2
1538	246.870	0.160	1.22	91	2.18	67.9	44.9	102.4
1539	247.028	0.158	1.21	91	2.24	68	45	101.2
1540	247.187	0.159	1.19	91	2.23	68	45.1	101.9
1541	247.351	0.164	1.20	91	2.24	68.1	45.1	106.0
1542	247.509	0.158	1.22	91	2.25	68.2	45.3	102.3
1543	247.667	0.158	1.21	91	2.26	68.2	45.3	101.4
1544	247.827	0.160	1.19	91	2.25	68.3	45.4	101.6
1545	247.987	0.160	1.20	91	2.14	68.3	45.5	100.7
1546	248.145	0.158	1.21	91	2.17	68.4	45.6	99.6
1547	248.304	0.159	1.21	91	2.23	68.4	45.6	100.9
1548	248.462	0.158	1.21	91	2.26	68.4	45.7	100.1
1549	248.620	0.158	1.21	91	2.21	68	45.8	99.3
1550	248.780	0.160	1.22	91	2.14	67.8	45.8	100.7
1551	248.941	0.161	1.21	91	2.12	67.6	45.8	102.3
1552	249.104	0.163	1.21	91	2.22	67.5	45.8	103.5
1553	249.263	0.159	1.21	91	2.22	67.4	45.8	100.4
1554	249.422	0.159	1.22	91	2.25	67.2	45.8	99.9
1555	249.584	0.162	1.22	91	2.13	67.2	45.8	101.5
1556	249.744	0.160	1.21	91	2.22	67	45.7	100.5
1557	249.903	0.159	1.23	91	2.13	66.9	45.7	99.5
1558	250.060	0.157	1.24	91	2.23	66.8	45.7	97.3
1559	250.222	0.162	1.22	91	2.11	66.7	45.6	100.4
1560	250.381	0.159	1.24	91	2.24	66.6	45.6	98.5
1561	250.544	0.163	1.21	91	2.20	66.5	45.6	99.9
1562	250.704	0.160	1.21	91	2.17	66.5	45.5	97.9
1563	250.866	0.162	1.21	91	2.20	66.4	45.5	100.0
1564	251.026	0.160	1.23	91	2.18	66.3	45.4	98.9
1565	251.185	0.159	1.20	91	2.13	66.2	45.4	98.4
1566	251.345	0.160	1.21	91	2.21	66.1	45.3	99.1
1567	251.507	0.162	1.21	91	2.21	66.1	45.3	100.1
1568	251.667	0.160	1.20	91	2.24	66	45.2	99.5
1569	251.823	0.156	1.20	91	2.25	65.9	45.2	97.8
1570	251.984	0.161	1.20	91	2.16	65.9	45.2	100.3
1571	252.145	0.161	1.21	91	2.11	65.8	45.2	99.3
1572	252.308	0.163	1.22	91	2.19	65.8	45.1	100.7
1573	252.467	0.159	1.22	91	2.24	65.7	45.1	98.6
1574	252.627	0.160	1.21	91	2.16	65.8	45.1	99.8
1575	252.789	0.162	1.21	91	2.10	65.8	45	101.2
1576	252.949	0.160	1.22	91	2.24	65.8	45.1	99.1
1577	253.108	0.159	1.20	91	2.16	65.7	45	97.5
1578	253.268	0.160	1.20	91	2.13	65.6	45	98.4
1579	253.430	0.162	1.23	91	2.19	65.6	45	100.4
1580	253.586	0.156	1.22	91	2.25	65.6	44.9	96.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1581	253.746	0.160	1.23	91	2.26	65.6	44.9	98.7
1582	253.908	0.162	1.22	91	2.24	65.6	44.9	100.1
1583	254.070	0.162	1.22	91	2.14	65.7	44.9	100.2
1584	254.230	0.160	1.20	91	2.16	65.7	44.9	98.4
1585	254.389	0.159	1.23	91	2.17	65.7	44.9	97.6
1586	254.550	0.161	1.22	91	2.19	65.8	44.9	99.7
1587	254.712	0.162	1.22	91	2.20	65.8	44.9	101.2
1588	254.871	0.159	1.23	91	2.14	65.8	44.9	99.6
1589	255.031	0.160	1.21	91	2.23	65.8	44.8	100.1
1590	255.189	0.158	1.22	91	2.22	65.8	44.8	98.6
1591	255.350	0.161	1.23	91	2.20	65.8	44.8	100.2
1592	255.512	0.162	1.23	91	2.22	65.8	44.8	100.7
1593	255.672	0.160	1.24	91	2.15	65.8	44.8	99.1
1594	255.832	0.160	1.22	91	2.20	65.8	44.7	99.0
1595	255.994	0.162	1.24	91	2.20	65.7	44.7	100.4
1596	256.154	0.160	1.21	91	2.24	65.7	44.8	99.4
1597	256.313	0.159	1.23	91	2.20	65.7	44.8	98.5
1598	256.473	0.160	1.23	91	2.21	65.7	44.8	98.5
1599	256.635	0.162	1.23	91	2.21	65.7	44.7	100.0
1600	256.792	0.157	1.22	91	2.14	65.7	44.7	96.9
1601	256.951	0.159	1.22	91	2.13	65.7	44.7	97.7
1602	257.114	0.163	1.23	91	2.24	65.7	44.7	100.5
1603	257.276	0.162	1.22	91	2.13	65.6	44.7	101.1
1604	257.436	0.160	1.23	91	2.24	65.6	44.7	99.9
1605	257.595	0.159	1.23	91	2.17	65.5	44.7	97.9
1606	257.755	0.160	1.21	91	2.17	65.6	44.7	98.5
1607	257.917	0.162	1.22	91	2.19	65.5	44.7	100.3
1608	258.077	0.160	1.23	91	2.15	65.5	44.7	99.1
1609	258.237	0.160	1.21	91	2.18	65.4	44.7	99.2
1610	258.395	0.158	1.22	91	2.14	65.4	44.7	98.2
1611	258.559	0.164	1.24	91	2.19	65.4	44.7	102.0
1612	258.719	0.160	1.23	91	2.18	65.3	44.7	99.1
1613	258.878	0.159	1.22	91	2.12	65.3	44.7	97.8
1614	259.038	0.160	1.23	91	2.15	65.3	44.7	97.5
1615	259.201	0.163	1.22	91	2.20	65.3	44.7	99.6
1616	259.360	0.159	1.22	91	2.20	65.2	44.7	98.4
1617	259.520	0.160	1.23	91	2.16	65.2	44.7	99.3
1618	259.679	0.159	1.20	91	2.23	65.7	44.7	98.8
1619	259.842	0.163	1.23	91	2.17	65.2	44.7	101.1
1620	259.998	0.156	1.22	91	2.22	65.2	44.7	96.5
1621	260.161	0.163	1.25	91	2.19	65.3	44.7	101.3
1622	260.321	0.160	1.21	91	2.20	65.3	44.7	99.5
1623	260.483	0.162	1.22	91	2.16	65.3	44.7	100.2
1624	260.643	0.160	1.23	91	2.19	65.3	44.7	98.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1625	260.803	0.160	1.23	91	2.16	65.2	44.7	97.9
1626	260.963	0.160	1.23	91	2.18	65.2	44.7	97.5
1627	261.125	0.162	1.20	91	2.23	65.2	44.7	99.7
1628	261.285	0.160	1.24	91	2.20	65.2	44.7	99.8
1629	261.444	0.159	1.22	91	2.22	65.3	44.7	98.6
1630	261.604	0.160	1.22	91	2.22	65.3	44.7	98.5
1631	261.766	0.162	1.22	91	2.15	65.4	44.8	99.9
1632	261.926	0.160	1.23	91	2.15	65.3	44.7	99.3
1633	262.086	0.160	1.22	91	2.15	65.3	44.7	100.3
1634	262.246	0.160	1.23	91	2.20	65.4	44.7	100.3
1635	262.407	0.161	1.23	91	2.17	65.4	44.7	100.9
1636	262.568	0.161	1.21	91	2.17	65.4	44.7	101.0
1637	262.727	0.159	1.21	91	2.13	65.4	44.7	98.9
1638	262.887	0.160	1.22	91	2.22	65.4	44.7	99.1
1639	263.049	0.162	1.22	91	2.21	65.4	44.7	100.5
1640	263.209	0.160	1.23	91	2.15	65.4	44.7	99.3
1641	263.369	0.160	1.23	91	2.20	65.4	44.7	99.3
1642	263.529	0.160	1.22	91	2.17	65.4	44.7	98.6
1643	263.690	0.161	1.23	91	2.15	65.4	44.7	98.7
1644	263.851	0.161	1.23	91	2.22	65.4	44.7	99.5
1645	264.010	0.159	1.23	91	2.20	65.3	44.7	99.9
1646	264.170	0.160	1.22	91	2.15	65.3	44.7	100.9
1647	264.332	0.162	1.23	91	2.16	65.3	44.7	100.2
1648	264.492	0.160	1.22	91	2.22	65.3	44.7	97.8
1649	264.651	0.159	1.23	91	2.18	65.6	44.8	98.4
1650	264.811	0.160	1.24	91	2.15	65.3	44.7	99.7
1651	264.973	0.162	1.23	91	2.16	65.3	44.8	100.8
1652	265.133	0.160	1.22	91	2.15	65.2	44.8	100.5
1653	265.293	0.160	1.23	91	2.20	65.2	44.8	101.1
1654	265.453	0.160	1.23	91	2.16	65.2	44.8	100.5
1655	265.614	0.161	1.23	91	2.15	65.1	44.8	100.3
1656	265.775	0.161	1.22	91	2.19	65.1	44.8	99.9
1657	265.935	0.160	1.23	91	2.19	65.2	44.8	99.3
1658	266.095	0.160	1.22	91	2.22	65.1	44.8	99.7
1659	266.256	0.161	1.23	91	2.22	65.1	44.8	100.9
1660	266.417	0.161	1.24	91	2.20	65.2	44.9	99.9
1661	266.576	0.159	1.23	91	2.22	65.1	44.8	98.0
1662	266.736	0.160	1.21	91	2.14	65	44.8	99.3
1663	266.897	0.161	1.21	91	2.20	65.1	44.9	100.6
1664	267.058	0.161	1.22	91	2.17	65	44.8	100.2
1665	267.218	0.160	1.21	91	2.15	65	44.8	99.0
1666	267.378	0.160	1.21	91	2.16	65.1	44.9	99.8
1667	267.539	0.161	1.23	91	2.21	65.2	44.9	100.6
1668	267.700	0.161	1.21	91	2.16	65.2	44.9	100.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1669	267.860	0.160	1.23	91	2.15	65.2	44.9	100.0
1670	268.019	0.159	1.21	91	2.22	65.3	44.9	98.9
1671	268.180	0.161	1.22	91	2.20	65.2	44.9	100.1
1672	268.342	0.162	1.22	91	2.14	65.2	44.8	101.0
1673	268.501	0.159	1.23	91	2.16	65.2	44.8	98.4
1674	268.661	0.160	1.23	91	2.17	65.2	44.8	98.8
1675	268.822	0.161	1.22	91	2.16	65.3	44.8	100.3
1676	268.983	0.161	1.22	91	2.20	65.2	44.8	101.0
1677	269.143	0.160	1.22	91	2.21	65.3	44.8	101.1
1678	269.303	0.160	1.22	91	2.14	65.3	44.8	102.1
1679	269.463	0.160	1.23	91	2.18	65.2	44.8	102.0
1680	269.624	0.161	1.22	91	2.14	65.4	44.9	101.1
1681	269.784	0.160	1.23	91	2.21	65.3	44.9	99.5
1682	269.944	0.160	1.21	91	2.17	65.3	44.9	100.2
1683	270.104	0.160	1.23	91	2.19	65.3	44.9	100.1
1684	270.266	0.162	1.22	91	2.19	65.3	44.9	100.6
1685	270.426	0.160	1.23	91	2.17	65.3	45	99.8
1686	270.585	0.159	1.22	91	2.20	65.2	44.9	99.8
1687	270.746	0.161	1.23	91	2.13	65.2	45	100.8
1688	270.908	0.162	1.23	91	2.23	65.2	45	100.8
1689	271.067	0.159	1.21	91	2.21	65.1	45	98.3
1690	271.227	0.160	1.22	91	2.15	65.1	45	98.7
1691	271.387	0.160	1.23	91	2.14	65.1	45	99.1
1692	271.549	0.162	1.23	91	2.24	65.1	45	101.2
1693	271.709	0.160	1.23	91	2.23	65.1	45	101.0
1694	271.868	0.159	1.22	91	2.11	65.1	45	99.6
1695	272.028	0.160	1.22	91	2.14	65.1	45	98.5
1696	272.190	0.162	1.22	91	2.14	65.1	45	99.5
1697	272.350	0.160	1.23	91	2.25	65.1	45.1	98.7
1698	272.509	0.159	1.22	91	2.21	65	45	98.9
1699	272.669	0.160	1.21	91	2.22	65	45	99.7
1700	272.831	0.162	1.21	91	2.22	65	45	100.7
1701	272.991	0.160	1.22	91	2.10	65.1	45	99.4
1702	273.150	0.159	1.22	91	2.23	65.1	45	98.1
1703	273.310	0.160	1.23	91	2.22	65.1	45	98.7
1704	273.472	0.162	1.21	91	2.23	65.1	45.1	100.7
1705	273.632	0.160	1.22	91	2.13	65.2	45.1	99.7
1706	273.791	0.159	1.21	91	2.11	65.2	45.1	99.1
1707	273.952	0.161	1.22	91	2.23	65.2	45.1	100.8
1708	274.113	0.161	1.22	91	2.22	65.2	45	101.4
1709	274.273	0.160	1.21	91	2.22	65.2	45.1	100.4
1710	274.432	0.159	1.23	91	2.21	65.2	45.1	98.5
1711	274.592	0.160	1.24	91	2.13	65.3	45.1	99.2
1712	274.754	0.162	1.22	91	2.14	65.2	45.1	101.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Test Date: 2/27/25

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1713	274.914	0.160	1.23	91	2.10	65.2	45.2	100.5
1714	275.073	0.159	1.22	91	2.23	65.2	45.1	99.9
1715	275.234	0.161	1.23	91	2.10	65.2	45.2	100.4
1716	275.395	0.161	1.22	91	2.22	65.1	45.2	99.5
1717	275.555	0.160	1.22	91	2.23	65.2	45.2	99.1
1718	275.714	0.159	1.20	91	2.24	65.2	45.2	99.7
1719	275.875	0.161	1.22	91	2.12	65.1	45.2	100.9
1720	276.036	0.161	1.23	91	2.12	65.1	45.3	99.7
1721	276.196	0.160	1.22	91	2.11	65	45.3	98.6
1722	276.355	0.159	1.23	91	2.23	65	45.3	98.0
1723	276.516	0.161	1.20	91	2.22	65	45.4	99.3
1724	276.678	0.162	1.21	91	2.22	64.9	45.3	100.0
1725	276.837	0.159	1.23	91	2.14	64.9	45.3	98.3
1726	276.997	0.160	1.22	91	2.23	64.9	45.3	99.5
1727	277.157	0.160	1.23	91	2.22	64.9	45.4	100.7
1728	277.319	0.162	1.22	91	2.13	64.8	45.4	102.5
1729	277.478	0.159	1.21	91	2.10	64.8	45.4	100.0
1730	277.638	0.160	1.26	91	2.10	64.9	45.4	100.4
1731	277.798	0.160	1.23	91	2.23	64.9	45.4	100.2
1732	277.960	0.162	1.22	91	2.23	64.8	45.4	100.9
1733	278.120	0.160	1.23	91	2.13	64.8	45.4	99.0
1734	278.279	0.159	1.22	91	2.22	64.8	45.4	97.8
1735	278.440	0.161	1.23	90	2.13	64.8	45.4	99.7
1736	278.601	0.161	1.22	90	2.11	64.8	45.5	99.7
1737	278.761	0.160	1.23	90	2.10	64.8	45.5	97.6
1738	278.921	0.160	1.22	90	2.21	64.9	45.6	98.5
1739	279.081	0.160	1.21	91	2.21	65	45.6	100.4
1740	279.243	0.162	1.23	90	2.14	64.9	45.6	101.5
1741	279.402	0.159	1.22	90	2.22	65	45.6	98.4
1742	279.562	0.160	1.23	91	2.11	65.1	45.6	98.7
1743	279.722	0.160	1.22	91	2.17	65.1	45.7	99.3
1744	279.884	0.162	1.24	91	2.24	65	45.6	101.2
1745	280.043	0.159	1.24	91	2.14	65.1	45.6	99.9
1746	280.202	0.159	1.22	91	2.22	65.2	45.7	100.1
1747	280.363	0.161	1.22	91	2.21	65.4	45.7	101.0
1748	280.524	0.161	1.21	91	2.17	65.6	45.8	100.3
1749	280.683	0.159	1.19	90	2.11	65.8	45.8	99.7
1750	280.842	0.159	1.22	91	2.16	66	45.8	101.8
1751	281.003	0.161	1.22	90	2.12	66.2	45.9	104.0
1752	281.163	0.160	1.22	91	2.14	66.4	46	101.4
1753	281.321	0.158	1.21	90	2.20	66.4	46	98.9
1754	281.481	0.160	1.22	91	2.22	66.5	46.1	102.0
1755	281.642	0.161	1.23	91	2.23	66.6	46.2	103.8
1756	281.801	0.159	1.22	90	2.15	66.6	46.2	100.7

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1757	281.959	0.158	1.22	91	2.15	66.7	46.3	98.4
1758	282.120	0.161	1.21	91	2.23	66.7	46.4	99.9
1759	282.280	0.160	1.20	90	2.25	66.8	46.5	100.6
1760	282.439	0.159	1.21	90	2.17	66.9	46.6	101.1
1761	282.598	0.159	1.22	91	2.17	67	46.7	100.9
1762	282.759	0.161	1.22	91	2.19	67	46.7	102.2
1763	282.917	0.158	1.22	91	2.25	67.1	46.8	100.2
1764	283.076	0.159	1.21	90	2.25	67.1	46.9	100.5
1765	283.236	0.160	1.23	90	2.18	67.2	47	101.8
1766	283.396	0.160	1.20	90	2.25	67.2	47	101.8
1767	283.555	0.159	1.21	90	2.14	67.3	47.2	100.2
1768	283.713	0.158	1.22	90	2.14	67.3	47.3	100.0
1769	283.874	0.161	1.21	90	2.24	67.5	47.4	102.7
1770	284.033	0.159	1.21	90	2.25	67.6	47.5	101.0
1771	284.191	0.158	1.23	91	2.12	67.5	47.6	99.6
1772	284.352	0.161	1.22	90	2.23	67.4	47.6	101.4
1773	284.512	0.160	1.22	90	2.24	67.2	47.7	100.6
1774	284.671	0.159	1.22	90	2.21	67.1	47.7	99.2
1775	284.831	0.160	1.22	91	2.22	67	47.7	100.0
1776	284.992	0.161	1.21	90	2.13	66.9	47.7	101.4
1777	285.152	0.160	1.21	90	2.12	66.8	47.7	100.2
1778	285.311	0.159	1.23	90	2.14	66.8	47.7	98.7
1779	285.470	0.159	1.22	90	2.18	66.6	47.7	98.3
1780	285.632	0.162	1.23	91	2.12	66.6	47.8	99.8
1781	285.792	0.160	1.21	91	2.23	66.5	47.8	99.2
1782	285.951	0.159	1.20	91	2.11	66.4	47.8	99.2
1783	286.111	0.160	1.21	91	2.23	66.3	47.8	99.6
1784	286.272	0.161	1.22	91	2.24	66.2	47.8	100.0
1785	286.432	0.160	1.19	91	2.24	66.1	47.9	99.0
1786	286.591	0.159	1.20	91	2.12	66	47.9	98.5
1787	286.751	0.160	1.20	91	2.22	66	48	99.8
1788	286.913	0.162	1.21	91	2.24	65.9	48	100.6
1789	287.072	0.159	1.21	90	2.11	65.8	48	98.0
1790	287.231	0.159	1.21	91	2.24	65.7	48.1	98.0
1791	287.392	0.161	1.20	91	2.11	65.7	48.1	99.2
1792	287.553	0.161	1.21	91	2.22	65.6	48.1	99.2
1793	287.712	0.159	1.21	91	2.17	65.5	48.1	98.8
1794	287.872	0.160	1.21	91	2.15	65.5	48.2	100.4
1795	288.033	0.161	1.21	91	2.24	65.4	48.2	100.5
1796	288.194	0.161	1.20	91	2.12	65.3	48.2	99.7
1797	288.353	0.159	1.22	91	2.22	65.2	48.2	98.8
1798	288.513	0.160	1.20	90	2.24	65.2	48.2	99.8
1799	288.674	0.161	1.21	90	2.24	65.2	48.3	99.6
1800	288.834	0.160	1.20	91	2.16	65.2	48.3	98.4

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1801	288.994	0.160	1.21	90	2.11	65.2	48.3	98.9
1802	289.153	0.159	1.21	90	2.18	65.1	48.3	98.2
1803	289.315	0.162	1.22	90	2.12	65.1	48.3	99.8
1804	289.475	0.160	1.21	90	2.17	65	48.3	98.6
1805	289.634	0.159	1.22	90	2.24	65	48.3	98.7
1806	289.794	0.160	1.20	90	2.14	65	48.3	99.9
1807	289.955	0.161	1.21	90	2.22	65	48.4	100.3
1808	290.116	0.161	1.19	90	2.20	65.1	48.4	100.2
1809	290.275	0.159	1.22	90	2.21	65.2	48.5	98.7
1810	290.435	0.160	1.21	90	2.14	65.1	48.5	99.2
1811	290.596	0.161	1.22	90	2.15	65.1	48.4	100.5
1812	290.756	0.160	1.22	90	2.11	65.2	48.5	99.8
1813	290.916	0.160	1.21	90	2.14	65.1	48.5	99.3
1814	291.075	0.159	1.22	90	2.23	65.1	48.5	99.0
1815	291.237	0.162	1.21	90	2.12	65.2	48.5	100.4
1816	291.397	0.160	1.22	90	2.17	65.1	48.4	98.5
1817	291.556	0.159	1.22	90	2.22	65.1	48.4	98.4
1818	291.716	0.160	1.21	90	2.20	65.1	48.5	99.1
1819	291.878	0.162	1.22	90	2.12	65.1	48.5	99.8
1820	292.038	0.160	1.23	90	2.22	65.1	48.5	99.0
1821	292.197	0.159	1.22	90	2.22	65.1	48.6	98.9
1822	292.357	0.160	1.22	90	2.18	65.1	48.6	99.1
1823	292.519	0.162	1.22	90	2.11	65	48.6	99.9
1824	292.678	0.159	1.24	91	2.17	65	48.6	98.4
1825	292.837	0.159	1.22	90	2.22	65	48.7	99.2
1826	292.998	0.161	1.22	90	2.17	65	48.6	101.1
1827	293.159	0.161	1.23	91	2.21	65	48.7	101.0
1828	293.319	0.160	1.23	91	2.11	64.8	48.7	99.8
1829	293.478	0.159	1.23	90	2.13	64.8	48.7	99.3
1830	293.639	0.161	1.22	91	2.18	64.8	48.8	100.3
1831	293.800	0.161	1.23	90	2.23	64.8	48.8	99.6
1832	293.960	0.160	1.23	90	2.21	64.7	48.8	99.0
1833	294.119	0.159	1.22	90	2.12	64.7	48.8	98.8
1834	294.280	0.161	1.22	90	2.24	64.6	48.8	100.5
1835	294.441	0.161	1.21	90	2.12	64.6	48.9	100.5
1836	294.601	0.160	1.21	90	2.11	64.6	48.9	99.6
1837	294.760	0.159	1.22	90	2.14	64.6	48.9	98.7
1838	294.921	0.161	1.22	90	2.16	64.6	48.9	99.7
1839	295.083	0.162	1.22	90	2.22	64.6	48.9	100.1
1840	295.242	0.159	1.22	90	2.18	64.5	48.9	98.5
1841	295.401	0.159	1.21	90	2.11	64.7	49	99.6
1842	295.562	0.161	1.23	90	2.19	64.5	49	100.9
1843	295.723	0.161	1.23	90	2.12	64.5	49	100.2
1844	295.882	0.159	1.23	90	2.16	64.5	49	98.9

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1845	296.042	0.160	1.22	90	2.23	64.5	49	99.9
1846	296.203	0.161	1.23	90	2.16	64.6	49.1	100.8
1847	296.364	0.161	1.22	90	2.16	64.6	49.1	99.8
1848	296.523	0.159	1.22	90	2.19	64.6	49.1	98.0
1849	296.683	0.160	1.22	90	2.21	64.8	49.1	99.4
1850	296.844	0.161	1.21	90	2.20	64.8	49.1	100.4
1851	297.005	0.161	1.22	90	2.23	64.8	49.2	100.6
1852	297.164	0.159	1.22	90	2.17	64.8	49.2	99.6
1853	297.324	0.160	1.22	90	2.21	64.8	49.2	99.6
1854	297.485	0.161	1.22	90	2.14	64.8	49.2	99.6
1855	297.646	0.161	1.21	90	2.22	64.7	49.2	99.7
1856	297.805	0.159	1.22	90	2.13	64.8	49.2	98.9
1857	297.965	0.160	1.22	90	2.23	64.9	49.2	100.0
1858	298.126	0.161	1.22	90	2.13	64.8	49.2	101.7
1859	298.287	0.161	1.22	90	2.23	64.8	49.2	102.4
1860	298.446	0.159	1.22	90	2.13	64.9	49.3	100.6
1861	298.606	0.160	1.23	90	2.22	64.8	49.3	100.4
1862	298.767	0.161	1.22	90	2.17	64.8	49.3	100.5
1863	298.927	0.160	1.23	90	2.24	64.8	49.4	98.9
1864	299.087	0.160	1.21	90	2.11	64.8	49.3	98.3
1865	299.247	0.160	1.22	90	2.25	64.8	49.4	98.5
1866	299.408	0.161	1.23	90	2.22	64.7	49.4	100.0
1867	299.568	0.160	1.22	90	2.22	64.7	49.4	100.3
1868	299.728	0.160	1.22	90	2.22	64.7	49.5	99.9
1869	299.888	0.160	1.22	90	2.14	64.7	49.5	100.2
1870	300.049	0.161	1.21	91	2.22	64.6	49.5	101.6
1871	300.209	0.160	1.22	90	2.12	64.6	49.5	100.4
1872	300.369	0.160	1.24	90	2.11	64.7	49.6	100.0
1873	300.528	0.159	1.21	90	2.13	64.6	49.6	99.4
1874	300.690	0.162	1.24	90	2.24	64.6	49.6	101.5
1875	300.850	0.160	1.21	90	2.13	64.6	49.6	99.4
1876	301.010	0.160	1.22	90	2.12	64.6	49.6	98.3
1877	301.169	0.159	1.22	90	2.23	64.5	49.6	97.8
1878	301.331	0.162	1.22	90	2.20	64.5	49.6	99.6
1879	301.491	0.160	1.22	90	2.12	64.5	49.7	99.8
1880	301.651	0.160	1.22	90	2.12	64.5	49.7	101.7
1881	301.811	0.160	1.23	90	2.21	64.6	49.8	101.4
1882	301.972	0.161	1.22	90	2.11	64.6	49.7	101.5
1883	302.132	0.160	1.23	90	2.24	64.7	49.8	100.9
1884	302.292	0.160	1.23	90	2.12	64.7	49.8	100.8
1885	302.452	0.160	1.23	90	2.18	64.7	49.8	101.2
1886	302.613	0.161	1.21	90	2.13	64.7	49.8	101.6
1887	302.773	0.160	1.22	90	2.23	64.7	49.8	99.6
1888	302.933	0.160	1.22	90	2.23	64.6	49.8	98.8

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1889	303.092	0.159	1.22	90	2.21	64.7	49.8	98.1
1890	303.254	0.162	1.22	90	2.11	64.7	49.8	100.0
1891	303.414	0.160	1.24	90	2.13	64.7	49.8	99.6
1892	303.574	0.160	1.21	90	2.22	64.7	49.8	100.6
1893	303.733	0.159	1.23	90	2.14	64.7	49.9	99.1
1894	303.895	0.162	1.22	90	2.17	64.7	49.8	99.4
1895	304.055	0.160	1.23	90	2.22	64.6	49.9	98.2
1896	304.214	0.159	1.22	90	2.23	64.7	49.9	98.4
1897	304.374	0.160	1.21	90	2.22	64.7	49.9	99.6
1898	304.536	0.162	1.22	90	2.23	64.6	49.9	101.3
1899	304.696	0.160	1.24	90	2.23	64.6	50	98.9
1900	304.855	0.159	1.21	90	2.15	64.5	49.9	96.6
1901	305.018	0.163	1.22	90	2.21	64.5	49.9	99.3
1902	305.177	0.159	1.22	90	2.13	64.6	50	98.1
1903	305.337	0.160	1.23	90	2.22	64.6	50.1	98.7
1904	305.496	0.159	1.23	90	2.22	64.6	50.1	97.9
1905	305.656	0.160	1.23	90	2.13	64.6	50.1	99.1
1906	305.818	0.162	1.21	90	2.24	64.5	50.1	100.9
1907	305.978	0.160	1.23	90	2.11	64.5	50.1	99.1
1908	306.137	0.159	1.24	90	2.18	64.4	50.1	99.0
1909	306.297	0.160	1.22	90	2.24	64.4	50.1	100.9
1910	306.459	0.162	1.23	90	2.17	64.4	50.1	100.9
1911	306.622	0.163	1.23	90	2.20	64.4	50.1	101.2
1912	306.778	0.156	1.22	90	2.12	64.5	50.2	97.8
1913	306.938	0.160	1.22	90	2.23	64.5	50.2	99.9
1914	307.100	0.162	1.24	90	2.20	64.6	50.2	100.7
1915	307.260	0.160	1.24	90	2.15	64.7	50.3	99.7
1916	307.419	0.159	1.21	90	2.24	64.7	50.3	99.2
1917	307.579	0.160	1.22	90	2.12	64.7	50.3	99.7
1918	307.741	0.162	1.22	90	2.23	64.7	50.3	100.8
1919	307.900	0.159	1.23	90	2.13	64.7	50.3	99.2
1920	308.060	0.160	1.22	90	2.23	64.7	50.3	99.2
1921	308.220	0.160	1.22	90	2.20	64.6	50.3	98.7
1922	308.384	0.164	1.21	90	2.13	64.6	50.3	102.0
1923	308.544	0.160	1.23	90	2.12	64.6	50.3	99.3
1924	308.701	0.157	1.22	90	2.18	64.7	50.3	96.2
1925	308.861	0.160	1.22	90	2.14	64.7	50.4	98.5
1926	309.023	0.162	1.23	90	2.13	64.6	50.3	101.1
1927	309.182	0.159	1.21	90	2.21	64.6	50.4	99.5
1928	309.342	0.160	1.24	90	2.13	64.6	50.3	100.3
1929	309.502	0.160	1.24	90	2.20	64.6	50.4	100.7
1930	309.664	0.162	1.23	90	2.14	64.6	50.4	101.0
1931	309.823	0.159	1.22	90	2.12	64.5	50.4	97.9
1932	309.986	0.163	1.23	90	2.13	64.5	50.5	99.9

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1933	310.146	0.160	1.22	90	2.12	64.6	50.5	98.9
1934	310.305	0.159	1.21	90	2.21	64.5	50.5	99.1
1935	310.464	0.159	1.23	90	2.11	64.5	50.5	98.3
1936	310.624	0.160	1.22	90	2.19	64.4	50.5	98.4
1937	310.784	0.160	1.23	90	2.12	64.4	50.6	99.5
1938	310.946	0.162	1.23	90	2.23	64.4	50.6	100.8
1939	311.106	0.160	1.23	90	2.16	64.4	50.6	99.0
1940	311.265	0.159	1.22	90	2.20	64.4	50.7	98.6
1941	311.426	0.161	1.22	90	2.19	64.3	50.7	99.3
1942	311.587	0.161	1.22	90	2.17	64.3	50.7	98.9
1943	311.750	0.163	1.23	90	2.12	64.2	50.6	100.5
1944	311.910	0.160	1.23	90	2.17	64.2	50.6	99.3
1945	312.067	0.157	1.22	90	2.22	64.2	50.7	98.0
1946	312.229	0.162	1.24	90	2.21	64.2	50.7	101.1
1947	312.388	0.159	1.22	90	2.13	64.2	50.7	99.0
1948	312.548	0.160	1.21	90	2.20	64.3	50.7	99.8
1949	312.708	0.160	1.21	90	2.21	64.3	50.7	99.7
1950	312.870	0.162	1.21	90	2.14	64.4	50.7	101.2
1951	313.029	0.159	1.22	90	2.13	64.5	50.7	99.8
1952	313.189	0.160	1.23	90	2.18	64.5	50.8	99.9
1953	313.352	0.163	1.21	90	2.15	64.5	50.8	100.9
1954	313.514	0.162	1.22	90	2.17	64.5	50.8	99.8
1955	313.674	0.160	1.23	90	2.11	64.5	50.8	99.3
1956	313.830	0.156	1.22	90	2.17	64.4	50.8	98.0
1957	313.991	0.161	1.23	90	2.21	64.5	50.8	100.9
1958	314.152	0.161	1.22	90	2.23	64.4	50.8	100.6
1959	314.311	0.159	1.22	90	2.23	64.5	50.8	99.0
1960	314.471	0.160	1.23	90	2.21	64.5	50.8	99.4
1961	314.632	0.161	1.23	90	2.22	64.5	50.8	100.5
1962	314.793	0.161	1.22	90	2.11	64.5	50.8	100.2
1963	314.952	0.159	1.22	90	2.21	64.5	50.8	98.6
1964	315.115	0.163	1.22	90	2.11	64.6	50.9	101.5
1965	315.275	0.160	1.22	90	2.23	64.5	50.9	99.4
1966	315.437	0.162	1.22	90	2.17	64.5	50.9	99.9
1967	315.593	0.156	1.22	90	2.13	64.5	50.9	96.2
1968	315.753	0.160	1.22	90	2.22	64.4	50.9	99.6
1969	315.914	0.161	1.23	90	2.11	64.4	50.9	100.3
1970	316.075	0.161	1.22	90	2.22	64.3	51	99.6
1971	316.234	0.159	1.21	90	2.19	64.3	51	97.6
1972	316.394	0.160	1.23	90	2.22	64.5	51	98.6
1973	316.555	0.161	1.22	90	2.23	64.5	51	100.0
1974	316.718	0.163	1.21	90	2.25	64.7	51	101.1
1975	316.878	0.160	1.22	90	2.22	64.8	51	99.8
1976	317.037	0.159	1.22	90	2.13	65	51.1	100.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
1977	317.195	0.158	1.20	90	2.12	65.2	51.1	100.4
1978	317.355	0.160	1.21	90	2.13	65.4	51.2	101.1
1979	317.514	0.159	1.22	90	2.17	65.6	51.2	100.7
1980	317.673	0.159	1.22	90	2.22	65.8	51.3	102.0
1981	317.835	0.162	1.22	90	2.23	65.9	51.3	104.6
1982	317.994	0.159	1.22	90	2.13	66.1	51.3	101.4
1983	318.152	0.158	1.22	90	2.24	66.2	51.3	99.0
1984	318.315	0.163	1.22	90	2.14	66.3	51.4	102.0
1985	318.476	0.161	1.22	90	2.13	66.3	51.5	101.2
1986	318.635	0.159	1.22	90	2.15	66.4	51.5	100.6
1987	318.794	0.159	1.20	90	2.24	66.5	51.5	101.7
1988	318.952	0.158	1.21	90	2.13	66.6	51.6	100.5
1989	319.111	0.159	1.21	90	2.23	66.6	51.7	100.4
1990	319.269	0.158	1.22	90	2.13	66.7	51.7	99.8
1991	319.429	0.160	1.21	90	2.25	66.8	51.8	101.0
1992	319.590	0.161	1.20	90	2.13	66.8	51.8	101.1
1993	319.748	0.158	1.20	90	2.22	66.9	51.9	98.4
1994	319.910	0.162	1.21	90	2.18	67	51.9	101.2
1995	320.070	0.160	1.21	90	2.22	66.9	51.9	100.6
1996	320.230	0.160	1.21	90	2.22	67	52	101.3
1997	320.389	0.159	1.22	90	2.17	67	52	101.2
1998	320.548	0.159	1.21	90	2.15	67	52.1	101.3
1999	320.706	0.158	1.23	90	2.20	66.9	52.1	99.4
2000	320.866	0.160	1.23	90	2.24	66.6	52.2	99.6
2001	321.025	0.159	1.23	90	2.23	66.5	52.2	99.1
2002	321.186	0.161	1.20	90	2.15	66.3	52.3	100.5
2003	321.346	0.160	1.22	90	2.13	66.2	52.3	99.4
2004	321.506	0.160	1.22	90	2.17	66.1	52.3	98.8
2005	321.668	0.162	1.22	90	2.13	66.1	52.4	100.6
2006	321.828	0.160	1.22	90	2.22	66	52.4	99.7
2007	321.990	0.162	1.22	90	2.14	66	52.4	100.3
2008	322.149	0.159	1.21	90	2.16	66	52.4	99.0
2009	322.308	0.159	1.23	90	2.22	66	52.4	100.1
2010	322.467	0.159	1.22	90	2.21	65.9	52.4	99.2
2011	322.627	0.160	1.22	90	2.22	65.8	52.4	98.7
2012	322.787	0.160	1.22	90	2.22	65.8	52.4	99.6
2013	322.946	0.159	1.22	90	2.24	65.7	52.3	100.4
2014	323.108	0.162	1.21	90	2.14	65.6	52.3	102.6
2015	323.271	0.163	1.22	90	2.15	65.6	52.4	102.2
2016	323.430	0.159	1.21	90	2.17	65.5	52.3	99.0
2017	323.590	0.160	1.22	90	2.13	65.4	52.3	99.8
2018	323.750	0.160	1.21	90	2.21	65.4	52.3	99.8
2019	323.911	0.161	1.21	90	2.12	65.3	52.3	100.3
2020	324.068	0.157	1.22	90	2.22	65.3	52.2	98.1

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2021	324.227	0.159	1.21	90	2.17	65.2	52.2	99.3
2022	324.389	0.162	1.21	90	2.13	65.1	52.2	100.8
2023	324.549	0.160	1.22	90	2.17	65.1	52.2	99.1
2024	324.708	0.159	1.22	90	2.18	65	52.2	98.4
2025	324.871	0.163	1.22	90	2.17	65	52.2	101.5
2026	325.032	0.161	1.20	90	2.11	64.9	52.2	100.8
2027	325.193	0.161	1.23	90	2.16	64.8	52.1	100.3
2028	325.352	0.159	1.21	90	2.17	64.7	52.1	98.4
2029	325.512	0.160	1.22	90	2.21	64.6	52.1	99.7
2030	325.671	0.159	1.20	90	2.14	64.6	52.1	99.8
2031	325.830	0.159	1.20	90	2.14	64.7	52.2	98.7
2032	325.990	0.160	1.23	90	2.14	64.6	52.2	98.9
2033	326.150	0.160	1.22	90	2.22	64.5	52.1	99.7
2034	326.312	0.162	1.23	90	2.19	64.5	52.1	100.9
2035	326.474	0.162	1.22	90	2.13	64.4	52.1	100.0
2036	326.634	0.160	1.22	90	2.21	64.4	52.1	99.4
2037	326.793	0.159	1.21	90	2.22	64.4	52.1	99.9
2038	326.955	0.162	1.21	90	2.14	64.4	52.1	101.4
2039	327.115	0.160	1.22	90	2.13	64.4	52.1	99.7
2040	327.274	0.159	1.22	90	2.15	64.4	52.1	98.8
2041	327.432	0.158	1.24	90	2.23	64.4	52.1	98.2
2042	327.593	0.161	1.23	90	2.21	64.4	52.1	100.0
2043	327.753	0.160	1.21	90	2.13	64.5	52.1	98.8
2044	327.912	0.159	1.21	90	2.19	64.6	52.1	97.6
2045	328.075	0.163	1.22	90	2.23	64.6	52.1	99.5
2046	328.237	0.162	1.23	90	2.14	64.6	52.2	99.4
2047	328.397	0.160	1.22	90	2.18	64.6	52.2	99.5
2048	328.556	0.159	1.23	90	2.14	64.6	52.2	99.0
2049	328.716	0.160	1.22	90	2.13	64.6	52.2	98.5
2050	328.878	0.162	1.22	90	2.16	64.6	52.2	99.8
2051	329.034	0.156	1.23	90	2.12	64.6	52.2	97.0
2052	329.194	0.160	1.22	90	2.22	64.6	52.2	99.9
2053	329.355	0.161	1.22	90	2.24	64.6	52.2	99.7
2054	329.516	0.161	1.21	90	2.13	64.6	52.2	99.4
2055	329.678	0.162	1.22	90	2.20	64.6	52.2	100.0
2056	329.837	0.159	1.22	90	2.22	64.6	52.2	97.6
2057	329.997	0.160	1.24	90	2.13	64.6	52.2	98.5
2058	330.159	0.162	1.24	90	2.22	64.6	52.2	100.6
2059	330.318	0.159	1.22	90	2.11	64.6	52.2	98.7
2060	330.478	0.160	1.22	90	2.22	64.6	52.2	99.6
2061	330.638	0.160	1.22	90	2.21	64.5	52.2	99.9
2062	330.797	0.159	1.20	90	2.14	64.5	52.2	99.1
2063	330.956	0.159	1.22	90	2.19	64.6	52.3	98.9
2064	331.116	0.160	1.22	90	2.19	64.6	52.3	99.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2065	331.277	0.161	1.23	90	2.23	64.6	52.3	100.3
2066	331.440	0.163	1.22	90	2.20	64.7	52.3	101.3
2067	331.600	0.160	1.22	90	2.12	64.7	52.3	98.4
2068	331.759	0.159	1.20	90	2.13	64.8	52.4	97.9
2069	331.920	0.161	1.23	90	2.17	64.9	52.4	100.3
2070	332.080	0.160	1.23	90	2.15	64.8	52.4	100.9
2071	332.240	0.160	1.22	90	2.12	64.8	52.4	100.6
2072	332.399	0.159	1.22	90	2.11	64.7	52.4	98.5
2073	332.558	0.159	1.23	90	2.14	64.7	52.4	97.8
2074	332.718	0.160	1.21	90	2.20	64.7	52.3	99.0
2075	332.877	0.159	1.21	90	2.21	64.7	52.3	98.5
2076	333.040	0.163	1.22	90	2.22	64.7	52.4	101.4
2077	333.201	0.161	1.22	90	2.13	64.6	52.4	100.8
2078	333.362	0.161	1.24	90	2.20	64.6	52.4	100.0
2079	333.521	0.159	1.22	90	2.23	64.6	52.4	98.0
2080	333.681	0.160	1.22	90	2.22	64.7	52.5	99.0
2081	333.842	0.161	1.21	90	2.17	64.7	52.5	100.0
2082	334.002	0.160	1.22	90	2.12	64.7	52.5	99.3
2083	334.161	0.159	1.23	90	2.21	64.6	52.5	98.5
2084	334.319	0.158	1.20	90	2.16	64.6	52.5	97.5
2085	334.480	0.161	1.22	90	2.21	64.6	52.5	99.0
2086	334.639	0.159	1.21	90	2.14	64.5	52.5	99.2
2087	334.802	0.163	1.22	90	2.11	64.7	52.5	103.4
2088	334.962	0.160	1.22	90	2.21	64.8	52.6	100.5
2089	335.124	0.162	1.24	90	2.21	64.7	52.6	100.2
2090	335.283	0.159	1.22	91	2.20	64.7	52.6	98.6
2091	335.442	0.159	1.21	90	2.21	64.7	52.6	98.5
2092	335.602	0.160	1.20	90	2.13	64.6	52.6	98.8
2093	335.764	0.162	1.22	90	2.20	64.6	52.6	100.6
2094	335.924	0.160	1.23	90	2.18	64.6	52.7	100.0
2095	336.080	0.156	1.23	90	2.15	64.6	52.7	97.4
2096	336.241	0.161	1.22	90	2.20	64.6	52.7	100.0
2097	336.405	0.164	1.21	90	2.21	64.6	52.7	101.3
2098	336.564	0.159	1.22	91	2.17	64.6	52.7	98.5
2099	336.723	0.159	1.21	90	2.19	64.7	52.8	99.5
2100	336.884	0.161	1.21	91	2.24	64.7	52.8	100.5
2101	337.045	0.161	1.22	90	2.23	64.6	52.7	99.9
2102	337.204	0.159	1.22	90	2.12	64.7	52.7	98.9
2103	337.364	0.160	1.23	91	2.23	64.6	52.7	99.1
2104	337.525	0.161	1.22	90	2.24	64.6	52.7	99.0
2105	337.686	0.161	1.21	90	2.20	64.6	52.7	99.3
2106	337.842	0.156	1.23	91	2.12	64.6	52.7	97.4
2107	338.002	0.160	1.22	90	2.22	64.5	52.7	101.0
2108	338.165	0.163	1.22	90	2.22	64.5	52.7	102.4

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2109	338.326	0.161	1.21	90	2.13	64.5	52.8	99.8
2110	338.486	0.160	1.23	90	2.11	64.5	52.8	98.6
2111	338.645	0.159	1.23	90	2.16	64.6	52.9	98.7
2112	338.806	0.161	1.22	91	2.11	64.6	52.9	100.3
2113	338.967	0.161	1.23	91	2.20	64.6	52.9	99.3
2114	339.126	0.159	1.22	91	2.16	64.6	52.9	97.4
2115	339.286	0.160	1.22	90	2.22	64.6	52.9	98.5
2116	339.447	0.161	1.22	90	2.13	64.6	52.9	99.3
2117	339.604	0.157	1.22	90	2.20	64.5	52.9	96.2
2118	339.767	0.163	1.22	91	2.11	64.5	52.8	99.7
2119	339.926	0.159	1.22	90	2.19	64.5	52.9	97.9
2120	340.088	0.162	1.21	90	2.15	64.5	52.8	100.1
2121	340.248	0.160	1.23	90	2.18	64.4	52.8	99.2
2122	340.407	0.159	1.22	91	2.11	64.5	52.9	98.7
2123	340.567	0.160	1.22	91	2.12	64.5	52.9	99.0
2124	340.729	0.162	1.23	91	2.13	64.5	52.9	99.8
2125	340.888	0.159	1.22	90	2.23	64.5	52.9	98.0
2126	341.047	0.159	1.22	91	2.13	64.5	52.9	98.3
2127	341.207	0.160	1.21	90	2.21	64.4	52.9	98.9
2128	341.366	0.159	1.22	91	2.14	64.4	52.9	97.9
2129	341.529	0.163	1.21	90	2.17	64.4	52.9	99.9
2130	341.688	0.159	1.22	90	2.10	64.4	52.9	97.6
2131	341.848	0.160	1.22	90	2.24	64.4	53	98.6
2132	342.009	0.161	1.21	90	2.23	64.5	53	99.2
2133	342.169	0.160	1.21	90	2.19	64.5	53	99.1
2134	342.328	0.159	1.22	91	2.11	64.5	53.1	98.6
2135	342.488	0.160	1.22	90	2.10	64.5	53	99.6
2136	342.650	0.162	1.21	90	2.14	64.6	53.1	101.0
2137	342.809	0.159	1.22	90	2.13	64.5	53.1	98.4
2138	342.969	0.160	1.22	91	2.17	64.6	53.1	99.4
2139	343.129	0.160	1.22	90	2.21	64.6	53.1	100.2
2140	343.290	0.161	1.22	90	2.15	64.5	53.1	100.8
2141	343.450	0.160	1.22	91	2.22	64.6	53.1	100.7
2142	343.609	0.159	1.23	90	2.12	64.5	53.1	99.9
2143	343.770	0.161	1.21	91	2.22	64.5	53.1	100.1
2144	343.931	0.161	1.20	91	2.23	64.5	53.1	100.4
2145	344.091	0.160	1.22	90	2.14	64.5	53.1	100.1
2146	344.250	0.159	1.22	90	2.23	64.5	53.1	98.3
2147	344.411	0.161	1.23	91	2.23	64.4	53.1	98.4
2148	344.572	0.161	1.24	90	2.16	64.4	53.1	98.3
2149	344.732	0.160	1.22	90	2.22	64.4	53.1	98.8
2150	344.891	0.159	1.23	90	2.22	64.5	53.2	99.0
2151	345.052	0.161	1.22	91	2.23	64.5	53.2	99.4
2152	345.213	0.161	1.22	91	2.21	64.5	53.2	98.8

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2153	345.372	0.159	1.19	91	2.21	64.4	53.2	98.4
2154	345.532	0.160	1.22	90	2.22	64.3	53.1	99.4
2155	345.693	0.161	1.22	90	2.20	64.4	53.2	99.8
2156	345.853	0.160	1.20	91	2.15	64.3	53.2	100.0
2157	346.013	0.160	1.20	90	2.24	64.4	53.2	99.5
2158	346.173	0.160	1.22	90	2.22	64.4	53.3	98.0
2159	346.334	0.161	1.23	91	2.14	64.4	53.3	99.3
2160	346.494	0.160	1.21	90	2.22	64.5	53.3	99.5
2161	346.654	0.160	1.22	90	2.12	64.6	53.3	99.2
2162	346.813	0.159	1.21	90	2.19	64.6	53.3	98.2
2163	346.975	0.162	1.22	91	2.11	64.6	53.4	100.5
2164	347.135	0.160	1.23	91	2.17	64.6	53.4	99.7
2165	347.294	0.159	1.23	91	2.17	64.6	53.4	98.5
2166	347.454	0.160	1.22	90	2.14	64.5	53.4	99.3
2167	347.616	0.162	1.22	90	2.16	64.5	53.4	100.3
2168	347.776	0.160	1.23	90	2.21	64.4	53.3	98.5
2169	347.935	0.159	1.21	90	2.14	64.5	53.3	98.4
2170	348.095	0.160	1.20	91	2.21	64.4	53.4	99.7
2171	348.257	0.162	1.22	91	2.12	64.4	53.4	101.7
2172	348.416	0.159	1.22	90	2.12	64.4	53.4	100.1
2173	348.575	0.159	1.22	91	2.12	64.5	53.4	99.5
2174	348.735	0.160	1.22	90	2.22	64.4	53.4	99.2
2175	348.897	0.162	1.24	91	2.22	64.4	53.4	99.9
2176	349.057	0.160	1.23	90	2.24	64.4	53.4	98.9
2177	349.216	0.159	1.23	91	2.14	64.4	53.4	99.0
2178	349.376	0.160	1.24	91	2.14	64.4	53.4	99.4
2179	349.538	0.162	1.22	91	2.20	64.3	53.4	99.7
2180	349.698	0.160	1.21	90	2.12	64.4	53.4	98.9
2181	349.857	0.159	1.22	91	2.12	64.4	53.5	98.4
2182	350.017	0.160	1.22	91	2.16	64.4	53.5	98.2
2183	350.179	0.162	1.22	91	2.21	64.3	53.5	99.4
2184	350.338	0.159	1.22	91	2.20	64.3	53.6	98.4
2185	350.498	0.160	1.21	90	2.14	64.3	53.5	99.2
2186	350.658	0.160	1.22	90	2.19	64.3	53.5	99.0
2187	350.819	0.161	1.23	91	2.24	64.3	53.5	100.1
2188	350.979	0.160	1.22	90	2.18	64.3	53.5	100.5
2189	351.138	0.159	1.22	90	2.10	64.3	53.5	100.1
2190	351.299	0.161	1.22	90	2.22	64.3	53.6	99.9
2191	351.460	0.161	1.22	90	2.14	64.4	53.6	98.5
2192	351.619	0.159	1.21	90	2.22	64.5	53.6	97.8
2193	351.779	0.160	1.20	90	2.14	64.5	53.6	99.3
2194	351.940	0.161	1.24	90	2.10	64.5	53.7	100.0
2195	352.101	0.161	1.23	90	2.15	64.5	53.7	99.7
2196	352.260	0.159	1.22	90	2.15	64.4	53.6	98.6

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2197	352.420	0.160	1.21	91	2.18	64.4	53.7	100.0
2198	352.581	0.161	1.23	90	2.17	64.4	53.6	101.3
2199	352.742	0.161	1.23	90	2.16	64.4	53.7	100.5
2200	352.902	0.160	1.23	90	2.19	64.4	53.7	98.6
2201	353.061	0.159	1.22	90	2.23	64.4	53.7	98.2
2202	353.222	0.161	1.22	90	2.17	64.4	53.7	100.2
2203	353.383	0.161	1.23	90	2.21	64.4	53.7	100.0
2204	353.543	0.160	1.23	90	2.21	64.4	53.7	98.9
2205	353.702	0.159	1.23	91	2.13	64.4	53.7	98.5
2206	353.863	0.161	1.22	90	2.15	64.4	53.7	99.5
2207	354.024	0.161	1.23	90	2.25	64.4	53.8	98.7
2208	354.184	0.160	1.21	90	2.13	64.4	53.7	98.0
2209	354.343	0.159	1.23	90	2.12	64.4	53.8	98.4
2210	354.504	0.161	1.22	90	2.14	64.4	53.8	100.8
2211	354.665	0.161	1.22	90	2.21	64.3	53.8	101.0
2212	354.825	0.160	1.21	90	2.16	64.3	53.8	100.1
2213	354.985	0.160	1.23	90	2.14	64.4	53.9	99.5
2214	355.145	0.160	1.21	91	2.13	64.4	53.8	98.4
2215	355.306	0.161	1.22	90	2.19	64.6	53.8	99.5
2216	355.466	0.160	1.22	90	2.21	64.7	53.9	101.0
2217	355.625	0.159	1.21	90	2.24	64.9	53.9	100.4
2218	355.786	0.161	1.22	90	2.22	65.1	53.9	100.5
2219	355.946	0.160	1.21	90	2.13	65.3	53.9	100.3
2220	356.105	0.159	1.20	90	2.24	65.5	53.9	100.7
2221	356.265	0.160	1.22	90	2.24	65.6	54	101.8
2222	356.426	0.161	1.22	90	2.12	65.8	54	102.1
2223	356.585	0.159	1.22	90	2.23	65.9	54	100.0
2224	356.744	0.159	1.21	90	2.13	66	54.1	100.3
2225	356.904	0.160	1.22	90	2.20	66.1	54.1	101.8
2226	357.064	0.160	1.22	90	2.15	66.3	54.1	100.9
2227	357.223	0.159	1.22	90	2.19	66.3	54.2	99.6
2228	357.382	0.159	1.20	90	2.23	66.4	54.2	100.7
2229	357.543	0.161	1.22	90	2.18	66.5	54.3	102.6
2230	357.703	0.160	1.22	90	2.24	66.6	54.4	101.3
2231	357.861	0.158	1.21	90	2.17	66.6	54.4	99.5
2232	358.020	0.159	1.21	90	2.21	66.6	54.4	100.5
2233	358.181	0.161	1.22	91	2.19	66.6	54.4	102.5
2234	358.340	0.159	1.22	91	2.22	66.7	54.5	100.9
2235	358.499	0.159	1.21	90	2.16	66.7	54.5	100.1
2236	358.659	0.160	1.20	90	2.13	66.7	54.5	101.2
2237	358.819	0.160	1.24	91	2.24	66.8	54.6	101.8
2238	358.977	0.158	1.20	90	2.24	66.8	54.6	99.8
2239	359.137	0.160	1.22	90	2.14	66.9	54.7	101.2
2240	359.298	0.161	1.22	90	2.12	66.7	54.7	101.2

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2241	359.457	0.159	1.23	91	2.17	66.5	54.8	98.0
2242	359.616	0.159	1.21	91	2.23	66.3	54.8	98.5
2243	359.776	0.160	1.21	91	2.13	66.2	54.8	100.3
2244	359.937	0.161	1.22	90	2.14	66.2	54.9	100.1
2245	360.097	0.160	1.22	90	2.13	66.2	54.9	99.0
2246	360.256	0.159	1.20	91	2.23	66.2	54.9	98.5
2247	360.417	0.161	1.22	90	2.15	66.1	55	99.4
2248	360.577	0.160	1.20	90	2.17	66.1	54.9	98.9
2249	360.736	0.159	1.22	91	2.24	66	54.9	98.7
2250	360.896	0.160	1.21	90	2.21	65.9	54.9	99.6
2251	361.057	0.161	1.22	90	2.22	65.8	54.9	99.8
2252	361.217	0.160	1.23	91	2.15	65.7	54.9	99.6
2253	361.376	0.159	1.22	91	2.15	65.7	54.9	98.7
2254	361.536	0.160	1.22	91	2.12	65.6	54.9	98.7
2255	361.698	0.162	1.21	91	2.16	65.6	54.9	100.7
2256	361.857	0.159	1.23	91	2.11	65.6	54.9	99.2
2257	362.016	0.159	1.21	91	2.22	65.5	54.9	99.2
2258	362.176	0.160	1.20	91	2.21	65.5	54.9	99.7
2259	362.338	0.162	1.21	91	2.15	65.4	54.9	100.7
2260	362.497	0.159	1.22	91	2.22	65.4	54.8	98.6
2261	362.656	0.159	1.22	91	2.16	65.3	54.8	98.6
2262	362.817	0.161	1.22	91	2.23	65.3	54.8	100.2
2263	362.978	0.161	1.21	91	2.20	65.3	54.8	100.6
2264	363.137	0.159	1.22	91	2.15	65.2	54.8	99.1
2265	363.296	0.159	1.22	91	2.20	65.2	54.8	98.5
2266	363.457	0.161	1.22	91	2.14	65.1	54.8	99.8
2267	363.618	0.161	1.21	91	2.11	65.1	54.7	99.4
2268	363.777	0.159	1.22	91	2.18	65	54.8	97.4
2269	363.937	0.160	1.21	91	2.14	65	54.7	98.3
2270	364.098	0.161	1.20	90	2.22	65.1	54.8	99.7
2271	364.258	0.160	1.22	91	2.20	65.2	54.7	98.9
2272	364.417	0.159	1.22	91	2.19	65.1	54.7	98.1
2273	364.577	0.160	1.21	91	2.22	65.1	54.8	99.2
2274	364.738	0.161	1.22	91	2.16	65.1	54.7	99.9
2275	364.898	0.160	1.22	91	2.15	65.1	54.8	99.2
2276	365.057	0.159	1.23	91	2.23	65.1	54.8	98.3
2277	365.217	0.160	1.21	91	2.20	65.1	54.8	98.8
2278	365.379	0.162	1.22	91	2.17	65	54.7	100.7
2279	365.538	0.159	1.22	91	2.20	65	54.7	99.0
2280	365.697	0.159	1.21	91	2.21	65	54.7	99.4
2281	365.857	0.160	1.22	91	2.16	65	54.7	100.0
2282	366.019	0.162	1.22	91	2.21	64.9	54.7	100.3
2283	366.178	0.159	1.23	91	2.15	64.9	54.8	98.3
2284	366.338	0.160	1.22	91	2.19	64.9	54.8	98.9

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2285	366.498	0.160	1.22	91	2.18	64.9	54.7	98.3
2286	366.659	0.161	1.21	91	2.21	64.8	54.7	99.0
2287	366.818	0.159	1.22	91	2.20	64.9	54.7	98.6
2288	366.978	0.160	1.22	91	2.22	64.8	54.7	99.6
2289	367.139	0.161	1.20	91	2.22	64.8	54.8	100.5
2290	367.299	0.160	1.21	91	2.11	64.8	54.8	100.2
2291	367.459	0.160	1.23	91	2.13	64.9	54.8	99.6
2292	367.618	0.159	1.22	91	2.20	64.9	54.8	98.3
2293	367.779	0.161	1.22	91	2.14	64.8	54.8	99.9
2294	367.939	0.160	1.22	91	2.13	64.8	54.8	98.7
2295	368.099	0.160	1.20	91	2.22	64.7	54.8	98.1
2296	368.258	0.159	1.22	91	2.18	64.7	54.8	98.5
2297	368.420	0.162	1.21	91	2.19	64.8	54.8	101.5
2298	368.580	0.160	1.22	91	2.17	64.8	54.8	100.6
2299	368.739	0.159	1.22	91	2.20	64.9	54.8	99.7
2300	368.898	0.159	1.22	91	2.23	64.9	54.8	99.1
2301	369.060	0.162	1.22	91	2.12	64.9	54.8	99.9
2302	369.220	0.160	1.22	91	2.23	64.9	54.8	98.0
2303	369.379	0.159	1.23	91	2.21	64.9	54.8	98.5
2304	369.539	0.160	1.22	91	2.12	64.9	54.9	100.8
2305	369.700	0.161	1.22	91	2.17	64.9	54.8	102.1
2306	369.860	0.160	1.22	91	2.14	64.9	54.9	101.0
2307	370.019	0.159	1.22	91	2.12	64.9	54.9	99.2
2308	370.179	0.160	1.22	91	2.22	64.9	54.9	98.8
2309	370.340	0.161	1.22	91	2.20	65	54.9	99.6
2310	370.499	0.159	1.22	91	2.12	65.1	54.9	98.6
2311	370.658	0.159	1.21	91	2.22	65	54.9	98.5
2312	370.819	0.161	1.22	91	2.16	65	54.9	99.7
2313	370.980	0.161	1.20	91	2.11	64.9	54.9	99.9
2314	371.139	0.159	1.22	91	2.23	64.9	55	99.0
2315	371.298	0.159	1.23	91	2.11	64.9	55	99.8
2316	371.460	0.162	1.22	91	2.12	64.9	54.9	101.3
2317	371.620	0.160	1.21	91	2.22	64.9	55	99.4
2318	371.779	0.159	1.23	91	2.24	64.9	55	98.7
2319	371.938	0.159	1.22	91	2.19	64.8	55	98.1
2320	372.100	0.162	1.22	91	2.21	64.8	55	99.9
2321	372.260	0.160	1.22	91	2.12	64.8	55	99.4
2322	372.418	0.158	1.22	91	2.13	64.8	55	97.8
2323	372.578	0.160	1.23	91	2.20	64.7	55	99.0
2324	372.740	0.162	1.22	91	2.20	64.7	55.1	101.0
2325	372.900	0.160	1.21	91	2.12	64.7	55	99.6
2326	373.059	0.159	1.22	91	2.23	64.7	55.1	98.6
2327	373.219	0.160	1.23	91	2.24	64.7	55.1	99.4
2328	373.380	0.161	1.22	91	2.22	64.7	55.1	100.1

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2329	373.539	0.159	1.21	91	2.12	64.7	55.1	99.6
2330	373.699	0.160	1.20	91	2.21	64.7	55.1	101.3
2331	373.859	0.160	1.21	91	2.20	64.7	55.1	101.1
2332	374.020	0.161	1.22	91	2.14	64.7	55.1	100.7
2333	374.180	0.160	1.21	91	2.22	64.7	55.1	99.3
2334	374.339	0.159	1.23	91	2.11	64.6	55.1	97.6
2335	374.500	0.161	1.22	91	2.23	64.6	55	98.9
2336	374.661	0.161	1.22	91	2.23	64.6	55.1	99.9
2337	374.820	0.159	1.22	91	2.16	64.6	55.1	99.2
2338	374.979	0.159	1.20	91	2.17	64.7	55.1	99.2
2339	375.141	0.162	1.22	91	2.13	64.8	55.1	101.0
2340	375.301	0.160	1.23	91	2.17	64.9	55.1	100.0
2341	375.460	0.159	1.21	91	2.23	64.9	55.2	99.0
2342	375.619	0.159	1.23	91	2.17	65	55.2	98.4
2343	375.781	0.162	1.21	91	2.23	64.9	55.2	100.6
2344	375.941	0.160	1.21	91	2.14	65	55.2	99.5
2345	376.099	0.158	1.22	91	2.14	65	55.2	97.5
2346	376.259	0.160	1.22	91	2.13	65	55.2	98.3
2347	376.421	0.162	1.19	91	2.23	64.9	55.2	100.1
2348	376.581	0.160	1.23	91	2.21	65	55.3	99.6
2349	376.740	0.159	1.19	91	2.11	65	55.3	98.7
2350	376.900	0.160	1.22	91	2.20	65	55.3	99.0
2351	377.061	0.161	1.23	91	2.20	65	55.3	100.1
2352	377.221	0.160	1.22	91	2.15	65	55.3	99.4
2353	377.380	0.159	1.20	91	2.24	65	55.3	98.4
2354	377.541	0.161	1.22	91	2.22	65	55.3	99.7
2355	377.702	0.161	1.21	91	2.19	65	55.3	100.6
2356	377.861	0.159	1.22	91	2.13	65	55.3	100.0
2357	378.020	0.159	1.21	91	2.20	65	55.4	99.3
2358	378.181	0.161	1.22	91	2.21	65	55.3	100.3
2359	378.342	0.161	1.22	91	2.23	65	55.3	100.7
2360	378.501	0.159	1.22	91	2.19	65	55.4	98.6
2361	378.661	0.160	1.24	91	2.14	65	55.4	98.2
2362	378.822	0.161	1.22	91	2.13	65	55.4	99.0
2363	378.982	0.160	1.23	91	2.20	65	55.3	98.6
2364	379.142	0.160	1.22	91	2.14	65	55.4	98.5
2365	379.301	0.159	1.22	91	2.17	64.9	55.3	97.8
2366	379.462	0.161	1.21	91	2.10	64.9	55.3	99.1
2367	379.622	0.160	1.22	91	2.20	65	55.4	98.5
2368	379.782	0.160	1.22	91	2.19	64.9	55.4	98.9
2369	379.941	0.159	1.19	91	2.22	64.9	55.4	98.8
2370	380.103	0.162	1.22	91	2.16	64.9	55.4	99.5
2371	380.263	0.160	1.22	91	2.12	65	55.4	98.0
2372	380.421	0.158	1.23	91	2.22	65	55.4	98.5

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2373	380.581	0.160	1.21	91	2.18	65	55.5	100.5
2374	380.743	0.162	1.21	91	2.24	65	55.5	100.9
2375	380.903	0.160	1.21	91	2.20	64.9	55.5	99.3
2376	381.062	0.159	1.21	91	2.23	65	55.5	98.7
2377	381.222	0.160	1.22	91	2.22	64.9	55.5	99.8
2378	381.383	0.161	1.22	91	2.17	65	55.5	101.1
2379	381.543	0.160	1.22	91	2.24	65	55.5	99.5
2380	381.702	0.159	1.21	91	2.16	65	55.5	98.4
2381	381.863	0.161	1.19	91	2.12	64.9	55.6	100.8
2382	382.024	0.161	1.21	91	2.23	64.9	55.6	100.6
2383	382.183	0.159	1.21	91	2.22	65	55.6	97.8
2384	382.342	0.159	1.22	91	2.10	65	55.6	97.5
2385	382.503	0.161	1.21	91	2.20	64.9	55.6	99.3
2386	382.664	0.161	1.21	92	2.19	64.9	55.6	99.3
2387	382.823	0.159	1.22	91	2.12	64.9	55.6	98.2
2388	382.983	0.160	1.22	91	2.23	64.9	55.6	99.7
2389	383.144	0.161	1.21	91	2.20	64.9	55.6	100.6
2390	383.304	0.160	1.21	91	2.24	64.9	55.7	100.1
2391	383.463	0.159	1.22	92	2.22	64.9	55.6	99.6
2392	383.623	0.160	1.22	92	2.18	64.9	55.6	99.5
2393	383.784	0.161	1.21	91	2.21	64.9	55.7	99.4
2394	383.944	0.160	1.21	91	2.22	64.9	55.6	98.3
2395	384.103	0.159	1.22	91	2.10	64.9	55.7	97.2
2396	384.263	0.160	1.21	91	2.23	64.9	55.7	98.7
2397	384.425	0.162	1.21	91	2.21	64.9	55.7	100.9
2398	384.584	0.159	1.22	91	2.22	64.9	55.7	99.6
2399	384.743	0.159	1.23	91	2.22	64.9	55.7	100.1
2400	384.903	0.160	1.21	91	2.17	64.9	55.7	99.2
2401	385.065	0.162	1.22	91	2.18	64.9	55.7	99.3
2402	385.225	0.160	1.22	91	2.12	64.9	55.7	99.0
2403	385.384	0.159	1.21	92	2.17	65	55.7	98.8
2404	385.544	0.160	1.20	91	2.21	64.9	55.7	98.5
2405	385.705	0.161	1.21	92	2.12	64.9	55.7	98.3
2406	385.865	0.160	1.21	91	2.14	64.9	55.7	98.4
2407	386.024	0.159	1.23	92	2.15	64.9	55.8	98.9
2408	386.185	0.161	1.23	92	2.12	64.9	55.8	100.1
2409	386.346	0.161	1.24	91	2.19	64.9	55.7	100.2
2410	386.505	0.159	1.22	91	2.14	64.9	55.8	99.6
2411	386.665	0.160	1.21	92	2.23	64.9	55.7	100.3
2412	386.825	0.160	1.22	92	2.21	64.9	55.8	99.1
2413	386.986	0.161	1.22	91	2.19	64.8	55.8	99.1
2414	387.146	0.160	1.21	91	2.22	64.8	55.8	99.2
2415	387.305	0.159	1.22	92	2.20	64.9	55.8	99.1
2416	387.466	0.161	1.21	92	2.19	64.9	55.8	100.3

Train B - Particulate Sampling

ASTM E2515

Run: 4

Test Date: 2/27/25

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0244

Meter Box Y Regression Slope: 0

Meter Box Dynamic Y: 1.024

Sampling Box ID: 691

Sample Train Leak Checks

Pre-test 0 cfm @ 15.85 in. Hg

Post-Test 0 cfm @ 5.75 in. Hg

Test Start Time: 19:36

Total Sampling Time: 2460 min

Recording Interval: 1 min

Elapsed Time (min)	Train B Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
2417	387.627	0.161	1.24	92	2.13	64.8	55.8	100.0
2418	387.786	0.159	1.22	91	2.17	64.8	55.8	97.8
2419	387.946	0.160	1.21	91	2.21	64.8	55.8	98.2
2420	388.107	0.161	1.21	91	2.11	64.8	55.8	99.8
2421	388.267	0.160	1.22	92	2.21	64.9	55.8	99.4
2422	388.426	0.159	1.22	92	2.14	64.9	55.9	99.0
2423	388.586	0.160	1.22	91	2.23	64.8	55.8	99.3
2424	388.748	0.162	1.22	92	2.20	64.8	55.9	99.5
2425	388.907	0.159	1.22	92	2.20	64.8	55.9	98.3
2426	389.070	0.163	1.22	92	2.19	64.8	55.9	102.0
2427	389.226	0.156	1.22	91	2.20	64.8	55.9	97.4
2428	389.388	0.162	1.22	92	2.19	64.8	55.9	100.6
2429	389.548	0.160	1.23	92	2.17	64.9	55.9	99.3
2430	389.707	0.159	1.21	92	2.21	64.9	55.9	99.2
2431	389.867	0.160	1.21	92	2.20	64.9	56	101.0
2432	390.029	0.162	1.23	92	2.12	64.9	56	102.2
2433	390.188	0.159	1.21	92	2.12	64.9	56	99.4
2434	390.347	0.159	1.22	91	2.16	64.9	56	99.2
2435	390.508	0.161	1.21	92	2.11	64.9	56	100.4
2436	390.669	0.161	1.22	92	2.21	64.9	56	100.4
2437	390.828	0.159	1.24	92	2.14	64.9	56	98.9
2438	390.991	0.163	1.20	92	2.13	64.9	56	101.6
2439	391.148	0.157	1.22	92	2.24	65	56	98.7
2440	391.309	0.161	1.21	92	2.21	65.2	56	102.0
2441	391.468	0.159	1.22	92	2.16	65.3	56	100.4
2442	391.628	0.160	1.22	92	2.23	65.4	56	100.4
2443	391.789	0.161	1.25	92	2.14	65.6	56.1	101.1
2444	391.949	0.160	1.21	92	2.15	65.8	56.1	100.6
2445	392.108	0.159	1.20	92	2.24	66	56.1	99.8
2446	392.267	0.159	1.21	92	2.20	66.1	56.1	99.8
2447	392.428	0.161	1.21	92	2.23	66.3	56.1	101.4
2448	392.590	0.162	1.23	92	2.24	66.4	56.2	102.6
2449	392.749	0.159	1.21	92	2.17	66.5	56.2	100.4
2450	392.905	0.156	1.22	92	2.15	66.6	56.2	98.1
2451	393.066	0.161	1.23	92	2.17	66.7	56.2	101.0
2452	393.225	0.159	1.21	92	2.24	66.8	56.3	99.8
2453	393.383	0.158	1.20	92	2.24	66.9	56.3	100.1
2454	393.545	0.162	1.21	92	2.15	67	56.3	103.7
2455	393.703	0.158	1.22	92	2.22	67.1	56.4	101.6
2456	393.861	0.158	1.22	92	2.17	67.2	56.4	100.7
2457	394.022	0.161	1.20	92	2.15	67.3	56.5	101.9
2458	394.182	0.160	1.21	92	2.25	67.4	56.5	102.2
2459	394.340	0.158	1.20	92	2.22	67.4	56.6	101.0
2460	394.502	0.162	1.21	92	2.19	67.6	56.6	103.0

Train C - First Hour Particulate Sampling

Run:	4	Test Date:	2/27/25
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	<u>1.0056</u>
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	<u>0</u>
Tracking No.:	2501	Meter Box Dynamic Y:	<u>1.006</u>
Project No.:	0117WB044E	Sample Box ID:	<u>336</u>
Start Time:	<u>19:36</u>	Sample Train Leak Checks	
Total Sampling Time:	60 min	Pre-test	<u>0.002</u> cfm @ <u>19.5</u> in. Hg
Recording Interval:	1 min	Post-Test	<u>0.002</u> cfm @ <u>17.6</u> in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
Tot / Avg	9.323	0.155	0.99	72.9	2.69	68.0	60.6	100.4
Minimum	0.000	0.149	0.98	70	2.60	67	60	95.2
Max	9.323	0.160	1.02	76	2.75	69	61	103.3
0	0.000		0.01	70	0.11	66.7	59.3	
1	0.149	0.149	1.02	70	2.73	67	60.1	95.2
2	0.305	0.156	1.01	70	2.75	67.2	60.2	101.3
3	0.462	0.157	1.01	70	2.75	67.3	60.2	102.4
4	0.620	0.158	1.00	70	2.68	67.6	60.3	103.2
5	0.776	0.156	1.00	70	2.69	67.5	60.3	101.8
6	0.931	0.155	1.00	70	2.71	67.7	60.4	100.9
7	1.087	0.156	1.00	70	2.75	67.8	60.3	101.4
8	1.242	0.155	1.00	70	2.74	67.8	60.3	101.2
9	1.395	0.153	0.99	70	2.65	68	60.4	99.6
10	1.550	0.155	0.99	70	2.67	68.1	60.4	99.5
11	1.705	0.155	0.99	70	2.75	68.2	60.5	99.9
12	1.860	0.155	0.99	70	2.64	68.3	60.5	101.6
13	2.017	0.157	0.99	70	2.74	68.5	60.6	102.9
14	2.172	0.155	0.98	71	2.74	68.6	60.6	100.8
15	2.327	0.155	0.98	71	2.75	68.7	60.7	101.4
16	2.482	0.155	0.99	71	2.66	68.7	60.7	101.8
17	2.638	0.156	0.99	71	2.72	68.7	60.8	101.5
18	2.792	0.154	0.98	71	2.67	68.5	60.7	99.4
19	2.945	0.153	0.98	71	2.71	68.5	60.8	98.8
20	3.100	0.155	0.98	71	2.67	68.4	60.8	100.5
21	3.255	0.155	0.98	72	2.64	68.4	60.8	100.9
22	3.413	0.158	0.98	72	2.70	68.3	60.7	103.2
23	3.568	0.155	0.99	72	2.65	68.3	60.8	100.7
24	3.724	0.156	0.98	72	2.68	68.3	60.8	100.3
25	3.878	0.154	0.98	72	2.72	68.3	60.8	98.8
26	4.034	0.156	0.98	72	2.72	68.2	60.7	100.4
27	4.188	0.154	0.98	73	2.72	68.2	60.7	99.7
28	4.341	0.153	0.98	73	2.63	68.2	60.8	99.3
29	4.497	0.156	0.98	73	2.74	68.1	60.8	101.1
30	4.651	0.154	0.98	73	2.61	68.1	60.7	99.4
31	4.810	0.159	0.99	73	2.62	68	60.7	102.2
32	4.965	0.155	0.98	73	2.63	68	60.7	99.8

Train C - First Hour Particulate Sampling

Run:	4	Test Date:	2/27/25
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	<u>1.0056</u>
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	<u>0</u>
Tracking No.:	2501	Meter Box Dynamic Y:	<u>1.006</u>
Project No.:	0117WB044E	Sample Box ID:	<u>336</u>
Start Time:	<u>19:36</u>	Sample Train Leak Checks	
Total Sampling Time:	60 min	Pre-test	<u>0.002</u> cfm @ <u>19.5</u> in. Hg
Recording Interval:	1 min	Post-Test	<u>0.002</u> cfm @ <u>17.6</u> in. Hg

Elapsed Time (min)	Train C Sampling System							
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Filter Temp (°F)	Dryer Temp (°F)	Pro - Rate
33	5.121	0.156	0.98	73	2.69	67.9	60.7	100.1
34	5.275	0.154	0.98	74	2.73	68	60.7	98.4
35	5.431	0.156	0.98	74	2.63	67.8	60.7	100.4
36	5.587	0.156	0.98	74	2.63	67.8	60.7	100.3
37	5.742	0.155	0.98	74	2.72	67.8	60.7	99.4
38	5.895	0.153	0.98	74	2.70	67.8	60.7	98.8
39	6.050	0.155	0.98	74	2.60	67.9	60.8	100.3
40	6.206	0.156	0.98	74	2.64	67.8	60.7	99.8
41	6.364	0.158	0.99	74	2.63	67.8	60.7	100.4
42	6.520	0.156	0.98	75	2.68	67.7	60.7	100.4
43	6.675	0.155	0.99	75	2.72	67.7	60.7	100.4
44	6.831	0.156	0.98	75	2.60	67.7	60.6	100.1
45	6.987	0.156	0.98	75	2.71	67.6	60.6	99.4
46	7.142	0.155	0.99	75	2.71	67.8	60.6	99.1
47	7.298	0.156	0.99	75	2.73	67.8	60.6	100.5
48	7.451	0.153	0.99	75	2.68	67.8	60.5	98.7
49	7.607	0.156	0.98	75	2.73	67.8	60.6	100.8
50	7.765	0.158	0.99	75	2.72	67.9	60.6	102.4
51	7.921	0.156	0.98	76	2.64	67.8	60.5	100.7
52	8.076	0.155	0.98	76	2.65	67.9	60.5	99.5
53	8.232	0.156	0.98	76	2.73	67.9	60.5	100.1
54	8.388	0.156	0.99	76	2.67	67.9	60.4	100.3
55	8.543	0.155	0.98	76	2.74	67.9	60.4	99.8
56	8.700	0.157	0.99	76	2.73	67.9	60.4	100.9
57	8.852	0.152	0.99	76	2.69	67.9	60.3	98.0
58	9.012	0.160	0.99	76	2.64	67.9	60.4	103.3
59	9.167	0.155	0.99	76	2.72	67.9	60.3	99.9
60	9.323	0.156	0.99	76	2.73	67.9	60.4	100.8

Train D - Ambient Background and Flue Gas Data**Run:** 4**Test Date:** 2/27/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 19:36

Total Sampling Time 2460 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
Tot / Avg	384.732	0.156	1.11	77.5	1.97	148.65	-0.016	541.8	0.55	4.85
Minimum	0.000	0.151	0.00	71	0.17	97.60	-0.058	120.0	0.00	0.16
Max	384.732	0.160	1.15	80	2.06	315.00	-0.001	547.0	5.48	20.02
0	0.000		0.00	71	0.17	271.5	-0.030	396.0	0.03	15.63
1	0.151	0.151	1.15	71	2.06	243.6	-0.029	547.0	0.52	3.43
2	0.307	0.156	1.14	71	1.98	241.8	-0.039	547.0	0.49	3.45
3	0.465	0.158	1.14	71	2.00	264.4	-0.042	547.0	0.06	17.41
4	0.623	0.158	1.14	71	1.95	273.6	-0.041	547.0	0.05	16.57
5	0.780	0.157	1.13	71	1.94	274.9	-0.041	547.0	0.06	17.41
6	0.936	0.156	1.13	71	1.95	276.9	-0.042	547.0	0.07	17.32
7	1.091	0.155	1.13	71	1.98	277.7	-0.028	547.0	0.07	16.69
8	1.248	0.157	1.13	71	1.95	278.1	-0.038	547.0	0.07	16.18
9	1.401	0.153	1.13	71	1.99	279	-0.047	547.0	0.07	15.72
10	1.556	0.155	1.12	72	2.00	287.3	-0.031	547.0	0.08	14.99
11	1.712	0.156	1.12	72	1.98	285.7	-0.043	547.0	0.08	15.48
12	1.868	0.156	1.12	72	1.97	288.5	-0.027	547.0	0.08	14.40
13	2.025	0.157	1.12	72	1.97	288.9	-0.033	547.0	0.08	14.57
14	2.181	0.156	1.12	72	1.96	285.7	-0.048	547.0	0.07	15.30
15	2.335	0.154	1.12	72	1.96	289.4	-0.043	547.0	0.08	14.92
16	2.490	0.155	1.11	72	1.95	287.7	-0.034	547.0	0.08	14.46
17	2.646	0.156	1.11	72	1.97	258.8	-0.026	547.0	0.31	7.62
18	2.800	0.154	1.11	72	1.96	241.8	-0.025	547.0	0.24	4.89
19	2.952	0.152	1.11	73	1.96	231.6	-0.033	547.0	0.20	4.40
20	3.107	0.155	1.10	73	1.94	223.3	-0.027	547.0	0.16	3.60
21	3.263	0.156	1.11	73	1.97	219.3	-0.026	547.0	0.15	3.21
22	3.419	0.156	1.11	73	1.97	214.8	-0.029	547.0	0.14	3.61
23	3.575	0.156	1.11	73	1.98	210.5	-0.027	547.0	0.15	3.11
24	3.730	0.155	1.11	73	1.97	206.9	-0.022	547.0	0.14	2.81
25	3.884	0.154	1.11	73	1.94	203.6	-0.022	547.0	0.15	2.66
26	4.040	0.156	1.10	74	1.95	202.7	-0.021	547.0	0.12	2.22
27	4.195	0.155	1.11	74	1.96	200.8	-0.022	547.0	0.08	1.56
28	4.347	0.152	1.11	74	1.96	198.3	-0.022	547.0	0.07	1.17
29	4.502	0.155	1.11	74	1.95	195.1	-0.019	547.0	0.06	1.02
30	4.658	0.156	1.11	74	1.96	192.2	-0.021	547.0	0.07	1.01
31	4.814	0.156	1.11	74	1.98	188.8	-0.020	547.0	0.07	1.07
32	4.970	0.156	1.11	74	1.96	186.1	-0.021	547.0	0.08	1.21

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
33	5.125	0.155	1.11	74	1.95	183.3	-0.019	547.0	0.10	1.50
34	5.279	0.154	1.11	75	1.95	180.7	-0.019	547.0	0.13	1.87
35	5.435	0.156	1.11	75	1.96	177.6	-0.019	547.0	0.14	1.99
36	5.591	0.156	1.11	75	1.95	175.3	-0.022	547.0	0.12	1.86
37	5.745	0.154	1.11	75	1.96	172.7	-0.013	547.0	0.12	1.82
38	5.898	0.153	1.11	75	1.97	170.3	-0.017	547.0	0.11	1.75
39	6.054	0.156	1.11	75	1.96	168.2	-0.013	547.0	0.11	1.72
40	6.209	0.155	1.11	75	1.96	166.2	-0.019	547.0	0.11	1.75
41	6.366	0.157	1.11	75	1.96	163.9	-0.017	547.0	0.11	1.65
42	6.522	0.156	1.11	75	1.97	161.9	-0.017	547.0	0.09	1.46
43	6.677	0.155	1.11	76	1.96	160	-0.016	547.0	0.09	1.48
44	6.832	0.155	1.11	76	1.96	158.1	-0.014	547.0	0.10	1.50
45	6.988	0.156	1.11	76	1.97	156	-0.012	547.0	0.09	1.36
46	7.143	0.155	1.11	76	1.97	154.4	-0.013	547.0	0.08	1.28
47	7.298	0.155	1.11	76	1.96	152.5	-0.017	547.0	0.08	1.24
48	7.451	0.153	1.10	76	1.97	151.1	-0.015	547.0	0.07	1.16
49	7.607	0.156	1.11	76	1.93	149.9	-0.018	547.0	0.08	1.28
50	7.764	0.157	1.11	76	1.95	148	-0.013	547.0	0.08	1.24
51	7.920	0.156	1.11	76	1.97	146.6	-0.014	547.0	0.08	1.16
52	8.075	0.155	1.11	76	1.97	144.6	-0.013	547.0	0.08	1.14
53	8.230	0.155	1.11	76	1.95	143.5	-0.013	547.0	0.08	1.18
54	8.386	0.156	1.11	77	1.96	141.7	-0.015	547.0	0.07	1.07
55	8.541	0.155	1.11	77	1.97	140.6	-0.011	547.0	0.08	1.11
56	8.697	0.156	1.11	77	1.96	139.3	-0.014	547.0	0.07	1.09
57	8.850	0.153	1.11	77	1.95	138.1	-0.011	547.0	0.06	0.92
58	9.008	0.158	1.11	77	1.95	136.6	-0.009	547.0	0.06	0.90
59	9.163	0.155	1.11	77	1.97	136.2	-0.010	547.0	0.07	0.98
60	9.319	0.156	1.11	77	1.97	134.4	-0.014	547.0	0.07	0.90
61	9.474	0.155	1.11	77	1.98	132.9	-0.014	547.0	0.06	0.87
62	9.630	0.156	1.11	77	1.95	132.1	-0.012	547.0	0.06	0.87
63	9.786	0.156	1.11	77	1.97	131.4	-0.015	547.0	0.06	0.85
64	9.941	0.155	1.11	77	1.96	130.5	-0.010	547.0	0.07	0.88
65	10.097	0.156	1.11	77	1.96	129.7	-0.016	547.0	0.06	0.81
66	10.251	0.154	1.11	77	1.95	128.7	-0.013	547.0	0.06	0.81
67	10.408	0.157	1.11	77	1.96	127.9	-0.010	547.0	0.06	0.82
68	10.564	0.156	1.10	78	1.96	126.6	-0.011	547.0	0.06	0.81

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler **Meter Box Y Regression Offset:** 1.0074
Model: Classic Edge 760.1 **Meter Box Y Regression Factor:** 0
Tracking No.: 2501 **Meter Box Dynamic Y:** 1.007
Project No.: 0117WB044E **Sample Box ID:** 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
69	10.721	0.157	1.11	78	1.98	126.2	-0.011	547.0	0.06	0.81
70	10.876	0.155	1.11	78	1.97	125.5	-0.011	547.0	0.06	0.77
71	11.031	0.155	1.10	78	1.94	124.5	-0.015	547.0	0.06	0.77
72	11.188	0.157	1.11	78	1.95	124.3	-0.013	547.0	0.06	0.76
73	11.343	0.155	1.11	78	1.97	123.6	-0.010	547.0	0.07	0.74
74	11.499	0.156	1.11	78	1.98	122.5	-0.013	547.0	0.06	0.73
75	11.652	0.153	1.11	78	1.97	122	-0.007	547.0	0.06	0.72
76	11.810	0.158	1.11	78	1.96	121.2	-0.013	547.0	0.06	0.74
77	11.967	0.157	1.11	78	1.96	121	-0.010	547.0	0.06	0.74
78	12.122	0.155	1.11	78	1.97	119.7	-0.010	547.0	0.07	0.77
79	12.278	0.156	1.11	78	1.98	119.2	-0.010	547.0	0.06	0.72
80	12.434	0.156	1.11	78	1.95	118.4	-0.016	547.0	0.06	0.71
81	12.590	0.156	1.11	78	1.95	118.2	-0.010	547.0	0.06	0.69
82	12.746	0.156	1.11	78	1.98	117.2	-0.010	547.0	0.06	0.70
83	12.902	0.156	1.11	78	1.97	117.3	-0.007	547.0	0.06	0.75
84	13.057	0.155	1.11	78	1.97	116.5	-0.009	547.0	0.07	0.74
85	13.214	0.157	1.10	78	1.95	116.3	-0.008	547.0	0.07	0.72
86	13.370	0.156	1.11	78	1.97	163.6	-0.009	547.0	2.19	9.51
87	13.525	0.155	1.11	78	1.97	146.2	-0.012	547.0	0.74	10.26
88	13.681	0.156	1.11	78	1.96	136.1	-0.014	547.0	0.69	8.90
89	13.838	0.157	1.11	78	1.97	129.5	-0.015	547.0	0.61	7.20
90	13.993	0.155	1.11	78	1.95	126.1	-0.010	547.0	0.56	6.32
91	14.150	0.157	1.12	78	1.97	124.2	-0.009	547.0	0.49	5.35
92	14.306	0.156	1.11	78	1.97	121.5	-0.011	547.0	0.43	4.49
93	14.461	0.155	1.11	78	1.96	120.2	-0.010	547.0	0.38	3.94
94	14.618	0.157	1.11	78	1.95	119.3	-0.011	547.0	0.32	3.19
95	14.773	0.155	1.11	78	1.97	118.5	-0.009	547.0	0.28	2.75
96	14.930	0.157	1.11	78	1.97	117.2	-0.007	547.0	0.25	2.48
97	15.086	0.156	1.11	78	1.99	117	-0.011	547.0	0.23	2.19
98	15.241	0.155	1.11	78	1.96	116.3	-0.012	547.0	0.20	1.89
99	15.398	0.157	1.11	78	1.96	114.9	-0.007	547.0	0.19	1.74
100	15.555	0.157	1.12	78	1.96	113.5	-0.008	547.0	0.17	1.60
101	15.710	0.155	1.12	78	1.97	113	-0.012	547.0	0.17	1.51
102	15.867	0.157	1.12	78	1.98	112.3	-0.003	547.0	0.15	1.42
103	16.023	0.156	1.12	78	1.95	112.4	-0.008	547.0	0.16	1.39
104	16.178	0.155	1.11	78	1.98	112.7	-0.011	547.0	0.14	1.27

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
105	16.335	0.157	1.11	78	1.96	111.6	-0.009	547.0	0.15	1.27
106	16.490	0.155	1.11	78	1.95	110.7	-0.007	547.0	0.13	1.10
107	16.647	0.157	1.11	78	1.96	110.6	-0.004	547.0	0.13	1.14
108	16.804	0.157	1.11	78	1.97	109.8	-0.011	547.0	0.13	1.15
109	16.959	0.155	1.11	78	1.96	109.3	-0.008	547.0	0.13	1.10
110	17.116	0.157	1.11	78	1.99	109.3	-0.009	547.0	0.13	1.14
111	17.272	0.156	1.12	78	1.95	109.4	-0.007	547.0	0.13	1.10
112	17.427	0.155	1.11	78	1.96	108.7	-0.007	547.0	0.12	1.03
113	17.584	0.157	1.12	78	1.96	108.6	-0.006	547.0	0.12	1.02
114	17.740	0.156	1.12	78	1.96	108.9	-0.009	547.0	0.12	0.99
115	17.896	0.156	1.11	78	1.98	108.7	-0.009	547.0	0.11	0.98
116	18.053	0.157	1.11	78	1.96	107	-0.012	547.0	0.12	0.98
117	18.208	0.155	1.12	78	1.97	156.1	-0.012	547.0	1.59	9.93
118	18.365	0.157	1.11	78	1.95	138.8	-0.011	547.0	0.98	10.29
119	18.522	0.157	1.12	78	1.95	130.1	-0.010	547.0	0.90	8.58
120	18.677	0.155	1.11	78	1.98	124.2	-0.011	547.0	0.82	7.35
121	18.834	0.157	1.11	78	1.96	120	-0.008	547.0	0.76	6.53
122	18.990	0.156	1.11	78	1.95	116.7	-0.011	547.0	0.66	5.51
123	19.145	0.155	1.11	78	1.97	115	-0.011	547.0	0.56	4.56
124	19.302	0.157	1.12	78	1.98	114.2	-0.011	547.0	0.52	4.16
125	19.458	0.156	1.12	78	1.98	113.5	-0.009	547.0	0.44	3.43
126	19.614	0.156	1.11	78	1.98	112.4	-0.008	547.0	0.40	3.05
127	19.771	0.157	1.11	78	1.99	110.6	-0.012	547.0	0.36	2.69
128	19.926	0.155	1.12	78	1.95	110.7	-0.008	547.0	0.33	2.45
129	20.082	0.156	1.11	78	1.97	109.3	-0.011	547.0	0.30	2.23
130	20.239	0.157	1.12	78	1.98	109.4	-0.008	547.0	0.25	1.88
131	20.394	0.155	1.12	78	1.96	108.4	-0.012	547.0	0.26	1.88
132	20.551	0.157	1.11	78	1.95	107.8	-0.002	547.0	0.24	1.75
133	20.707	0.156	1.12	78	1.98	106.7	-0.004	547.0	0.24	1.75
134	20.862	0.155	1.11	78	1.95	107.2	-0.005	547.0	0.21	1.54
135	21.019	0.157	1.11	78	1.93	105.9	-0.007	547.0	0.22	1.57
136	21.175	0.156	1.11	78	1.95	104.7	-0.012	547.0	0.21	1.56
137	21.331	0.156	1.11	78	1.97	106	-0.006	547.0	0.19	1.38
138	21.487	0.156	1.11	78	1.96	105.6	-0.008	547.0	0.20	1.44
139	21.643	0.156	1.12	78	1.97	105.5	-0.009	547.0	0.19	1.40
140	21.799	0.156	1.11	78	1.95	105.9	-0.007	547.0	0.19	1.34

Train D - Ambient Background and Flue Gas Data

Run:	4	Test Date:	2/27/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	19:36		
Total Sampling Time	2460 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
141	21.956	0.157	1.11	78	1.94	104.9	-0.005	547.0	0.17	1.26
142	22.111	0.155	1.11	78	1.97	105.4	-0.006	547.0	0.18	1.32
143	22.267	0.156	1.11	78	1.98	104.7	-0.003	547.0	0.18	1.28
144	22.424	0.157	1.12	78	1.97	104.7	-0.007	547.0	0.17	1.22
145	22.579	0.155	1.11	78	1.96	103.9	-0.007	547.0	0.16	1.14
146	22.736	0.157	1.12	78	1.97	103.5	-0.010	547.0	0.16	1.14
147	22.892	0.156	1.12	78	1.98	108.9	-0.017	547.0	0.17	1.19
148	23.048	0.156	1.11	78	1.96	149.6	-0.011	547.0	1.81	12.37
149	23.205	0.157	1.11	78	1.95	134.6	-0.006	547.0	1.35	9.61
150	23.360	0.155	1.12	78	1.97	126.6	-0.010	547.0	1.23	8.53
151	23.517	0.157	1.11	78	1.96	121	-0.008	547.0	1.05	6.99
152	23.674	0.157	1.12	78	1.95	117.6	-0.009	547.0	0.98	6.40
153	23.829	0.155	1.12	78	1.97	114.3	-0.007	547.0	0.85	5.45
154	23.986	0.157	1.11	78	1.97	112.6	-0.011	547.0	0.80	5.01
155	24.142	0.156	1.11	78	1.95	110.8	-0.008	547.0	0.73	4.54
156	24.298	0.156	1.11	78	1.98	109.8	-0.008	547.0	0.61	3.79
157	24.455	0.157	1.11	78	1.97	109.1	-0.007	547.0	0.53	3.28
158	24.610	0.155	1.12	78	1.96	107.8	-0.012	547.0	0.50	3.05
159	24.767	0.157	1.11	78	1.96	106.4	-0.009	547.0	0.45	2.74
160	24.924	0.157	1.11	78	1.97	105.7	-0.008	547.0	0.42	2.58
161	25.079	0.155	1.12	78	1.98	105.7	-0.009	547.0	0.43	2.60
162	25.236	0.157	1.11	78	1.97	105.3	-0.005	547.0	0.40	2.36
163	25.393	0.157	1.12	78	1.95	104.3	-0.008	547.0	0.37	2.21
164	25.548	0.155	1.11	78	1.95	102.1	-0.009	547.0	0.34	2.05
165	25.705	0.157	1.12	78	1.96	102.9	-0.006	547.0	0.33	1.97
166	25.861	0.156	1.12	78	1.96	103.6	-0.008	547.0	0.32	1.93
167	26.017	0.156	1.11	78	1.98	103.1	-0.008	547.0	0.30	1.84
168	26.174	0.157	1.11	78	1.97	103.4	-0.007	547.0	0.28	1.73
169	26.329	0.155	1.12	78	1.98	102.5	-0.012	547.0	0.27	1.69
170	26.486	0.157	1.11	78	1.96	101.9	-0.009	547.0	0.25	1.56
171	26.643	0.157	1.12	78	1.95	102.3	-0.010	547.0	0.24	1.51
172	26.798	0.155	1.11	78	1.96	101.9	-0.008	547.0	0.24	1.50
173	26.955	0.157	1.12	78	1.96	101.3	-0.006	547.0	0.23	1.44
174	27.111	0.156	1.11	78	1.96	101.1	-0.010	547.0	0.22	1.36
175	27.267	0.156	1.11	78	1.96	100.8	-0.007	547.0	0.21	1.32
176	27.424	0.157	1.11	78	1.97	100.8	-0.005	547.0	0.22	1.35

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
177	27.579	0.155	1.11	78	1.97	101.5	-0.006	547.0	0.20	1.26
178	27.736	0.157	1.11	78	1.95	126.6	-0.024	547.0	0.20	1.24
179	27.893	0.157	1.12	78	1.95	142	-0.009	547.0	2.02	13.02
180	28.048	0.155	1.11	78	1.98	130.3	-0.010	547.0	1.38	8.89
181	28.205	0.157	1.11	78	1.96	123	-0.010	547.0	1.36	8.20
182	28.361	0.156	1.12	78	1.97	118.6	-0.006	547.0	1.19	6.95
183	28.517	0.156	1.11	78	1.97	115.6	-0.007	547.0	1.17	6.61
184	28.674	0.157	1.12	78	1.96	112.6	-0.011	547.0	0.96	5.40
185	28.829	0.155	1.12	78	1.96	109.9	-0.012	547.0	0.85	4.74
186	28.986	0.157	1.11	78	1.98	108.6	-0.008	547.0	0.73	4.03
187	29.143	0.157	1.11	78	1.98	107.6	-0.006	547.0	0.68	3.73
188	29.298	0.155	1.11	78	1.96	107.7	-0.007	547.0	0.64	3.44
189	29.455	0.157	1.11	78	1.97	106.1	-0.006	547.0	0.56	3.05
190	29.612	0.157	1.12	78	1.95	105.9	-0.006	547.0	0.51	2.77
191	29.767	0.155	1.11	78	1.97	103.9	-0.007	547.0	0.45	2.44
192	29.924	0.157	1.12	78	1.97	103.1	-0.008	547.0	0.43	2.32
193	30.080	0.156	1.12	78	1.95	140.8	-0.016	547.0	1.33	7.56
194	30.236	0.156	1.11	78	1.97	189.6	-0.030	547.0	0.69	18.22
195	30.393	0.157	1.11	78	1.96	233.9	-0.039	547.0	0.06	18.15
196	30.548	0.155	1.12	78	1.97	260.3	-0.018	393.0	0.03	17.76
197	30.705	0.157	1.11	78	1.99	265.7	-0.032	512.0	0.04	17.00
198	30.862	0.157	1.12	78	1.96	271.7	-0.039	443.0	0.04	16.79
199	31.017	0.155	1.11	78	1.97	272.2	-0.028	447.0	0.04	17.13
200	31.174	0.157	1.12	78	1.97	274.7	-0.006	533.0	0.04	17.40
201	31.331	0.157	1.12	78	1.97	277.6	-0.028	547.0	0.05	17.53
202	31.487	0.156	1.11	78	1.97	280.9	-0.030	547.0	0.06	17.59
203	31.644	0.157	1.11	78	1.98	283.7	-0.031	547.0	0.06	17.75
204	31.799	0.155	1.12	78	1.96	286.8	-0.048	547.0	0.07	17.97
205	31.956	0.157	1.11	78	1.94	286	-0.026	547.0	0.06	17.58
206	32.113	0.157	1.12	78	1.97	285.9	-0.026	547.0	0.05	16.35
207	32.268	0.155	1.11	78	1.95	285.4	-0.051	547.0	0.08	18.15
208	32.425	0.157	1.12	78	1.98	285.9	-0.030	547.0	0.11	17.96
209	32.582	0.157	1.12	78	1.96	286.5	-0.029	547.0	0.12	17.92
210	32.738	0.156	1.11	78	1.97	292.3	-0.033	547.0	0.13	17.40
211	32.895	0.157	1.11	78	1.94	291	-0.038	547.0	0.09	15.78
212	33.050	0.155	1.12	78	1.98	294.4	-0.035	547.0	0.12	17.06

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
213	33.207	0.157	1.11	78	1.97	292.1	-0.034	547.0	0.07	14.60
214	33.364	0.157	1.12	78	1.97	294.6	-0.052	547.0	0.12	16.68
215	33.519	0.155	1.11	78	1.97	293.5	-0.029	547.0	0.12	16.88
216	33.676	0.157	1.12	78	1.98	294.5	-0.041	547.0	0.12	16.67
217	33.833	0.157	1.12	78	1.95	296.7	-0.039	547.0	0.12	16.65
218	33.989	0.156	1.12	78	1.96	296.5	-0.028	547.0	0.11	16.52
219	34.146	0.157	1.11	78	1.97	289.4	-0.035	547.0	0.10	16.55
220	34.301	0.155	1.12	78	1.97	261	-0.030	494.0	0.04	11.86
221	34.458	0.157	1.11	78	1.98	245.3	-0.032	530.0	0.04	10.21
222	34.615	0.157	1.12	78	1.96	234.3	-0.032	479.0	0.04	10.09
223	34.770	0.155	1.12	78	1.96	226.5	-0.028	547.0	0.07	7.78
224	34.927	0.157	1.11	78	1.94	222.1	-0.031	547.0	0.09	8.32
225	35.083	0.156	1.11	78	1.97	217.5	-0.029	547.0	0.07	7.79
226	35.238	0.155	1.11	78	1.97	213.1	-0.025	547.0	0.09	6.20
227	35.396	0.158	1.12	78	1.95	209.3	-0.031	547.0	0.10	5.26
228	35.551	0.155	1.12	78	1.97	206.5	-0.029	547.0	0.10	4.45
229	35.708	0.157	1.11	78	1.98	206.1	-0.024	547.0	0.08	3.39
230	35.864	0.156	1.11	78	1.96	204.5	-0.020	547.0	0.11	2.78
231	36.020	0.156	1.12	78	1.95	202	-0.022	547.0	0.17	2.89
232	36.176	0.156	1.11	78	1.98	199.4	-0.020	547.0	0.27	3.43
233	36.333	0.157	1.12	78	1.97	196.2	-0.024	547.0	0.38	3.86
234	36.489	0.156	1.12	78	1.96	193	-0.022	547.0	0.47	4.26
235	36.646	0.157	1.12	78	1.97	190.1	-0.023	547.0	0.54	4.37
236	36.802	0.156	1.12	78	1.96	186.7	-0.022	547.0	0.58	4.50
237	36.958	0.156	1.11	78	1.96	184.1	-0.022	547.0	0.66	4.91
238	37.115	0.157	1.11	78	1.98	181.6	-0.020	547.0	0.63	4.66
239	37.270	0.155	1.12	78	1.96	178.7	-0.024	547.0	0.62	4.52
240	37.427	0.157	1.11	78	1.96	176.4	-0.023	547.0	0.59	4.35
241	37.584	0.157	1.12	78	1.95	174	-0.018	547.0	0.56	4.22
242	37.739	0.155	1.12	78	1.98	171.5	-0.018	547.0	0.56	4.15
243	37.896	0.157	1.12	78	1.96	169.5	-0.018	547.0	0.51	3.85
244	38.052	0.156	1.12	78	1.96	167.2	-0.023	547.0	0.52	3.97
245	38.208	0.156	1.12	78	1.97	164.9	-0.018	547.0	0.46	3.64
246	38.365	0.157	1.12	78	1.96	162.8	-0.018	547.0	0.44	3.52
247	38.521	0.156	1.12	78	1.97	160.7	-0.017	547.0	0.38	2.99
248	38.678	0.157	1.11	78	1.96	158.9	-0.012	547.0	0.36	2.86

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
249	38.835	0.157	1.12	78	1.96	157	-0.018	547.0	0.34	2.82
250	38.990	0.155	1.12	78	1.97	155.3	-0.015	547.0	0.34	2.82
251	39.148	0.158	1.12	78	1.96	153.7	-0.017	547.0	0.29	2.50
252	39.304	0.156	1.12	78	1.98	152.2	-0.016	547.0	0.26	2.29
253	39.460	0.156	1.12	78	1.95	149.9	-0.015	547.0	0.25	2.28
254	39.617	0.157	1.11	78	1.98	148.9	-0.016	547.0	0.23	2.09
255	39.772	0.155	1.12	78	1.98	147.1	-0.014	547.0	0.21	1.94
256	39.929	0.157	1.11	78	1.95	145.7	-0.016	547.0	0.21	1.95
257	40.086	0.157	1.12	78	1.95	144.1	-0.017	547.0	0.20	1.91
258	40.241	0.155	1.12	78	1.97	143	-0.012	547.0	0.19	1.79
259	40.398	0.157	1.12	78	1.95	141.6	-0.015	547.0	0.19	1.79
260	40.554	0.156	1.12	78	1.97	140.6	-0.006	547.0	0.18	1.83
261	40.711	0.157	1.12	78	1.97	139.3	-0.014	547.0	0.17	1.70
262	40.867	0.156	1.12	78	1.96	138.1	-0.015	547.0	0.15	1.57
263	41.023	0.156	1.12	78	1.96	137	-0.014	547.0	0.14	1.51
264	41.180	0.157	1.11	78	1.98	135.8	-0.011	547.0	0.13	1.39
265	41.337	0.157	1.12	78	1.97	134.8	-0.015	547.0	0.13	1.35
266	41.492	0.155	1.12	78	1.98	134.7	-0.014	547.0	0.12	1.32
267	41.649	0.157	1.11	78	1.96	132.6	-0.010	547.0	0.13	1.33
268	41.805	0.156	1.11	78	1.97	131.4	-0.014	547.0	0.11	1.20
269	41.961	0.156	1.11	78	1.97	130	-0.009	547.0	0.11	1.14
270	42.118	0.157	1.12	78	1.97	129.2	-0.012	547.0	0.10	1.08
271	42.273	0.155	1.12	78	1.98	128.6	-0.014	547.0	0.10	1.10
272	42.430	0.157	1.11	78	1.98	127.7	-0.010	547.0	0.09	1.05
273	42.587	0.157	1.12	78	1.98	126.7	-0.010	547.0	0.09	0.99
274	42.742	0.155	1.12	78	1.98	126.2	-0.012	547.0	0.08	0.98
275	42.899	0.157	1.11	78	1.94	125.3	-0.018	547.0	0.08	0.90
276	43.056	0.157	1.12	78	1.99	125	-0.015	547.0	0.08	0.89
277	43.211	0.155	1.12	78	1.97	124.1	-0.012	547.0	0.07	0.83
278	43.368	0.157	1.12	78	1.97	123.2	-0.012	547.0	0.08	0.90
279	43.524	0.156	1.12	78	1.97	122.8	-0.013	547.0	0.06	0.76
280	43.680	0.156	1.11	78	1.93	122.8	-0.016	547.0	0.07	0.81
281	43.837	0.157	1.12	78	1.98	121.3	-0.013	547.0	0.06	0.76
282	43.993	0.156	1.12	78	1.97	120	-0.011	547.0	0.06	0.72
283	44.149	0.156	1.11	78	1.95	119.2	-0.012	547.0	0.06	0.73
284	44.306	0.157	1.12	78	1.98	119.1	-0.015	547.0	0.07	0.69

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
285	44.462	0.156	1.12	78	1.95	117.8	-0.013	547.0	0.06	0.68
286	44.619	0.157	1.12	78	1.99	117.2	-0.013	547.0	0.06	0.67
287	44.775	0.156	1.12	78	1.97	116.7	-0.007	547.0	0.06	0.72
288	44.931	0.156	1.12	78	1.95	116.6	-0.016	547.0	0.06	0.69
289	45.088	0.157	1.12	78	1.96	166.8	-0.021	547.0	0.89	6.09
290	45.244	0.156	1.12	78	1.95	152.3	-0.018	547.0	1.00	6.85
291	45.400	0.156	1.11	78	1.98	142.8	-0.015	547.0	0.95	6.68
292	45.557	0.157	1.12	78	1.95	136	-0.014	547.0	0.89	6.35
293	45.713	0.156	1.12	78	1.99	131	-0.017	547.0	0.75	5.47
294	45.870	0.157	1.12	78	1.95	127.8	-0.019	547.0	0.67	4.93
295	46.026	0.156	1.12	78	1.97	125.7	-0.017	547.0	0.63	4.56
296	46.182	0.156	1.11	78	1.97	122.9	-0.015	547.0	0.51	3.80
297	46.339	0.157	1.12	78	1.95	121.2	-0.012	547.0	0.46	3.25
298	46.494	0.155	1.12	78	1.98	120.7	-0.015	547.0	0.45	3.39
299	46.651	0.157	1.11	78	1.98	118.9	-0.007	547.0	0.38	2.83
300	46.808	0.157	1.12	78	1.97	118.3	-0.009	547.0	0.32	2.42
301	46.963	0.155	1.11	78	1.94	116.8	-0.008	547.0	0.36	2.48
302	47.120	0.157	1.12	78	1.95	115.7	-0.010	547.0	0.31	2.25
303	47.276	0.156	1.12	78	1.98	115.1	-0.010	547.0	0.29	2.21
304	47.432	0.156	1.11	78	1.97	114.8	-0.007	547.0	0.26	1.94
305	47.589	0.157	1.11	78	1.98	113.9	-0.014	547.0	0.27	1.91
306	47.745	0.156	1.12	78	1.98	114	-0.012	547.0	0.26	1.90
307	47.901	0.156	1.11	78	1.97	114.1	-0.012	547.0	0.23	1.70
308	48.059	0.158	1.12	78	1.96	114.1	-0.012	547.0	0.21	1.57
309	48.214	0.155	1.12	78	1.96	112.4	-0.006	547.0	0.20	1.58
310	48.371	0.157	1.12	78	1.97	111.9	-0.014	547.0	0.20	1.47
311	48.527	0.156	1.12	78	1.97	111.3	-0.010	547.0	0.19	1.43
312	48.683	0.156	1.12	78	1.98	110.6	-0.008	547.0	0.17	1.20
313	48.840	0.157	1.12	78	1.96	111.2	-0.009	547.0	0.16	1.28
314	48.995	0.155	1.12	78	1.97	110.2	-0.007	547.0	0.15	1.14
315	49.152	0.157	1.12	78	1.95	108.5	-0.008	547.0	0.14	1.11
316	49.309	0.157	1.12	78	1.96	110.2	-0.010	547.0	0.14	1.11
317	49.465	0.156	1.12	78	1.98	110	-0.009	547.0	0.13	1.02
318	49.622	0.157	1.12	78	1.97	109.5	-0.010	547.0	0.13	1.02
319	49.778	0.156	1.12	78	1.97	117.8	-0.024	547.0	0.13	0.97
320	49.934	0.156	1.12	78	1.98	157.9	-0.016	547.0	0.81	5.52

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
321	50.092	0.158	1.12	78	1.97	143.2	-0.015	547.0	1.03	6.10
322	50.247	0.155	1.12	78	1.97	134.6	-0.013	547.0	0.89	5.54
323	50.404	0.157	1.12	78	1.96	129.5	-0.009	547.0	0.78	5.08
324	50.561	0.157	1.12	78	1.97	125.4	-0.016	547.0	0.71	4.87
325	50.716	0.155	1.12	78	1.99	121.4	-0.012	547.0	0.62	4.36
326	50.874	0.158	1.12	78	1.98	119.1	-0.013	547.0	0.48	3.49
327	51.030	0.156	1.12	78	1.95	117.1	-0.009	547.0	0.48	3.46
328	51.186	0.156	1.12	78	1.96	115.9	-0.014	547.0	0.43	3.08
329	51.343	0.157	1.11	77	1.95	114.1	-0.010	547.0	0.37	2.70
330	51.498	0.155	1.12	78	1.97	113.5	-0.010	547.0	0.31	2.50
331	51.655	0.157	1.11	78	1.95	111.9	-0.008	547.0	0.29	2.13
332	51.812	0.157	1.12	78	1.98	111.9	-0.010	547.0	0.27	1.93
333	51.967	0.155	1.12	78	1.97	110.8	-0.008	547.0	0.27	2.04
334	52.125	0.158	1.12	78	1.98	110.3	-0.010	547.0	0.24	1.79
335	52.280	0.155	1.12	78	1.95	109.7	-0.006	547.0	0.24	1.80
336	52.436	0.156	1.11	78	1.96	108.1	-0.009	547.0	0.21	1.68
337	52.593	0.157	1.11	78	1.98	107.9	-0.009	547.0	0.20	1.52
338	52.749	0.156	1.12	78	1.95	108.1	-0.012	547.0	0.20	1.37
339	52.905	0.156	1.11	78	1.99	108.2	-0.005	547.0	0.20	1.40
340	53.062	0.157	1.12	78	1.98	106.8	-0.009	547.0	0.18	1.39
341	53.218	0.156	1.12	78	1.98	105.3	-0.009	547.0	0.19	1.34
342	53.374	0.156	1.12	78	1.96	105.4	-0.011	547.0	0.17	1.25
343	53.531	0.157	1.12	78	1.98	105.4	-0.011	547.0	0.17	1.18
344	53.686	0.155	1.12	78	1.95	104.3	-0.007	547.0	0.15	1.11
345	53.844	0.158	1.12	78	1.96	104.8	-0.010	547.0	0.14	1.10
346	53.999	0.155	1.12	78	1.95	103.9	-0.008	547.0	0.15	1.13
347	54.156	0.157	1.11	78	1.94	103.7	-0.013	547.0	0.15	1.07
348	54.313	0.157	1.12	78	1.95	102.8	-0.005	547.0	0.13	1.01
349	54.468	0.155	1.12	78	1.97	103.7	-0.012	547.0	0.13	1.01
350	54.625	0.157	1.12	78	1.96	138.7	-0.026	547.0	0.13	0.95
351	54.782	0.157	1.12	78	1.97	146.7	-0.016	547.0	0.80	4.94
352	54.937	0.155	1.12	78	1.97	136.7	-0.013	547.0	0.80	4.57
353	55.095	0.158	1.12	78	1.97	130	-0.016	547.0	0.67	3.91
354	55.250	0.155	1.12	78	1.97	125.1	-0.013	547.0	0.56	3.32
355	55.407	0.157	1.11	78	1.96	121.8	-0.010	547.0	0.48	2.97
356	55.564	0.157	1.12	78	1.97	119	-0.012	547.0	0.43	2.71

Train D - Ambient Background and Flue Gas Data

Run: 4

Test Date: 2/27/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 19:36

Total Sampling Time 2460 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
357	55.719	0.155	1.12	78	1.97	116.7	-0.010	547.0	0.37	2.45
358	55.876	0.157	1.12	78	1.97	114.8	-0.014	547.0	0.33	2.23
359	56.033	0.157	1.12	78	1.97	113.4	-0.010	547.0	0.29	2.00
360	56.189	0.156	1.12	78	1.96	111.7	-0.010	547.0	0.29	1.95
361	56.346	0.157	1.12	78	1.98	111.6	-0.015	547.0	0.24	1.72
362	56.502	0.156	1.12	78	1.94	109.3	-0.009	547.0	0.23	1.67
363	56.659	0.157	1.11	78	1.96	109	-0.006	547.0	0.22	1.59
364	56.816	0.157	1.13	78	1.95	108.3	-0.008	547.0	0.21	1.47
365	56.971	0.155	1.12	78	1.96	108.1	-0.007	547.0	0.21	1.43
366	57.128	0.157	1.12	78	1.96	108.2	-0.009	547.0	0.19	1.41
367	57.285	0.157	1.12	78	1.95	106.7	-0.010	547.0	0.18	1.29
368	57.440	0.155	1.12	78	1.98	106.6	-0.007	547.0	0.17	1.26
369	57.598	0.158	1.12	78	1.94	105.6	-0.007	547.0	0.17	1.27
370	57.753	0.155	1.12	78	1.96	105.8	-0.010	547.0	0.17	1.26
371	57.910	0.157	1.11	78	1.99	104.5	-0.008	547.0	0.16	1.29
372	58.067	0.157	1.12	78	1.97	103.9	-0.009	547.0	0.16	1.17
373	58.223	0.156	1.12	78	1.98	103.9	-0.009	547.0	0.16	1.20
374	58.380	0.157	1.12	78	1.96	103.6	-0.010	547.0	0.16	1.20
375	58.536	0.156	1.12	78	1.97	104.3	-0.011	547.0	0.14	1.07
376	58.695	0.159	1.11	78	1.96	102.6	-0.009	547.0	0.13	1.02
377	58.849	0.154	1.11	78	1.95	102.2	-0.008	547.0	0.13	0.97
378	59.004	0.155	1.12	78	1.96	102.8	-0.009	547.0	0.13	1.01
379	59.161	0.157	1.11	78	1.96	101.8	-0.008	547.0	0.13	0.98
380	59.318	0.157	1.12	78	1.99	101.3	-0.010	547.0	0.12	0.93
381	59.474	0.156	1.12	78	1.97	139.5	-0.025	547.0	0.11	0.85
382	59.631	0.157	1.12	78	1.96	138.8	-0.015	547.0	0.47	3.77
383	59.787	0.156	1.12	78	1.96	131	-0.015	547.0	0.50	3.25
384	59.943	0.156	1.12	78	1.98	125.5	-0.014	547.0	0.43	2.73
385	60.103	0.160	1.12	78	1.97	121.3	-0.009	547.0	0.36	2.29
386	60.258	0.155	1.12	78	1.97	117.5	-0.011	547.0	0.34	2.16
387	60.412	0.154	1.11	78	1.95	115.4	-0.011	547.0	0.28	1.86
388	60.569	0.157	1.12	78	1.96	112.8	-0.012	547.0	0.26	1.74
389	60.724	0.155	1.12	78	1.95	111.2	-0.009	547.0	0.24	1.64
390	60.881	0.157	1.12	78	1.95	109.5	-0.010	547.0	0.22	1.47
391	61.038	0.157	1.12	78	1.96	108.1	-0.011	547.0	0.20	1.39
392	61.193	0.155	1.12	78	1.97	107.6	-0.013	547.0	0.19	1.34

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
393	61.350	0.157	1.12	78	1.98	107.1	-0.013	547.0	0.18	1.28
394	61.506	0.156	1.12	78	1.98	106.2	-0.005	547.0	0.17	1.19
395	61.662	0.156	1.11	78	1.95	105.2	-0.008	547.0	0.17	1.24
396	61.822	0.160	1.12	78	1.99	105	-0.005	547.0	0.16	1.19
397	61.975	0.153	1.12	78	1.98	103.5	-0.011	547.0	0.16	1.14
398	62.131	0.156	1.11	78	1.99	104.4	-0.013	547.0	0.14	1.10
399	62.288	0.157	1.12	78	1.98	103.3	-0.010	547.0	0.14	1.09
400	62.443	0.155	1.11	78	1.96	103.5	-0.007	547.0	0.14	1.05
401	62.601	0.158	1.12	78	1.98	101.9	-0.009	547.0	0.13	1.01
402	62.756	0.155	1.12	78	1.95	101.8	-0.007	547.0	0.13	1.05
403	62.913	0.157	1.12	78	1.97	102.1	-0.007	547.0	0.13	1.09
404	63.069	0.156	1.11	78	1.95	103.7	-0.009	547.0	0.13	1.01
405	63.225	0.156	1.12	78	1.94	101.3	-0.006	547.0	0.11	0.92
406	63.384	0.159	1.12	78	1.95	101.1	-0.010	547.0	0.12	1.01
407	63.540	0.156	1.12	78	1.95	100.4	-0.008	547.0	0.12	0.95
408	63.694	0.154	1.11	78	1.96	99.7	-0.007	547.0	0.12	0.96
409	63.851	0.157	1.12	78	1.98	99.9	-0.007	547.0	0.11	0.96
410	64.007	0.156	1.12	78	1.95	100.2	-0.008	547.0	0.11	0.91
411	64.163	0.156	1.12	78	1.95	98.9	-0.005	547.0	0.10	0.88
412	64.320	0.157	1.12	78	1.98	134	-0.021	547.0	0.10	0.89
413	64.475	0.155	1.12	78	1.97	132.9	-0.016	547.0	0.37	3.03
414	64.632	0.157	1.11	78	1.95	126	-0.015	547.0	0.31	2.52
415	64.789	0.157	1.12	78	1.95	129.6	-0.020	547.0	0.26	2.09
416	64.947	0.158	1.12	78	1.97	160.7	-0.023	547.0	1.01	5.15
417	65.104	0.157	1.11	78	1.94	182.7	-0.023	547.0	1.47	6.72
418	65.258	0.154	1.12	78	1.98	205.5	-0.023	547.0	1.05	11.45
419	65.413	0.155	1.11	78	1.96	232.6	-0.024	547.0	0.27	15.07
420	65.570	0.157	1.11	78	1.98	253.9	-0.034	547.0	0.13	15.71
421	65.726	0.156	1.11	78	1.99	268.5	-0.028	547.0	0.06	15.96
422	65.883	0.157	1.11	78	1.95	278.9	-0.029	547.0	0.06	16.48
423	66.040	0.157	1.12	78	1.95	283.3	-0.043	547.0	0.05	16.83
424	66.195	0.155	1.12	78	1.98	285.3	-0.042	545.0	0.05	16.44
425	66.352	0.157	1.12	78	1.98	281.4	-0.035	547.0	0.05	17.05
426	66.510	0.158	1.11	78	1.95	280.6	-0.029	547.0	0.06	16.98
427	66.667	0.157	1.11	78	1.96	282.8	-0.042	547.0	0.08	17.32
428	66.823	0.156	1.12	78	1.99	286.6	-0.058	547.0	0.10	18.00

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
429	66.976	0.153	1.12	78	1.99	284.1	-0.057	547.0	0.06	15.82
430	67.133	0.157	1.11	78	1.99	288.3	-0.037	547.0	0.09	17.65
431	67.289	0.156	1.12	78	1.99	287.4	-0.048	547.0	0.08	16.85
432	67.445	0.156	1.11	78	1.98	287.7	-0.049	547.0	0.23	16.66
433	67.601	0.156	1.11	78	1.98	293.6	-0.032	547.0	0.12	17.63
434	67.758	0.157	1.12	78	1.97	290.3	-0.033	547.0	0.19	17.95
435	67.914	0.156	1.11	78	1.98	291	-0.036	547.0	0.19	18.11
436	68.073	0.159	1.11	78	1.95	292.1	-0.034	547.0	0.13	17.47
437	68.229	0.156	1.12	78	1.98	293.7	-0.027	547.0	0.13	17.62
438	68.386	0.157	1.11	78	1.98	293.2	-0.046	547.0	0.14	17.44
439	68.543	0.157	1.12	78	1.96	299.1	-0.019	547.0	0.11	16.89
440	68.695	0.152	1.12	78	1.98	300.2	-0.041	547.0	0.16	16.41
441	68.852	0.157	1.11	78	1.96	297.6	-0.029	547.0	0.09	16.53
442	69.009	0.157	1.12	78	1.98	302.3	-0.047	547.0	0.12	16.11
443	69.164	0.155	1.11	78	1.99	297.4	-0.032	547.0	0.12	15.98
444	69.321	0.157	1.12	78	1.97	266	-0.031	547.0	0.14	11.75
445	69.477	0.156	1.12	78	1.97	248.9	-0.034	547.0	0.07	11.61
446	69.636	0.159	1.11	78	1.98	237.2	-0.034	547.0	0.08	11.68
447	69.793	0.157	1.12	78	1.97	228.9	-0.036	547.0	0.14	9.41
448	69.948	0.155	1.12	78	1.99	224.6	-0.029	547.0	0.16	9.38
449	70.105	0.157	1.12	78	1.95	219.7	-0.030	547.0	0.14	8.79
450	70.261	0.156	1.12	78	1.95	215.3	-0.028	547.0	0.18	7.20
451	70.415	0.154	1.12	78	1.98	211.6	-0.028	547.0	0.19	6.31
452	70.571	0.156	1.11	78	1.98	208.3	-0.028	547.0	0.20	5.47
453	70.728	0.157	1.11	78	1.99	208.4	-0.025	547.0	0.19	4.13
454	70.883	0.155	1.11	78	1.98	207	-0.023	547.0	0.20	3.38
455	71.040	0.157	1.11	78	1.98	204.4	-0.022	547.0	0.34	3.39
456	71.196	0.156	1.12	78	1.99	201.5	-0.023	547.0	0.54	3.91
457	71.355	0.159	1.11	78	1.97	198.3	-0.020	547.0	0.76	4.69
458	71.512	0.157	1.12	78	1.95	195.1	-0.021	547.0	0.77	4.48
459	71.667	0.155	1.11	78	1.97	192.1	-0.021	547.0	0.89	4.89
460	71.824	0.157	1.11	78	1.97	189.2	-0.025	547.0	0.89	4.92
461	71.978	0.154	1.12	78	1.96	186.4	-0.021	547.0	0.88	4.75
462	72.133	0.155	1.11	78	1.99	183.7	-0.022	547.0	0.89	4.81
463	72.290	0.157	1.12	78	1.98	180.7	-0.025	547.0	0.86	4.72
464	72.446	0.156	1.12	78	1.98	178.3	-0.018	547.0	0.81	4.59

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Meter Box Y Regression Offset: 1.0074
Meter Box Y Regression Factor: 0
Meter Box Dynamic Y: 1.007
Sample Box ID: 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
465	72.602	0.156	1.11	78	1.95	176	-0.019	547.0	0.72	4.14
466	72.759	0.157	1.12	78	1.94	173.6	-0.020	547.0	0.73	4.19
467	72.915	0.156	1.12	78	1.98	171.4	-0.020	547.0	0.70	4.07
468	73.074	0.159	1.12	78	1.97	169.1	-0.024	547.0	0.59	3.53
469	73.230	0.156	1.12	78	1.99	166.5	-0.015	547.0	0.57	3.46
470	73.387	0.157	1.11	78	1.98	164.6	-0.018	547.0	0.55	3.39
471	73.543	0.156	1.11	78	1.98	162.7	-0.021	547.0	0.50	3.04
472	73.699	0.156	1.12	78	1.98	160.8	-0.020	547.0	0.48	3.09
473	73.853	0.154	1.12	78	1.96	159	-0.019	547.0	0.41	2.67
474	74.010	0.157	1.11	78	1.97	157.1	-0.018	547.0	0.41	2.69
475	74.165	0.155	1.12	78	1.96	155.4	-0.016	547.0	0.38	2.58
476	74.322	0.157	1.11	78	1.98	153.4	-0.013	547.0	0.35	2.34
477	74.479	0.157	1.12	78	1.98	151.7	-0.016	547.0	0.38	2.62
478	74.638	0.159	1.12	78	1.97	150.5	-0.017	547.0	0.35	2.52
479	74.795	0.157	1.11	78	1.96	148.5	-0.017	547.0	0.32	2.32
480	74.950	0.155	1.12	78	1.97	147.2	-0.013	547.0	0.29	2.09
481	75.107	0.157	1.11	78	1.95	145.4	-0.015	547.0	0.26	1.94
482	75.265	0.158	1.12	78	1.96	143.9	-0.014	547.0	0.27	2.07
483	75.420	0.155	1.11	78	1.96	142.9	-0.013	547.0	0.24	1.90
484	75.574	0.154	1.11	78	1.97	141.5	-0.013	547.0	0.23	1.85
485	75.731	0.157	1.12	78	1.98	140.5	-0.015	547.0	0.21	1.84
486	75.887	0.156	1.12	78	1.94	139.6	-0.016	547.0	0.20	1.72
487	76.044	0.157	1.12	78	1.96	138.1	-0.014	547.0	0.20	1.73
488	76.200	0.156	1.12	78	1.95	137	-0.014	547.0	0.22	1.82
489	76.359	0.159	1.12	78	1.95	136.5	-0.012	547.0	0.21	1.81
490	76.516	0.157	1.12	78	1.97	134.9	-0.012	547.0	0.20	1.69
491	76.672	0.156	1.12	78	1.94	133.3	-0.016	547.0	0.18	1.56
492	76.829	0.157	1.12	78	1.96	132.3	-0.007	547.0	0.17	1.55
493	76.985	0.156	1.12	78	1.97	131.3	-0.010	547.0	0.17	1.58
494	77.139	0.154	1.12	78	1.98	130.6	-0.014	547.0	0.16	1.50
495	77.296	0.157	1.11	78	1.99	130.7	-0.013	547.0	0.16	1.49
496	77.452	0.156	1.12	78	1.97	129	-0.016	547.0	0.15	1.38
497	77.609	0.157	1.11	78	1.95	127.2	-0.014	547.0	0.15	1.38
498	77.766	0.157	1.12	78	1.97	127	-0.011	547.0	0.14	1.28
499	77.924	0.158	1.12	78	1.97	126.3	-0.014	547.0	0.14	1.31
500	78.081	0.157	1.12	78	1.98	125.5	-0.015	547.0	0.14	1.24

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
501	78.237	0.156	1.12	78	1.97	124.4	-0.014	547.0	0.14	1.26
502	78.394	0.157	1.11	78	1.96	123.8	-0.011	547.0	0.12	1.13
503	78.551	0.157	1.12	78	1.96	123.4	-0.012	547.0	0.12	1.15
504	78.706	0.155	1.11	78	1.97	122.8	-0.011	547.0	0.11	1.02
505	78.864	0.158	1.12	78	1.97	121.8	-0.016	547.0	0.11	1.01
506	79.018	0.154	1.12	78	1.96	121.5	-0.010	547.0	0.11	1.00
507	79.173	0.155	1.12	78	1.98	120.5	-0.012	547.0	0.11	1.09
508	79.330	0.157	1.12	78	1.97	119.6	-0.010	547.0	0.11	1.01
509	79.486	0.156	1.12	78	1.98	119.6	-0.008	547.0	0.11	1.00
510	79.645	0.159	1.11	78	1.97	119.1	-0.012	547.0	0.11	1.03
511	79.802	0.157	1.12	78	1.99	118.7	-0.008	547.0	0.11	1.02
512	79.958	0.156	1.11	78	1.96	119.3	-0.012	547.0	0.11	1.00
513	80.115	0.157	1.12	78	1.96	168.2	-0.020	547.0	0.93	5.94
514	80.271	0.156	1.12	78	1.96	153.4	-0.014	547.0	1.51	7.46
515	80.427	0.156	1.12	78	1.96	143.6	-0.014	547.0	1.41	7.20
516	80.581	0.154	1.12	78	1.97	137.4	-0.015	547.0	1.29	6.86
517	80.737	0.156	1.12	78	1.95	133.4	-0.015	547.0	1.15	6.23
518	80.893	0.156	1.12	78	1.97	130.7	-0.011	547.0	1.02	5.62
519	81.050	0.157	1.12	78	1.97	127.3	-0.009	547.0	0.84	4.72
520	81.209	0.159	1.11	78	1.98	125.7	-0.012	547.0	0.71	3.99
521	81.366	0.157	1.12	78	1.95	123.8	-0.008	547.0	0.66	3.69
522	81.522	0.156	1.12	78	1.97	121.7	-0.013	547.0	0.59	3.31
523	81.678	0.156	1.12	78	1.97	120	-0.010	547.0	0.53	2.96
524	81.835	0.157	1.12	78	1.98	117.7	-0.009	547.0	0.48	2.76
525	81.990	0.155	1.12	78	1.99	117.3	-0.014	547.0	0.46	2.57
526	82.147	0.157	1.11	78	1.96	117.3	-0.015	547.0	0.43	2.44
527	82.301	0.154	1.11	78	1.96	116.1	-0.010	547.0	0.41	2.29
528	82.457	0.156	1.12	78	1.99	115.5	-0.014	547.0	0.37	2.08
529	82.613	0.156	1.11	78	1.97	114.8	-0.009	547.0	0.33	1.88
530	82.770	0.157	1.12	78	1.95	113.8	-0.015	547.0	0.34	1.96
531	82.928	0.158	1.12	78	1.95	114	-0.004	547.0	0.32	1.82
532	83.085	0.157	1.12	78	1.94	114.3	-0.010	547.0	0.31	1.79
533	83.241	0.156	1.12	78	1.96	113	-0.014	547.0	0.29	1.64
534	83.398	0.157	1.11	78	1.96	112.3	-0.007	547.0	0.27	1.58
535	83.555	0.157	1.12	78	1.96	111.5	-0.009	547.0	0.24	1.36
536	83.710	0.155	1.12	78	1.98	110.3	-0.009	547.0	0.23	1.37

Train D - Ambient Background and Flue Gas Data

Run:	4	Test Date:	2/27/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	19:36		
Total Sampling Time	2460 min		
Recording Interval	1 min		

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
537	83.867	0.157	1.11	78	1.96	111.9	-0.013	547.0	0.23	1.34
538	84.023	0.156	1.12	78	1.98	110.9	-0.012	547.0	0.22	1.32
539	84.176	0.153	1.12	78	1.96	109.6	-0.010	547.0	0.20	1.17
540	84.333	0.157	1.12	78	1.97	109.3	-0.009	547.0	0.18	1.05
541	84.492	0.159	1.12	78	1.94	109.9	-0.013	547.0	0.19	1.10
542	84.648	0.156	1.12	78	1.98	109.3	-0.009	547.0	0.19	1.13
543	84.806	0.158	1.12	78	1.96	110.8	-0.019	547.0	0.18	1.07
544	84.961	0.155	1.12	78	1.96	156.2	-0.021	547.0	0.80	5.22
545	85.118	0.157	1.12	78	1.96	143.2	-0.016	547.0	1.37	5.69
546	85.275	0.157	1.12	78	1.97	135.5	-0.013	547.0	1.26	5.38
547	85.431	0.156	1.12	78	1.95	129.7	-0.015	547.0	1.09	4.85
548	85.588	0.157	1.12	78	1.98	125.9	-0.013	547.0	1.02	4.85
549	85.744	0.156	1.12	78	1.97	122.6	-0.015	547.0	0.84	4.10
550	85.898	0.154	1.12	78	1.96	119.8	-0.012	547.0	0.70	3.52
551	86.055	0.157	1.12	78	1.95	118.1	-0.011	547.0	0.65	3.23
552	86.213	0.158	1.12	78	1.97	116.4	-0.006	547.0	0.56	2.88
553	86.371	0.158	1.12	78	1.98	115	-0.012	547.0	0.54	2.74
554	86.527	0.156	1.12	78	1.97	113.9	-0.014	547.0	0.47	2.45
555	86.684	0.157	1.12	78	1.98	112.3	-0.006	547.0	0.41	2.13
556	86.841	0.157	1.12	78	1.96	111.7	-0.015	547.0	0.41	2.15
557	86.996	0.155	1.12	78	1.97	111.3	-0.012	547.0	0.34	1.81
558	87.153	0.157	1.12	78	1.97	110	-0.011	547.0	0.34	1.78
559	87.310	0.157	1.12	78	1.96	110	-0.007	547.0	0.33	1.77
560	87.464	0.154	1.12	78	1.98	109.6	-0.009	547.0	0.31	1.64
561	87.621	0.157	1.12	77	1.94	110.2	-0.007	547.0	0.30	1.59
562	87.779	0.158	1.12	78	1.97	108.9	-0.011	547.0	0.27	1.47
563	87.936	0.157	1.11	77	1.97	108	-0.008	547.0	0.26	1.35
564	88.093	0.157	1.12	77	1.97	106.8	-0.009	547.0	0.24	1.30
565	88.249	0.156	1.12	77	1.97	105.2	-0.008	547.0	0.25	1.37
566	88.406	0.157	1.12	77	1.98	105.7	-0.010	547.0	0.23	1.29
567	88.562	0.156	1.12	77	1.97	105.6	-0.009	547.0	0.22	1.22
568	88.719	0.157	1.12	77	1.96	105.5	-0.003	547.0	0.21	1.16
569	88.876	0.157	1.12	77	1.98	104.5	-0.013	547.0	0.20	1.10
570	89.031	0.155	1.12	77	1.97	104.6	-0.007	547.0	0.20	1.13
571	89.186	0.155	1.12	77	1.97	103.5	-0.007	547.0	0.18	1.04
572	89.343	0.157	1.12	77	1.95	104.2	-0.009	547.0	0.17	0.99

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler **Meter Box Y Regression Offset:** 1.0074
Model: Classic Edge 760.1 **Meter Box Y Regression Factor:** 0
Tracking No.: 2501 **Meter Box Dynamic Y:** 1.007
Project No.: 0117WB044E **Sample Box ID:** 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
573	89.501	0.158	1.12	77	1.98	103.4	-0.013	547.0	0.18	1.00
574	89.659	0.158	1.12	77	1.99	128	-0.027	547.0	0.16	0.94
575	89.815	0.156	1.12	77	1.98	145.8	-0.013	547.0	0.60	3.96
576	89.971	0.156	1.12	77	1.98	136.4	-0.017	547.0	0.98	4.25
577	90.128	0.157	1.12	77	2.00	129.3	-0.013	547.0	0.84	3.69
578	90.284	0.156	1.12	77	1.95	125.1	-0.009	547.0	0.76	3.46
579	90.440	0.156	1.11	77	1.96	122	-0.012	547.0	0.65	3.08
580	90.597	0.157	1.12	77	1.98	119.3	-0.012	547.0	0.54	2.63
581	90.753	0.156	1.11	77	1.97	116.9	-0.012	547.0	0.52	2.63
582	90.907	0.154	1.11	77	1.95	114.5	-0.011	547.0	0.45	2.33
583	91.064	0.157	1.12	77	1.96	113.1	-0.009	547.0	0.40	2.13
584	91.222	0.158	1.11	77	1.95	111.3	-0.008	547.0	0.35	1.88
585	91.379	0.157	1.12	77	1.98	110.1	-0.009	547.0	0.33	1.82
586	91.535	0.156	1.12	77	1.95	109.5	-0.017	547.0	0.29	1.64
587	91.691	0.156	1.11	77	1.95	108.5	-0.011	547.0	0.29	1.66
588	91.848	0.157	1.12	77	1.99	107.7	-0.008	547.0	0.27	1.59
589	92.004	0.156	1.12	77	1.96	106.8	-0.008	547.0	0.24	1.41
590	92.161	0.157	1.12	77	1.97	106.7	-0.009	547.0	0.24	1.45
591	92.317	0.156	1.12	77	1.96	105.4	-0.009	547.0	0.24	1.45
592	92.473	0.156	1.11	77	1.98	104.6	-0.008	547.0	0.23	1.40
593	92.628	0.155	1.12	77	1.96	106.2	-0.010	547.0	0.21	1.33
594	92.786	0.158	1.12	77	1.98	106	-0.007	547.0	0.21	1.30
595	92.943	0.157	1.11	77	1.96	105	-0.009	547.0	0.21	1.31
596	93.100	0.157	1.12	77	1.94	104.8	-0.013	547.0	0.20	1.27
597	93.256	0.156	1.12	77	1.96	104	-0.008	547.0	0.18	1.18
598	93.413	0.157	1.12	77	1.98	103.4	-0.007	547.0	0.18	1.16
599	93.569	0.156	1.12	77	1.95	103.2	-0.006	547.0	0.18	1.17
600	93.726	0.157	1.12	77	1.96	102.7	-0.010	547.0	0.16	1.09
601	93.883	0.157	1.12	77	1.97	103	-0.011	547.0	0.16	1.11
602	94.039	0.156	1.12	77	1.98	102	-0.011	547.0	0.15	1.02
603	94.196	0.157	1.12	77	1.99	101.4	-0.008	547.0	0.15	1.03
604	94.350	0.154	1.12	77	1.95	101.9	-0.013	547.0	0.15	1.04
605	94.508	0.158	1.12	77	1.96	139.6	-0.018	547.0	0.14	1.01
606	94.665	0.157	1.12	77	1.98	138.2	-0.016	547.0	0.40	2.97
607	94.821	0.156	1.12	77	1.95	130.5	-0.014	547.0	0.42	2.68
608	94.978	0.157	1.11	77	1.98	125.2	-0.013	547.0	0.35	2.28

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
609	95.135	0.157	1.12	77	1.99	121.1	-0.008	547.0	0.31	2.08
610	95.290	0.155	1.12	77	1.94	117.8	-0.013	547.0	0.28	1.94
611	95.448	0.158	1.12	77	1.96	115.2	-0.008	547.0	0.25	1.77
612	95.604	0.156	1.12	77	1.98	113.5	-0.013	547.0	0.22	1.62
613	95.760	0.156	1.11	77	1.98	111.6	-0.012	547.0	0.21	1.64
614	95.917	0.157	1.12	77	1.96	110.8	-0.012	547.0	0.19	1.58
615	96.073	0.156	1.12	77	1.94	109.5	-0.010	547.0	0.19	1.53
616	96.230	0.157	1.12	77	1.96	107.7	-0.006	547.0	0.17	1.47
617	96.387	0.157	1.12	77	1.97	106.5	-0.010	547.0	0.17	1.46
618	96.542	0.155	1.12	77	1.95	105.7	-0.012	547.0	0.18	1.57
619	96.699	0.157	1.12	77	1.95	105.7	-0.014	547.0	0.16	1.49
620	96.855	0.156	1.12	77	1.95	105.3	-0.010	547.0	0.17	1.48
621	97.012	0.157	1.12	77	1.94	105.5	-0.007	547.0	0.17	1.36
622	97.169	0.157	1.12	77	1.97	104.1	-0.012	547.0	0.16	1.42
623	97.325	0.156	1.12	77	1.98	103.2	-0.008	547.0	0.16	1.46
624	97.482	0.157	1.11	77	1.95	102.5	-0.006	547.0	0.14	1.31
625	97.638	0.156	1.12	77	1.96	102.5	-0.005	547.0	0.14	1.29
626	97.794	0.156	1.12	77	1.98	101.2	-0.009	547.0	0.14	1.25
627	97.951	0.157	1.12	77	1.96	101.1	-0.004	547.0	0.13	1.29
628	98.107	0.156	1.12	77	1.96	100	-0.009	547.0	0.12	1.13
629	98.264	0.157	1.12	77	1.95	100.4	-0.005	547.0	0.12	1.17
630	98.421	0.157	1.12	77	1.97	100.5	-0.006	547.0	0.11	1.18
631	98.576	0.155	1.12	77	1.98	100.4	-0.008	547.0	0.12	1.19
632	98.733	0.157	1.12	77	1.95	99.5	-0.007	547.0	0.12	1.12
633	98.890	0.157	1.12	77	1.95	99.7	-0.006	547.0	0.11	1.10
634	99.045	0.155	1.12	77	1.98	134.6	-0.021	547.0	0.11	1.10
635	99.203	0.158	1.12	77	1.97	149.7	-0.020	547.0	0.33	2.39
636	99.358	0.155	1.12	77	1.96	167.2	-0.024	547.0	0.51	3.42
637	99.515	0.157	1.11	77	1.99	184.5	-0.024	547.0	0.98	5.67
638	99.672	0.157	1.12	77	1.98	202.4	-0.025	547.0	1.03	9.20
639	99.828	0.156	1.12	77	1.96	226.9	-0.029	547.0	0.83	12.36
640	99.985	0.157	1.12	77	1.98	250.7	-0.032	547.0	0.19	14.63
641	100.141	0.156	1.12	77	1.96	268.8	-0.034	547.0	0.08	15.21
642	100.297	0.156	1.12	77	1.95	281.3	-0.029	547.0	0.05	15.74
643	100.454	0.157	1.11	77	1.97	290	-0.039	547.0	0.05	16.40
644	100.610	0.156	1.12	77	1.96	291.8	-0.030	547.0	0.05	16.66

Train D - Ambient Background and Flue Gas Data

Run: 4

Test Date: 2/27/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 19:36

Total Sampling Time 2460 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
645	100.767	0.157	1.11	77	1.98	288.2	-0.045	547.0	0.06	16.64
646	100.924	0.157	1.13	77	1.97	289.1	-0.046	547.0	0.08	17.07
647	101.079	0.155	1.12	77	1.97	295.6	-0.013	547.0	0.08	16.31
648	101.237	0.158	1.12	77	1.98	290.1	-0.027	547.0	0.08	16.44
649	101.393	0.156	1.12	77	1.95	296.2	-0.036	547.0	0.09	16.17
650	101.549	0.156	1.12	77	1.96	292.2	-0.036	547.0	0.10	16.36
651	101.706	0.157	1.12	77	1.95	295.6	-0.031	547.0	0.13	16.41
652	101.862	0.156	1.13	77	1.98	295.6	-0.031	547.0	0.14	16.33
653	102.019	0.157	1.11	77	1.96	297.6	-0.028	547.0	0.13	16.92
654	102.176	0.157	1.12	77	1.95	299	-0.031	547.0	0.13	16.71
655	102.332	0.156	1.12	77	1.96	300.2	-0.036	547.0	0.13	16.58
656	102.489	0.157	1.12	77	1.98	301.1	-0.045	547.0	0.13	16.32
657	102.645	0.156	1.12	77	1.98	303.4	-0.033	547.0	0.13	15.38
658	102.802	0.157	1.12	77	1.97	315	-0.037	547.0	0.14	15.65
659	102.959	0.157	1.12	77	1.99	310	-0.038	547.0	0.12	15.78
660	103.115	0.156	1.12	77	1.98	310.9	-0.034	547.0	0.11	16.01
661	103.272	0.157	1.12	77	1.98	307.3	-0.036	547.0	0.11	15.75
662	103.428	0.156	1.12	77	1.98	310.3	-0.035	547.0	0.12	15.96
663	103.584	0.156	1.12	77	1.95	308.7	-0.029	547.0	0.11	16.11
664	103.741	0.157	1.12	77	1.98	284	-0.036	547.0	0.17	13.74
665	103.897	0.156	1.13	77	1.95	260.8	-0.029	547.0	0.08	13.89
666	104.054	0.157	1.11	77	1.99	246.8	-0.032	547.0	0.06	12.49
667	104.211	0.157	1.12	77	1.98	236.6	-0.033	547.0	0.06	12.21
668	104.367	0.156	1.12	77	1.98	230.5	-0.034	547.0	0.10	9.81
669	104.524	0.157	1.12	77	1.97	225.5	-0.032	547.0	0.09	10.94
670	104.680	0.156	1.12	77	1.95	220.7	-0.034	547.0	0.13	9.11
671	104.837	0.157	1.12	77	1.96	216.5	-0.029	547.0	0.17	7.63
672	104.994	0.157	1.12	77	1.94	212.5	-0.028	547.0	0.18	6.99
673	105.149	0.155	1.12	77	1.96	211.7	-0.026	547.0	0.17	5.92
674	105.306	0.157	1.11	77	1.96	211.2	-0.027	547.0	0.20	4.55
675	105.463	0.157	1.12	77	1.96	209.3	-0.025	547.0	0.50	5.00
676	105.619	0.156	1.12	77	1.96	206.7	-0.028	547.0	0.96	6.08
677	105.776	0.157	1.12	77	1.98	203.6	-0.026	547.0	1.23	6.62
678	105.932	0.156	1.12	77	1.98	200	-0.030	547.0	1.39	6.82
679	106.089	0.157	1.12	77	1.98	196.9	-0.029	547.0	1.51	7.02
680	106.246	0.157	1.12	77	1.95	193.7	-0.022	547.0	1.59	7.13

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
681	106.401	0.155	1.12	77	1.97	191	-0.020	547.0	1.51	6.70
682	106.558	0.157	1.12	77	1.97	188.1	-0.022	547.0	1.72	7.44
683	106.715	0.157	1.12	77	1.98	185.4	-0.023	547.0	1.64	7.07
684	106.870	0.155	1.12	77	1.98	182.6	-0.027	547.0	1.60	6.96
685	107.028	0.158	1.12	77	1.98	180.2	-0.024	547.0	1.50	6.55
686	107.183	0.155	1.12	77	1.97	177.5	-0.020	547.0	1.43	6.32
687	107.340	0.157	1.12	77	1.96	175.2	-0.022	547.0	1.48	6.54
688	107.497	0.157	1.12	77	1.96	172.9	-0.023	547.0	1.40	6.21
689	107.653	0.156	1.12	77	1.97	170.2	-0.021	547.0	1.22	5.55
690	107.809	0.156	1.12	77	1.94	168	-0.022	547.0	1.38	6.15
691	107.966	0.157	1.12	77	1.96	165.8	-0.022	547.0	1.22	5.55
692	108.122	0.156	1.12	77	1.97	163.8	-0.020	547.0	1.16	5.28
693	108.279	0.157	1.12	77	1.96	162.2	-0.017	547.0	1.06	4.93
694	108.435	0.156	1.12	77	1.97	160.3	-0.016	547.0	1.03	4.81
695	108.592	0.157	1.11	77	1.98	158.3	-0.017	547.0	1.03	4.83
696	108.749	0.157	1.12	77	1.96	156.2	-0.017	547.0	0.90	4.29
697	108.904	0.155	1.12	77	1.99	155.1	-0.021	547.0	0.84	4.05
698	109.062	0.158	1.12	77	1.98	153.5	-0.017	547.0	0.85	4.16
699	109.218	0.156	1.12	77	1.98	151.8	-0.017	547.0	0.83	4.06
700	109.374	0.156	1.12	77	1.97	149.9	-0.015	547.0	0.73	3.67
701	109.531	0.157	1.12	77	1.97	148.4	-0.014	547.0	0.68	3.43
702	109.686	0.155	1.12	77	1.95	146.7	-0.019	547.0	0.70	3.60
703	109.843	0.157	1.11	77	1.97	145.9	-0.017	547.0	0.58	3.01
704	110.000	0.157	1.12	77	1.96	144.6	-0.017	547.0	0.61	3.25
705	110.156	0.156	1.12	77	1.95	143.2	-0.018	547.0	0.58	3.08
706	110.313	0.157	1.12	77	1.96	141.8	-0.015	547.0	0.55	2.95
707	110.469	0.156	1.12	77	1.97	140.6	-0.017	547.0	0.44	2.47
708	110.625	0.156	1.12	77	1.98	138.6	-0.010	547.0	0.49	2.73
709	110.782	0.157	1.11	77	1.99	137.5	-0.015	547.0	0.43	2.45
710	110.938	0.156	1.12	77	1.97	136.9	-0.012	547.0	0.44	2.58
711	111.095	0.157	1.11	77	1.97	136	-0.011	547.0	0.41	2.40
712	111.252	0.157	1.12	77	1.97	134.7	-0.013	547.0	0.44	2.60
713	111.407	0.155	1.12	77	1.98	133.7	-0.010	547.0	0.40	2.43
714	111.564	0.157	1.12	77	1.97	132.3	-0.016	547.0	0.37	2.29
715	111.720	0.156	1.12	77	1.98	131.8	-0.015	547.0	0.37	2.28
716	111.876	0.156	1.12	77	1.96	130.6	-0.013	547.0	0.38	2.37

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074
Meter Box Y Regression Factor: 0
Meter Box Dynamic Y: 1.007
Sample Box ID: 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
717	112.034	0.158	1.12	77	1.95	130	-0.011	547.0	0.37	2.49
718	112.189	0.155	1.12	77	1.98	129.4	-0.014	547.0	0.34	2.21
719	112.346	0.157	1.11	77	1.98	128.1	-0.013	547.0	0.33	2.16
720	112.503	0.157	1.12	77	1.98	127.6	-0.014	547.0	0.34	2.19
721	112.659	0.156	1.12	77	1.95	127	-0.012	547.0	0.30	2.03
722	112.816	0.157	1.12	77	1.97	125.9	-0.016	547.0	0.32	2.14
723	112.972	0.156	1.12	77	1.98	125.1	-0.014	547.0	0.30	2.06
724	113.129	0.157	1.12	77	1.98	124.9	-0.015	547.0	0.31	2.16
725	113.286	0.157	1.12	77	1.96	123.6	-0.011	547.0	0.30	2.05
726	113.442	0.156	1.12	77	1.96	122.7	-0.010	547.0	0.32	2.17
727	113.599	0.157	1.12	77	1.97	122.3	-0.012	547.0	0.30	2.07
728	113.756	0.157	1.12	77	1.97	121.6	-0.006	547.0	0.28	1.97
729	113.912	0.156	1.12	77	1.97	121.4	-0.009	547.0	0.31	2.18
730	114.069	0.157	1.12	77	1.97	121.2	-0.014	547.0	0.29	1.98
731	114.225	0.156	1.12	77	1.97	121	-0.007	547.0	0.28	1.97
732	114.382	0.157	1.12	77	1.97	119.7	-0.010	547.0	0.29	2.00
733	114.540	0.158	1.13	77	1.95	155.7	-0.032	547.0	0.30	2.05
734	114.695	0.155	1.12	77	1.98	161.8	-0.018	547.0	1.80	9.59
735	114.853	0.158	1.12	77	1.96	150	-0.014	547.0	1.60	8.62
736	115.009	0.156	1.12	77	1.96	142.9	-0.014	547.0	1.59	8.63
737	115.166	0.157	1.12	77	1.97	137.8	-0.015	547.0	1.41	7.77
738	115.324	0.158	1.13	77	1.97	134.4	-0.016	547.0	1.24	6.91
739	115.480	0.156	1.12	77	1.96	130.7	-0.014	547.0	1.12	6.25
740	115.637	0.157	1.12	77	1.97	127.7	-0.012	547.0	0.88	4.98
741	115.793	0.156	1.13	77	1.95	125	-0.012	547.0	0.78	4.42
742	115.950	0.157	1.12	77	1.97	123.5	-0.012	547.0	0.71	4.04
743	116.107	0.157	1.12	77	1.98	121.1	-0.012	547.0	0.66	3.70
744	116.263	0.156	1.13	77	1.98	119.9	-0.013	547.0	0.60	3.32
745	116.420	0.157	1.12	77	1.98	118.2	-0.012	547.0	0.57	3.17
746	116.577	0.157	1.12	77	1.95	119	-0.012	547.0	0.54	3.02
747	116.733	0.156	1.12	77	1.97	117.8	-0.011	547.0	0.50	2.83
748	116.890	0.157	1.12	77	1.97	116.4	-0.011	547.0	0.45	2.51
749	117.046	0.156	1.12	77	1.98	116.2	-0.009	547.0	0.45	2.51
750	117.203	0.157	1.11	76	1.98	115.7	-0.010	547.0	0.44	2.57
751	117.360	0.157	1.13	77	1.97	114.7	-0.009	547.0	0.42	2.39
752	117.516	0.156	1.12	77	1.98	113.3	-0.010	547.0	0.37	2.13

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
753	117.674	0.158	1.12	77	1.97	114.2	-0.010	547.0	0.36	2.07
754	117.829	0.155	1.13	76	1.97	114.2	-0.011	547.0	0.35	1.97
755	117.986	0.157	1.12	77	1.98	113.3	-0.012	547.0	0.31	1.85
756	118.143	0.157	1.12	77	1.99	112.3	-0.010	547.0	0.28	1.65
757	118.299	0.156	1.13	76	1.97	110.9	-0.007	547.0	0.27	1.54
758	118.456	0.157	1.12	77	1.98	111.1	-0.014	547.0	0.25	1.43
759	118.613	0.157	1.12	77	1.96	110.3	-0.013	547.0	0.27	1.44
760	118.769	0.156	1.12	77	1.97	109	-0.010	547.0	0.23	1.33
761	118.926	0.157	1.12	77	1.96	108.8	-0.006	547.0	0.24	1.36
762	119.082	0.156	1.12	77	1.97	108.7	-0.008	547.0	0.23	1.33
763	119.239	0.157	1.12	77	1.97	108	-0.008	547.0	0.21	1.19
764	119.396	0.157	1.12	77	1.96	147.4	-0.031	547.0	0.34	1.89
765	119.551	0.155	1.12	77	1.97	148.3	-0.018	547.0	1.49	7.08
766	119.709	0.158	1.12	77	1.96	139.2	-0.011	547.0	1.26	6.06
767	119.865	0.156	1.12	77	1.97	132.8	-0.015	547.0	1.13	5.71
768	120.021	0.156	1.12	77	1.96	128.5	-0.013	547.0	1.00	5.30
769	120.178	0.157	1.12	77	1.97	125	-0.017	547.0	0.88	4.75
770	120.333	0.155	1.12	77	1.98	122.5	-0.006	547.0	0.78	4.36
771	120.490	0.157	1.11	77	1.95	120.4	-0.013	547.0	0.67	3.74
772	120.647	0.157	1.12	77	1.97	118.1	-0.012	547.0	0.60	3.38
773	120.803	0.156	1.12	77	1.99	116.1	-0.013	547.0	0.56	3.17
774	120.960	0.157	1.12	77	1.98	115.4	-0.008	547.0	0.48	2.77
775	121.116	0.156	1.12	77	1.98	113.3	-0.012	547.0	0.45	2.54
776	121.272	0.156	1.12	77	1.97	112.3	-0.011	547.0	0.40	2.29
777	121.429	0.157	1.12	77	1.97	111.6	-0.012	547.0	0.37	2.16
778	121.585	0.156	1.12	77	1.97	111.3	-0.010	547.0	0.36	2.07
779	121.742	0.157	1.12	77	1.98	110.7	-0.010	547.0	0.35	2.02
780	121.899	0.157	1.12	77	1.97	109.8	-0.012	547.0	0.32	1.82
781	122.055	0.156	1.12	77	1.97	108.9	-0.007	547.0	0.31	1.76
782	122.212	0.157	1.12	77	1.98	107.7	-0.014	547.0	0.27	1.64
783	122.368	0.156	1.13	77	1.97	107.8	-0.011	547.0	0.26	1.53
784	122.525	0.157	1.12	77	1.96	107.3	-0.008	547.0	0.24	1.53
785	122.682	0.157	1.12	77	1.99	106.2	-0.006	547.0	0.26	1.50
786	122.838	0.156	1.13	77	1.95	106.3	-0.006	547.0	0.24	1.41
787	122.995	0.157	1.12	77	1.95	106	-0.009	547.0	0.22	1.29
788	123.151	0.156	1.12	77	1.98	105.8	-0.006	547.0	0.22	1.24

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
789	123.307	0.156	1.12	77	1.96	104.8	-0.009	547.0	0.19	1.22
790	123.465	0.158	1.12	77	1.95	104.3	-0.010	547.0	0.21	1.29
791	123.620	0.155	1.13	77	1.98	103.3	-0.008	547.0	0.20	1.18
792	123.777	0.157	1.12	77	1.95	103.8	-0.012	547.0	0.19	1.20
793	123.935	0.158	1.13	77	1.97	104.9	-0.011	547.0	0.18	1.10
794	124.090	0.155	1.12	77	1.98	103.5	-0.011	547.0	0.18	1.00
795	124.248	0.158	1.12	77	1.98	142.5	-0.030	547.0	0.45	3.22
796	124.404	0.156	1.13	77	1.96	140	-0.017	547.0	0.89	5.31
797	124.560	0.156	1.12	77	1.97	133.2	-0.018	547.0	0.76	4.52
798	124.717	0.157	1.12	77	1.96	127.3	-0.012	547.0	0.67	3.97
799	124.873	0.156	1.13	77	1.97	123.8	-0.012	547.0	0.56	3.50
800	125.030	0.157	1.12	77	1.97	120.4	-0.009	547.0	0.48	2.98
801	125.187	0.157	1.13	77	1.98	118.3	-0.012	547.0	0.44	2.83
802	125.343	0.156	1.12	77	1.97	115.7	-0.012	547.0	0.42	2.68
803	125.501	0.158	1.12	77	1.98	113.4	-0.013	547.0	0.38	2.46
804	125.656	0.155	1.13	77	1.96	112.6	-0.012	547.0	0.33	2.23
805	125.814	0.158	1.12	77	1.97	111.3	-0.010	547.0	0.31	2.07
806	125.971	0.157	1.13	77	1.97	111.1	-0.008	547.0	0.26	1.85
807	126.126	0.155	1.12	77	1.96	109.6	-0.009	547.0	0.26	1.81
808	126.284	0.158	1.12	77	1.97	109.3	-0.011	547.0	0.23	1.59
809	126.440	0.156	1.12	77	1.98	108.3	-0.012	547.0	0.23	1.68
810	126.597	0.157	1.12	77	1.96	107.1	-0.011	547.0	0.22	1.60
811	126.754	0.157	1.12	77	1.98	106.6	-0.010	547.0	0.22	1.53
812	126.910	0.156	1.12	77	1.99	106.8	-0.016	547.0	0.21	1.56
813	127.067	0.157	1.12	77	1.96	106	-0.006	547.0	0.19	1.41
814	127.223	0.156	1.12	76	1.97	105.4	-0.006	547.0	0.20	1.44
815	127.379	0.156	1.12	77	1.96	104.9	-0.008	547.0	0.18	1.39
816	127.537	0.158	1.12	76	1.95	105.4	-0.010	547.0	0.18	1.27
817	127.692	0.155	1.13	76	1.98	104.3	-0.009	547.0	0.17	1.27
818	127.849	0.157	1.12	76	1.97	102.5	-0.010	547.0	0.16	1.25
819	128.007	0.158	1.13	77	1.95	102.9	-0.007	547.0	0.16	1.22
820	128.162	0.155	1.12	76	1.95	103.2	-0.007	547.0	0.16	1.25
821	128.320	0.158	1.12	76	2.00	102.4	-0.007	547.0	0.15	1.24
822	128.476	0.156	1.12	77	1.97	102.8	-0.008	547.0	0.15	1.16
823	128.632	0.156	1.13	76	1.98	101.6	-0.003	547.0	0.14	1.09
824	128.789	0.157	1.12	76	1.95	100.2	-0.003	547.0	0.15	1.13

Train D - Ambient Background and Flue Gas Data

Run:	4	Test Date:	2/27/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	19:36		
Total Sampling Time	2460	min	
Recording Interval	1	min	

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
825	128.945	0.156	1.13	76	1.98	100	-0.008	547.0	0.15	1.21
826	129.102	0.157	1.12	76	1.96	138	-0.027	547.0	0.43	4.54
827	129.259	0.157	1.13	76	1.99	132.9	-0.009	547.0	0.50	3.80
828	129.415	0.156	1.13	76	1.96	127	-0.015	547.0	0.44	3.19
829	129.573	0.158	1.12	76	1.96	122.6	-0.014	547.0	0.39	2.76
830	129.729	0.156	1.13	76	1.95	119.1	-0.014	547.0	0.31	2.35
831	129.886	0.157	1.12	76	1.97	116.1	-0.009	547.0	0.28	2.14
832	130.043	0.157	1.13	76	1.95	113.2	-0.012	547.0	0.25	1.86
833	130.199	0.156	1.12	76	1.96	111.8	-0.011	547.0	0.22	1.75
834	130.356	0.157	1.12	76	1.98	110.3	-0.007	547.0	0.20	1.73
835	130.512	0.156	1.12	76	1.95	109.4	-0.010	547.0	0.20	1.66
836	130.669	0.157	1.12	76	1.96	109	-0.007	547.0	0.19	1.57
837	130.826	0.157	1.12	76	1.98	107.1	-0.007	547.0	0.18	1.57
838	130.982	0.156	1.12	76	1.97	106	-0.008	547.0	0.18	1.52
839	131.139	0.157	1.12	76	1.98	106.1	-0.009	547.0	0.18	1.45
840	131.296	0.157	1.12	76	1.98	104.4	-0.009	547.0	0.17	1.44
841	131.451	0.155	1.12	76	1.99	103.9	-0.009	547.0	0.17	1.47
842	131.609	0.158	1.12	76	1.95	103.9	-0.011	547.0	0.16	1.42
843	131.764	0.155	1.12	76	1.97	103.4	-0.011	547.0	0.15	1.39
844	131.921	0.157	1.11	76	1.96	102.8	-0.009	547.0	0.15	1.41
845	132.079	0.158	1.13	76	1.99	102.5	-0.010	547.0	0.15	1.36
846	132.234	0.155	1.12	76	1.96	102.4	-0.014	547.0	0.13	1.40
847	132.391	0.157	1.13	76	1.98	101.8	-0.013	547.0	0.15	1.35
848	132.548	0.157	1.12	76	1.97	101.2	-0.008	547.0	0.15	1.29
849	132.704	0.156	1.12	76	1.97	100.2	-0.006	547.0	0.12	1.31
850	132.861	0.157	1.12	76	1.97	100.3	-0.009	547.0	0.13	1.26
851	133.017	0.156	1.13	76	1.95	139.5	-0.022	547.0	0.33	4.47
852	133.174	0.157	1.12	76	1.94	165.3	-0.022	547.0	0.98	4.89
853	133.331	0.157	1.13	76	1.98	188.2	-0.024	547.0	1.57	7.35
854	133.486	0.155	1.12	76	1.96	215.4	-0.025	547.0	0.61	13.11
855	133.644	0.158	1.12	76	1.94	244.6	-0.034	547.0	0.17	15.21
856	133.800	0.156	1.13	76	1.95	263.9	-0.029	547.0	0.07	15.81
857	133.957	0.157	1.12	76	1.95	274.9	-0.030	547.0	0.09	15.75
858	134.114	0.157	1.13	76	1.96	282.3	-0.037	547.0	0.08	15.84
859	134.269	0.155	1.12	76	1.98	289.2	-0.039	547.0	0.08	16.27
860	134.427	0.158	1.12	76	1.98	293.8	-0.041	547.0	0.07	16.74

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
861	134.583	0.156	1.12	76	1.98	294.3	-0.036	547.0	0.09	16.00
862	134.739	0.156	1.12	76	1.99	289	-0.032	547.0	0.08	16.32
863	134.896	0.157	1.12	76	1.95	290.8	-0.032	547.0	0.11	16.74
864	135.052	0.156	1.12	76	1.96	292.3	-0.031	547.0	0.12	16.86
865	135.209	0.157	1.12	76	1.97	289.6	-0.048	547.0	0.08	16.35
866	135.366	0.157	1.13	76	1.98	289.5	-0.022	547.0	0.09	16.42
867	135.521	0.155	1.12	76	1.98	290.4	-0.038	547.0	0.09	16.31
868	135.679	0.158	1.12	76	1.98	291.2	-0.035	547.0	0.10	16.37
869	135.835	0.156	1.12	76	1.96	292.9	-0.032	547.0	0.09	16.64
870	135.991	0.156	1.12	76	1.95	295.4	-0.043	547.0	0.09	17.10
871	136.148	0.157	1.12	76	1.96	296.5	-0.032	547.0	0.11	17.36
872	136.304	0.156	1.12	76	1.98	292.3	-0.038	547.0	0.13	17.91
873	136.460	0.156	1.12	76	1.96	292.2	-0.021	547.0	0.15	17.68
874	136.618	0.158	1.12	76	1.98	294.2	-0.036	547.0	0.13	17.61
875	136.773	0.155	1.12	76	1.98	296	-0.038	547.0	0.11	16.72
876	136.930	0.157	1.12	76	1.96	296.2	-0.037	547.0	0.06	14.12
877	137.086	0.156	1.12	76	1.96	297.7	-0.044	547.0	0.06	14.03
878	137.242	0.156	1.12	76	1.97	299	-0.047	547.0	0.08	14.69
879	137.399	0.157	1.12	76	1.98	272.7	-0.033	499.0	0.04	13.37
880	137.555	0.156	1.12	76	1.99	253.2	-0.041	547.0	0.07	14.67
881	137.711	0.156	1.11	76	1.96	241.2	-0.037	547.0	0.09	14.86
882	137.868	0.157	1.12	76	1.98	231.5	-0.032	547.0	0.12	15.67
883	138.024	0.156	1.12	76	1.99	226	-0.030	547.0	0.08	13.12
884	138.181	0.157	1.12	76	1.99	221.2	-0.030	547.0	0.30	17.40
885	138.337	0.156	1.12	76	1.99	216.4	-0.028	547.0	0.17	15.50
886	138.493	0.156	1.12	76	1.97	212.5	-0.029	547.0	0.12	13.73
887	138.650	0.157	1.12	76	1.97	208.7	-0.029	547.0	0.10	12.88
888	138.805	0.155	1.12	76	1.97	207.5	-0.024	547.0	0.06	10.80
889	138.962	0.157	1.11	76	1.99	206.1	-0.027	547.0	0.66	10.01
890	139.119	0.157	1.12	76	1.97	203.7	-0.028	547.0	2.01	11.75
891	139.274	0.155	1.12	76	1.97	201.1	-0.029	547.0	3.31	13.87
892	139.431	0.157	1.12	76	1.98	198.2	-0.026	547.0	4.19	15.21
893	139.590	0.159	1.12	76	1.95	195.2	-0.028	547.0	4.40	15.13
894	139.743	0.153	1.12	76	1.96	192.4	-0.026	547.0	4.13	13.80
895	139.901	0.158	1.12	76	1.95	189.4	-0.026	547.0	4.40	14.41
896	140.056	0.155	1.12	76	1.96	186.5	-0.029	547.0	4.29	13.93

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Meter Box Y Regression Offset: 1.0074
Meter Box Y Regression Factor: 0
Meter Box Dynamic Y: 1.007
Sample Box ID: 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
897	140.213	0.157	1.11	76	1.98	183.7	-0.023	547.0	3.89	12.64
898	140.370	0.157	1.12	76	1.97	181.1	-0.027	547.0	3.69	12.07
899	140.526	0.156	1.12	76	1.97	178.6	-0.025	547.0	3.34	11.05
900	140.683	0.157	1.12	76	1.96	176.2	-0.022	547.0	3.08	10.27
901	140.839	0.156	1.12	76	1.97	173.6	-0.023	547.0	2.89	9.69
902	140.995	0.156	1.12	76	1.96	171.4	-0.022	547.0	2.66	9.05
903	141.155	0.160	1.13	76	1.98	169.5	-0.019	547.0	2.50	8.63
904	141.308	0.153	1.12	76	1.94	167.4	-0.019	547.0	2.15	7.51
905	141.465	0.157	1.12	76	1.98	165.3	-0.022	547.0	2.03	7.18
906	141.622	0.157	1.13	76	1.97	162.9	-0.019	547.0	1.82	6.53
907	141.777	0.155	1.12	76	1.97	161.1	-0.019	547.0	1.75	6.30
908	141.935	0.158	1.12	76	1.97	158.9	-0.017	547.0	1.60	5.84
909	142.091	0.156	1.12	76	1.98	157.5	-0.016	547.0	1.41	5.23
910	142.247	0.156	1.12	76	1.98	155.3	-0.021	547.0	1.42	5.38
911	142.404	0.157	1.12	76	1.99	154	-0.017	547.0	1.17	4.47
912	142.560	0.156	1.12	76	1.99	152.7	-0.019	547.0	1.15	4.46
913	142.719	0.159	1.12	76	1.99	150.3	-0.018	547.0	0.97	3.87
914	142.873	0.154	1.12	76	1.96	148.9	-0.017	547.0	0.98	3.94
915	143.029	0.156	1.12	76	1.95	147.4	-0.016	547.0	0.82	3.31
916	143.186	0.157	1.12	76	1.96	146.1	-0.016	547.0	0.77	3.03
917	143.342	0.156	1.12	76	1.98	145.2	-0.016	547.0	0.74	3.14
918	143.498	0.156	1.12	76	1.97	143.3	-0.022	547.0	0.67	2.76
919	143.655	0.157	1.12	76	1.99	141.9	-0.016	547.0	0.61	2.61
920	143.810	0.155	1.12	76	1.98	140.3	-0.011	547.0	0.59	2.54
921	143.967	0.157	1.11	76	1.98	139.1	-0.017	547.0	0.56	2.43
922	144.124	0.157	1.12	76	1.98	138.4	-0.013	547.0	0.49	2.19
923	144.282	0.158	1.12	76	1.97	137.4	-0.014	547.0	0.48	2.11
924	144.439	0.157	1.12	76	1.99	136.1	-0.013	547.0	0.45	2.05
925	144.593	0.154	1.12	76	1.95	134.9	-0.013	547.0	0.40	1.84
926	144.749	0.156	1.12	76	1.98	133.9	-0.013	547.0	0.39	1.78
927	144.906	0.157	1.12	76	1.98	133.1	-0.017	547.0	0.40	1.81
928	145.062	0.156	1.12	76	1.95	131.6	-0.017	547.0	0.33	1.56
929	145.219	0.157	1.12	76	1.96	130.9	-0.015	547.0	0.35	1.70
930	145.376	0.157	1.12	76	1.97	129.7	-0.013	547.0	0.31	1.47
931	145.531	0.155	1.12	76	1.98	129.4	-0.013	547.0	0.32	1.54
932	145.688	0.157	1.12	76	1.97	128.3	-0.013	547.0	0.29	1.42

Train D - Ambient Background and Flue Gas Data

Run: 4
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E

Test Date: 2/27/2025
Meter Box Y Regression Offset: 1.0074
Meter Box Y Regression Factor: 0
Meter Box Dynamic Y: 1.007
Sample Box ID: 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
933	145.847	0.159	1.12	76	1.97	126.6	-0.013	547.0	0.27	1.30
934	146.003	0.156	1.12	76	1.98	126.1	-0.014	547.0	0.26	1.30
935	146.158	0.155	1.12	76	1.96	125.6	-0.013	547.0	0.26	1.31
936	146.313	0.155	1.12	76	1.97	125.9	-0.013	547.0	0.27	1.36
937	146.470	0.157	1.12	76	1.97	124.2	-0.012	547.0	0.25	1.26
938	146.627	0.157	1.12	76	1.98	123.8	-0.017	547.0	0.23	1.16
939	146.782	0.155	1.12	76	1.98	122.6	-0.008	547.0	0.24	1.21
940	146.940	0.158	1.12	76	1.98	121.1	-0.013	547.0	0.21	1.06
941	147.096	0.156	1.12	76	2.00	120.9	-0.016	547.0	0.22	1.13
942	147.255	0.159	1.11	76	1.98	121.2	-0.010	547.0	0.20	1.09
943	147.412	0.157	1.12	76	1.96	120.1	-0.010	547.0	0.19	0.98
944	147.567	0.155	1.12	76	1.98	119.6	-0.012	547.0	0.19	1.02
945	147.721	0.154	1.11	76	1.98	119.3	-0.010	547.0	0.19	0.99
946	147.878	0.157	1.12	76	1.99	118	-0.011	547.0	0.19	0.96
947	148.033	0.155	1.12	76	1.98	117.5	-0.012	547.0	0.20	0.98
948	148.191	0.158	1.12	76	1.98	156.8	-0.026	547.0	0.26	1.24
949	148.346	0.155	1.12	76	1.98	160.7	-0.016	547.0	1.96	9.58
950	148.503	0.157	1.12	76	1.98	150	-0.018	547.0	1.88	9.21
951	148.662	0.159	1.12	76	1.98	142.9	-0.017	547.0	1.82	9.26
952	148.818	0.156	1.12	76	1.97	137.8	-0.016	547.0	1.54	8.03
953	148.975	0.157	1.12	76	1.97	134	-0.014	547.0	1.36	7.15
954	149.131	0.156	1.12	76	1.98	130.6	-0.015	547.0	1.10	5.87
955	149.284	0.153	1.11	76	1.99	128	-0.011	547.0	0.93	5.07
956	149.441	0.157	1.12	76	1.97	125.8	-0.014	547.0	0.88	4.67
957	149.597	0.156	1.12	76	1.98	123.6	-0.012	547.0	0.84	4.56
958	149.754	0.157	1.12	76	1.98	123.3	-0.011	547.0	0.75	4.10
959	149.910	0.156	1.11	76	1.97	121.7	-0.012	547.0	0.69	3.65
960	150.066	0.156	1.12	76	1.98	120.1	-0.009	547.0	0.64	3.45
961	150.225	0.159	1.12	76	1.96	119.8	-0.014	547.0	0.59	3.24
962	150.382	0.157	1.12	76	1.97	119.7	-0.016	547.0	0.56	2.90
963	150.537	0.155	1.12	76	1.97	117.8	-0.015	547.0	0.56	2.89
964	150.694	0.157	1.12	76	1.97	117.4	-0.012	547.0	0.48	2.57
965	150.848	0.154	1.12	76	1.98	117	-0.011	547.0	0.44	2.42
966	151.004	0.156	1.12	76	1.96	115	-0.014	547.0	0.44	2.41
967	151.161	0.157	1.11	76	1.98	114	-0.012	547.0	0.41	2.21
968	151.316	0.155	1.12	76	1.97	113.3	-0.008	547.0	0.37	1.99

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
969	151.473	0.157	1.11	76	1.99	112.7	-0.009	547.0	0.35	1.87
970	151.630	0.157	1.12	76	1.97	112.2	-0.006	547.0	0.34	1.87
971	151.787	0.157	1.11	76	1.98	112.5	-0.013	547.0	0.33	1.73
972	151.945	0.158	1.12	76	1.99	111.8	-0.014	547.0	0.28	1.56
973	152.100	0.155	1.12	76	1.98	111.3	-0.009	547.0	0.27	1.50
974	152.257	0.157	1.11	76	1.98	111	-0.010	547.0	0.27	1.52
975	152.411	0.154	1.12	76	1.98	110.2	-0.007	547.0	0.26	1.40
976	152.566	0.155	1.12	76	1.97	109.5	-0.011	547.0	0.24	1.36
977	152.723	0.157	1.11	76	1.97	109.3	-0.008	547.0	0.24	1.32
978	152.879	0.156	1.11	76	1.98	108.7	-0.009	547.0	0.23	1.27
979	153.034	0.155	1.12	76	1.96	149.2	-0.026	547.0	0.51	2.87
980	153.191	0.157	1.11	76	1.97	149.3	-0.017	547.0	1.45	7.74
981	153.350	0.159	1.12	76	1.97	139.2	-0.014	547.0	1.28	7.03
982	153.506	0.156	1.12	76	1.98	133.4	-0.013	547.0	1.21	7.09
983	153.663	0.157	1.11	76	1.97	128.4	-0.014	547.0	1.03	6.19
984	153.818	0.155	1.12	76	1.96	125.7	-0.012	547.0	0.89	5.50
985	153.975	0.157	1.11	76	1.98	123.3	-0.010	547.0	0.84	5.31
986	154.129	0.154	1.11	76	1.98	120.6	-0.009	547.0	0.68	4.41
987	154.284	0.155	1.12	76	1.99	118.9	-0.014	547.0	0.63	4.02
988	154.440	0.156	1.11	76	1.98	117.2	-0.010	547.0	0.57	3.72
989	154.597	0.157	1.11	76	1.97	115.3	-0.012	547.0	0.47	3.04
990	154.752	0.155	1.12	76	1.97	114.9	-0.011	547.0	0.43	2.82
991	154.912	0.160	1.11	76	1.99	114.2	-0.011	547.0	0.43	2.76
992	155.067	0.155	1.12	76	1.99	113	-0.016	547.0	0.38	2.51
993	155.223	0.156	1.11	76	1.99	112.1	-0.007	547.0	0.35	2.29
994	155.380	0.157	1.11	76	1.99	111.5	-0.005	547.0	0.34	2.21
995	155.535	0.155	1.12	76	1.99	109.4	-0.010	547.0	0.31	2.05
996	155.689	0.154	1.11	76	2.00	109.3	-0.010	547.0	0.29	1.94
997	155.846	0.157	1.11	76	2.00	109.1	-0.010	547.0	0.29	1.99
998	156.001	0.155	1.11	76	1.98	109.5	-0.010	547.0	0.28	1.87
999	156.157	0.156	1.11	76	1.96	108.6	-0.008	547.0	0.25	1.70
1000	156.314	0.157	1.11	76	1.99	108.2	-0.015	547.0	0.25	1.63
1001	156.472	0.158	1.11	76	1.98	108.3	-0.010	547.0	0.24	1.64
1002	156.629	0.157	1.11	76	1.98	107	-0.009	547.0	0.22	1.54
1003	156.785	0.156	1.11	76	1.97	106.5	-0.005	547.0	0.22	1.47
1004	156.940	0.155	1.11	76	1.98	106.8	-0.010	547.0	0.22	1.48

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1005	157.097	0.157	1.12	77	1.97	106.8	-0.010	547.0	0.21	1.40
1006	157.251	0.154	1.11	76	1.98	105.7	-0.008	547.0	0.21	1.30
1007	157.406	0.155	1.11	76	1.97	105.7	-0.008	547.0	0.20	1.30
1008	157.563	0.157	1.11	77	1.98	104.5	-0.009	547.0	0.19	1.28
1009	157.718	0.155	1.12	76	1.98	104.7	-0.004	547.0	0.17	1.22
1010	157.875	0.157	1.11	76	1.98	144.5	-0.026	547.0	0.54	4.15
1011	158.034	0.159	1.12	77	1.98	140.5	-0.012	547.0	0.92	5.96
1012	158.190	0.156	1.11	76	1.97	132.8	-0.011	547.0	0.77	5.03
1013	158.347	0.157	1.12	77	1.98	127.8	-0.018	547.0	0.67	4.19
1014	158.502	0.155	1.12	77	1.97	123.6	-0.013	547.0	0.57	3.77
1015	158.659	0.157	1.11	77	1.97	121.1	-0.007	547.0	0.49	3.27
1016	158.813	0.154	1.12	77	1.98	119.9	-0.014	547.0	0.42	2.87
1017	158.968	0.155	1.11	77	1.97	117.1	-0.010	547.0	0.41	2.78
1018	159.125	0.157	1.11	77	1.97	115.9	-0.008	547.0	0.39	2.60
1019	159.281	0.156	1.11	77	1.97	114.3	-0.013	547.0	0.35	2.34
1020	159.437	0.156	1.12	77	1.98	112.9	-0.005	547.0	0.27	1.94
1021	159.597	0.160	1.12	77	1.97	111.2	-0.009	547.0	0.28	1.95
1022	159.753	0.156	1.12	77	1.98	109.9	-0.012	547.0	0.25	1.72
1023	159.909	0.156	1.12	77	1.97	109.2	-0.007	547.0	0.24	1.62
1024	160.066	0.157	1.12	77	1.98	108.6	-0.009	547.0	0.22	1.58
1025	160.221	0.155	1.12	77	1.96	107.9	-0.011	547.0	0.20	1.49
1026	160.375	0.154	1.11	77	1.97	107.3	-0.006	547.0	0.20	1.46
1027	160.532	0.157	1.11	77	1.98	106.7	-0.010	547.0	0.20	1.43
1028	160.688	0.156	1.12	77	1.95	106.6	-0.008	547.0	0.18	1.32
1029	160.844	0.156	1.11	77	1.95	105.9	-0.009	547.0	0.17	1.27
1030	161.004	0.160	1.12	77	1.96	105.9	-0.012	547.0	0.17	1.26
1031	161.160	0.156	1.12	77	1.97	104.8	-0.008	547.0	0.17	1.23
1032	161.317	0.157	1.11	77	1.97	104.8	-0.010	547.0	0.16	1.20
1033	161.472	0.155	1.12	77	1.97	103.9	-0.004	547.0	0.16	1.08
1034	161.629	0.157	1.11	77	1.98	104.4	-0.007	547.0	0.14	1.12
1035	161.786	0.157	1.12	77	1.96	103.5	-0.009	547.0	0.14	1.08
1036	161.939	0.153	1.12	77	1.98	103.4	-0.014	547.0	0.14	1.05
1037	162.096	0.157	1.11	77	1.98	102	-0.008	547.0	0.13	0.92
1038	162.253	0.157	1.12	77	1.98	101.9	-0.008	547.0	0.13	0.96
1039	162.411	0.158	1.12	77	1.97	101.3	-0.005	547.0	0.12	0.92
1040	162.568	0.157	1.12	77	1.95	102	-0.007	547.0	0.12	0.93

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1041	162.724	0.156	1.12	77	1.97	141.6	-0.021	547.0	0.42	4.39
1042	162.881	0.157	1.11	77	1.95	133.8	-0.015	547.0	0.72	4.89
1043	163.038	0.157	1.12	77	1.98	128	-0.011	547.0	0.62	4.16
1044	163.193	0.155	1.12	77	1.95	123.6	-0.015	547.0	0.50	3.38
1045	163.350	0.157	1.11	77	1.98	119.9	-0.014	547.0	0.42	2.89
1046	163.504	0.154	1.12	77	1.96	117.1	-0.007	547.0	0.39	2.62
1047	163.660	0.156	1.12	76	1.96	114.2	-0.014	547.0	0.34	2.38
1048	163.817	0.157	1.12	76	1.96	112.9	-0.008	547.0	0.31	2.20
1049	163.975	0.158	1.12	77	1.97	111.6	-0.009	547.0	0.28	1.97
1050	164.132	0.157	1.11	77	1.98	110.3	-0.012	547.0	0.26	1.88
1051	164.289	0.157	1.12	77	1.96	109.1	-0.012	547.0	0.24	1.77
1052	164.444	0.155	1.11	77	1.96	108.4	-0.014	547.0	0.22	1.62
1053	164.602	0.158	1.12	77	1.96	107.1	-0.010	547.0	0.22	1.63
1054	164.758	0.156	1.12	77	1.97	107.5	-0.009	547.0	0.22	1.67
1055	164.914	0.156	1.12	77	1.97	107.2	-0.009	547.0	0.20	1.68
1056	165.068	0.154	1.12	77	1.98	105.4	-0.008	547.0	0.20	1.55
1057	165.224	0.156	1.12	77	1.98	104.3	-0.010	547.0	0.19	1.58
1058	165.383	0.159	1.11	77	1.97	103.9	-0.004	547.0	0.19	1.51
1059	165.540	0.157	1.12	77	1.98	103.3	-0.009	547.0	0.18	1.45
1060	165.696	0.156	1.11	77	1.96	102.7	-0.011	547.0	0.17	1.29
1061	165.853	0.157	1.12	77	1.98	102.6	-0.008	547.0	0.18	1.43
1062	166.009	0.156	1.12	77	1.98	101.9	-0.008	547.0	0.16	1.25
1063	166.165	0.156	1.11	77	1.97	102.3	-0.007	547.0	0.16	1.34
1064	166.322	0.157	1.12	77	1.99	101.3	-0.011	547.0	0.16	1.30
1065	166.478	0.156	1.12	77	1.97	101	-0.006	547.0	0.15	1.29
1066	166.632	0.154	1.11	77	1.96	100.5	-0.007	547.0	0.14	1.17
1067	166.789	0.157	1.11	77	1.97	100.6	-0.009	547.0	0.14	1.16
1068	166.947	0.158	1.12	77	1.97	100.7	-0.007	547.0	0.14	1.17
1069	167.104	0.157	1.12	77	1.96	99.7	-0.011	547.0	0.14	1.24
1070	167.260	0.156	1.12	77	1.96	99.7	-0.007	547.0	0.13	1.16
1071	167.416	0.156	1.11	77	1.97	99.6	-0.007	547.0	0.13	1.09
1072	167.573	0.157	1.11	77	1.98	136	-0.021	547.0	0.34	4.26
1073	167.729	0.156	1.12	77	1.95	128.5	-0.019	547.0	0.58	4.17
1074	167.885	0.156	1.11	77	1.97	159.1	-0.027	547.0	1.02	5.97
1075	168.042	0.157	1.12	77	1.98	181.4	-0.021	547.0	1.83	6.63
1076	168.195	0.153	1.11	77	1.98	206.3	-0.018	547.0	1.42	13.03

Train D - Ambient Background and Flue Gas Data**Run:** 4**Test Date:** 2/27/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 19:36

Total Sampling Time 2460 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1077	168.352	0.157	1.11	76	1.98	239	-0.030	547.0	0.15	15.22
1078	168.511	0.159	1.12	77	1.99	257.4	-0.037	547.0	0.11	14.98
1079	168.667	0.156	1.11	77	1.94	270.3	-0.032	547.0	0.12	15.37
1080	168.824	0.157	1.11	77	1.95	278.3	-0.042	547.0	0.16	15.76
1081	168.980	0.156	1.12	77	1.98	284.9	-0.032	547.0	0.12	15.94
1082	169.136	0.156	1.11	77	1.98	288.4	-0.033	547.0	0.08	15.81
1083	169.293	0.157	1.12	77	1.98	292.5	-0.039	547.0	0.09	15.73
1084	169.448	0.155	1.11	77	1.96	290.5	-0.035	547.0	0.13	16.62
1085	169.605	0.157	1.11	77	1.98	285.7	-0.048	547.0	0.12	16.07
1086	169.759	0.154	1.11	77	1.98	285.3	-0.035	547.0	0.12	16.38
1087	169.917	0.158	1.11	77	1.97	286.9	-0.038	547.0	0.15	16.85
1088	170.074	0.157	1.11	77	1.98	289.2	-0.054	547.0	0.15	17.17
1089	170.229	0.155	1.11	77	1.96	287.2	-0.042	547.0	0.10	15.62
1090	170.386	0.157	1.11	77	1.97	285.6	-0.031	547.0	0.18	17.23
1091	170.542	0.156	1.11	77	1.96	285.8	-0.018	547.0	0.17	17.12
1092	170.698	0.156	1.12	77	1.95	286.4	-0.046	547.0	0.16	17.19
1093	170.854	0.156	1.11	77	1.97	288.1	-0.034	547.0	0.14	17.06
1094	171.011	0.157	1.11	77	1.98	289.6	-0.049	547.0	0.10	16.38
1095	171.163	0.152	1.11	77	1.96	291.4	-0.022	547.0	0.07	14.62
1096	171.323	0.160	1.11	77	1.97	292.6	-0.037	547.0	0.05	14.61
1097	171.479	0.156	1.11	77	1.97	292.6	-0.033	546.0	0.07	15.30
1098	171.634	0.155	1.11	77	1.98	291.8	-0.036	547.0	0.10	16.69
1099	171.791	0.157	1.11	77	2.00	290.9	-0.037	547.0	0.10	17.69
1100	171.946	0.155	1.11	77	1.98	288.6	-0.039	547.0	0.09	17.73
1101	172.102	0.156	1.11	77	1.98	288.1	-0.032	547.0	0.08	17.11
1102	172.259	0.157	1.11	77	1.97	269.1	-0.030	547.0	0.07	15.05
1103	172.414	0.155	1.11	77	1.97	250.3	-0.032	547.0	0.07	14.55
1104	172.570	0.156	1.10	77	1.96	238.7	-0.031	547.0	0.10	15.65
1105	172.724	0.154	1.10	77	1.99	230.1	-0.033	547.0	0.12	17.15
1106	172.882	0.158	1.11	77	1.97	224.8	-0.032	547.0	0.11	14.72
1107	173.038	0.156	1.10	77	1.99	219.9	-0.031	547.0	0.46	20.02
1108	173.195	0.157	1.11	77	1.95	215.3	-0.027	547.0	0.17	17.88
1109	173.349	0.154	1.10	77	1.98	211.5	-0.030	547.0	0.11	15.50
1110	173.506	0.157	1.11	77	1.97	207.8	-0.026	547.0	0.12	14.31
1111	173.662	0.156	1.10	77	1.96	206.5	-0.024	547.0	0.08	11.84
1112	173.817	0.155	1.10	77	1.97	204.9	-0.026	547.0	0.84	10.97

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1113	173.974	0.157	1.11	77	1.98	202.7	-0.027	547.0	2.41	12.59
1114	174.129	0.155	1.10	77	1.97	200	-0.027	547.0	3.68	14.28
1115	174.285	0.156	1.10	77	1.98	197.3	-0.024	547.0	4.48	15.29
1116	174.441	0.156	1.11	77	1.96	194.5	-0.026	547.0	4.67	15.15
1117	174.596	0.155	1.11	77	1.98	191.6	-0.025	547.0	4.79	15.04
1118	174.753	0.157	1.10	77	1.97	188.7	-0.023	547.0	4.65	14.49
1119	174.909	0.156	1.10	77	1.97	186.3	-0.024	547.0	4.66	14.36
1120	175.064	0.155	1.11	77	1.99	183.4	-0.022	547.0	4.39	13.48
1121	175.220	0.156	1.10	78	1.99	180.7	-0.025	547.0	4.10	12.65
1122	175.377	0.157	1.11	77	1.98	178.4	-0.017	547.0	4.01	12.41
1123	175.532	0.155	1.10	78	1.99	176	-0.020	547.0	3.53	11.11
1124	175.688	0.156	1.10	78	1.99	173.6	-0.020	547.0	3.37	10.62
1125	175.844	0.156	1.11	78	1.99	171.6	-0.020	547.0	3.08	9.78
1126	175.999	0.155	1.10	78	1.97	169.4	-0.022	547.0	2.81	8.99
1127	176.156	0.157	1.10	78	1.98	167.6	-0.017	547.0	2.85	9.19
1128	176.312	0.156	1.11	78	1.99	165.4	-0.021	547.0	2.43	7.89
1129	176.467	0.155	1.10	78	1.98	163.8	-0.018	547.0	2.30	7.59
1130	176.624	0.157	1.10	78	1.98	161.2	-0.019	547.0	2.14	7.16
1131	176.779	0.155	1.11	78	1.97	159.2	-0.011	547.0	1.97	6.67
1132	176.935	0.156	1.10	78	1.98	158.1	-0.020	547.0	1.78	6.08
1133	177.092	0.157	1.11	78	1.98	157	-0.020	547.0	1.73	5.91
1134	177.247	0.155	1.11	78	1.97	154.7	-0.019	547.0	1.75	6.13
1135	177.404	0.157	1.10	78	1.97	153	-0.017	547.0	1.47	5.21
1136	177.561	0.157	1.11	78	1.97	151.3	-0.017	547.0	1.43	5.18
1137	177.716	0.155	1.10	78	1.97	149.6	-0.021	547.0	1.33	4.82
1138	177.873	0.157	1.11	78	1.97	148.3	-0.015	547.0	1.21	4.50
1139	178.029	0.156	1.11	78	1.98	146.8	-0.022	547.0	1.08	4.00
1140	178.184	0.155	1.10	78	1.98	145.9	-0.016	547.0	1.10	4.13
1141	178.341	0.157	1.10	78	1.98	144.8	-0.016	547.0	1.02	3.87
1142	178.497	0.156	1.11	78	1.97	143.5	-0.010	547.0	0.97	3.67
1143	178.653	0.156	1.11	78	1.97	142.4	-0.017	547.0	0.93	3.57
1144	178.810	0.157	1.11	78	1.97	140.9	-0.017	547.0	0.92	3.55
1145	178.965	0.155	1.11	78	1.97	140.6	-0.015	547.0	0.87	3.43
1146	179.122	0.157	1.10	78	1.97	139.4	-0.015	547.0	0.74	2.89
1147	179.279	0.157	1.11	78	1.97	138.4	-0.014	547.0	0.81	3.22
1148	179.434	0.155	1.11	78	1.97	136.5	-0.015	547.0	0.77	3.11

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1149	179.591	0.157	1.11	78	1.97	135.1	-0.011	547.0	0.72	3.01
1150	179.747	0.156	1.11	78	1.96	134.5	-0.010	547.0	0.66	2.72
1151	179.903	0.156	1.11	78	1.98	133.9	-0.013	547.0	0.60	2.54
1152	180.060	0.157	1.10	78	1.96	133.4	-0.011	547.0	0.65	2.71
1153	180.215	0.155	1.11	78	1.97	131.5	-0.010	547.0	0.56	2.39
1154	180.372	0.157	1.10	78	1.99	131.6	-0.013	547.0	0.55	2.43
1155	180.529	0.157	1.11	78	1.98	130	-0.011	547.0	0.58	2.45
1156	180.684	0.155	1.11	78	1.97	129.2	-0.016	547.0	0.53	2.29
1157	180.841	0.157	1.11	78	1.98	128.3	-0.013	547.0	0.52	2.19
1158	180.997	0.156	1.11	78	1.96	127.7	-0.014	547.0	0.48	2.10
1159	181.152	0.155	1.11	78	1.94	126.5	-0.013	547.0	0.46	2.06
1160	181.309	0.157	1.10	78	1.98	126.9	-0.017	547.0	0.48	2.08
1161	181.465	0.156	1.11	78	1.99	126.5	-0.016	547.0	0.45	2.03
1162	181.621	0.156	1.10	78	1.98	125.3	-0.014	547.0	0.46	2.09
1163	181.778	0.157	1.11	78	1.98	125.1	-0.014	547.0	0.43	1.90
1164	181.934	0.156	1.11	78	1.95	123.9	-0.016	547.0	0.43	1.92
1165	182.090	0.156	1.10	78	1.97	123.5	-0.013	547.0	0.42	1.87
1166	182.247	0.157	1.11	78	1.96	122.1	-0.010	547.0	0.40	1.78
1167	182.402	0.155	1.11	78	1.95	121.6	-0.014	547.0	0.41	1.86
1168	182.559	0.157	1.11	78	1.96	121	-0.007	547.0	0.40	1.81
1169	182.715	0.156	1.11	78	1.98	121.2	-0.011	547.0	0.40	1.89
1170	182.871	0.156	1.11	78	1.98	119.8	-0.013	547.0	0.39	1.76
1171	183.028	0.157	1.10	78	1.96	157	-0.030	547.0	0.45	2.05
1172	183.184	0.156	1.11	78	1.97	160.5	-0.018	547.0	1.75	8.64
1173	183.340	0.156	1.10	78	1.95	150.2	-0.013	547.0	1.64	8.10
1174	183.497	0.157	1.11	78	1.98	143.6	-0.016	547.0	1.65	8.26
1175	183.652	0.155	1.10	78	1.98	138.2	-0.018	547.0	1.43	7.29
1176	183.809	0.157	1.11	78	1.97	135	-0.009	547.0	1.25	6.44
1177	183.965	0.156	1.11	78	1.95	130.9	-0.012	547.0	1.08	5.69
1178	184.121	0.156	1.11	78	1.99	128.8	-0.013	547.0	0.93	4.86
1179	184.278	0.157	1.10	78	1.97	126.3	-0.014	547.0	0.82	4.21
1180	184.433	0.155	1.11	78	1.99	125.9	-0.013	547.0	0.78	4.07
1181	184.590	0.157	1.10	78	1.96	122.8	-0.013	547.0	0.68	3.54
1182	184.747	0.157	1.11	78	1.94	122.9	-0.016	547.0	0.69	3.60
1183	184.902	0.155	1.11	78	1.95	121.2	-0.008	547.0	0.59	3.09
1184	185.059	0.157	1.11	78	1.96	120.2	-0.011	547.0	0.57	3.00

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1185	185.216	0.157	1.11	78	1.99	119.6	-0.011	547.0	0.50	2.61
1186	185.371	0.155	1.11	78	1.96	119.3	-0.013	547.0	0.50	2.66
1187	185.528	0.157	1.11	78	1.97	118.3	-0.014	547.0	0.47	2.52
1188	185.684	0.156	1.11	78	1.96	116.9	-0.006	547.0	0.43	2.24
1189	185.841	0.157	1.11	78	1.96	115.2	-0.011	547.0	0.44	2.33
1190	185.997	0.156	1.11	78	1.98	116.5	-0.016	547.0	0.43	2.34
1191	186.153	0.156	1.11	78	1.95	116.1	-0.009	547.0	0.37	1.96
1192	186.310	0.157	1.10	78	1.97	115.2	-0.010	547.0	0.37	2.03
1193	186.466	0.156	1.11	78	1.98	114.5	-0.009	547.0	0.33	1.87
1194	186.622	0.156	1.11	78	1.94	114.8	-0.006	547.0	0.35	1.84
1195	186.779	0.157	1.11	78	1.97	113.6	-0.007	547.0	0.31	1.73
1196	186.935	0.156	1.11	78	1.97	113	-0.011	547.0	0.31	1.72
1197	187.091	0.156	1.11	78	1.95	111.1	-0.013	547.0	0.31	1.74
1198	187.248	0.157	1.11	78	1.97	111.3	-0.011	547.0	0.29	1.62
1199	187.403	0.155	1.11	78	1.98	110.5	-0.009	547.0	0.28	1.63
1200	187.560	0.157	1.10	78	1.95	111.2	-0.009	547.0	0.26	1.51
1201	187.717	0.157	1.11	78	1.97	110	-0.008	547.0	0.26	1.52
1202	187.872	0.155	1.11	78	1.98	148.9	-0.025	547.0	0.50	3.08
1203	188.029	0.157	1.11	78	1.98	148.7	-0.011	547.0	1.62	7.16
1204	188.185	0.156	1.11	78	1.97	139.5	-0.016	547.0	1.40	6.28
1205	188.341	0.156	1.10	78	1.96	133.2	-0.017	547.0	1.26	6.10
1206	188.498	0.157	1.10	78	1.96	129.7	-0.010	547.0	1.09	5.40
1207	188.654	0.156	1.11	78	1.97	126.1	-0.011	547.0	0.94	4.69
1208	188.810	0.156	1.10	78	1.98	124.8	-0.012	547.0	0.84	4.31
1209	188.967	0.157	1.11	78	1.97	123.2	-0.010	547.0	0.73	3.87
1210	189.123	0.156	1.11	78	1.97	120.1	-0.010	547.0	0.62	3.35
1211	189.280	0.157	1.11	78	1.98	119.4	-0.008	547.0	0.61	3.23
1212	189.436	0.156	1.11	78	1.94	118.7	-0.012	547.0	0.54	2.87
1213	189.592	0.156	1.11	78	1.98	116.4	-0.010	547.0	0.51	2.82
1214	189.749	0.157	1.10	78	1.99	116.2	-0.012	547.0	0.45	2.46
1215	189.904	0.155	1.11	78	1.96	115.7	-0.011	547.0	0.44	2.49
1216	190.061	0.157	1.10	78	1.98	114.1	-0.007	547.0	0.43	2.46
1217	190.218	0.157	1.11	78	1.98	114.2	-0.009	547.0	0.41	2.24
1218	190.373	0.155	1.11	78	1.96	113.4	-0.011	547.0	0.39	2.16
1219	190.530	0.157	1.10	78	1.95	113	-0.011	547.0	0.37	2.22
1220	190.687	0.157	1.11	78	1.96	112.9	-0.013	547.0	0.37	2.16

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1221	190.842	0.155	1.11	78	1.98	111.4	-0.005	547.0	0.33	1.96
1222	190.999	0.157	1.11	78	1.95	110.6	-0.010	547.0	0.32	1.90
1223	191.155	0.156	1.11	78	1.95	111.4	-0.006	547.0	0.31	1.89
1224	191.311	0.156	1.10	78	1.95	110.6	-0.011	547.0	0.28	1.73
1225	191.468	0.157	1.11	78	1.96	109.9	-0.008	547.0	0.26	1.71
1226	191.624	0.156	1.10	78	1.96	108.3	-0.010	547.0	0.25	1.62
1227	191.780	0.156	1.10	79	1.94	108	-0.010	547.0	0.25	1.58
1228	191.937	0.157	1.11	79	1.95	107.4	-0.005	547.0	0.21	1.49
1229	192.092	0.155	1.10	79	1.98	107.6	-0.013	547.0	0.22	1.44
1230	192.249	0.157	1.11	78	1.99	107.8	-0.011	547.0	0.21	1.38
1231	192.405	0.156	1.11	79	1.99	108.2	-0.008	547.0	0.20	1.31
1232	192.561	0.156	1.10	79	1.97	107.5	-0.006	547.0	0.22	1.47
1233	192.718	0.157	1.10	79	1.98	143.4	-0.027	547.0	0.57	4.42
1234	192.873	0.155	1.11	79	1.95	139	-0.016	547.0	1.34	5.93
1235	193.030	0.157	1.10	79	1.95	131.5	-0.015	547.0	1.14	5.08
1236	193.187	0.157	1.11	79	1.98	126.6	-0.013	547.0	0.98	4.45
1237	193.342	0.155	1.10	79	1.96	123.7	-0.016	547.0	0.83	3.85
1238	193.499	0.157	1.11	79	1.97	121	-0.010	547.0	0.72	3.38
1239	193.655	0.156	1.11	79	1.96	117.9	-0.007	547.0	0.66	3.20
1240	193.811	0.156	1.11	79	1.96	115.8	-0.009	547.0	0.57	2.83
1241	193.968	0.157	1.10	79	1.98	115.1	-0.009	547.0	0.54	2.75
1242	194.123	0.155	1.11	79	1.95	113.5	-0.008	547.0	0.45	2.42
1243	194.279	0.156	1.10	79	1.96	112.8	-0.009	547.0	0.44	2.29
1244	194.436	0.157	1.11	79	1.95	111.7	-0.011	547.0	0.39	2.14
1245	194.592	0.156	1.11	79	1.98	110.2	-0.016	547.0	0.39	2.17
1246	194.748	0.156	1.10	79	1.95	109.5	-0.007	547.0	0.38	2.15
1247	194.905	0.157	1.11	79	1.95	109.4	-0.007	547.0	0.35	2.11
1248	195.060	0.155	1.10	79	1.96	109.8	-0.010	547.0	0.35	2.07
1249	195.217	0.157	1.11	79	1.98	108.7	-0.010	547.0	0.32	1.97
1250	195.373	0.156	1.10	79	1.97	108	-0.010	547.0	0.31	1.87
1251	195.529	0.156	1.10	79	1.96	107.9	-0.010	547.0	0.29	1.82
1252	195.686	0.157	1.10	79	1.96	107.1	-0.007	547.0	0.28	1.84
1253	195.841	0.155	1.11	79	1.97	107.2	-0.012	547.0	0.28	1.79
1254	195.997	0.156	1.10	79	1.95	108	-0.006	547.0	0.26	1.70
1255	196.154	0.157	1.10	79	1.94	106.4	-0.011	547.0	0.26	1.70
1256	196.310	0.156	1.10	79	1.94	104.9	-0.013	547.0	0.23	1.56

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1257	196.466	0.156	1.10	79	1.96	104.4	-0.018	547.0	0.23	1.56
1258	196.623	0.157	1.10	79	1.97	104.2	-0.004	547.0	0.23	1.55
1259	196.778	0.155	1.10	79	1.95	105.8	-0.001	547.0	0.22	1.58
1260	196.935	0.157	1.10	79	1.98	104.4	-0.006	547.0	0.22	1.49
1261	197.091	0.156	1.11	79	1.94	103.8	-0.007	547.0	0.21	1.53
1262	197.247	0.156	1.10	79	1.97	103.3	-0.009	547.0	0.20	1.40
1263	197.404	0.157	1.10	79	1.95	103.6	-0.003	547.0	0.20	1.45
1264	197.559	0.155	1.11	79	1.96	140.7	-0.030	547.0	0.57	5.19
1265	197.715	0.156	1.10	79	1.94	132.5	-0.017	547.0	1.13	5.44
1266	197.872	0.157	1.11	79	1.98	126.4	-0.015	547.0	0.93	4.44
1267	198.028	0.156	1.10	79	1.96	122.1	-0.015	547.0	0.80	3.86
1268	198.185	0.157	1.10	79	1.95	119.2	-0.006	547.0	0.67	3.32
1269	198.341	0.156	1.11	79	1.94	116.1	-0.013	547.0	0.58	2.89
1270	198.496	0.155	1.10	79	1.98	113.9	-0.010	547.0	0.50	2.56
1271	198.653	0.157	1.10	79	1.96	112.3	-0.011	547.0	0.46	2.41
1272	198.809	0.156	1.10	79	1.97	111.1	-0.008	547.0	0.40	2.18
1273	198.965	0.156	1.10	79	1.98	110	-0.010	547.0	0.36	1.92
1274	199.122	0.157	1.10	79	1.96	108.3	-0.007	547.0	0.35	1.91
1275	199.277	0.155	1.10	79	1.94	107.5	-0.005	547.0	0.34	1.94
1276	199.434	0.157	1.10	79	1.97	107	-0.009	547.0	0.32	1.81
1277	199.591	0.157	1.11	79	1.97	107.2	-0.007	547.0	0.29	1.72
1278	199.746	0.155	1.10	79	1.98	105.6	-0.014	547.0	0.30	1.83
1279	199.903	0.157	1.10	79	1.98	105.7	-0.010	547.0	0.28	1.74
1280	200.059	0.156	1.11	79	1.95	104.6	-0.009	547.0	0.30	1.88
1281	200.215	0.156	1.10	79	1.98	104.1	-0.011	547.0	0.29	1.91
1282	200.372	0.157	1.10	79	1.96	104.8	-0.003	547.0	0.27	1.80
1283	200.527	0.155	1.10	79	1.96	103.9	-0.010	547.0	0.30	1.95
1284	200.684	0.157	1.10	79	1.98	103.8	-0.007	547.0	0.26	1.78
1285	200.841	0.157	1.11	79	1.97	103.5	-0.007	547.0	0.26	1.88
1286	200.996	0.155	1.10	79	1.96	103	-0.009	547.0	0.26	1.83
1287	201.153	0.157	1.10	79	1.97	103.5	-0.006	547.0	0.23	1.64
1288	201.309	0.156	1.11	79	1.97	102.8	-0.009	547.0	0.23	1.63
1289	201.465	0.156	1.11	79	1.96	102.5	-0.008	547.0	0.23	1.70
1290	201.622	0.157	1.10	79	1.96	101.1	-0.009	547.0	0.23	1.61
1291	201.777	0.155	1.11	79	1.96	101.7	-0.007	547.0	0.22	1.67
1292	201.934	0.157	1.10	80	1.97	100.9	-0.008	547.0	0.21	1.55

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1293	202.091	0.157	1.11	80	1.94	100.9	-0.005	547.0	0.21	1.51
1294	202.246	0.155	1.10	80	1.98	100.7	-0.009	547.0	0.20	1.55
1295	202.403	0.157	1.10	80	1.94	136.2	-0.017	547.0	0.47	4.69
1296	202.560	0.157	1.10	80	1.97	127.7	-0.013	547.0	0.76	4.33
1297	202.715	0.155	1.10	80	1.96	153.1	-0.031	547.0	0.79	5.87
1298	202.872	0.157	1.10	80	1.97	182.5	-0.022	547.0	1.66	7.93
1299	203.028	0.156	1.11	80	1.97	209.6	-0.023	547.0	0.81	13.25
1300	203.184	0.156	1.10	80	1.95	236.2	-0.019	547.0	0.29	14.81
1301	203.341	0.157	1.10	80	1.98	252.8	-0.035	547.0	0.12	14.54
1302	203.496	0.155	1.10	80	1.98	264.6	-0.028	547.0	0.08	14.59
1303	203.652	0.156	1.10	80	1.98	273.5	-0.042	547.0	0.07	15.02
1304	203.809	0.157	1.10	80	1.97	279.1	-0.033	547.0	0.08	14.94
1305	203.964	0.155	1.10	80	1.97	283.9	-0.040	547.0	0.10	15.20
1306	204.121	0.157	1.10	80	1.97	289.8	-0.035	547.0	0.09	15.57
1307	204.277	0.156	1.10	80	1.95	285.1	-0.034	547.0	0.06	15.06
1308	204.433	0.156	1.10	80	1.99	283.6	-0.038	547.0	0.07	15.43
1309	204.590	0.157	1.10	80	1.96	282.9	-0.039	547.0	0.07	15.69
1310	204.745	0.155	1.10	80	1.98	284.5	-0.037	547.0	0.07	16.12
1311	204.902	0.157	1.10	80	1.96	282	-0.030	547.0	0.07	16.00
1312	205.059	0.157	1.10	80	1.96	285.5	-0.039	547.0	0.08	16.57
1313	205.214	0.155	1.10	80	1.96	284.4	-0.033	547.0	0.07	16.26
1314	205.371	0.157	1.10	80	1.98	284.8	-0.041	547.0	0.07	16.79
1315	205.527	0.156	1.10	80	1.98	285.2	-0.058	547.0	0.06	16.96
1316	205.683	0.156	1.10	80	1.97	286	-0.041	547.0	0.06	17.06
1317	205.840	0.157	1.10	80	1.96	287.6	-0.031	547.0	0.06	16.65
1318	205.995	0.155	1.10	80	1.98	288.9	-0.029	547.0	0.04	15.51
1319	206.152	0.157	1.10	80	1.98	290.9	-0.032	461.0	0.04	14.73
1320	206.308	0.156	1.10	80	1.98	292.3	-0.040	471.0	0.05	15.09
1321	206.464	0.156	1.10	80	1.98	290.9	-0.033	547.0	0.09	15.72
1322	206.621	0.157	1.10	80	1.97	290	-0.030	547.0	0.16	16.71
1323	206.778	0.157	1.11	80	1.97	291.9	-0.029	547.0	0.16	17.15
1324	206.933	0.155	1.10	80	1.97	298.9	-0.047	547.0	0.12	16.24
1325	207.090	0.157	1.10	80	1.96	270	-0.033	547.0	0.07	11.49
1326	207.246	0.156	1.10	80	1.95	250.9	-0.036	547.0	0.07	14.47
1327	207.402	0.156	1.10	80	1.94	238.8	-0.029	547.0	0.11	15.54
1328	207.559	0.157	1.10	80	1.95	229.8	-0.029	547.0	0.08	14.31

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1329	207.714	0.155	1.10	80	1.97	224.8	-0.032	547.0	0.12	12.18
1330	207.871	0.157	1.10	80	1.97	219.7	-0.031	547.0	0.18	15.74
1331	208.028	0.157	1.11	80	1.96	215	-0.027	547.0	0.13	13.75
1332	208.183	0.155	1.10	80	1.98	211.3	-0.031	547.0	0.10	12.06
1333	208.340	0.157	1.10	80	1.97	207.7	-0.028	547.0	0.09	11.40
1334	208.496	0.156	1.10	80	1.95	207	-0.029	547.0	0.06	9.34
1335	208.652	0.156	1.10	80	1.95	205.4	-0.032	547.0	0.71	9.38
1336	208.809	0.157	1.10	80	1.95	203	-0.024	547.0	2.01	11.68
1337	208.964	0.155	1.11	80	1.96	200.3	-0.030	547.0	3.13	13.85
1338	209.121	0.157	1.10	80	1.98	197.7	-0.028	547.0	3.70	14.62
1339	209.278	0.157	1.10	80	1.95	194.9	-0.032	547.0	4.38	16.24
1340	209.433	0.155	1.10	80	1.98	192	-0.027	547.0	4.39	15.83
1341	209.590	0.157	1.10	80	1.95	189.3	-0.026	547.0	4.32	15.37
1342	209.747	0.157	1.11	80	1.98	186.5	-0.022	547.0	4.24	14.88
1343	209.902	0.155	1.10	80	1.98	183.8	-0.025	547.0	4.20	14.67
1344	210.059	0.157	1.10	80	1.98	181.2	-0.026	547.0	3.89	13.56
1345	210.215	0.156	1.10	80	1.95	178.9	-0.022	547.0	3.85	13.40
1346	210.371	0.156	1.10	80	1.97	176.6	-0.022	547.0	3.61	12.58
1347	210.528	0.157	1.10	80	1.98	174.1	-0.021	547.0	3.53	12.29
1348	210.683	0.155	1.10	80	1.98	171.7	-0.023	547.0	3.01	10.54
1349	210.840	0.157	1.10	80	1.97	170.2	-0.022	547.0	3.03	10.63
1350	210.997	0.157	1.10	80	1.96	167.7	-0.020	547.0	2.88	10.09
1351	211.153	0.156	1.10	80	1.96	165.5	-0.022	547.0	2.93	10.28
1352	211.310	0.157	1.10	80	1.96	164.2	-0.019	547.0	2.38	8.43
1353	211.466	0.156	1.10	80	1.96	161.5	-0.019	547.0	2.19	7.76
1354	211.622	0.156	1.10	80	1.99	159.9	-0.020	547.0	2.13	7.61
1355	211.779	0.157	1.10	80	1.97	157.9	-0.016	547.0	2.00	7.21
1356	211.934	0.155	1.10	80	1.97	156.3	-0.019	547.0	1.61	5.84
1357	212.091	0.157	1.10	80	1.97	154.6	-0.017	547.0	1.57	5.77
1358	212.248	0.157	1.11	80	1.96	153	-0.020	547.0	1.66	6.07
1359	212.403	0.155	1.10	80	1.98	151.8	-0.018	547.0	1.35	5.04
1360	212.560	0.157	1.11	80	1.95	150.5	-0.016	547.0	1.33	5.03
1361	212.716	0.156	1.10	80	1.98	148.9	-0.017	547.0	1.25	4.76
1362	212.872	0.156	1.10	80	1.96	147.6	-0.018	547.0	1.15	4.42
1363	213.029	0.157	1.10	80	1.97	146.2	-0.016	547.0	1.06	4.12
1364	213.185	0.156	1.11	80	1.99	144.5	-0.013	547.0	0.99	3.93

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1365	213.341	0.156	1.10	80	1.98	143.4	-0.013	547.0	0.90	3.61
1366	213.498	0.157	1.11	80	2.00	142.2	-0.016	547.0	0.79	3.17
1367	213.654	0.156	1.10	80	1.97	141.1	-0.020	547.0	0.79	3.20
1368	213.811	0.157	1.10	80	1.95	140	-0.013	547.0	0.71	2.89
1369	213.967	0.156	1.10	80	1.96	138.7	-0.016	547.0	0.67	2.80
1370	214.123	0.156	1.10	80	1.97	138.1	-0.007	547.0	0.64	2.68
1371	214.280	0.157	1.10	80	1.99	136.6	-0.018	547.0	0.57	2.40
1372	214.435	0.155	1.10	80	1.95	135.2	-0.016	547.0	0.53	2.30
1373	214.592	0.157	1.10	80	1.97	134.5	-0.011	547.0	0.50	2.18
1374	214.749	0.157	1.11	80	1.98	133.4	-0.016	547.0	0.49	2.13
1375	214.904	0.155	1.10	80	1.98	132	-0.017	547.0	0.45	1.97
1376	215.061	0.157	1.10	80	1.98	132.1	-0.018	547.0	0.43	1.95
1377	215.218	0.157	1.11	80	1.97	131	-0.012	547.0	0.40	1.80
1378	215.373	0.155	1.10	80	1.99	130.3	-0.017	547.0	0.40	1.79
1379	215.531	0.158	1.10	80	1.98	129.5	-0.014	547.0	0.34	1.55
1380	215.686	0.155	1.11	80	1.96	127.8	-0.012	547.0	0.33	1.51
1381	215.843	0.157	1.10	80	1.98	127.2	-0.011	547.0	0.33	1.54
1382	216.000	0.157	1.11	80	1.97	126.5	-0.018	547.0	0.30	1.39
1383	216.156	0.156	1.10	80	1.99	125.7	-0.015	547.0	0.27	1.27
1384	216.312	0.156	1.10	80	1.97	125.2	-0.014	547.0	0.28	1.31
1385	216.469	0.157	1.11	80	1.96	124.4	-0.013	547.0	0.28	1.32
1386	216.628	0.159	1.10	80	1.98	124.1	-0.013	547.0	0.25	1.21
1387	216.782	0.154	1.11	80	1.96	122.9	-0.012	547.0	0.25	1.21
1388	216.938	0.156	1.11	80	1.98	123.4	-0.013	547.0	0.26	1.22
1389	217.094	0.156	1.10	80	1.98	122.2	-0.009	547.0	0.23	1.09
1390	217.251	0.157	1.11	80	1.97	121.4	-0.012	547.0	0.21	1.01
1391	217.407	0.156	1.11	80	1.98	120.3	-0.012	547.0	0.22	1.04
1392	217.564	0.157	1.10	80	1.97	119.9	-0.012	547.0	0.22	1.05
1393	217.720	0.156	1.11	80	1.98	119.7	-0.011	547.0	0.21	1.03
1394	217.876	0.156	1.11	80	1.98	163.5	-0.030	547.0	1.38	5.71
1395	218.033	0.157	1.10	80	1.97	159.8	-0.018	547.0	1.78	9.12
1396	218.192	0.159	1.11	80	1.98	150.3	-0.019	547.0	1.82	9.20
1397	218.346	0.154	1.10	80	1.97	144.9	-0.019	547.0	1.84	9.32
1398	218.503	0.157	1.11	80	1.95	140.1	-0.016	547.0	1.66	8.39
1399	218.658	0.155	1.10	80	1.96	136.2	-0.019	547.0	1.41	7.22
1400	218.815	0.157	1.10	80	1.98	133.7	-0.019	547.0	1.19	6.10

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1401	218.972	0.157	1.11	80	1.97	130.8	-0.012	547.0	1.05	5.35
1402	219.128	0.156	1.10	80	1.96	129.7	-0.012	547.0	0.91	4.65
1403	219.285	0.157	1.10	80	1.95	126	-0.013	547.0	0.81	4.20
1404	219.440	0.155	1.11	80	1.98	125.5	-0.012	547.0	0.74	3.83
1405	219.600	0.160	1.10	80	1.98	123.8	-0.013	547.0	0.69	3.57
1406	219.754	0.154	1.11	80	1.99	122.4	-0.015	547.0	0.64	3.24
1407	219.910	0.156	1.11	80	1.98	122.2	-0.010	547.0	0.56	2.89
1408	220.067	0.157	1.11	80	1.97	120	-0.010	547.0	0.55	2.81
1409	220.223	0.156	1.11	80	1.95	118.3	-0.012	547.0	0.51	2.62
1410	220.379	0.156	1.11	80	1.96	118.3	-0.014	547.0	0.48	2.49
1411	220.536	0.157	1.10	80	1.95	117.3	-0.010	547.0	0.45	2.31
1412	220.692	0.156	1.11	80	1.96	116.8	-0.002	547.0	0.44	2.23
1413	220.848	0.156	1.10	80	1.98	116.1	-0.013	547.0	0.40	2.04
1414	221.006	0.158	1.11	80	1.97	115.8	-0.012	547.0	0.38	1.96
1415	221.164	0.158	1.11	80	1.96	115.3	-0.008	547.0	0.34	1.75
1416	221.321	0.157	1.10	80	1.97	115.4	-0.012	547.0	0.31	1.60
1417	221.474	0.153	1.11	80	1.97	113.5	-0.012	547.0	0.30	1.56
1418	221.631	0.157	1.10	80	1.96	112.4	-0.013	547.0	0.28	1.47
1419	221.788	0.157	1.11	80	1.96	112.1	-0.011	547.0	0.27	1.44
1420	221.943	0.155	1.11	80	1.95	113.3	-0.012	547.0	0.26	1.35
1421	222.100	0.157	1.10	80	1.96	111.6	-0.011	547.0	0.25	1.31
1422	222.258	0.158	1.11	80	1.96	110.6	-0.005	547.0	0.23	1.22
1423	222.413	0.155	1.10	80	1.98	111	-0.010	547.0	0.22	1.14
1424	222.573	0.160	1.10	80	1.97	110.5	-0.007	547.0	0.19	1.02
1425	222.728	0.155	1.11	80	1.96	157	-0.026	547.0	0.99	5.39
1426	222.883	0.155	1.10	80	1.95	148	-0.016	547.0	1.50	7.46
1427	223.040	0.157	1.11	80	1.98	139.3	-0.017	547.0	1.35	7.02
1428	223.195	0.155	1.11	80	1.97	133.4	-0.017	547.0	1.21	6.58
1429	223.352	0.157	1.10	80	1.96	129.4	-0.014	547.0	1.05	5.86
1430	223.509	0.157	1.11	80	1.99	126.8	-0.011	547.0	0.94	5.38
1431	223.665	0.156	1.10	80	1.96	124.3	-0.012	547.0	0.82	4.77
1432	223.822	0.157	1.10	80	1.97	121.7	-0.009	547.0	0.73	4.29
1433	223.978	0.156	1.11	80	1.97	120.1	-0.011	547.0	0.68	3.97
1434	224.137	0.159	1.10	80	1.98	118	-0.013	547.0	0.57	3.36
1435	224.294	0.157	1.11	80	1.96	116.5	-0.013	547.0	0.54	3.14
1436	224.447	0.153	1.11	79	1.94	116.3	-0.013	547.0	0.45	2.63

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1437	224.604	0.157	1.10	79	1.96	115	-0.011	547.0	0.44	2.59
1438	224.761	0.157	1.10	79	1.95	114.6	-0.007	547.0	0.39	2.37
1439	224.916	0.155	1.10	79	1.99	113.5	-0.008	547.0	0.37	2.17
1440	225.074	0.158	1.10	79	1.97	111.9	-0.007	547.0	0.34	2.04
1441	225.229	0.155	1.11	79	1.96	110.9	-0.008	547.0	0.33	1.99
1442	225.386	0.157	1.10	79	1.95	110	-0.007	547.0	0.32	1.91
1443	225.543	0.157	1.11	79	1.96	109.3	-0.008	547.0	0.28	1.70
1444	225.701	0.158	1.11	79	1.95	109	-0.008	547.0	0.26	1.59
1445	225.859	0.158	1.10	79	1.97	108.6	-0.008	547.0	0.27	1.66
1446	226.012	0.153	1.11	79	1.96	108	-0.010	547.0	0.25	1.51
1447	226.168	0.156	1.11	79	1.96	109	-0.010	547.0	0.22	1.36
1448	226.325	0.157	1.10	79	1.98	107.5	-0.010	547.0	0.22	1.32
1449	226.481	0.156	1.11	79	1.96	107.3	-0.009	547.0	0.21	1.28
1450	226.638	0.157	1.10	79	1.97	107.2	-0.005	547.0	0.19	1.18
1451	226.795	0.157	1.11	79	1.96	105.5	-0.009	547.0	0.20	1.19
1452	226.950	0.155	1.11	79	1.96	105	-0.009	547.0	0.19	1.14
1453	227.110	0.160	1.10	79	1.95	105.5	-0.003	547.0	0.18	1.08
1454	227.266	0.156	1.11	79	1.97	104.4	-0.009	547.0	0.17	1.03
1455	227.423	0.157	1.10	79	1.98	103.8	-0.015	547.0	0.17	1.00
1456	227.580	0.157	1.11	79	1.95	147.7	-0.016	547.0	0.63	4.66
1457	227.733	0.153	1.11	79	1.97	138.1	-0.010	547.0	1.40	5.67
1458	227.889	0.156	1.10	79	1.95	131.1	-0.013	547.0	1.18	4.87
1459	228.047	0.158	1.11	79	1.95	126	-0.011	547.0	0.97	4.14
1460	228.202	0.155	1.10	79	1.96	122.5	-0.011	547.0	0.83	3.61
1461	228.359	0.157	1.11	79	1.95	119.5	-0.014	547.0	0.72	3.24
1462	228.515	0.156	1.11	79	1.95	117	-0.010	547.0	0.63	2.89
1463	228.674	0.159	1.10	79	1.95	114.8	-0.011	547.0	0.53	2.48
1464	228.831	0.157	1.11	79	1.98	114	-0.008	547.0	0.47	2.31
1465	228.987	0.156	1.10	79	1.96	112.4	-0.011	547.0	0.45	2.21
1466	229.144	0.157	1.11	79	1.96	111.2	-0.009	547.0	0.40	2.00
1467	229.298	0.154	1.11	79	1.95	110.6	-0.012	547.0	0.41	2.07
1468	229.453	0.155	1.11	79	1.96	109.7	-0.012	547.0	0.36	1.87
1469	229.611	0.158	1.11	79	1.97	108.9	-0.006	547.0	0.34	1.80
1470	229.767	0.156	1.11	79	1.98	108.7	-0.012	547.0	0.31	1.68
1471	229.923	0.156	1.10	79	1.97	107.3	-0.010	547.0	0.32	1.71
1472	230.080	0.157	1.11	79	1.98	106.9	-0.010	547.0	0.31	1.68

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1473	230.238	0.158	1.11	79	1.96	106.4	-0.006	547.0	0.28	1.52
1474	230.396	0.158	1.11	79	1.96	105.9	-0.007	547.0	0.29	1.57
1475	230.552	0.156	1.11	79	1.96	105.8	-0.012	547.0	0.29	1.59
1476	230.708	0.156	1.10	79	1.97	105.4	-0.006	547.0	0.23	1.34
1477	230.863	0.155	1.11	79	1.97	105.9	-0.010	547.0	0.23	1.27
1478	231.018	0.155	1.11	79	1.97	104	-0.010	547.0	0.21	1.19
1479	231.175	0.157	1.10	79	1.94	104.1	-0.007	547.0	0.20	1.11
1480	231.332	0.157	1.11	79	1.98	104	-0.007	547.0	0.18	1.01
1481	231.488	0.156	1.11	79	1.98	104.6	-0.004	547.0	0.18	1.06
1482	231.645	0.157	1.10	79	1.95	103.6	-0.007	547.0	0.16	0.92
1483	231.803	0.158	1.11	79	1.97	102.8	-0.008	547.0	0.16	0.93
1484	231.960	0.157	1.10	79	1.97	102.5	-0.011	547.0	0.15	0.86
1485	232.117	0.157	1.11	79	1.95	102.2	-0.008	547.0	0.15	0.87
1486	232.273	0.156	1.11	79	1.97	102.5	-0.011	547.0	0.15	0.86
1487	232.427	0.154	1.10	79	1.98	141.5	-0.011	547.0	0.33	3.18
1488	232.584	0.157	1.11	79	1.97	131.5	-0.011	547.0	0.79	3.58
1489	232.739	0.155	1.11	79	1.96	125.3	-0.013	547.0	0.65	2.90
1490	232.896	0.157	1.11	79	1.96	120.8	-0.014	547.0	0.56	2.52
1491	233.053	0.157	1.11	79	1.95	117.4	-0.012	547.0	0.47	2.15
1492	233.211	0.158	1.10	79	1.97	115.2	-0.011	547.0	0.42	1.95
1493	233.369	0.158	1.11	79	1.95	112.9	-0.009	547.0	0.37	1.72
1494	233.524	0.155	1.11	79	1.96	110.7	-0.009	547.0	0.33	1.63
1495	233.681	0.157	1.11	79	1.98	108.9	-0.011	547.0	0.29	1.41
1496	233.835	0.154	1.11	79	1.98	107.9	-0.010	547.0	0.25	1.26
1497	233.991	0.156	1.11	79	1.97	107.3	-0.012	547.0	0.24	1.26
1498	234.148	0.157	1.11	79	1.94	106.3	-0.008	547.0	0.22	1.17
1499	234.304	0.156	1.11	79	1.98	105.2	-0.009	547.0	0.21	1.15
1500	234.460	0.156	1.11	79	1.98	104.5	-0.010	547.0	0.18	0.99
1501	234.618	0.158	1.11	79	1.94	104.4	-0.005	547.0	0.22	1.21
1502	234.776	0.158	1.11	79	1.97	104.5	-0.005	547.0	0.21	1.18
1503	234.933	0.157	1.11	79	1.98	104	-0.005	547.0	0.22	1.33
1504	235.089	0.156	1.11	79	1.98	103.2	-0.011	547.0	0.21	1.32
1505	235.246	0.157	1.11	79	1.96	103.3	-0.011	547.0	0.21	1.26
1506	235.403	0.157	1.11	79	1.98	102.9	-0.008	547.0	0.22	1.27
1507	235.556	0.153	1.11	79	1.97	102.3	-0.009	547.0	0.23	1.35
1508	235.712	0.156	1.11	79	1.97	103.1	-0.006	547.0	0.21	1.40

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1509	235.869	0.157	1.11	79	1.96	102.6	-0.012	547.0	0.20	1.32
1510	236.025	0.156	1.11	79	1.97	101.3	-0.010	547.0	0.20	1.30
1511	236.182	0.157	1.10	79	1.95	101.1	-0.006	547.0	0.19	1.24
1512	236.341	0.159	1.11	79	1.96	100.6	-0.006	547.0	0.19	1.26
1513	236.497	0.156	1.11	79	1.96	101.4	-0.004	547.0	0.19	1.27
1514	236.655	0.158	1.11	79	1.96	100.6	-0.007	547.0	0.19	1.26
1515	236.810	0.155	1.11	79	1.95	100.9	-0.008	547.0	0.18	1.21
1516	236.967	0.157	1.11	79	1.97	99.9	-0.008	547.0	0.16	1.09
1517	237.122	0.155	1.11	79	1.97	104	-0.018	547.0	0.15	1.08
1518	237.277	0.155	1.11	79	1.96	133.9	-0.019	547.0	0.22	2.51
1519	237.434	0.157	1.11	79	1.97	125.1	-0.009	547.0	0.32	2.21
1520	237.591	0.157	1.11	79	1.95	119.9	-0.012	547.0	0.26	1.80
1521	237.747	0.156	1.11	79	1.98	116.4	-0.009	547.0	0.23	1.51
1522	237.907	0.160	1.11	79	1.96	155.2	-0.023	547.0	0.98	4.80
1523	238.062	0.155	1.11	79	1.97	182.3	-0.028	547.0	1.19	6.41
1524	238.219	0.157	1.11	78	1.96	203	-0.022	547.0	0.91	8.90
1525	238.376	0.157	1.11	78	1.98	229.7	-0.024	547.0	0.46	11.58
1526	238.532	0.156	1.11	78	1.97	251.9	-0.031	547.0	0.09	12.89
1527	238.686	0.154	1.11	78	1.97	266.5	-0.030	547.0	0.06	13.11
1528	238.842	0.156	1.10	78	1.95	276.7	-0.032	547.0	0.06	13.50
1529	238.998	0.156	1.11	78	1.97	284.5	-0.037	547.0	0.10	13.85
1530	239.155	0.157	1.10	78	1.95	289.5	-0.041	547.0	0.10	13.85
1531	239.311	0.156	1.11	78	1.97	284.1	-0.038	547.0	0.07	13.98
1532	239.471	0.160	1.11	78	1.96	287.7	-0.039	547.0	0.07	14.05
1533	239.627	0.156	1.11	78	1.98	284.3	-0.038	547.0	0.07	13.67
1534	239.783	0.156	1.11	79	1.97	284.8	-0.027	547.0	0.07	13.67
1535	239.940	0.157	1.10	79	1.96	288	-0.041	547.0	0.07	14.04
1536	240.096	0.156	1.11	79	1.98	289.7	-0.047	547.0	0.09	14.24
1537	240.250	0.154	1.11	79	1.97	291.4	-0.045	547.0	0.11	14.31
1538	240.407	0.157	1.11	79	1.95	293.8	-0.031	547.0	0.11	14.50
1539	240.562	0.155	1.11	79	1.96	296.2	-0.049	547.0	0.13	14.69
1540	240.719	0.157	1.10	79	1.97	296.5	-0.043	547.0	0.17	15.01
1541	240.878	0.159	1.11	79	1.97	297.3	-0.039	547.0	0.12	14.37
1542	241.034	0.156	1.11	79	1.97	297	-0.037	547.0	0.12	14.32
1543	241.191	0.157	1.10	79	1.96	296	-0.036	547.0	0.12	14.50
1544	241.347	0.156	1.11	79	1.97	296.8	-0.029	547.0	0.13	14.63

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1545	241.504	0.157	1.10	79	1.98	297.1	-0.025	547.0	0.12	13.87
1546	241.661	0.157	1.11	79	1.98	296.5	-0.040	547.0	0.12	13.13
1547	241.816	0.155	1.10	79	1.98	299.7	-0.053	547.0	0.12	12.38
1548	241.970	0.154	1.10	79	1.96	300.2	-0.047	547.0	0.15	12.30
1549	242.128	0.158	1.11	79	1.98	269.9	-0.033	547.0	0.15	8.70
1550	242.283	0.155	1.10	79	1.97	251	-0.031	547.0	0.06	10.23
1551	242.440	0.157	1.11	79	1.95	239.4	-0.035	547.0	0.07	11.24
1552	242.599	0.159	1.11	79	1.97	230.1	-0.028	547.0	0.06	10.32
1553	242.755	0.156	1.10	79	1.97	225.6	-0.027	547.0	0.12	9.69
1554	242.912	0.157	1.11	79	1.99	220.6	-0.035	547.0	0.14	11.94
1555	243.068	0.156	1.11	79	1.98	216.1	-0.028	547.0	0.09	10.56
1556	243.225	0.157	1.11	79	1.96	212.2	-0.033	547.0	0.09	9.74
1557	243.381	0.156	1.11	79	1.96	208.5	-0.033	547.0	0.08	9.34
1558	243.535	0.154	1.11	79	1.97	208.1	-0.029	547.0	0.07	7.65
1559	243.692	0.157	1.11	79	1.96	206.4	-0.026	547.0	0.66	7.73
1560	243.848	0.156	1.11	79	1.97	204	-0.028	547.0	1.83	9.99
1561	244.007	0.159	1.10	79	1.98	201.5	-0.028	547.0	2.69	11.57
1562	244.164	0.157	1.11	79	1.96	198.8	-0.026	547.0	3.43	13.07
1563	244.320	0.156	1.11	79	1.96	196	-0.028	547.0	4.01	14.20
1564	244.477	0.157	1.11	79	1.97	193.3	-0.024	547.0	4.26	14.49
1565	244.633	0.156	1.11	79	1.98	190.4	-0.026	547.0	4.31	14.25
1566	244.790	0.157	1.10	79	1.98	187.4	-0.031	547.0	4.28	13.85
1567	244.947	0.157	1.11	79	1.96	184.6	-0.026	547.0	4.34	13.82
1568	245.103	0.156	1.11	79	1.97	182.7	-0.026	547.0	4.13	13.06
1569	245.257	0.154	1.10	78	1.95	180.3	-0.030	547.0	4.28	13.37
1570	245.414	0.157	1.12	79	1.97	177.7	-0.025	547.0	3.99	12.43
1571	245.570	0.156	1.11	78	1.97	175.7	-0.025	547.0	3.93	12.16
1572	245.730	0.160	1.11	78	1.96	173.1	-0.025	547.0	3.73	11.53
1573	245.885	0.155	1.12	78	1.96	171.2	-0.023	547.0	3.62	11.07
1574	246.042	0.157	1.10	78	1.96	168.4	-0.019	547.0	3.38	10.39
1575	246.199	0.157	1.11	78	1.98	167	-0.021	547.0	2.98	9.14
1576	246.355	0.156	1.11	78	1.97	164.5	-0.022	547.0	2.83	8.66
1577	246.512	0.157	1.11	78	1.97	162.2	-0.022	547.0	2.71	8.31
1578	246.668	0.156	1.11	78	1.97	160.6	-0.018	547.0	2.72	8.29
1579	246.825	0.157	1.11	78	1.98	158.6	-0.018	547.0	2.37	7.35
1580	246.979	0.154	1.11	78	1.94	157.1	-0.019	547.0	2.32	7.15

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1581	247.135	0.156	1.11	78	1.97	155.6	-0.021	547.0	2.28	7.09
1582	247.294	0.159	1.10	78	1.95	153.8	-0.021	547.0	2.02	6.34
1583	247.451	0.157	1.11	78	1.97	151.7	-0.015	547.0	1.85	5.85
1584	247.606	0.155	1.11	78	1.98	150.2	-0.018	547.0	1.79	5.61
1585	247.764	0.158	1.11	78	1.99	148.3	-0.019	547.0	1.72	5.46
1586	247.920	0.156	1.11	78	1.97	147.4	-0.016	547.0	1.52	4.86
1587	248.076	0.156	1.11	78	1.96	146.2	-0.017	547.0	1.53	4.89
1588	248.233	0.157	1.11	78	1.96	144	-0.016	547.0	1.40	4.55
1589	248.389	0.156	1.11	78	1.98	144.5	-0.016	547.0	1.24	4.05
1590	248.543	0.154	1.11	78	1.97	142	-0.016	547.0	1.24	4.06
1591	248.700	0.157	1.11	78	1.97	140.8	-0.020	547.0	1.21	3.93
1592	248.858	0.158	1.10	78	1.97	139.4	-0.016	547.0	1.10	3.67
1593	249.015	0.157	1.11	78	1.96	138.3	-0.015	547.0	1.07	3.53
1594	249.171	0.156	1.11	78	1.98	137.6	-0.015	547.0	0.92	3.03
1595	249.327	0.156	1.11	78	1.97	136.6	-0.015	547.0	0.91	3.03
1596	249.484	0.157	1.11	78	1.95	135.8	-0.016	547.0	0.96	3.18
1597	249.640	0.156	1.11	78	1.96	134.5	-0.020	547.0	0.84	2.81
1598	249.797	0.157	1.11	78	1.98	133.6	-0.015	547.0	0.86	2.88
1599	249.954	0.157	1.11	78	1.97	132.1	-0.015	547.0	0.84	2.81
1600	250.107	0.153	1.11	78	1.96	131.4	-0.015	547.0	0.72	2.46
1601	250.264	0.157	1.10	78	1.95	130.7	-0.015	547.0	0.73	2.48
1602	250.422	0.158	1.11	78	1.97	129.8	-0.014	547.0	0.68	2.36
1603	250.579	0.157	1.10	78	1.95	128.8	-0.007	547.0	0.66	2.28
1604	250.736	0.157	1.11	78	1.96	128.7	-0.012	547.0	0.68	2.32
1605	250.892	0.156	1.11	78	1.96	127.8	-0.009	547.0	0.67	2.29
1606	251.049	0.157	1.11	78	1.96	127.4	-0.010	547.0	0.60	2.07
1607	251.206	0.157	1.11	78	1.96	126.5	-0.014	547.0	0.61	2.05
1608	251.361	0.155	1.11	78	1.96	125.7	-0.013	547.0	0.55	1.88
1609	251.519	0.158	1.11	78	1.96	125	-0.012	547.0	0.53	1.82
1610	251.672	0.153	1.11	78	1.96	124.5	-0.014	547.0	0.51	1.77
1611	251.831	0.159	1.11	78	1.97	123.4	-0.013	547.0	0.51	1.78
1612	251.989	0.158	1.11	78	1.98	122.8	-0.010	547.0	0.51	1.74
1613	252.144	0.155	1.11	78	1.96	121.6	-0.011	547.0	0.47	1.63
1614	252.301	0.157	1.11	78	1.97	121.1	-0.013	547.0	0.48	1.63
1615	252.458	0.157	1.11	78	1.96	120.3	-0.014	547.0	0.45	1.51
1616	252.614	0.156	1.11	78	1.96	119.4	-0.013	547.0	0.42	1.42

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1617	252.771	0.157	1.11	78	1.96	119.6	-0.013	547.0	0.44	1.49
1618	252.927	0.156	1.11	78	1.96	166.1	-0.028	547.0	2.78	8.06
1619	253.084	0.157	1.11	78	1.97	157.5	-0.016	547.0	1.52	7.25
1620	253.239	0.155	1.11	78	1.98	148.4	-0.023	547.0	1.54	7.22
1621	253.397	0.158	1.11	78	1.97	142.6	-0.017	547.0	1.59	7.16
1622	253.554	0.157	1.11	78	1.97	138.3	-0.017	547.0	1.50	6.66
1623	253.710	0.156	1.11	78	1.96	135.2	-0.015	547.0	1.28	5.65
1624	253.867	0.157	1.10	78	1.97	132.5	-0.014	547.0	1.21	5.28
1625	254.024	0.157	1.11	78	1.97	130.1	-0.011	547.0	1.05	4.53
1626	254.180	0.156	1.11	78	1.96	127.7	-0.013	547.0	0.95	4.12
1627	254.337	0.157	1.11	78	1.97	125.8	-0.014	547.0	0.87	3.72
1628	254.493	0.156	1.11	78	1.96	124.7	-0.015	547.0	0.78	3.32
1629	254.649	0.156	1.11	78	1.98	122.5	-0.010	547.0	0.73	3.07
1630	254.806	0.157	1.11	78	1.96	121.3	-0.011	547.0	0.71	2.95
1631	254.962	0.156	1.11	78	1.97	120.5	-0.010	547.0	0.65	2.73
1632	255.119	0.157	1.10	78	1.98	120.1	-0.013	547.0	0.62	2.62
1633	255.276	0.157	1.11	78	1.96	119	-0.012	547.0	0.59	2.48
1634	255.431	0.155	1.11	78	1.98	117.4	-0.009	547.0	0.57	2.39
1635	255.589	0.158	1.11	78	1.97	117.2	-0.013	547.0	0.53	2.22
1636	255.745	0.156	1.11	78	1.97	116.6	-0.012	547.0	0.48	2.00
1637	255.901	0.156	1.11	78	1.98	116.2	-0.009	547.0	0.42	1.81
1638	256.058	0.157	1.11	78	1.97	116.1	-0.011	547.0	0.43	1.80
1639	256.214	0.156	1.11	78	1.97	114.2	-0.011	547.0	0.39	1.59
1640	256.370	0.156	1.10	78	1.97	113.5	-0.007	547.0	0.39	1.61
1641	256.528	0.158	1.11	78	1.97	113.1	-0.010	547.0	0.37	1.55
1642	256.683	0.155	1.11	78	1.96	112.8	-0.010	547.0	0.35	1.47
1643	256.840	0.157	1.11	78	1.96	112.7	-0.008	547.0	0.32	1.32
1644	256.996	0.156	1.11	78	1.97	111.6	-0.006	547.0	0.32	1.35
1645	257.153	0.157	1.11	78	1.97	111	-0.009	547.0	0.28	1.19
1646	257.310	0.157	1.11	78	1.96	111	-0.009	547.0	0.32	1.21
1647	257.466	0.156	1.11	78	1.97	109.9	-0.006	547.0	0.30	1.24
1648	257.623	0.157	1.10	78	1.97	110.3	-0.010	547.0	0.26	1.10
1649	257.780	0.157	1.11	78	1.97	155.7	-0.019	547.0	1.27	5.49
1650	257.935	0.155	1.11	78	1.98	144	-0.014	547.0	1.14	5.83
1651	258.093	0.158	1.11	78	1.96	136.1	-0.016	547.0	0.96	4.94
1652	258.248	0.155	1.11	78	1.96	130.3	-0.015	547.0	0.87	4.48

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1653	258.405	0.157	1.11	78	1.97	126.8	-0.015	547.0	0.75	4.02
1654	258.563	0.158	1.11	78	1.97	124.2	-0.014	547.0	0.72	3.75
1655	258.718	0.155	1.11	78	1.97	122.5	-0.014	547.0	0.63	3.29
1656	258.875	0.157	1.11	78	1.97	119.9	-0.010	547.0	0.55	2.87
1657	259.032	0.157	1.11	78	1.96	118.4	-0.014	547.0	0.53	2.77
1658	259.188	0.156	1.11	78	1.96	116.6	-0.011	547.0	0.51	2.64
1659	259.345	0.157	1.11	78	1.95	115.1	-0.012	547.0	0.46	2.46
1660	259.501	0.156	1.11	78	1.96	115.3	-0.011	547.0	0.48	2.41
1661	259.658	0.157	1.10	78	1.97	114.1	-0.013	547.0	0.53	2.76
1662	259.815	0.157	1.11	78	1.97	112.8	-0.012	547.0	0.49	2.58
1663	259.971	0.156	1.11	78	1.96	113.4	-0.013	547.0	0.46	2.42
1664	260.128	0.157	1.11	78	1.96	112	-0.010	547.0	0.44	2.31
1665	260.284	0.156	1.11	78	1.97	112	-0.009	547.0	0.40	2.07
1666	260.440	0.156	1.11	78	1.96	110.1	-0.008	547.0	0.41	2.13
1667	260.597	0.157	1.11	78	1.97	109.6	-0.008	547.0	0.43	2.17
1668	260.753	0.156	1.11	78	1.96	109.4	-0.009	547.0	0.36	1.85
1669	260.910	0.157	1.11	78	1.97	108.1	-0.010	547.0	0.34	1.80
1670	261.067	0.157	1.11	78	1.97	109.2	-0.009	547.0	0.35	1.83
1671	261.222	0.155	1.11	78	1.97	108.9	-0.002	547.0	0.33	1.72
1672	261.379	0.157	1.11	78	1.97	108.3	-0.009	547.0	0.31	1.67
1673	261.535	0.156	1.11	78	1.96	107.5	-0.012	547.0	0.30	1.58
1674	261.692	0.157	1.10	78	1.97	107	-0.009	547.0	0.29	1.53
1675	261.849	0.157	1.11	78	1.96	106.4	-0.011	547.0	0.27	1.49
1676	262.004	0.155	1.11	78	1.98	106.2	-0.011	547.0	0.27	1.43
1677	262.161	0.157	1.10	78	1.97	106.1	-0.007	547.0	0.25	1.36
1678	262.318	0.157	1.11	78	1.97	105.7	-0.009	547.0	0.25	1.36
1679	262.474	0.156	1.11	78	1.97	105.3	-0.008	547.0	0.24	1.32
1680	262.631	0.157	1.10	78	1.96	146.8	-0.016	547.0	0.71	4.89
1681	262.787	0.156	1.11	78	1.96	135.2	-0.013	547.0	1.16	6.14
1682	262.943	0.156	1.10	78	1.97	128.5	-0.012	547.0	0.92	4.84
1683	263.100	0.157	1.11	78	1.96	123.2	-0.009	547.0	0.78	4.11
1684	263.256	0.156	1.11	78	1.96	119.5	-0.014	547.0	0.65	3.40
1685	263.413	0.157	1.11	78	1.97	117.6	-0.009	547.0	0.57	2.95
1686	263.570	0.157	1.11	78	1.96	115.3	-0.012	547.0	0.50	2.64
1687	263.725	0.155	1.11	78	1.96	113.6	-0.008	547.0	0.45	2.39
1688	263.883	0.158	1.11	78	1.96	112.2	-0.012	547.0	0.42	2.26

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1689	264.038	0.155	1.11	78	1.97	111.2	-0.009	547.0	0.37	1.99
1690	264.195	0.157	1.10	78	1.98	110.1	-0.008	547.0	0.36	1.94
1691	264.353	0.158	1.12	78	1.95	108.4	-0.010	547.0	0.34	1.90
1692	264.508	0.155	1.11	78	1.98	108.4	-0.011	547.0	0.34	1.91
1693	264.665	0.157	1.11	78	1.97	108.3	-0.007	547.0	0.35	1.96
1694	264.821	0.156	1.11	78	1.97	107.9	-0.009	547.0	0.32	1.84
1695	264.978	0.157	1.11	78	1.99	107.9	-0.007	547.0	0.33	1.95
1696	265.135	0.157	1.10	78	1.98	107	-0.004	547.0	0.33	1.99
1697	265.290	0.155	1.11	78	1.98	107.6	-0.009	547.0	0.31	1.91
1698	265.447	0.157	1.11	78	1.95	106.7	-0.011	547.0	0.30	1.83
1699	265.604	0.157	1.12	78	1.95	105.5	-0.008	547.0	0.31	1.89
1700	265.760	0.156	1.11	78	1.96	105.3	-0.010	547.0	0.30	1.83
1701	265.917	0.157	1.11	78	1.99	105.3	-0.007	547.0	0.29	1.84
1702	266.073	0.156	1.11	78	1.98	103.9	-0.004	547.0	0.28	1.77
1703	266.229	0.156	1.11	78	1.96	102.3	-0.010	547.0	0.26	1.70
1704	266.386	0.157	1.11	78	1.98	103.8	-0.010	547.0	0.26	1.69
1705	266.542	0.156	1.11	78	1.96	103.2	-0.008	547.0	0.27	1.66
1706	266.699	0.157	1.10	78	1.96	102.7	-0.007	547.0	0.25	1.63
1707	266.856	0.157	1.11	78	1.97	101.9	-0.006	547.0	0.24	1.59
1708	267.011	0.155	1.11	78	1.95	101.9	-0.004	547.0	0.25	1.58
1709	267.169	0.158	1.11	78	1.98	102.6	-0.008	547.0	0.22	1.53
1710	267.324	0.155	1.11	78	1.96	104.5	-0.019	547.0	0.22	1.47
1711	267.481	0.157	1.11	78	1.96	138.5	-0.015	547.0	0.48	4.41
1712	267.638	0.157	1.11	78	1.96	128.3	-0.012	547.0	0.69	4.73
1713	267.794	0.156	1.11	78	1.98	122	-0.008	547.0	0.58	3.93
1714	267.950	0.156	1.11	78	1.96	118.2	-0.013	547.0	0.47	3.20
1715	268.107	0.157	1.11	78	1.96	114.5	-0.009	547.0	0.43	2.85
1716	268.263	0.156	1.10	78	1.96	112.4	-0.016	547.0	0.37	2.42
1717	268.420	0.157	1.11	78	1.96	110.8	-0.010	547.0	0.33	2.16
1718	268.576	0.156	1.11	78	1.97	109	-0.012	547.0	0.29	1.93
1719	268.733	0.157	1.11	78	1.95	107.5	-0.012	547.0	0.24	1.65
1720	268.890	0.157	1.11	78	1.96	106.7	-0.001	547.0	0.22	1.53
1721	269.046	0.156	1.11	78	1.96	105.8	-0.012	547.0	0.20	1.36
1722	269.203	0.157	1.11	78	1.96	104.4	-0.010	547.0	0.19	1.23
1723	269.359	0.156	1.11	78	1.98	103.8	-0.011	547.0	0.18	1.24
1724	269.515	0.156	1.11	78	1.97	103.5	-0.009	547.0	0.16	1.12

Train D - Ambient Background and Flue Gas Data

Run:	4	Test Date:	2/27/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	19:36		
Total Sampling Time	2460	min	
Recording Interval	1	min	

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1725	269.672	0.157	1.11	78	1.94	102.9	-0.011	547.0	0.15	1.08
1726	269.828	0.156	1.11	78	1.95	102.6	-0.009	547.0	0.15	1.04
1727	269.985	0.157	1.11	78	1.97	102.9	-0.012	547.0	0.15	1.09
1728	270.142	0.157	1.12	78	1.96	101.8	-0.005	547.0	0.14	1.03
1729	270.298	0.156	1.11	78	1.96	100.8	-0.006	547.0	0.15	1.08
1730	270.455	0.157	1.11	78	1.98	100.7	-0.008	547.0	0.14	1.02
1731	270.611	0.156	1.11	78	1.97	100.4	-0.010	547.0	0.16	1.07
1732	270.768	0.157	1.11	78	1.97	100	-0.010	547.0	0.14	1.07
1733	270.925	0.157	1.11	78	1.96	100.3	-0.013	547.0	0.16	1.25
1734	271.081	0.156	1.11	78	1.97	100.6	-0.008	547.0	0.17	1.33
1735	271.238	0.157	1.11	78	1.97	99.8	-0.006	547.0	0.18	1.41
1736	271.395	0.157	1.11	78	1.96	99.6	-0.007	547.0	0.21	1.60
1737	271.550	0.155	1.11	78	1.96	99.5	-0.006	547.0	0.22	1.73
1738	271.708	0.158	1.11	78	1.97	99.9	-0.008	547.0	0.22	1.82
1739	271.863	0.155	1.11	78	1.97	100.9	-0.010	547.0	0.22	1.81
1740	272.020	0.157	1.11	78	1.96	98.8	-0.007	547.0	0.21	1.75
1741	272.177	0.157	1.11	78	1.97	115.5	-0.018	547.0	0.21	1.76
1742	272.333	0.156	1.11	78	1.97	132.7	-0.009	547.0	0.35	3.65
1743	272.490	0.157	1.11	78	1.97	122.4	-0.013	547.0	0.39	3.33
1744	272.646	0.156	1.11	78	1.97	116.2	-0.013	547.0	0.33	2.75
1745	272.802	0.156	1.11	78	1.95	141.6	-0.021	547.0	0.39	3.26
1746	272.960	0.158	1.11	78	1.97	173.8	-0.025	547.0	1.46	7.14
1747	273.115	0.155	1.11	78	1.95	200.6	-0.029	547.0	0.69	10.51
1748	273.272	0.157	1.11	78	1.97	233.2	-0.029	547.0	0.22	14.38
1749	273.429	0.157	1.11	78	1.96	258.2	-0.024	547.0	0.08	15.30
1750	273.585	0.156	1.11	78	1.95	275	-0.033	547.0	0.05	15.96
1751	273.742	0.157	1.11	78	1.96	286.1	-0.033	547.0	0.06	16.24
1752	273.898	0.156	1.11	78	1.97	285.2	-0.021	547.0	0.06	15.98
1753	274.054	0.156	1.11	78	1.97	287.1	-0.029	547.0	0.06	16.05
1754	274.211	0.157	1.11	78	1.97	287.8	-0.040	547.0	0.06	15.25
1755	274.367	0.156	1.11	78	1.97	286.1	-0.034	547.0	0.07	15.94
1756	274.524	0.157	1.10	78	1.97	284.3	-0.028	547.0	0.09	15.73
1757	274.681	0.157	1.11	78	1.96	285.3	-0.037	547.0	0.10	16.07
1758	274.836	0.155	1.11	78	1.95	287.3	-0.047	547.0	0.10	16.30
1759	274.994	0.158	1.11	78	1.97	289	-0.035	547.0	0.13	16.74
1760	275.150	0.156	1.11	78	1.97	288.8	-0.036	547.0	0.17	17.19

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1761	275.306	0.156	1.11	78	1.97	289.6	-0.035	547.0	0.15	16.08
1762	275.463	0.157	1.11	78	1.98	289.7	-0.024	547.0	0.09	14.52
1763	275.619	0.156	1.11	78	1.98	290.2	-0.039	547.0	0.07	13.71
1764	275.776	0.157	1.10	78	1.97	291.2	-0.052	547.0	0.08	13.85
1765	275.933	0.157	1.11	78	1.95	292.6	-0.037	547.0	0.07	14.00
1766	276.088	0.155	1.11	78	1.98	293.8	-0.038	547.0	0.11	14.96
1767	276.246	0.158	1.11	78	1.97	294.1	-0.035	547.0	0.11	15.04
1768	276.401	0.155	1.11	78	1.96	293.4	-0.042	547.0	0.15	16.22
1769	276.558	0.157	1.11	78	1.97	292.6	-0.047	547.0	0.16	17.40
1770	276.715	0.157	1.11	78	1.98	292	-0.033	547.0	0.14	17.60
1771	276.870	0.155	1.11	78	1.97	284.6	-0.035	547.0	0.13	17.44
1772	277.027	0.157	1.10	78	1.98	259.3	-0.028	547.0	0.06	12.78
1773	277.184	0.157	1.11	78	1.97	244.7	-0.039	547.0	0.07	13.50
1774	277.339	0.155	1.11	78	1.97	234.3	-0.030	547.0	0.11	15.40
1775	277.497	0.158	1.11	78	1.96	227.2	-0.030	547.0	0.07	13.62
1776	277.652	0.155	1.11	78	1.97	222.4	-0.028	547.0	0.36	16.71
1777	277.809	0.157	1.11	78	1.95	217.5	-0.030	547.0	0.27	16.45
1778	277.966	0.157	1.11	78	1.98	213.2	-0.029	547.0	0.19	14.64
1779	278.121	0.155	1.11	78	1.98	209.5	-0.032	547.0	0.18	13.75
1780	278.278	0.157	1.10	78	1.95	207	-0.027	547.0	0.12	12.35
1781	278.435	0.157	1.11	78	1.97	205.9	-0.027	547.0	0.17	9.73
1782	278.590	0.155	1.11	78	1.98	203.9	-0.025	547.0	1.86	12.10
1783	278.748	0.158	1.11	78	1.96	201.3	-0.028	547.0	3.47	14.29
1784	278.903	0.155	1.11	78	1.97	198.5	-0.028	547.0	4.76	16.14
1785	279.060	0.157	1.11	78	1.97	195.9	-0.029	547.0	5.30	16.70
1786	279.217	0.157	1.11	78	1.97	193.2	-0.025	547.0	5.48	18.32
1787	279.373	0.156	1.11	78	1.96	190	-0.028	547.0	5.48	17.42
1788	279.530	0.157	1.10	78	1.96	187.7	-0.026	547.0	5.48	17.56
1789	279.686	0.156	1.11	78	1.98	185	-0.027	547.0	5.48	17.61
1790	279.842	0.156	1.11	78	1.96	182.1	-0.027	547.0	5.48	17.20
1791	279.999	0.157	1.11	78	1.95	179.9	-0.026	547.0	5.44	15.72
1792	280.155	0.156	1.11	78	1.97	177.6	-0.029	547.0	5.42	15.63
1793	280.312	0.157	1.11	78	1.96	175.6	-0.022	547.0	5.02	14.40
1794	280.469	0.157	1.11	78	1.97	172.3	-0.027	547.0	4.72	13.57
1795	280.625	0.156	1.11	78	1.94	170.7	-0.025	547.0	4.68	13.46
1796	280.782	0.157	1.11	78	1.97	169.9	-0.023	547.0	4.31	12.44

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1797	280.938	0.156	1.11	78	1.96	166.6	-0.022	547.0	3.94	11.49
1798	281.095	0.157	1.11	78	1.98	164.7	-0.023	547.0	3.85	11.25
1799	281.252	0.157	1.11	78	1.97	162.6	-0.024	547.0	3.58	10.55
1800	281.407	0.155	1.11	77	1.97	160.5	-0.020	547.0	3.68	10.82
1801	281.564	0.157	1.11	77	1.95	159.6	-0.021	547.0	3.22	9.58
1802	281.721	0.157	1.12	78	1.96	157.5	-0.020	547.0	3.30	9.84
1803	281.877	0.156	1.11	77	1.96	157.1	-0.019	547.0	2.90	8.72
1804	282.034	0.157	1.11	77	1.97	154.6	-0.019	547.0	2.93	8.82
1805	282.190	0.156	1.11	77	1.97	152.7	-0.020	547.0	2.77	8.38
1806	282.347	0.157	1.11	77	1.96	151.6	-0.021	547.0	2.60	7.88
1807	282.504	0.157	1.11	77	1.96	150	-0.016	547.0	2.38	7.27
1808	282.659	0.155	1.12	77	1.97	148.3	-0.020	547.0	2.42	7.42
1809	282.816	0.157	1.11	77	1.98	146.7	-0.022	547.0	2.18	6.72
1810	282.973	0.157	1.12	77	1.96	145.4	-0.018	547.0	2.06	6.40
1811	283.129	0.156	1.11	77	1.97	143.7	-0.016	547.0	2.00	6.21
1812	283.286	0.157	1.12	77	1.98	141.6	-0.019	547.0	1.93	6.01
1813	283.442	0.156	1.11	77	1.98	141.8	-0.015	547.0	1.74	5.47
1814	283.598	0.156	1.11	77	1.97	139.9	-0.016	547.0	1.62	5.09
1815	283.755	0.157	1.11	77	1.96	138	-0.014	547.0	1.58	4.99
1816	283.911	0.156	1.11	77	1.96	138.4	-0.019	547.0	1.61	5.12
1817	284.068	0.157	1.11	77	1.97	136.9	-0.018	547.0	1.59	5.01
1818	284.225	0.157	1.11	77	1.96	136	-0.016	547.0	1.51	4.82
1819	284.380	0.155	1.11	77	1.97	134.3	-0.014	547.0	1.46	4.62
1820	284.538	0.158	1.11	77	1.97	133.8	-0.014	547.0	1.34	4.27
1821	284.693	0.155	1.12	77	1.97	132.8	-0.015	547.0	1.35	4.35
1822	284.850	0.157	1.11	77	1.96	131.8	-0.014	547.0	1.36	4.39
1823	285.007	0.157	1.11	77	1.97	130.3	-0.013	547.0	1.24	4.01
1824	285.163	0.156	1.11	77	1.96	129.1	-0.012	547.0	1.19	3.81
1825	285.320	0.157	1.11	78	1.97	129.6	-0.017	547.0	1.18	3.80
1826	285.476	0.156	1.11	77	1.96	128.6	-0.015	547.0	1.20	3.86
1827	285.632	0.156	1.11	77	1.96	128.1	-0.011	547.0	1.15	3.70
1828	285.790	0.158	1.11	77	1.96	126.8	-0.011	547.0	1.12	3.60
1829	285.945	0.155	1.12	77	1.95	126.6	-0.013	547.0	1.01	3.23
1830	286.102	0.157	1.11	77	1.97	126.9	-0.015	547.0	1.03	3.33
1831	286.259	0.157	1.11	77	1.96	125.3	-0.012	547.0	1.05	3.38
1832	286.415	0.156	1.11	77	1.97	123.5	-0.011	547.0	0.90	2.88

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1833	286.572	0.157	1.11	77	1.96	122.9	-0.016	547.0	0.90	2.91
1834	286.729	0.157	1.11	77	1.95	121.6	-0.010	547.0	0.90	2.89
1835	286.885	0.156	1.11	77	1.96	122.3	-0.014	547.0	0.95	3.05
1836	287.042	0.157	1.11	77	1.96	121.1	-0.012	547.0	0.92	2.92
1837	287.198	0.156	1.12	77	1.96	120.4	-0.014	547.0	0.87	2.77
1838	287.355	0.157	1.11	77	1.98	120.3	-0.011	547.0	0.79	2.55
1839	287.512	0.157	1.11	77	1.98	119.1	-0.014	547.0	0.87	2.79
1840	287.667	0.155	1.11	77	1.95	127	-0.027	547.0	0.79	2.57
1841	287.825	0.158	1.11	77	1.97	163.4	-0.022	547.0	1.64	7.83
1842	287.981	0.156	1.12	77	1.95	151	-0.017	547.0	1.55	7.93
1843	288.138	0.157	1.11	77	1.98	142.9	-0.016	547.0	1.47	7.37
1844	288.295	0.157	1.12	77	1.96	137.6	-0.017	547.0	1.39	6.80
1845	288.450	0.155	1.11	77	1.95	132.9	-0.016	547.0	1.34	6.48
1846	288.608	0.158	1.11	77	1.97	130.1	-0.011	547.0	1.17	5.59
1847	288.764	0.156	1.11	77	1.96	127.5	-0.009	547.0	1.04	4.95
1848	288.920	0.156	1.11	77	1.97	125.6	-0.009	547.0	0.90	4.26
1849	289.077	0.157	1.11	77	1.97	124.6	-0.012	547.0	0.84	3.98
1850	289.232	0.155	1.11	77	1.96	121.6	-0.011	547.0	0.77	3.58
1851	289.389	0.157	1.10	77	1.97	119.8	-0.012	547.0	0.70	3.15
1852	289.547	0.158	1.12	77	1.97	119.1	-0.009	547.0	0.67	3.10
1853	289.702	0.155	1.11	77	1.97	118.7	-0.012	547.0	0.65	2.97
1854	289.859	0.157	1.11	77	1.98	116.9	-0.010	547.0	0.62	2.83
1855	290.015	0.156	1.11	77	1.96	116.1	-0.009	547.0	0.61	2.76
1856	290.172	0.157	1.11	77	1.97	116.2	-0.010	547.0	0.53	2.34
1857	290.329	0.157	1.11	77	1.97	114.9	-0.013	547.0	0.52	2.40
1858	290.484	0.155	1.11	77	1.97	114.9	-0.009	547.0	0.49	2.28
1859	290.641	0.157	1.11	77	1.95	114.7	-0.009	547.0	0.48	2.22
1860	290.798	0.157	1.12	77	1.96	112.2	-0.010	547.0	0.45	2.07
1861	290.954	0.156	1.11	77	1.96	111.6	-0.011	547.0	0.44	1.97
1862	291.111	0.157	1.11	77	1.96	111.8	-0.013	547.0	0.42	1.93
1863	291.267	0.156	1.11	77	1.98	111.1	-0.009	547.0	0.42	1.89
1864	291.424	0.157	1.11	77	1.96	112.3	-0.010	547.0	0.40	1.81
1865	291.581	0.157	1.11	77	1.96	111.7	-0.012	547.0	0.40	1.81
1866	291.736	0.155	1.11	77	1.96	110.8	-0.011	547.0	0.37	1.65
1867	291.893	0.157	1.11	77	1.97	110.3	-0.015	547.0	0.36	1.67
1868	292.050	0.157	1.11	77	1.97	109.5	-0.008	547.0	0.32	1.48

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler
Model: Classic Edge 760.1
Tracking No.: 2501
Project No.: 0117WB044E
Meter Box Y Regression Offset: 1.0074
Meter Box Y Regression Factor: 0
Meter Box Dynamic Y: 1.007
Sample Box ID: 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1869	292.206	0.156	1.11	77	1.97	110	-0.008	547.0	0.33	1.51
1870	292.363	0.157	1.11	77	1.96	109.3	-0.011	547.0	0.34	1.56
1871	292.519	0.156	1.12	77	1.97	137.6	-0.025	547.0	0.33	1.52
1872	292.676	0.157	1.11	77	1.98	151	-0.014	547.0	0.94	6.37
1873	292.833	0.157	1.11	77	1.96	138.6	-0.009	547.0	0.98	6.02
1874	292.989	0.156	1.11	77	1.96	130.8	-0.014	547.0	0.83	5.08
1875	293.146	0.157	1.11	77	1.96	126.2	-0.012	547.0	0.71	4.34
1876	293.302	0.156	1.11	77	1.95	122.7	-0.007	547.0	0.61	3.84
1877	293.458	0.156	1.11	77	1.97	119.6	-0.015	547.0	0.55	3.30
1878	293.616	0.158	1.11	77	1.96	117.7	-0.011	547.0	0.48	2.86
1879	293.771	0.155	1.12	77	1.97	115.5	-0.009	547.0	0.42	2.51
1880	293.928	0.157	1.10	77	1.96	114.7	-0.009	547.0	0.38	2.29
1881	294.086	0.158	1.11	77	1.96	113.6	-0.009	547.0	0.35	2.09
1882	294.241	0.155	1.11	77	1.97	112	-0.009	547.0	0.33	1.95
1883	294.398	0.157	1.11	77	1.97	111.6	-0.011	547.0	0.30	1.80
1884	294.554	0.156	1.11	77	1.97	111.7	-0.011	547.0	0.31	1.89
1885	294.711	0.157	1.11	77	1.96	111	-0.008	547.0	0.32	1.94
1886	294.867	0.156	1.11	77	1.94	110.7	-0.011	547.0	0.29	1.78
1887	295.023	0.156	1.11	77	1.97	109.9	-0.010	547.0	0.33	2.01
1888	295.180	0.157	1.10	77	1.96	109.1	-0.015	547.0	0.30	1.83
1889	295.337	0.157	1.11	77	1.96	108.6	-0.008	547.0	0.32	1.94
1890	295.492	0.155	1.11	77	1.96	108.6	-0.004	547.0	0.32	1.84
1891	295.650	0.158	1.11	77	1.96	108.3	-0.008	547.0	0.30	1.91
1892	295.806	0.156	1.11	77	1.95	106.8	-0.009	547.0	0.31	1.92
1893	295.962	0.156	1.11	77	1.97	107.6	-0.011	547.0	0.29	1.83
1894	296.119	0.157	1.11	77	1.98	107.2	-0.009	547.0	0.30	1.88
1895	296.275	0.156	1.11	77	1.97	107.2	-0.013	547.0	0.29	1.81
1896	296.432	0.157	1.10	77	1.96	105.8	-0.010	547.0	0.28	1.71
1897	296.588	0.156	1.11	77	1.96	105.4	-0.008	547.0	0.28	1.77
1898	296.744	0.156	1.11	77	1.97	105.8	-0.010	547.0	0.29	1.85
1899	296.901	0.157	1.11	77	1.95	105.3	-0.008	547.0	0.28	1.77
1900	297.057	0.156	1.11	77	1.97	104.6	-0.012	547.0	0.26	1.64
1901	297.217	0.160	1.10	77	1.97	105.2	-0.011	547.0	0.27	1.74
1902	297.371	0.154	1.11	77	1.97	132.2	-0.021	547.0	0.25	1.62
1903	297.527	0.156	1.11	77	1.97	142	-0.010	547.0	0.74	6.06
1904	297.684	0.157	1.11	77	1.95	130	-0.013	547.0	0.73	5.41

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler **Meter Box Y Regression Offset:** 1.0074
Model: Classic Edge 760.1 **Meter Box Y Regression Factor:** 0
Tracking No.: 2501 **Meter Box Dynamic Y:** 1.007
Project No.: 0117WB044E **Sample Box ID:** 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1905	297.840	0.156	1.11	77	1.97	122.9	-0.013	547.0	0.61	4.51
1906	297.996	0.156	1.11	77	1.95	118.2	-0.012	547.0	0.51	3.76
1907	298.154	0.158	1.11	77	1.96	115.6	-0.013	547.0	0.43	3.10
1908	298.309	0.155	1.11	77	1.96	113.6	-0.011	547.0	0.38	2.74
1909	298.466	0.157	1.11	77	1.97	111.5	-0.004	547.0	0.33	2.33
1910	298.623	0.157	1.11	77	1.97	109.9	-0.012	547.0	0.27	1.94
1911	298.782	0.159	1.11	77	1.95	109.8	-0.011	547.0	0.24	1.77
1912	298.936	0.154	1.11	77	1.97	108.3	-0.010	547.0	0.22	1.57
1913	299.092	0.156	1.11	77	1.97	107	-0.009	547.0	0.20	1.42
1914	299.249	0.157	1.11	77	1.95	107.3	-0.010	547.0	0.17	1.27
1915	299.406	0.157	1.11	77	1.97	106.9	-0.009	547.0	0.17	1.26
1916	299.561	0.155	1.11	77	1.95	105.8	-0.014	547.0	0.15	1.17
1917	299.718	0.157	1.11	77	1.96	104.9	-0.010	547.0	0.14	1.02
1918	299.875	0.157	1.11	77	1.97	104.7	-0.011	547.0	0.13	0.95
1919	300.030	0.155	1.11	77	1.95	105.1	-0.008	547.0	0.13	0.94
1920	300.188	0.158	1.11	77	1.98	104.7	-0.009	547.0	0.12	0.90
1921	300.344	0.156	1.11	77	1.97	105	-0.010	547.0	0.12	0.85
1922	300.503	0.159	1.11	77	1.98	104.9	-0.004	547.0	0.11	0.84
1923	300.660	0.157	1.11	77	1.97	103.4	-0.007	547.0	0.11	0.83
1924	300.813	0.153	1.11	77	1.96	102.6	-0.015	547.0	0.11	0.76
1925	300.970	0.157	1.10	77	1.96	102.7	-0.002	547.0	0.10	0.74
1926	301.127	0.157	1.11	77	1.97	102.3	-0.004	547.0	0.10	0.77
1927	301.282	0.155	1.11	77	1.96	101.7	-0.010	547.0	0.10	0.78
1928	301.440	0.158	1.11	77	1.96	102	-0.007	547.0	0.11	0.83
1929	301.595	0.155	1.11	77	1.96	102.7	-0.012	547.0	0.10	0.77
1930	301.752	0.157	1.11	77	1.97	100.7	-0.006	547.0	0.09	0.72
1931	301.909	0.157	1.11	77	1.96	100.1	-0.009	547.0	0.10	0.72
1932	302.067	0.158	1.11	77	1.96	99.1	-0.007	547.0	0.10	0.78
1933	302.225	0.158	1.11	77	1.96	128.8	-0.018	547.0	0.10	0.80
1934	302.379	0.154	1.11	77	1.97	135.1	-0.011	547.0	0.56	5.10
1935	302.535	0.156	1.11	77	1.96	124.6	-0.008	547.0	0.51	4.44
1936	302.692	0.157	1.11	77	1.96	117.6	-0.012	547.0	0.43	3.68
1937	302.848	0.156	1.12	77	1.96	113.1	-0.013	547.0	0.37	3.10
1938	303.005	0.157	1.11	77	1.96	111.1	-0.006	547.0	0.31	2.60
1939	303.162	0.157	1.11	77	1.97	109.1	-0.005	547.0	0.25	2.10
1940	303.318	0.156	1.11	77	1.96	107.4	-0.005	547.0	0.22	1.83

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1941	303.475	0.157	1.11	77	1.96	106.8	-0.009	547.0	0.18	1.64
1942	303.631	0.156	1.12	77	1.96	105.7	-0.006	547.0	0.17	1.37
1943	303.790	0.159	1.11	77	1.96	104.3	-0.007	547.0	0.15	1.24
1944	303.947	0.157	1.12	77	1.96	103.9	-0.002	547.0	0.14	1.18
1945	304.101	0.154	1.12	77	1.96	103.3	-0.007	547.0	0.13	1.05
1946	304.257	0.156	1.11	77	1.97	103.4	-0.006	547.0	0.11	0.93
1947	304.414	0.157	1.11	77	1.95	102.3	-0.006	547.0	0.12	0.92
1948	304.570	0.156	1.11	77	1.96	102.5	-0.010	547.0	0.10	0.90
1949	304.727	0.157	1.11	77	1.97	102.5	-0.008	547.0	0.10	0.78
1950	304.883	0.156	1.12	77	1.96	101.8	-0.005	547.0	0.08	0.71
1951	305.040	0.157	1.10	77	1.96	101.4	-0.009	547.0	0.08	0.60
1952	305.197	0.157	1.12	77	1.97	101.4	-0.005	547.0	0.08	0.65
1953	305.355	0.158	1.11	77	1.97	100	-0.006	547.0	0.06	0.62
1954	305.513	0.158	1.11	77	1.97	98.9	-0.008	547.0	0.07	0.53
1955	305.668	0.155	1.12	77	1.96	99.9	-0.003	547.0	0.06	0.53
1956	305.822	0.154	1.11	77	1.97	99.4	-0.008	547.0	0.05	0.48
1957	305.979	0.157	1.11	77	1.96	99.3	-0.006	547.0	0.05	0.46
1958	306.135	0.156	1.11	77	1.96	98.9	-0.008	528.0	0.04	0.44
1959	306.292	0.157	1.10	77	1.97	99.5	-0.006	492.0	0.04	0.39
1960	306.449	0.157	1.12	77	1.95	99	-0.010	465.0	0.04	0.38
1961	306.604	0.155	1.11	77	1.97	97.6	-0.009	419.0	0.04	0.35
1962	306.762	0.158	1.11	77	1.97	97.6	-0.001	411.0	0.04	0.38
1963	306.918	0.156	1.12	77	1.96	97.7	-0.006	394.0	0.03	0.36
1964	307.077	0.159	1.11	77	1.96	127.9	-0.012	404.0	0.09	0.74
1965	307.234	0.157	1.12	77	1.97	129.5	-0.011	547.0	0.36	3.93
1966	307.390	0.156	1.11	77	1.95	120.3	-0.008	547.0	0.30	3.36
1967	307.544	0.154	1.11	77	1.96	113.8	-0.008	547.0	0.25	2.90
1968	307.701	0.157	1.12	77	1.97	109.8	-0.015	547.0	0.23	2.36
1969	307.857	0.156	1.11	77	1.96	107.5	-0.010	547.0	0.19	2.00
1970	308.014	0.157	1.12	77	1.97	105.8	-0.008	547.0	0.15	1.59
1971	308.170	0.156	1.12	77	1.96	104.9	-0.011	547.0	0.14	1.51
1972	308.327	0.157	1.11	77	1.96	143.9	-0.019	547.0	0.58	6.09
1973	308.484	0.157	1.12	77	1.97	169.8	-0.024	547.0	1.42	7.19
1974	308.643	0.159	1.11	77	1.96	194.4	-0.028	547.0	1.55	9.01
1975	308.800	0.157	1.11	77	1.97	221.1	-0.029	547.0	0.50	13.75
1976	308.956	0.156	1.11	77	1.96	246.4	-0.030	547.0	0.13	14.43

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
1977	309.110	0.154	1.11	77	1.95	262.9	-0.034	547.0	0.10	15.47
1978	309.267	0.157	1.11	77	1.98	274.4	-0.035	547.0	0.09	15.57
1979	309.423	0.156	1.11	77	1.96	283.1	-0.032	547.0	0.12	15.78
1980	309.579	0.156	1.11	77	1.97	289.8	-0.033	547.0	0.17	15.92
1981	309.737	0.158	1.12	77	1.96	294.4	-0.033	547.0	0.18	15.97
1982	309.892	0.155	1.11	77	1.98	286.9	-0.024	547.0	0.12	15.73
1983	310.049	0.157	1.11	77	1.97	287.6	-0.031	547.0	0.17	16.01
1984	310.208	0.159	1.11	77	1.96	285.6	-0.032	547.0	0.10	15.67
1985	310.364	0.156	1.11	77	1.96	285.8	-0.032	547.0	0.10	15.66
1986	310.522	0.158	1.11	77	1.97	287.2	-0.037	547.0	0.14	15.79
1987	310.677	0.155	1.11	77	1.97	288.7	-0.035	547.0	0.10	15.84
1988	310.831	0.154	1.11	77	1.96	290.8	-0.037	547.0	0.10	16.00
1989	310.988	0.157	1.11	77	1.97	292.7	-0.046	547.0	0.11	16.17
1990	311.144	0.156	1.11	77	1.97	294.5	-0.026	547.0	0.11	16.27
1991	311.301	0.157	1.11	77	1.97	296	-0.037	547.0	0.08	16.42
1992	311.457	0.156	1.11	77	1.98	295.1	-0.037	547.0	0.08	16.33
1993	311.613	0.156	1.11	77	1.98	297.5	-0.052	547.0	0.10	16.46
1994	311.773	0.160	1.12	77	1.96	296.4	-0.033	547.0	0.04	13.28
1995	311.929	0.156	1.11	77	1.96	299.9	-0.037	547.0	0.07	16.08
1996	312.086	0.157	1.11	77	1.97	299.9	-0.035	547.0	0.06	14.45
1997	312.242	0.156	1.11	77	1.96	299.8	-0.024	547.0	0.06	15.31
1998	312.399	0.157	1.11	77	1.99	299.5	-0.038	547.0	0.05	13.93
1999	312.553	0.154	1.11	77	1.97	286.7	-0.034	547.0	0.07	16.20
2000	312.709	0.156	1.11	77	1.96	261.6	-0.033	322.0	0.02	9.56
2001	312.866	0.157	1.11	77	1.96	246.5	-0.032	264.0	0.02	8.83
2002	313.023	0.157	1.12	77	1.96	236.1	-0.034	345.0	0.02	9.93
2003	313.178	0.155	1.11	77	1.96	229.4	-0.030	282.0	0.02	8.82
2004	313.335	0.157	1.11	77	1.97	224.8	-0.027	547.0	0.10	11.04
2005	313.494	0.159	1.11	77	1.97	220	-0.027	547.0	0.08	10.90
2006	313.651	0.157	1.11	77	1.95	215.7	-0.026	547.0	0.07	9.65
2007	313.808	0.157	1.11	77	1.96	211.9	-0.025	547.0	0.07	9.07
2008	313.963	0.155	1.11	77	1.97	209.6	-0.029	547.0	0.05	8.06
2009	314.120	0.157	1.11	77	1.97	208.7	-0.028	547.0	0.06	6.30
2010	314.275	0.155	1.12	77	1.96	206.7	-0.028	547.0	0.41	6.73
2011	314.430	0.155	1.11	77	1.96	203.8	-0.028	547.0	1.33	9.04
2012	314.587	0.157	1.11	77	1.96	200.7	-0.023	547.0	1.94	9.89

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2013	314.743	0.156	1.11	77	1.95	197.6	-0.026	547.0	2.55	10.89
2014	314.900	0.157	1.11	77	1.97	194.6	-0.024	547.0	2.90	11.37
2015	315.060	0.160	1.11	77	1.96	191.7	-0.027	547.0	3.02	11.19
2016	315.215	0.155	1.11	77	1.97	188.8	-0.025	547.0	2.87	10.34
2017	315.372	0.157	1.11	77	1.96	185.9	-0.029	547.0	3.23	11.23
2018	315.528	0.156	1.11	77	1.96	183.2	-0.021	547.0	3.02	10.46
2019	315.685	0.157	1.11	77	1.97	180.7	-0.023	547.0	3.05	10.44
2020	315.839	0.154	1.11	77	1.95	178.6	-0.019	547.0	2.86	9.82
2021	315.995	0.156	1.11	77	1.95	175.8	-0.020	547.0	2.74	9.28
2022	316.151	0.156	1.11	77	1.94	173.5	-0.020	547.0	2.64	9.01
2023	316.308	0.157	1.11	77	1.96	171.2	-0.019	547.0	2.60	8.91
2024	316.464	0.156	1.11	77	1.95	169	-0.023	547.0	2.41	8.24
2025	316.624	0.160	1.11	77	1.97	166.9	-0.019	547.0	2.20	7.56
2026	316.780	0.156	1.11	77	1.95	164.9	-0.018	547.0	2.15	7.42
2027	316.937	0.157	1.11	77	1.97	163.6	-0.022	547.0	2.19	7.56
2028	317.094	0.157	1.11	77	1.96	161.3	-0.021	547.0	2.01	7.00
2029	317.249	0.155	1.12	77	1.97	158.9	-0.027	547.0	1.84	6.51
2030	317.404	0.155	1.11	77	1.96	157.2	-0.017	547.0	1.68	5.94
2031	317.561	0.157	1.11	77	1.96	155.7	-0.016	547.0	1.65	5.86
2032	317.716	0.155	1.11	77	1.97	154	-0.015	547.0	1.44	5.04
2033	317.874	0.158	1.11	77	1.96	152.5	-0.016	547.0	1.33	4.81
2034	318.030	0.156	1.12	77	1.97	150.4	-0.017	547.0	1.17	4.27
2035	318.189	0.159	1.11	77	1.96	149.2	-0.015	547.0	1.09	3.97
2036	318.346	0.157	1.12	77	1.98	147.4	-0.021	547.0	1.03	3.77
2037	318.502	0.156	1.11	77	1.95	146.3	-0.018	547.0	0.99	3.71
2038	318.659	0.157	1.11	77	1.98	145	-0.019	547.0	0.95	3.37
2039	318.815	0.156	1.11	77	1.97	143.5	-0.016	547.0	0.83	3.08
2040	318.972	0.157	1.11	77	1.97	142.4	-0.010	547.0	0.81	2.99
2041	319.126	0.154	1.11	77	1.96	140.3	-0.014	547.0	0.77	2.84
2042	319.282	0.156	1.11	77	1.96	139.1	-0.015	547.0	0.67	2.53
2043	319.438	0.156	1.11	77	1.97	137.9	-0.015	547.0	0.67	2.52
2044	319.595	0.157	1.11	77	1.96	137.6	-0.015	547.0	0.62	2.38
2045	319.754	0.159	1.11	77	1.97	136.6	-0.015	547.0	0.53	2.08
2046	319.911	0.157	1.11	77	1.97	135.6	-0.014	547.0	0.56	2.24
2047	320.067	0.156	1.11	77	1.97	135	-0.016	547.0	0.47	1.89
2048	320.223	0.156	1.11	77	1.96	133.1	-0.013	547.0	0.49	1.98

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2049	320.380	0.157	1.11	77	1.97	132	-0.013	547.0	0.44	1.80
2050	320.536	0.156	1.11	77	1.96	131.2	-0.015	547.0	0.44	1.80
2051	320.690	0.154	1.10	77	1.95	130.5	-0.006	547.0	0.37	1.58
2052	320.847	0.157	1.11	77	1.97	128.9	-0.017	547.0	0.37	1.57
2053	321.003	0.156	1.11	77	1.96	128.4	-0.013	547.0	0.38	1.57
2054	321.160	0.157	1.10	77	1.98	128.2	-0.012	547.0	0.33	1.37
2055	321.318	0.158	1.11	77	1.96	126.7	-0.006	547.0	0.34	1.32
2056	321.475	0.157	1.11	77	1.97	126.4	-0.016	547.0	0.32	1.38
2057	321.632	0.157	1.11	77	1.96	125.3	-0.008	547.0	0.29	1.24
2058	321.788	0.156	1.11	77	1.98	124.4	-0.013	547.0	0.29	1.30
2059	321.944	0.156	1.11	77	1.96	123.6	-0.011	547.0	0.30	1.19
2060	322.101	0.157	1.11	77	1.94	123.1	-0.014	547.0	0.26	1.11
2061	322.257	0.156	1.11	77	1.97	121.8	-0.012	547.0	0.25	1.07
2062	322.411	0.154	1.11	77	1.96	120.7	-0.012	547.0	0.25	1.04
2063	322.568	0.157	1.11	77	1.97	120.5	-0.008	547.0	0.27	1.17
2064	322.724	0.156	1.11	77	1.96	119.4	-0.010	547.0	0.22	0.97
2065	322.881	0.157	1.11	77	1.96	118.9	-0.011	547.0	0.23	0.98
2066	323.039	0.158	1.11	77	1.97	118.8	-0.013	547.0	0.24	0.95
2067	323.196	0.157	1.11	77	1.94	117.9	-0.010	547.0	0.23	0.91
2068	323.353	0.157	1.11	77	1.97	138.2	-0.025	547.0	0.22	0.92
2069	323.509	0.156	1.11	77	1.95	159.2	-0.011	547.0	1.75	9.08
2070	323.666	0.157	1.11	77	1.97	139.2	-0.015	126.0	0.01	0.21
2071	323.821	0.155	1.11	77	1.96	133.1	-0.011	547.0	0.08	0.55
2072	323.978	0.157	1.11	77	1.96	129.7	-0.009	547.0	0.10	0.88
2073	324.133	0.155	1.11	77	1.97	127.1	-0.012	547.0	0.15	1.12
2074	324.288	0.155	1.11	77	1.97	125.5	-0.017	547.0	0.15	1.36
2075	324.445	0.157	1.11	77	1.96	122.7	-0.012	547.0	0.18	1.47
2076	324.605	0.160	1.11	77	1.97	122	-0.010	547.0	0.18	1.46
2077	324.761	0.156	1.11	77	1.96	120.7	-0.011	547.0	0.21	1.73
2078	324.918	0.157	1.11	77	1.96	119.9	-0.013	547.0	0.20	1.68
2079	325.074	0.156	1.11	77	1.97	119.4	-0.014	547.0	0.21	1.67
2080	325.230	0.156	1.11	77	1.96	118.4	-0.008	547.0	0.19	1.59
2081	325.388	0.158	1.11	77	1.97	118.4	-0.011	547.0	0.19	1.65
2082	325.543	0.155	1.11	77	1.97	118.5	-0.009	547.0	0.19	1.76
2083	325.700	0.157	1.11	77	1.96	117.7	-0.016	547.0	0.22	1.87
2084	325.854	0.154	1.11	77	1.96	117.3	-0.016	547.0	0.24	2.13

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2085	326.010	0.156	1.11	77	1.97	115.6	-0.008	547.0	0.25	2.19
2086	326.168	0.158	1.11	77	1.95	116.2	-0.007	547.0	0.29	2.51
2087	326.326	0.158	1.11	77	1.97	115.2	-0.010	547.0	0.28	2.42
2088	326.483	0.157	1.11	77	1.96	114.7	-0.009	547.0	0.28	2.38
2089	326.640	0.157	1.11	77	1.96	114.8	-0.011	547.0	0.32	2.78
2090	326.795	0.155	1.11	77	1.95	113.4	-0.006	547.0	0.32	2.78
2091	326.953	0.158	1.11	77	1.96	115	-0.016	547.0	0.33	2.83
2092	327.108	0.155	1.11	77	1.96	113.2	-0.008	547.0	0.35	3.00
2093	327.265	0.157	1.11	77	1.98	112.9	-0.007	547.0	0.32	2.74
2094	327.422	0.157	1.11	77	1.95	112.2	-0.008	547.0	0.32	2.78
2095	327.575	0.153	1.11	77	1.96	111.4	-0.009	547.0	0.30	2.56
2096	327.732	0.157	1.10	77	1.96	110.6	-0.008	547.0	0.32	2.71
2097	327.891	0.159	1.11	77	1.95	110.5	-0.009	547.0	0.29	2.54
2098	328.048	0.157	1.11	77	1.97	110.2	-0.009	547.0	0.31	2.59
2099	328.205	0.157	1.11	77	1.97	135.4	-0.023	547.0	0.33	2.63
2100	328.360	0.155	1.11	77	1.95	152.2	-0.013	547.0	1.41	7.21
2101	328.517	0.157	1.10	77	1.97	137.3	-0.011	547.0	1.31	6.11
2102	328.675	0.158	1.12	77	1.96	128.3	-0.011	547.0	1.08	5.14
2103	328.830	0.155	1.11	77	1.96	123.5	-0.010	547.0	0.91	4.36
2104	328.987	0.157	1.11	77	1.96	119.7	-0.008	547.0	0.76	3.76
2105	329.143	0.156	1.11	77	1.96	117.8	-0.010	547.0	0.66	3.20
2106	329.297	0.154	1.11	77	1.96	116.7	-0.011	547.0	0.52	2.60
2107	329.455	0.158	1.11	77	1.97	115.1	-0.008	547.0	0.46	2.34
2108	329.613	0.158	1.11	77	1.97	113.8	-0.006	547.0	0.38	1.90
2109	329.770	0.157	1.11	77	1.96	112.1	-0.008	547.0	0.34	1.73
2110	329.927	0.157	1.11	77	1.97	111.5	-0.012	547.0	0.28	1.43
2111	330.083	0.156	1.11	77	1.96	111.4	-0.004	547.0	0.25	1.26
2112	330.240	0.157	1.11	77	1.97	110.7	-0.007	547.0	0.23	1.13
2113	330.396	0.156	1.11	77	1.96	110	-0.010	547.0	0.19	1.02
2114	330.553	0.157	1.11	77	1.97	108.8	-0.012	547.0	0.17	0.88
2115	330.710	0.157	1.11	77	1.96	108.3	-0.013	547.0	0.14	0.78
2116	330.865	0.155	1.11	77	1.97	107.2	-0.003	547.0	0.13	0.67
2117	331.019	0.154	1.11	77	1.97	107.1	-0.010	547.0	0.12	0.65
2118	331.179	0.160	1.11	77	1.97	107.3	-0.010	547.0	0.09	0.56
2119	331.335	0.156	1.11	77	1.96	107	-0.008	547.0	0.10	0.51
2120	331.492	0.157	1.11	77	1.96	107.4	-0.008	547.0	0.10	0.42

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2121	331.648	0.156	1.12	77	1.96	107.5	-0.006	547.0	0.08	0.42
2122	331.805	0.157	1.11	77	1.96	107.3	-0.002	547.0	0.07	0.45
2123	331.962	0.157	1.11	77	1.97	107.5	-0.010	547.0	0.07	0.41
2124	332.117	0.155	1.11	77	1.98	106.4	-0.006	547.0	0.07	0.39
2125	332.275	0.158	1.11	77	1.97	105.9	-0.012	547.0	0.06	0.37
2126	332.431	0.156	1.11	77	1.93	106	-0.008	547.0	0.05	0.37
2127	332.587	0.156	1.11	77	1.96	105.4	-0.005	547.0	0.06	0.37
2128	332.742	0.155	1.11	77	1.96	104.3	-0.003	547.0	0.06	0.35
2129	332.900	0.158	1.11	77	1.96	104.2	-0.011	547.0	0.06	0.31
2130	333.057	0.157	1.11	77	1.96	131.7	-0.024	547.0	0.05	0.31
2131	333.214	0.157	1.11	77	1.95	141.2	-0.012	547.0	0.94	5.87
2132	333.369	0.155	1.11	77	1.96	129	-0.010	547.0	0.82	4.86
2133	333.527	0.158	1.11	77	1.96	120.7	-0.013	547.0	0.68	4.04
2134	333.683	0.156	1.11	77	1.97	117.1	-0.012	547.0	0.57	3.37
2135	333.840	0.157	1.11	77	1.95	114.1	-0.008	547.0	0.49	2.82
2136	333.997	0.157	1.11	77	1.98	112.3	-0.009	547.0	0.41	2.38
2137	334.152	0.155	1.11	77	1.96	111	-0.007	547.0	0.35	2.06
2138	334.310	0.158	1.11	77	1.95	109.7	-0.013	547.0	0.31	1.85
2139	334.466	0.156	1.11	77	1.97	108.2	-0.009	547.0	0.25	1.50
2140	334.622	0.156	1.11	77	1.96	108.1	-0.005	547.0	0.22	1.35
2141	334.779	0.157	1.11	77	1.96	107	-0.009	547.0	0.19	1.18
2142	334.935	0.156	1.11	77	1.97	107.2	-0.012	547.0	0.17	1.10
2143	335.092	0.157	1.11	77	1.96	107.2	-0.007	547.0	0.15	0.97
2144	335.250	0.158	1.11	77	1.97	107.3	-0.009	547.0	0.14	0.77
2145	335.405	0.155	1.11	77	1.97	106.5	-0.007	547.0	0.11	0.76
2146	335.563	0.158	1.11	77	1.96	105.6	-0.015	547.0	0.11	0.64
2147	335.719	0.156	1.11	77	1.96	105	-0.005	547.0	0.08	0.51
2148	335.875	0.156	1.11	77	1.96	104.3	-0.007	547.0	0.08	0.47
2149	336.033	0.158	1.11	77	1.95	103.7	-0.009	547.0	0.07	0.45
2150	336.188	0.155	1.11	77	1.94	103.8	-0.010	547.0	0.06	0.40
2151	336.345	0.157	1.11	77	1.97	103.4	-0.008	547.0	0.05	0.39
2152	336.502	0.157	1.11	77	1.96	103.7	-0.008	547.0	0.05	0.34
2153	336.658	0.156	1.11	77	1.96	103.1	-0.006	487.0	0.05	0.30
2154	336.816	0.158	1.11	77	1.96	102.4	-0.007	448.0	0.04	0.29
2155	336.971	0.155	1.11	77	1.96	103.8	-0.009	437.0	0.04	0.29
2156	337.128	0.157	1.11	77	1.96	103.1	-0.009	403.0	0.04	0.25

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler **Meter Box Y Regression Offset:** 1.0074
Model: Classic Edge 760.1 **Meter Box Y Regression Factor:** 0
Tracking No.: 2501 **Meter Box Dynamic Y:** 1.007
Project No.: 0117WB044E **Sample Box ID:** 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2157	337.286	0.158	1.11	77	1.97	102.2	-0.009	360.0	0.03	0.24
2158	337.441	0.155	1.11	77	1.97	102.3	-0.012	355.0	0.03	0.25
2159	337.599	0.158	1.11	77	1.97	101.6	-0.011	337.0	0.03	0.25
2160	337.755	0.156	1.12	77	1.96	101.3	-0.006	338.0	0.03	0.23
2161	337.911	0.156	1.11	77	1.97	131.8	-0.020	343.0	0.07	0.54
2162	338.069	0.158	1.12	77	1.97	134.8	-0.014	547.0	0.58	4.65
2163	338.224	0.155	1.11	77	1.96	123.5	-0.005	547.0	0.50	3.99
2164	338.382	0.158	1.11	77	1.97	116.8	-0.006	547.0	0.41	3.28
2165	338.538	0.156	1.12	77	1.97	112.9	-0.009	547.0	0.33	2.64
2166	338.694	0.156	1.11	77	1.96	110.6	-0.005	547.0	0.29	2.28
2167	338.852	0.158	1.11	77	1.96	108.5	-0.008	547.0	0.23	1.95
2168	339.007	0.155	1.11	77	1.96	108	-0.008	547.0	0.23	1.59
2169	339.164	0.157	1.11	77	1.96	105.9	-0.006	547.0	0.19	1.47
2170	339.322	0.158	1.11	77	1.96	105.6	-0.008	547.0	0.17	1.28
2171	339.477	0.155	1.11	77	1.97	104.9	-0.007	547.0	0.14	1.10
2172	339.635	0.158	1.12	77	1.97	103.3	-0.008	547.0	0.12	0.94
2173	339.791	0.156	1.12	77	1.97	103.4	-0.006	547.0	0.11	0.82
2174	339.948	0.157	1.11	77	1.96	103.1	-0.005	547.0	0.09	0.68
2175	340.105	0.157	1.12	77	1.95	102.9	-0.005	547.0	0.08	0.58
2176	340.261	0.156	1.11	77	1.97	103.2	-0.007	547.0	0.07	0.57
2177	340.418	0.157	1.11	77	1.96	103.3	-0.007	547.0	0.07	0.52
2178	340.575	0.157	1.11	77	1.96	102.7	-0.010	547.0	0.07	0.44
2179	340.731	0.156	1.11	77	1.96	102.6	-0.009	533.0	0.05	0.39
2180	340.888	0.157	1.11	77	1.97	101.8	-0.006	491.0	0.04	0.39
2181	341.044	0.156	1.12	77	1.96	101.7	-0.007	464.0	0.05	0.34
2182	341.201	0.157	1.11	77	1.96	101.1	-0.006	410.0	0.03	0.36
2183	341.358	0.157	1.12	77	1.97	101.4	-0.010	366.0	0.03	0.29
2184	341.514	0.156	1.11	77	1.95	100.6	-0.005	327.0	0.03	0.27
2185	341.671	0.157	1.11	77	1.97	100.3	-0.006	311.0	0.03	0.25
2186	341.827	0.156	1.12	77	1.97	101.2	-0.006	281.0	0.03	0.26
2187	341.984	0.157	1.11	77	1.95	100.9	-0.008	266.0	0.03	0.23
2188	342.141	0.157	1.12	77	1.95	100.4	-0.007	249.0	0.02	0.21
2189	342.297	0.156	1.11	77	1.96	100.4	-0.001	245.0	0.02	0.20
2190	342.454	0.157	1.11	77	1.96	99.8	-0.010	226.0	0.03	0.20
2191	342.611	0.157	1.11	77	1.97	99.4	-0.006	217.0	0.01	0.20
2192	342.767	0.156	1.11	77	1.97	132.7	-0.018	547.0	0.27	2.68

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler **Meter Box Y Regression Offset:** 1.0074
Model: Classic Edge 760.1 **Meter Box Y Regression Factor:** 0
Tracking No.: 2501 **Meter Box Dynamic Y:** 1.007
Project No.: 0117WB044E **Sample Box ID:** 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2193	342.924	0.157	1.11	77	1.97	129.9	-0.009	547.0	0.42	4.06
2194	343.080	0.156	1.12	77	1.96	118.9	-0.007	547.0	0.36	3.42
2195	343.237	0.157	1.11	77	1.96	113	-0.008	547.0	0.31	2.87
2196	343.394	0.157	1.12	77	1.97	109.6	-0.007	547.0	0.27	2.44
2197	343.550	0.156	1.11	77	1.96	106.9	-0.009	547.0	0.22	2.03
2198	343.707	0.157	1.11	77	1.97	105.2	-0.007	547.0	0.20	1.80
2199	343.863	0.156	1.12	77	1.97	104.4	-0.006	547.0	0.17	1.54
2200	344.020	0.157	1.11	77	1.97	104.8	-0.005	547.0	0.14	1.36
2201	344.177	0.157	1.12	77	1.97	103.5	-0.009	547.0	0.14	1.17
2202	344.333	0.156	1.11	77	1.97	102.2	-0.008	547.0	0.12	1.07
2203	344.490	0.157	1.11	77	1.96	102.4	-0.008	547.0	0.10	0.91
2204	344.647	0.157	1.12	77	1.96	102.1	-0.005	547.0	0.09	0.79
2205	344.803	0.156	1.11	77	1.96	100.6	-0.009	547.0	0.07	0.69
2206	344.960	0.157	1.11	77	1.95	101.9	-0.011	547.0	0.07	0.60
2207	345.116	0.156	1.11	77	1.98	100.8	-0.007	547.0	0.05	0.53
2208	345.273	0.157	1.11	77	1.96	100.8	-0.005	536.0	0.04	0.45
2209	345.430	0.157	1.11	77	1.96	100.9	-0.005	505.0	0.05	0.40
2210	345.585	0.155	1.11	77	1.94	100.4	-0.006	458.0	0.05	0.38
2211	345.743	0.158	1.12	77	1.96	100.1	-0.008	399.0	0.04	0.38
2212	345.899	0.156	1.11	77	1.97	99.3	-0.009	355.0	0.03	0.32
2213	346.056	0.157	1.11	77	1.96	99.3	-0.006	338.0	0.02	0.29
2214	346.213	0.157	1.12	77	1.96	141.9	-0.018	547.0	0.62	7.17
2215	346.369	0.156	1.11	77	1.96	160.3	-0.020	547.0	0.84	4.76
2216	346.526	0.157	1.11	77	1.96	172.6	-0.020	547.0	1.48	5.78
2217	346.682	0.156	1.11	77	1.97	191.1	-0.031	547.0	1.98	8.33
2218	346.838	0.156	1.11	77	1.95	215	-0.024	547.0	0.49	14.82
2219	346.995	0.157	1.11	77	1.97	237.7	-0.026	547.0	0.18	15.15
2220	347.151	0.156	1.11	77	1.97	252	-0.032	547.0	0.10	15.32
2221	347.308	0.157	1.11	77	1.98	262.5	-0.033	547.0	0.07	15.49
2222	347.465	0.157	1.12	77	1.97	271.7	-0.033	547.0	0.05	15.88
2223	347.621	0.156	1.11	77	1.96	277.3	-0.034	547.0	0.07	15.84
2224	347.778	0.157	1.11	77	1.97	282.6	-0.035	547.0	0.08	15.86
2225	347.934	0.156	1.11	77	1.98	285.6	-0.020	547.0	0.07	15.86
2226	348.090	0.156	1.11	77	1.95	287.7	-0.034	547.0	0.06	15.76
2227	348.247	0.157	1.11	77	1.96	281.2	-0.029	547.0	0.05	15.60
2228	348.403	0.156	1.12	77	1.96	284.3	-0.037	547.0	0.06	15.44

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2229	348.560	0.157	1.10	77	1.97	283.1	-0.033	547.0	0.05	15.80
2230	348.717	0.157	1.12	77	1.97	285.1	-0.039	547.0	0.05	15.89
2231	348.873	0.156	1.11	77	1.97	286.1	-0.046	477.0	0.04	15.75
2232	349.030	0.157	1.11	77	1.95	283.9	-0.028	497.0	0.04	15.84
2233	349.186	0.156	1.11	77	1.96	287.3	-0.025	503.0	0.04	15.89
2234	349.343	0.157	1.11	77	1.97	285.5	-0.043	487.0	0.04	15.86
2235	349.500	0.157	1.11	77	1.96	285.7	-0.033	545.0	0.05	15.98
2236	349.656	0.156	1.11	77	1.98	285.9	-0.035	507.0	0.05	15.72
2237	349.812	0.156	1.11	77	1.97	286.9	-0.043	521.0	0.04	15.67
2238	349.969	0.157	1.11	77	1.97	287.6	-0.038	424.0	0.04	15.57
2239	350.125	0.156	1.11	77	1.97	288.3	-0.028	474.0	0.03	15.55
2240	350.282	0.157	1.11	77	1.97	273.2	-0.031	426.0	0.03	15.54
2241	350.438	0.156	1.11	77	1.97	251.2	-0.031	547.0	0.07	7.89
2242	350.595	0.157	1.11	77	1.96	237.8	-0.029	547.0	0.05	6.68
2243	350.752	0.157	1.12	77	1.95	228.4	-0.028	530.0	0.03	6.93
2244	350.908	0.156	1.11	77	1.98	222.7	-0.030	547.0	0.05	5.93
2245	351.065	0.157	1.11	77	1.97	218.8	-0.024	547.0	0.09	7.06
2246	351.221	0.156	1.11	77	1.97	214.4	-0.026	547.0	0.09	6.64
2247	351.377	0.156	1.11	77	1.95	210.4	-0.026	547.0	0.08	5.85
2248	351.534	0.157	1.11	77	1.97	207	-0.025	547.0	0.07	5.63
2249	351.690	0.156	1.11	77	1.95	204.8	-0.022	547.0	0.08	5.26
2250	351.847	0.157	1.10	77	1.97	203.6	-0.028	547.0	0.06	4.18
2251	352.004	0.157	1.12	77	1.95	201.1	-0.024	547.0	0.17	4.15
2252	352.160	0.156	1.11	77	1.97	198.4	-0.027	547.0	0.50	5.75
2253	352.317	0.157	1.11	77	1.96	195.6	-0.022	547.0	0.92	7.11
2254	352.473	0.156	1.11	77	1.95	192.7	-0.023	547.0	1.17	7.37
2255	352.629	0.156	1.11	77	1.96	189.4	-0.024	547.0	1.54	8.20
2256	352.786	0.157	1.11	77	1.95	186.8	-0.021	547.0	1.80	8.62
2257	352.942	0.156	1.11	77	1.96	183.6	-0.025	547.0	1.82	8.26
2258	353.099	0.157	1.11	77	1.97	181	-0.019	547.0	1.80	7.87
2259	353.256	0.157	1.11	77	1.97	178.4	-0.020	547.0	1.74	7.36
2260	353.412	0.156	1.11	77	1.96	175.8	-0.019	547.0	1.65	6.92
2261	353.569	0.157	1.11	77	1.97	173.3	-0.015	547.0	1.70	7.02
2262	353.725	0.156	1.11	77	1.96	171.1	-0.021	547.0	1.68	6.84
2263	353.882	0.157	1.11	77	1.97	168.7	-0.021	547.0	1.41	5.79
2264	354.039	0.157	1.11	77	1.98	166.7	-0.017	547.0	1.52	6.21

Train D - Ambient Background and Flue Gas Data

Run: 4 **Test Date:** 2/27/2025
Manufacturer: Central Boiler **Meter Box Y Regression Offset:** 1.0074
Model: Classic Edge 760.1 **Meter Box Y Regression Factor:** 0
Tracking No.: 2501 **Meter Box Dynamic Y:** 1.007
Project No.: 0117WB044E **Sample Box ID:** 335

Test Start Time: 19:36
Total Sampling Time: 2460 min
Recording Interval: 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2265	354.195	0.156	1.11	77	1.96	164.7	-0.018	547.0	1.34	5.43
2266	354.352	0.157	1.11	77	1.97	162.4	-0.015	547.0	1.30	5.29
2267	354.508	0.156	1.11	77	1.95	160.2	-0.020	547.0	1.22	4.95
2268	354.664	0.156	1.11	77	1.97	158.7	-0.017	547.0	1.16	4.72
2269	354.821	0.157	1.11	77	1.96	156.6	-0.014	547.0	1.12	4.55
2270	354.977	0.156	1.11	77	1.96	155.1	-0.018	547.0	1.01	4.16
2271	355.134	0.157	1.11	77	1.97	153.4	-0.016	547.0	0.94	3.85
2272	355.291	0.157	1.12	77	1.96	151.4	-0.013	547.0	0.86	3.54
2273	355.447	0.156	1.11	77	1.97	150.3	-0.018	547.0	0.86	3.55
2274	355.604	0.157	1.11	77	1.96	148.2	-0.015	547.0	0.79	3.27
2275	355.760	0.156	1.11	77	1.96	147	-0.014	547.0	0.68	2.79
2276	355.916	0.156	1.11	77	1.97	145.2	-0.016	547.0	0.65	2.70
2277	356.074	0.158	1.11	77	1.96	144	-0.015	547.0	0.60	2.51
2278	356.229	0.155	1.11	77	1.97	142.8	-0.011	547.0	0.55	2.34
2279	356.386	0.157	1.11	77	1.96	141.3	-0.016	547.0	0.53	2.31
2280	356.543	0.157	1.11	77	1.96	140	-0.014	547.0	0.49	2.12
2281	356.699	0.156	1.11	77	1.97	138.7	-0.010	547.0	0.46	2.00
2282	356.857	0.158	1.11	77	1.96	137	-0.012	547.0	0.46	2.00
2283	357.012	0.155	1.11	77	1.95	135.4	-0.014	547.0	0.42	1.79
2284	357.169	0.157	1.10	77	1.95	134.6	-0.018	547.0	0.41	1.80
2285	357.326	0.157	1.11	77	1.96	134.3	-0.011	547.0	0.36	1.67
2286	357.482	0.156	1.11	77	1.95	133	-0.014	547.0	0.36	1.55
2287	357.639	0.157	1.11	77	1.97	131.9	-0.013	547.0	0.35	1.58
2288	357.796	0.157	1.11	77	1.96	130.9	-0.013	547.0	0.33	1.47
2289	357.952	0.156	1.11	77	1.96	129.9	-0.014	547.0	0.32	1.43
2290	358.109	0.157	1.11	77	1.97	129	-0.012	547.0	0.28	1.27
2291	358.265	0.156	1.11	77	1.97	129.3	-0.013	547.0	0.27	1.26
2292	358.422	0.157	1.11	77	1.97	128.5	-0.011	547.0	0.27	1.26
2293	358.579	0.157	1.11	77	1.96	127.1	-0.008	547.0	0.27	1.20
2294	358.735	0.156	1.11	77	1.96	125.8	-0.011	547.0	0.24	1.15
2295	358.892	0.157	1.11	77	1.98	124.9	-0.017	547.0	0.24	1.13
2296	359.048	0.156	1.11	77	1.97	124.5	-0.013	547.0	0.24	1.10
2297	359.204	0.156	1.11	77	1.96	124.1	-0.011	547.0	0.25	1.16
2298	359.362	0.158	1.11	77	1.97	123.7	-0.015	547.0	0.23	1.16
2299	359.517	0.155	1.11	77	1.97	122.7	-0.011	547.0	0.24	1.18
2300	359.674	0.157	1.11	77	1.96	123.2	-0.010	547.0	0.22	1.07

Train D - Ambient Background and Flue Gas Data

Run:	4	Test Date:	2/27/2025
Manufacturer:	Central Boiler	Meter Box Y Regression Offset:	1.0074
Model:	Classic Edge 760.1	Meter Box Y Regression Factor:	0
Tracking No.:	2501	Meter Box Dynamic Y:	1.007
Project No.:	0117WB044E	Sample Box ID:	335
Test Start Time:	19:36		
Total Sampling Time	2460	min	
Recording Interval	1	min	

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2301	359.831	0.157	1.11	77	1.98	121.4	-0.008	547.0	0.21	1.03
2302	359.987	0.156	1.11	77	1.97	120.8	-0.008	547.0	0.20	1.00
2303	360.144	0.157	1.11	77	1.97	120.4	-0.010	547.0	0.22	1.10
2304	360.300	0.156	1.11	77	1.97	119.5	-0.009	547.0	0.21	1.09
2305	360.457	0.157	1.11	77	1.96	118.3	-0.013	547.0	0.21	1.10
2306	360.614	0.157	1.12	77	1.95	116.7	-0.009	547.0	0.20	1.05
2307	360.769	0.155	1.11	77	1.97	117.1	-0.008	547.0	0.22	1.14
2308	360.927	0.158	1.11	77	1.97	117.3	-0.013	547.0	0.21	1.14
2309	361.083	0.156	1.11	77	1.97	142.9	-0.026	547.0	0.22	1.11
2310	361.239	0.156	1.11	77	1.96	152.9	-0.006	547.0	1.86	9.87
2311	361.396	0.157	1.11	77	1.95	136.4	-0.008	120.0	0.00	0.25
2312	361.552	0.156	1.11	77	1.96	130.5	-0.017	456.0	0.05	0.38
2313	361.709	0.157	1.10	77	1.97	125.9	-0.010	547.0	0.08	0.55
2314	361.866	0.157	1.12	77	1.95	124.6	-0.012	547.0	0.09	0.66
2315	362.021	0.155	1.11	77	1.96	123	-0.011	547.0	0.10	0.70
2316	362.179	0.158	1.11	77	1.96	120.9	-0.011	547.0	0.10	0.75
2317	362.335	0.156	1.11	77	1.96	120.3	-0.011	547.0	0.10	0.77
2318	362.492	0.157	1.11	77	1.95	118.9	-0.014	547.0	0.10	0.73
2319	362.649	0.157	1.11	77	1.95	117.6	-0.012	547.0	0.10	0.75
2320	362.805	0.156	1.11	77	1.97	117.5	-0.011	547.0	0.09	0.78
2321	362.961	0.156	1.11	77	1.96	116.3	-0.011	547.0	0.10	0.73
2322	363.118	0.157	1.11	77	1.96	116.3	-0.008	547.0	0.10	0.76
2323	363.274	0.156	1.11	77	1.95	115.7	-0.014	547.0	0.09	0.71
2324	363.432	0.158	1.11	77	1.97	114.9	-0.013	547.0	0.08	0.68
2325	363.587	0.155	1.11	77	1.95	114.7	-0.005	547.0	0.08	0.67
2326	363.744	0.157	1.11	77	1.97	113.8	-0.001	547.0	0.07	0.65
2327	363.902	0.158	1.12	77	1.97	113.8	-0.011	547.0	0.08	0.65
2328	364.057	0.155	1.11	77	1.96	113.4	-0.011	547.0	0.08	0.66
2329	364.215	0.158	1.11	77	1.96	112.5	-0.006	547.0	0.08	0.64
2330	364.371	0.156	1.11	77	1.95	111.7	-0.008	547.0	0.08	0.60
2331	364.527	0.156	1.11	77	1.96	111.8	-0.009	547.0	0.07	0.55
2332	364.685	0.158	1.11	77	1.95	110.5	-0.011	547.0	0.08	0.60
2333	364.840	0.155	1.11	77	1.96	110.9	-0.008	547.0	0.09	0.61
2334	364.997	0.157	1.11	77	1.96	110.4	-0.006	547.0	0.07	0.60
2335	365.154	0.157	1.11	77	1.97	110.8	-0.011	547.0	0.09	0.64
2336	365.310	0.156	1.11	77	1.97	109.8	-0.009	547.0	0.07	0.56

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2337	365.467	0.157	1.11	77	1.96	109.9	-0.008	547.0	0.08	0.53
2338	365.623	0.156	1.11	77	1.96	108.5	-0.010	547.0	0.09	0.59
2339	365.780	0.157	1.11	77	1.97	108.7	-0.005	547.0	0.06	0.63
2340	365.937	0.157	1.12	77	1.97	135.8	-0.021	547.0	0.09	0.63
2341	366.093	0.156	1.11	77	1.97	146.9	-0.014	547.0	1.62	7.68
2342	366.250	0.157	1.11	77	1.96	133.5	-0.009	547.0	1.36	6.43
2343	366.406	0.156	1.11	77	1.95	125.9	-0.012	547.0	1.17	5.57
2344	366.563	0.157	1.11	77	1.97	121.4	-0.011	547.0	0.99	4.73
2345	366.720	0.157	1.11	77	1.96	118.1	-0.007	547.0	0.82	3.96
2346	366.876	0.156	1.11	77	1.96	115.8	-0.008	547.0	0.71	3.41
2347	367.032	0.156	1.10	77	1.97	114.8	-0.008	547.0	0.59	2.83
2348	367.190	0.158	1.11	77	1.96	113.2	-0.007	547.0	0.50	2.43
2349	367.345	0.155	1.11	77	1.95	112	-0.007	547.0	0.44	2.11
2350	367.503	0.158	1.11	77	1.97	111.4	-0.011	547.0	0.38	1.88
2351	367.658	0.155	1.11	77	1.97	111.5	-0.009	547.0	0.32	1.56
2352	367.815	0.157	1.11	77	1.97	111.1	-0.014	547.0	0.29	1.39
2353	367.973	0.158	1.11	77	1.96	109.8	-0.012	547.0	0.25	1.17
2354	368.128	0.155	1.11	77	1.97	109.3	-0.013	547.0	0.22	1.05
2355	368.285	0.157	1.11	77	1.97	109	-0.009	547.0	0.18	0.86
2356	368.442	0.157	1.11	77	1.95	108.4	-0.008	547.0	0.15	0.78
2357	368.598	0.156	1.11	77	1.96	107.6	-0.008	547.0	0.14	0.69
2358	368.756	0.158	1.11	77	1.97	107	-0.009	547.0	0.11	0.60
2359	368.911	0.155	1.11	77	1.96	106.8	-0.007	547.0	0.11	0.51
2360	369.068	0.157	1.11	77	1.96	106.5	-0.010	547.0	0.10	0.47
2361	369.226	0.158	1.11	77	1.97	106.3	-0.008	547.0	0.09	0.43
2362	369.381	0.155	1.11	77	1.97	105.8	-0.008	547.0	0.07	0.37
2363	369.539	0.158	1.11	77	1.95	105.4	-0.009	547.0	0.07	0.35
2364	369.695	0.156	1.11	77	1.96	105.7	-0.006	547.0	0.06	0.34
2365	369.851	0.156	1.11	77	1.96	105.1	-0.007	547.0	0.05	0.30
2366	370.009	0.158	1.11	77	1.96	105.5	-0.006	547.0	0.06	0.28
2367	370.164	0.155	1.11	77	1.97	104.7	-0.008	544.0	0.05	0.27
2368	370.322	0.158	1.11	77	1.96	104.7	-0.011	538.0	0.05	0.29
2369	370.478	0.156	1.11	77	1.97	104.4	-0.009	479.0	0.04	0.27
2370	370.635	0.157	1.11	77	1.96	103.6	-0.009	500.0	0.05	0.27
2371	370.792	0.157	1.11	77	1.96	134.5	-0.021	529.0	0.09	0.56
2372	370.948	0.156	1.11	77	1.95	137.9	-0.011	547.0	1.36	6.88

Train D - Ambient Background and Flue Gas Data

Run: 4
 Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E

Test Date: 2/27/2025

Meter Box Y Regression Offset: 1.0074
 Meter Box Y Regression Factor: 0
 Meter Box Dynamic Y: 1.007
 Sample Box ID: 335

Test Start Time: 19:36
 Total Sampling Time 2460 min
 Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2373	371.105	0.157	1.10	77	1.95	126.4	-0.010	547.0	1.12	5.68
2374	371.262	0.157	1.11	77	1.96	119.2	-0.008	547.0	0.97	4.88
2375	371.417	0.155	1.11	77	1.94	114.8	-0.013	547.0	0.83	4.19
2376	371.575	0.158	1.11	77	1.96	112.5	-0.015	547.0	0.69	3.55
2377	371.731	0.156	1.11	77	1.95	110.4	-0.006	547.0	0.61	3.00
2378	371.887	0.156	1.11	77	1.96	108.9	-0.007	547.0	0.52	2.62
2379	372.045	0.158	1.11	77	1.97	109.2	-0.007	547.0	0.43	2.16
2380	372.200	0.155	1.11	77	1.97	108.1	-0.008	547.0	0.36	1.81
2381	372.358	0.158	1.11	77	1.96	107.7	-0.008	547.0	0.32	1.57
2382	372.514	0.156	1.11	77	1.96	107.8	-0.007	547.0	0.25	1.37
2383	372.670	0.156	1.11	77	1.97	107.5	-0.010	547.0	0.23	1.14
2384	372.828	0.158	1.11	77	1.97	106.5	-0.006	547.0	0.20	1.03
2385	372.983	0.155	1.11	77	1.96	105.8	-0.009	547.0	0.17	0.81
2386	373.140	0.157	1.10	77	1.97	105.2	-0.007	547.0	0.15	0.77
2387	373.298	0.158	1.12	77	1.97	104.7	-0.005	547.0	0.12	0.62
2388	373.453	0.155	1.11	77	1.96	103.5	-0.010	547.0	0.11	0.57
2389	373.611	0.158	1.11	77	1.95	103.8	-0.006	547.0	0.11	0.50
2390	373.767	0.156	1.11	77	1.95	103.7	-0.006	547.0	0.09	0.45
2391	373.923	0.156	1.11	77	1.97	103.1	-0.006	547.0	0.07	0.41
2392	374.080	0.157	1.11	77	1.96	103.1	-0.007	547.0	0.07	0.38
2393	374.236	0.156	1.11	77	1.97	103.3	-0.008	547.0	0.06	0.35
2394	374.393	0.157	1.11	77	1.96	102.9	-0.008	547.0	0.06	0.27
2395	374.550	0.157	1.11	77	1.96	102.3	-0.011	546.0	0.05	0.29
2396	374.706	0.156	1.11	77	1.96	101.8	-0.009	493.0	0.05	0.27
2397	374.864	0.158	1.11	77	1.97	102.1	-0.003	431.0	0.04	0.22
2398	375.019	0.155	1.11	77	1.97	101.9	-0.006	436.0	0.04	0.23
2399	375.177	0.158	1.11	77	1.95	102.1	-0.007	407.0	0.04	0.23
2400	375.334	0.157	1.11	77	1.97	102.1	-0.007	379.0	0.04	0.23
2401	375.489	0.155	1.11	77	1.98	102	-0.006	371.0	0.03	0.19
2402	375.647	0.158	1.11	77	1.96	135.5	-0.015	547.0	0.35	2.72
2403	375.803	0.156	1.11	77	1.96	132.4	-0.009	547.0	0.81	5.41
2404	375.960	0.157	1.11	77	1.96	121.9	-0.003	547.0	0.71	4.76
2405	376.117	0.157	1.11	77	1.97	115.2	-0.008	547.0	0.60	4.10
2406	376.273	0.156	1.11	77	1.97	112.9	-0.003	547.0	0.51	3.42
2407	376.430	0.157	1.11	77	1.96	108.8	-0.006	547.0	0.41	2.79
2408	376.586	0.156	1.11	77	1.97	108	-0.007	547.0	0.37	2.46

Train D - Ambient Background and Flue Gas Data**Run:** 4**Test Date:** 2/27/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Tracking No.: 2501

Project No.: 0117WB044E

Meter Box Y Regression Offset: 1.0074

Meter Box Y Regression Factor: 0

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 19:36

Total Sampling Time 2460 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2409	376.743	0.157	1.11	77	1.98	107.5	-0.007	547.0	0.33	2.17
2410	376.900	0.157	1.11	77	1.96	107.4	-0.005	547.0	0.29	1.88
2411	377.056	0.156	1.11	77	1.96	106	-0.010	547.0	0.23	1.52
2412	377.213	0.157	1.11	77	1.96	105.5	-0.012	547.0	0.20	1.24
2413	377.370	0.157	1.11	77	1.96	104.3	-0.008	547.0	0.18	1.17
2414	377.526	0.156	1.11	77	1.95	104.1	-0.009	547.0	0.15	1.00
2415	377.683	0.157	1.11	77	1.96	102.8	-0.013	547.0	0.13	0.88
2416	377.839	0.156	1.11	77	1.96	102.6	-0.013	547.0	0.12	0.76
2417	377.996	0.157	1.11	77	1.96	102.1	-0.008	547.0	0.10	0.66
2418	378.153	0.157	1.11	77	1.97	101.4	-0.008	547.0	0.09	0.59
2419	378.309	0.156	1.11	77	1.96	101.4	-0.010	547.0	0.08	0.50
2420	378.466	0.157	1.11	77	1.96	101.1	-0.007	547.0	0.06	0.46
2421	378.623	0.157	1.11	77	1.97	101.9	-0.009	547.0	0.05	0.40
2422	378.779	0.156	1.11	77	1.96	102	-0.007	547.0	0.05	0.35
2423	378.936	0.157	1.11	77	1.96	101.2	-0.006	500.0	0.05	0.34
2424	379.092	0.156	1.11	77	1.96	100.6	-0.001	440.0	0.04	0.28
2425	379.249	0.157	1.10	77	1.97	101.3	-0.006	410.0	0.03	0.28
2426	379.408	0.159	1.11	77	1.96	100.3	-0.009	376.0	0.03	0.27
2427	379.562	0.154	1.11	77	1.96	99.7	-0.012	320.0	0.01	0.26
2428	379.719	0.157	1.11	77	1.97	99.1	-0.010	313.0	0.03	0.21
2429	379.875	0.156	1.11	77	1.96	98.9	-0.008	286.0	0.03	0.20
2430	380.032	0.157	1.10	77	1.96	98.8	-0.008	268.0	0.03	0.16
2431	380.190	0.158	1.11	77	1.97	99	-0.006	243.0	0.02	0.18
2432	380.345	0.155	1.11	77	1.96	99.8	-0.005	239.0	0.02	0.16
2433	380.503	0.158	1.11	77	1.96	134.6	-0.014	547.0	0.61	6.01
2434	380.659	0.156	1.11	77	1.96	126.3	-0.008	547.0	0.58	4.53
2435	380.815	0.156	1.11	77	1.96	117.3	-0.007	547.0	0.51	3.87
2436	380.973	0.158	1.11	77	1.96	111.9	-0.006	547.0	0.42	3.24
2437	381.128	0.155	1.11	77	1.96	109.2	-0.006	547.0	0.38	2.77
2438	381.288	0.160	1.11	77	1.94	109.8	-0.012	547.0	0.32	2.37
2439	381.443	0.155	1.11	77	1.96	151.7	-0.020	547.0	0.92	7.51
2440	381.598	0.155	1.11	77	1.95	175.1	-0.016	547.0	2.42	7.58
2441	381.756	0.158	1.11	77	1.96	197.6	-0.022	547.0	1.36	11.65
2442	381.912	0.156	1.12	77	1.97	223.5	-0.032	547.0	0.22	15.08
2443	382.068	0.156	1.11	77	1.96	244.3	-0.029	547.0	0.11	15.63
2444	382.226	0.158	1.11	77	1.96	257.6	-0.037	547.0	0.07	15.77

Train D - Ambient Background and Flue Gas Data

Run: 4

Test Date: 2/27/2025

Manufacturer: Central Boiler

Model: Classic Edge 760.1

Meter Box Y Regression Offset: 1.0074

Tracking No.: 2501

Meter Box Y Regression Factor: 0

Project No.: 0117WB044E

Meter Box Dynamic Y: 1.007

Sample Box ID: 335

Test Start Time: 19:36

Total Sampling Time 2460 min

Recording Interval 1 min

Elapsed Time (min)	Ambient Sampling System					Flue Gas Data				
	Meter Volume (ft ³)	Sample Rate (CFM)	Meter ΔH	Meter Temp (°F)	Filter Vac (in. Hg)	Stack Temp (°F)	Draft (In. H ₂ O)	CO (ppm)	CO (%)	CO ₂ (%)
2445	382.381	0.155	1.11	77	1.96	267	-0.030	547.0	0.07	15.89
2446	382.539	0.158	1.11	77	1.96	273.4	-0.041	547.0	0.08	15.90
2447	382.695	0.156	1.11	77	1.97	278.8	-0.035	547.0	0.07	16.02
2448	382.854	0.159	1.11	77	1.96	282.2	-0.035	547.0	0.06	16.00
2449	383.011	0.157	1.11	77	1.97	283.8	-0.033	547.0	0.05	15.39
2450	383.164	0.153	1.11	77	1.96	286.2	-0.027	547.0	0.05	15.38
2451	383.321	0.157	1.10	77	1.96	283.7	-0.033	508.0	0.04	15.38
2452	383.478	0.157	1.11	77	1.96	285.3	-0.032	547.0	0.04	15.59
2453	383.634	0.156	1.10	77	1.97	287.3	-0.034	472.0	0.04	14.96
2454	383.791	0.157	1.11	77	1.96	284.9	-0.041	440.0	0.03	14.94
2455	383.947	0.156	1.11	77	1.97	287	-0.037	448.0	0.04	15.58
2456	384.104	0.157	1.11	77	1.97	291.9	-0.031	411.0	0.04	15.60
2457	384.261	0.157	1.11	77	1.96	292.1	-0.028	366.0	0.03	15.36
2458	384.416	0.155	1.11	77	1.95	288.8	-0.033	331.0	0.03	14.94
2459	384.573	0.157	1.10	77	1.97	290.6	-0.046	537.0	0.04	14.91
2460	384.732	0.159	1.11	77	1.95	297	-0.042	547.0	0.06	14.72

Water Flow Data

ASTM E2618-13

Run: 4Test Date: 2/27/2025Manufacturer: Central BoilerModel: Classic Edge 760.1Tracking No.: 2501Project No.: 0117WB044EBoiler Dry Weight, Lb. 2457Boiler Water Weight, Lb. 2711Test Start Time: 19:36 TI_{avg} - Initial Average Boiler Temp, °F 166.20Total Sampling Time 2460 min TF_{avg} - Final Average Boiler Temp, °F 177.86Recording Interval 1 min

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
Tot / Avg	171.6	172.8	1.20	54.3	172.6	118.28	0.548	1.0012	8.337	4.571	1328853.7
Minimum	157.6	158.8	0.87	52.3	158.7	104.04	0.414	1.0012	8.334	3.452	442.751
Max	183.7	185.0	1.64	57.1	184.8	130.77	0.649	1.0012	8.339	5.409	671.043
0	165.5	166.9	1.31	53.1	166.3	113.22	0.593	1.0012	8.338	4.95	560.9
1	166.9	168.2	1.34	53.1	167.6	114.45	0.593	1.0012	8.338	4.95	567.0
2	167.5	168.7	1.24	53.2	168.5	115.35	0.607	1.0012	8.338	5.06	584.7
3	168.0	169.3	1.27	53.3	169.0	115.65	0.580	1.0012	8.338	4.83	559.6
4	168.7	169.9	1.18	53.4	169.6	116.13	0.552	1.0012	8.338	4.60	535.2
5	169.5	170.7	1.19	53.5	170.2	116.69	0.538	1.0012	8.338	4.49	524.3
6	170.3	171.5	1.23	53.5	171.1	117.58	0.552	1.0012	8.338	4.60	541.8
7	171.3	172.5	1.25	53.6	172.1	118.54	0.552	1.0012	8.338	4.60	546.2
8	172.1	173.4	1.34	53.6	173.0	119.37	0.593	1.0012	8.338	4.95	591.3
9	173.0	174.4	1.38	53.6	173.9	120.33	0.580	1.0012	8.338	4.83	582.2
10	174.0	175.2	1.21	53.6	174.8	121.21	0.552	1.0012	8.338	4.60	558.6
11	174.8	176.0	1.19	53.7	175.6	121.92	0.524	1.0012	8.338	4.37	533.7
12	175.8	177.1	1.28	53.7	176.6	122.91	0.524	1.0012	8.338	4.37	538.0
13	176.7	178.0	1.25	53.7	177.5	123.74	0.524	1.0012	8.338	4.37	541.7
14	177.6	178.9	1.28	53.8	178.4	124.59	0.524	1.0012	8.338	4.37	545.4
15	178.4	179.6	1.24	53.8	179.3	125.50	0.511	1.0012	8.338	4.26	534.9
16	179.5	180.8	1.30	53.9	180.3	126.40	0.524	1.0012	8.338	4.37	553.3
17	180.1	181.4	1.28	53.9	181.0	127.11	0.524	1.0012	8.338	4.37	556.5
18	180.4	181.6	1.25	53.9	181.4	127.49	0.511	1.0012	8.338	4.26	543.4
19	180.4	181.7	1.26	53.9	181.5	127.56	0.511	1.0012	8.338	4.26	543.7
20	180.5	181.8	1.28	53.9	181.6	127.64	0.524	1.0012	8.338	4.37	558.8
21	180.6	181.9	1.27	53.9	181.7	127.75	0.511	1.0012	8.338	4.26	544.5
22	180.6	181.9	1.26	53.9	181.7	127.83	0.511	1.0012	8.338	4.26	544.9
23	180.8	182.0	1.17	53.9	181.8	127.83	0.497	1.0012	8.338	4.14	530.1
24	180.6	181.9	1.26	53.9	181.8	127.82	0.511	1.0012	8.338	4.26	544.8
25	180.7	182.0	1.25	53.9	181.8	127.86	0.511	1.0012	8.338	4.26	545.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
26	180.6	181.9	1.26	53.9	181.8	127.84	0.511	1.0012	8.338	4.26	544.9
27	180.6	181.9	1.25	54.0	181.7	127.77	0.511	1.0012	8.338	4.26	544.6
28	180.5	181.8	1.23	53.9	181.7	127.76	0.511	1.0012	8.338	4.26	544.5
29	180.5	181.8	1.24	54.0	181.7	127.73	0.511	1.0012	8.338	4.26	544.4
30	180.5	181.7	1.25	54.0	181.5	127.58	0.511	1.0012	8.338	4.26	543.8
31	180.4	181.7	1.27	54.0	181.5	127.54	0.511	1.0012	8.338	4.26	543.6
32	180.4	181.7	1.26	54.0	181.5	127.58	0.511	1.0012	8.338	4.26	543.8
33	180.3	181.6	1.23	54.0	181.5	127.51	0.511	1.0012	8.338	4.26	543.5
34	180.3	181.5	1.26	54.0	181.4	127.40	0.511	1.0012	8.338	4.26	543.0
35	180.1	181.4	1.23	54.0	181.2	127.26	0.511	1.0012	8.338	4.26	542.4
36	180.1	181.4	1.24	54.0	181.2	127.25	0.511	1.0012	8.338	4.26	542.4
37	180.1	181.3	1.24	54.0	181.1	127.12	0.511	1.0012	8.338	4.26	541.8
38	180.0	181.2	1.24	54.0	181.1	127.05	0.511	1.0012	8.338	4.26	541.5
39	179.9	181.1	1.23	54.0	181.0	126.95	0.497	1.0012	8.338	4.14	526.5
40	179.8	181.0	1.23	54.1	180.9	126.72	0.511	1.0012	8.337	4.26	540.1
41	179.7	180.9	1.22	54.3	180.8	126.47	0.524	1.0012	8.337	4.37	553.6
42	179.6	180.9	1.22	54.5	180.7	126.22	0.497	1.0012	8.337	4.14	523.4
43	179.5	180.8	1.24	54.7	180.6	125.94	0.524	1.0012	8.337	4.37	551.2
44	179.4	180.6	1.23	54.8	180.5	125.66	0.511	1.0012	8.337	4.26	535.5
45	179.4	180.6	1.23	55.0	180.4	125.47	0.497	1.0012	8.337	4.14	520.3
46	179.4	180.5	1.14	55.1	180.4	125.26	0.497	1.0012	8.336	4.14	519.4
47	179.2	180.4	1.23	55.2	180.3	125.03	0.511	1.0012	8.336	4.26	532.8
48	179.1	180.2	1.19	55.3	180.1	124.89	0.511	1.0012	8.336	4.26	532.2
49	179.0	180.2	1.19	55.2	180.0	124.86	0.511	1.0012	8.336	4.26	532.1
50	178.9	180.1	1.20	55.0	179.9	124.93	0.511	1.0012	8.337	4.26	532.4
51	178.8	180.0	1.19	54.9	179.9	124.95	0.511	1.0012	8.337	4.26	532.5
52	178.7	179.9	1.18	54.8	179.8	124.94	0.511	1.0012	8.337	4.26	532.5
53	178.5	179.7	1.19	54.8	179.6	124.78	0.497	1.0012	8.337	4.14	517.4
54	178.5	179.7	1.19	54.8	179.5	124.77	0.511	1.0012	8.337	4.26	531.7
55	178.3	179.5	1.18	54.8	179.4	124.64	0.511	1.0012	8.337	4.26	531.2
56	178.3	179.5	1.20	54.7	179.3	124.54	0.511	1.0012	8.337	4.26	530.8
57	178.1	179.2	1.17	54.7	179.2	124.47	0.511	1.0012	8.337	4.26	530.5
58	178.1	179.2	1.18	54.7	179.1	124.40	0.511	1.0012	8.337	4.26	530.2
59	177.9	179.1	1.17	54.7	179.0	124.31	0.511	1.0012	8.337	4.26	529.8
60	177.8	179.0	1.19	54.7	178.8	124.17	0.511	1.0012	8.337	4.26	529.2
61	177.7	178.9	1.18	54.6	178.7	124.11	0.497	1.0012	8.337	4.14	514.7
62	177.5	178.7	1.19	54.6	178.6	123.97	0.511	1.0012	8.337	4.26	528.3
63	177.4	178.6	1.19	54.6	178.5	123.91	0.511	1.0012	8.337	4.26	528.1
64	177.4	178.5	1.17	54.5	178.4	123.85	0.511	1.0012	8.337	4.26	527.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
65	177.2	178.4	1.15	54.5	178.3	123.81	0.511	1.0012	8.337	4.26	527.7
66	177.1	178.3	1.17	54.5	178.1	123.69	0.511	1.0012	8.337	4.26	527.2
67	176.9	178.1	1.18	54.4	178.0	123.58	0.511	1.0012	8.337	4.26	526.7
68	176.8	178.0	1.18	54.4	177.9	123.48	0.511	1.0012	8.337	4.26	526.3
69	176.7	177.8	1.15	54.4	177.7	123.38	0.511	1.0012	8.337	4.26	525.9
70	176.6	177.7	1.18	54.3	177.6	123.26	0.497	1.0012	8.337	4.14	511.1
71	176.4	177.6	1.15	54.3	177.5	123.17	0.511	1.0012	8.337	4.26	525.0
72	176.3	177.5	1.17	54.3	177.3	123.04	0.511	1.0012	8.337	4.26	524.4
73	176.2	177.3	1.15	54.3	177.3	122.96	0.511	1.0012	8.337	4.26	524.1
74	176.1	177.2	1.16	54.3	177.1	122.81	0.511	1.0012	8.337	4.26	523.4
75	175.9	177.0	1.16	54.3	176.9	122.64	0.511	1.0012	8.337	4.26	522.7
76	175.8	177.0	1.16	54.3	176.8	122.53	0.497	1.0012	8.337	4.14	508.1
77	175.6	176.8	1.16	54.3	176.7	122.42	0.511	1.0012	8.337	4.26	521.8
78	175.5	176.7	1.14	54.3	176.6	122.31	0.511	1.0012	8.337	4.26	521.3
79	175.5	176.6	1.13	54.3	176.5	122.20	0.511	1.0012	8.337	4.26	520.9
80	175.3	176.5	1.15	54.3	176.3	122.05	0.511	1.0012	8.337	4.26	520.2
81	175.1	176.3	1.14	54.3	176.2	121.90	0.511	1.0012	8.337	4.26	519.5
82	175.0	176.2	1.14	54.3	176.0	121.73	0.511	1.0012	8.337	4.26	518.8
83	174.8	176.0	1.14	54.2	175.9	121.63	0.511	1.0012	8.337	4.26	518.4
84	174.8	175.9	1.12	54.2	175.8	121.54	0.511	1.0012	8.337	4.26	518.0
85	174.6	175.8	1.15	54.2	175.6	121.41	0.497	1.0012	8.337	4.14	503.5
86	174.5	175.6	1.11	54.2	175.5	121.28	0.511	1.0012	8.337	4.26	516.9
87	174.3	175.5	1.13	54.2	175.4	121.14	0.511	1.0012	8.337	4.26	516.3
88	174.3	175.4	1.13	54.2	175.3	121.05	0.511	1.0012	8.337	4.26	515.9
89	174.3	175.4	1.12	54.2	175.2	121.03	0.511	1.0012	8.337	4.26	515.9
90	174.1	175.2	1.09	54.2	175.1	120.90	0.511	1.0012	8.337	4.26	515.3
91	174.0	175.1	1.12	54.2	174.9	120.68	0.497	1.0012	8.337	4.14	500.4
92	173.6	174.9	1.34	54.2	174.8	120.61	0.566	1.0012	8.337	4.72	569.6
93	173.4	174.8	1.35	54.2	174.7	120.51	0.593	1.0012	8.337	4.95	596.9
94	173.4	174.7	1.37	54.2	174.6	120.42	0.607	1.0012	8.337	5.06	610.4
95	173.2	174.5	1.37	54.2	174.4	120.24	0.607	1.0012	8.337	5.06	609.5
96	173.0	174.4	1.37	54.1	174.2	120.11	0.607	1.0012	8.337	5.06	608.8
97	172.8	174.2	1.36	54.1	174.1	119.96	0.607	1.0012	8.337	5.06	608.1
98	172.7	174.0	1.35	54.1	174.0	119.88	0.607	1.0012	8.337	5.06	607.6
99	172.5	173.9	1.38	54.1	173.7	119.62	0.607	1.0012	8.337	5.06	606.3
100	172.3	173.6	1.36	54.0	173.6	119.54	0.607	1.0012	8.337	5.06	605.9
101	172.2	173.5	1.37	54.0	173.4	119.34	0.607	1.0012	8.338	5.06	604.9
102	172.1	173.3	1.23	54.0	173.2	119.18	0.580	1.0012	8.338	4.83	576.6
103	171.9	173.1	1.19	54.0	173.0	118.95	0.552	1.0012	8.338	4.60	548.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
104	171.8	173.0	1.16	54.1	172.9	118.80	0.552	1.0012	8.337	4.60	547.4
105	171.7	172.8	1.18	54.1	172.8	118.69	0.538	1.0012	8.337	4.49	533.2
106	171.6	172.7	1.16	54.1	172.6	118.56	0.552	1.0012	8.337	4.60	546.3
107	171.4	172.6	1.18	54.1	172.4	118.35	0.552	1.0012	8.337	4.60	545.3
108	171.3	172.4	1.15	54.1	172.4	118.28	0.538	1.0012	8.337	4.49	531.4
109	171.1	172.2	1.17	54.1	172.1	118.04	0.552	1.0012	8.337	4.60	543.9
110	170.9	172.1	1.18	54.1	172.0	117.85	0.538	1.0012	8.337	4.49	529.5
111	170.8	172.0	1.15	54.1	171.8	117.69	0.538	1.0012	8.337	4.49	528.7
112	170.6	171.8	1.15	54.1	171.7	117.58	0.552	1.0012	8.337	4.60	541.8
113	170.5	171.7	1.17	54.1	171.5	117.41	0.538	1.0012	8.337	4.49	527.5
114	170.3	171.4	1.14	54.1	171.3	117.26	0.552	1.0012	8.337	4.60	540.3
115	170.2	171.4	1.14	54.1	171.2	117.12	0.538	1.0012	8.337	4.49	526.2
116	170.0	171.2	1.13	54.1	171.1	116.98	0.538	1.0012	8.337	4.49	525.5
117	169.8	171.0	1.12	54.1	170.9	116.82	0.552	1.0012	8.337	4.60	538.3
118	169.8	170.9	1.11	54.1	170.8	116.74	0.538	1.0012	8.337	4.49	524.5
119	169.6	170.8	1.12	54.1	170.7	116.54	0.538	1.0012	8.337	4.49	523.6
120	169.7	170.8	1.10	54.3	170.7	116.38	0.538	1.0012	8.337	4.49	522.8
121	169.5	170.6	1.10	54.5	170.5	116.01	0.552	1.0012	8.337	4.60	534.5
122	169.4	170.5	1.09	54.7	170.4	115.72	0.538	1.0012	8.337	4.49	519.9
123	169.1	170.3	1.13	54.8	170.1	115.34	0.552	1.0012	8.337	4.60	531.4
124	169.0	170.1	1.12	55.0	170.0	115.07	0.538	1.0012	8.337	4.49	516.9
125	168.8	169.9	1.11	55.1	169.9	114.76	0.538	1.0012	8.336	4.49	515.5
126	168.7	169.8	1.11	55.2	169.7	114.47	0.552	1.0012	8.336	4.60	527.4
127	168.6	169.7	1.08	55.3	169.6	114.26	0.538	1.0012	8.336	4.49	513.2
128	168.4	169.5	1.08	55.4	169.4	114.02	0.538	1.0012	8.336	4.49	512.2
129	168.3	169.4	1.09	55.3	169.3	113.98	0.552	1.0012	8.336	4.60	525.1
130	168.1	169.2	1.08	55.1	169.1	113.99	0.538	1.0012	8.336	4.49	512.1
131	168.0	169.1	1.09	55.0	169.0	113.99	0.552	1.0012	8.337	4.60	525.2
132	167.9	169.0	1.09	54.9	168.9	113.98	0.538	1.0012	8.337	4.49	512.0
133	167.7	168.7	1.09	54.8	168.6	113.82	0.538	1.0012	8.337	4.49	511.3
134	167.5	168.6	1.09	54.7	168.5	113.76	0.538	1.0012	8.337	4.49	511.0
135	167.5	168.5	1.09	54.7	168.4	113.73	0.538	1.0012	8.337	4.49	510.9
136	167.3	168.4	1.06	54.6	168.3	113.65	0.552	1.0012	8.337	4.60	523.7
137	167.2	168.2	1.05	54.6	168.2	113.57	0.538	1.0012	8.337	4.49	510.2
138	167.1	168.2	1.07	54.6	168.1	113.53	0.538	1.0012	8.337	4.49	510.0
139	166.9	168.0	1.07	54.5	167.8	113.31	0.552	1.0012	8.337	4.60	522.1
140	166.7	167.8	1.09	54.5	167.7	113.19	0.538	1.0012	8.337	4.49	508.5
141	166.6	167.6	1.06	54.4	167.5	113.11	0.538	1.0012	8.337	4.49	508.2
142	166.4	167.4	1.06	54.4	167.4	112.99	0.538	1.0012	8.337	4.49	507.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
143	166.3	167.3	1.06	54.3	167.2	112.86	0.538	1.0012	8.337	4.49	507.0
144	166.2	167.2	1.06	54.3	167.1	112.80	0.552	1.0012	8.337	4.60	519.8
145	165.9	167.0	1.08	54.3	166.9	112.63	0.538	1.0012	8.337	4.49	506.0
146	165.8	166.9	1.07	54.2	166.7	112.50	0.538	1.0012	8.337	4.49	505.4
147	165.7	166.7	1.06	54.2	166.6	112.45	0.538	1.0012	8.337	4.49	505.2
148	165.6	166.7	1.04	54.2	166.6	112.42	0.552	1.0012	8.337	4.60	518.0
149	165.4	166.4	1.06	54.1	166.3	112.17	0.538	1.0012	8.337	4.49	503.9
150	165.3	166.3	1.03	54.1	166.3	112.15	0.538	1.0012	8.337	4.49	503.9
151	165.2	166.3	1.06	54.1	166.1	112.04	0.538	1.0012	8.337	4.49	503.4
152	165.1	166.1	1.02	54.1	166.1	112.00	0.552	1.0012	8.337	4.60	516.1
153	165.0	166.0	1.04	54.1	165.9	111.83	0.538	1.0012	8.337	4.49	502.4
154	164.6	165.9	1.28	54.0	165.7	111.70	0.580	1.0012	8.338	4.83	540.5
155	164.4	165.7	1.33	54.0	165.6	111.60	0.649	1.0012	8.338	5.41	604.2
156	164.3	165.6	1.31	54.0	165.4	111.47	0.635	1.0012	8.338	5.29	590.7
157	164.1	165.4	1.31	53.9	165.3	111.36	0.649	1.0012	8.338	5.41	602.9
158	163.9	165.2	1.34	53.9	165.0	111.18	0.635	1.0012	8.338	5.29	589.2
159	163.8	165.1	1.32	53.8	164.9	111.12	0.649	1.0012	8.338	5.41	601.6
160	163.6	164.9	1.31	53.8	164.7	110.94	0.635	1.0012	8.338	5.29	587.9
161	163.4	164.7	1.31	53.7	164.5	110.79	0.649	1.0012	8.338	5.41	599.9
162	163.2	164.5	1.29	53.7	164.4	110.73	0.649	1.0012	8.338	5.41	599.5
163	163.0	164.3	1.30	53.7	164.2	110.48	0.635	1.0012	8.338	5.29	585.5
164	162.8	164.1	1.29	53.7	164.0	110.34	0.649	1.0012	8.338	5.41	597.4
165	162.7	164.0	1.25	53.7	163.9	110.25	0.635	1.0012	8.338	5.29	584.2
166	162.5	163.8	1.28	53.7	163.7	110.00	0.649	1.0012	8.338	5.41	595.6
167	162.4	163.6	1.26	53.8	163.6	109.71	0.649	1.0012	8.338	5.41	594.0
168	162.2	163.5	1.29	54.1	163.4	109.30	0.635	1.0012	8.337	5.29	579.2
169	162.1	163.4	1.27	54.2	163.3	109.08	0.649	1.0012	8.337	5.41	590.6
170	161.8	163.1	1.25	54.3	163.1	108.77	0.635	1.0012	8.337	5.29	576.3
171	161.7	163.0	1.28	54.4	162.8	108.42	0.649	1.0012	8.337	5.41	587.0
172	161.5	162.8	1.25	54.5	162.7	108.18	0.635	1.0012	8.337	5.29	573.2
173	161.3	162.5	1.24	54.6	162.4	107.88	0.649	1.0012	8.337	5.41	584.0
174	161.2	162.4	1.24	54.7	162.3	107.60	0.635	1.0012	8.337	5.29	570.1
175	161.1	162.3	1.26	54.8	162.2	107.40	0.649	1.0012	8.337	5.41	581.5
176	160.9	162.1	1.23	54.8	162.0	107.28	0.649	1.0012	8.337	5.41	580.8
177	160.7	161.9	1.24	54.6	161.8	107.15	0.635	1.0012	8.337	5.29	567.8
178	160.5	161.7	1.22	54.5	161.7	107.20	0.649	1.0012	8.337	5.41	580.4
179	160.3	161.6	1.22	54.3	161.4	107.14	0.635	1.0012	8.337	5.29	567.7
180	160.2	161.4	1.23	54.2	161.3	107.05	0.649	1.0012	8.337	5.41	579.6
181	160.0	161.3	1.25	54.1	161.1	106.98	0.635	1.0012	8.337	5.29	566.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
182	159.9	161.2	1.27	54.1	161.1	107.00	0.649	1.0012	8.337	5.41	579.3
183	159.8	161.0	1.25	54.0	160.9	106.96	0.635	1.0012	8.338	5.29	566.8
184	159.6	160.9	1.24	53.9	160.8	106.82	0.649	1.0012	8.338	5.41	578.4
185	159.4	160.6	1.19	53.9	160.6	106.72	0.635	1.0012	8.338	5.29	565.5
186	159.3	160.5	1.22	53.8	160.4	106.63	0.649	1.0012	8.338	5.41	577.3
187	159.1	160.4	1.24	53.8	160.2	106.45	0.635	1.0012	8.338	5.29	564.1
188	158.9	160.2	1.22	53.7	160.1	106.34	0.649	1.0012	8.338	5.41	575.8
189	158.8	160.0	1.21	53.7	159.9	106.26	0.635	1.0012	8.338	5.29	563.1
190	158.7	159.9	1.23	53.6	159.8	106.20	0.649	1.0012	8.338	5.41	575.1
191	158.5	159.7	1.21	53.5	159.6	106.05	0.635	1.0012	8.338	5.29	562.0
192	158.3	159.5	1.20	53.5	159.4	105.92	0.649	1.0012	8.338	5.41	573.5
193	158.2	159.4	1.19	53.5	159.3	105.83	0.635	1.0012	8.338	5.29	560.8
194	158.0	159.2	1.19	53.4	159.0	105.62	0.649	1.0012	8.338	5.41	571.9
195	158.1	159.3	1.24	53.4	159.0	105.63	0.635	1.0012	8.338	5.29	559.8
196	159.2	160.5	1.25	53.4	160.0	106.64	0.649	1.0012	8.338	5.41	577.4
197	159.9	161.2	1.25	53.3	160.8	107.49	0.635	1.0012	8.338	5.29	569.6
198	160.6	161.9	1.24	53.3	161.6	108.22	0.649	1.0012	8.338	5.41	586.0
199	161.2	162.5	1.32	53.3	162.2	108.84	0.635	1.0012	8.338	5.29	576.8
200	162.1	163.4	1.34	53.3	162.9	109.60	0.635	1.0012	8.338	5.29	580.8
201	162.8	164.1	1.32	53.3	163.7	110.39	0.649	1.0012	8.338	5.41	597.7
202	163.5	164.8	1.38	53.3	164.5	111.26	0.635	1.0012	8.338	5.29	589.6
203	164.4	165.7	1.37	53.3	165.4	112.16	0.635	1.0012	8.338	5.29	594.4
204	165.3	166.7	1.42	53.3	166.2	112.97	0.649	1.0012	8.338	5.41	611.7
205	166.1	167.6	1.44	53.2	167.2	113.91	0.635	1.0012	8.338	5.29	603.7
206	167.0	168.4	1.40	53.2	168.1	114.83	0.649	1.0012	8.338	5.41	621.8
207	167.9	169.3	1.42	53.2	169.0	115.78	0.635	1.0012	8.338	5.29	613.6
208	168.8	170.2	1.43	53.2	169.9	116.67	0.635	1.0012	8.338	5.29	618.3
209	169.6	171.1	1.47	53.2	170.9	117.64	0.649	1.0012	8.338	5.41	637.0
210	170.7	172.2	1.49	53.2	171.7	118.49	0.635	1.0012	8.338	5.29	627.9
211	171.6	173.1	1.52	53.2	172.7	119.48	0.635	1.0012	8.338	5.29	633.2
212	172.5	174.0	1.54	53.4	173.5	120.15	0.635	1.0012	8.338	5.29	636.7
213	173.5	175.0	1.51	53.6	174.6	121.08	0.635	1.0012	8.338	5.29	641.7
214	174.3	175.9	1.54	53.7	175.6	121.85	0.635	1.0012	8.338	5.29	645.7
215	175.4	176.9	1.53	53.9	176.6	122.70	0.635	1.0012	8.338	5.29	650.2
216	176.1	177.7	1.59	54.0	177.3	123.38	0.621	1.0012	8.338	5.18	639.6
217	177.0	178.6	1.59	54.1	178.3	124.19	0.635	1.0012	8.337	5.29	658.1
218	178.1	179.6	1.56	54.2	179.3	125.04	0.621	1.0012	8.337	5.18	648.2
219	179.2	180.6	1.37	54.3	180.2	125.86	0.538	1.0012	8.337	4.49	565.5
220	180.0	181.4	1.33	54.5	181.0	126.53	0.538	1.0012	8.337	4.49	568.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
221	180.4	181.7	1.38	54.6	181.3	126.68	0.538	1.0012	8.337	4.49	569.1
222	180.7	182.0	1.31	54.8	181.8	127.03	0.524	1.0012	8.337	4.37	556.0
223	180.9	182.2	1.31	54.8	182.0	127.22	0.538	1.0012	8.337	4.49	571.5
224	181.0	182.4	1.35	54.7	182.2	127.46	0.538	1.0012	8.337	4.49	572.6
225	181.2	182.5	1.34	54.6	182.3	127.72	0.524	1.0012	8.337	4.37	559.1
226	181.2	182.6	1.34	54.4	182.3	127.92	0.538	1.0012	8.337	4.49	574.7
227	181.3	182.6	1.35	54.3	182.4	128.10	0.524	1.0012	8.337	4.37	560.7
228	181.3	182.7	1.33	54.3	182.5	128.21	0.538	1.0012	8.337	4.49	576.0
229	181.4	182.7	1.34	54.2	182.5	128.32	0.538	1.0012	8.337	4.49	576.5
230	181.3	182.7	1.35	54.2	182.5	128.36	0.524	1.0012	8.337	4.37	561.9
231	181.3	182.7	1.36	54.1	182.5	128.37	0.524	1.0012	8.337	4.37	561.9
232	181.3	182.6	1.34	54.1	182.5	128.39	0.538	1.0012	8.337	4.49	576.8
233	181.3	182.6	1.32	54.1	182.5	128.36	0.524	1.0012	8.337	4.37	561.9
234	181.2	182.6	1.36	54.0	182.4	128.36	0.538	1.0012	8.337	4.49	576.7
235	181.2	182.5	1.33	54.0	182.4	128.44	0.538	1.0012	8.338	4.49	577.0
236	181.3	182.6	1.34	54.0	182.4	128.44	0.524	1.0012	8.338	4.37	562.3
237	181.2	182.6	1.33	53.9	182.4	128.48	0.538	1.0012	8.338	4.49	577.2
238	181.1	182.5	1.33	53.9	182.3	128.41	0.524	1.0012	8.338	4.37	562.1
239	181.3	182.4	1.12	53.9	182.3	128.38	0.483	1.0012	8.338	4.03	517.6
240	181.3	182.3	1.07	53.9	182.2	128.33	0.428	1.0012	8.338	3.57	458.3
241	181.3	182.3	1.00	53.9	182.1	128.22	0.428	1.0012	8.338	3.57	457.9
242	181.2	182.2	1.06	53.9	182.1	128.11	0.414	1.0012	8.338	3.45	442.8
243	181.1	182.2	1.07	53.9	182.0	128.07	0.442	1.0012	8.338	3.68	472.1
244	181.2	182.2	1.03	53.9	182.0	128.08	0.428	1.0012	8.338	3.57	457.4
245	181.1	182.1	1.05	54.0	182.0	128.04	0.442	1.0012	8.338	3.68	472.0
246	181.1	182.1	1.05	54.0	182.0	128.02	0.428	1.0012	8.338	3.57	457.2
247	181.1	182.1	1.05	54.0	181.9	127.98	0.428	1.0012	8.338	3.57	457.0
248	180.9	182.0	1.04	54.0	181.9	127.90	0.428	1.0012	8.338	3.57	456.8
249	180.7	181.8	1.14	54.0	181.7	127.76	0.455	1.0012	8.338	3.80	485.7
250	180.7	181.8	1.14	54.0	181.7	127.73	0.469	1.0012	8.338	3.91	500.3
251	180.6	181.8	1.17	54.0	181.6	127.65	0.469	1.0012	8.338	3.91	500.0
252	180.6	181.8	1.15	54.0	181.6	127.61	0.483	1.0012	8.338	4.03	514.5
253	180.5	181.7	1.13	54.0	181.5	127.56	0.469	1.0012	8.338	3.91	499.6
254	180.5	181.6	1.13	54.0	181.4	127.46	0.469	1.0012	8.338	3.91	499.2
255	180.3	181.4	1.12	54.1	181.3	127.25	0.483	1.0012	8.337	4.03	513.1
256	180.3	181.4	1.13	54.3	181.2	126.93	0.469	1.0012	8.337	3.91	497.1
257	180.1	181.2	1.15	54.5	181.1	126.64	0.469	1.0012	8.337	3.91	496.0
258	180.1	181.2	1.13	54.7	181.1	126.43	0.469	1.0012	8.337	3.91	495.1
259	180.0	181.1	1.11	54.8	181.0	126.19	0.469	1.0012	8.337	3.91	494.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
260	179.9	181.0	1.13	54.9	180.9	125.95	0.483	1.0012	8.337	4.03	507.8
261	179.8	181.0	1.13	55.1	180.8	125.74	0.469	1.0012	8.337	3.91	492.4
262	179.8	180.9	1.13	55.2	180.7	125.55	0.469	1.0012	8.336	3.91	491.7
263	179.7	180.8	1.12	55.3	180.7	125.37	0.469	1.0012	8.336	3.91	491.0
264	179.6	180.7	1.12	55.4	180.5	125.14	0.469	1.0012	8.336	3.91	490.1
265	179.5	180.7	1.12	55.5	180.5	124.97	0.469	1.0012	8.336	3.91	489.4
266	179.3	180.4	1.10	55.5	180.3	124.78	0.469	1.0012	8.336	3.91	488.6
267	179.3	180.4	1.08	55.4	180.3	124.95	0.469	1.0012	8.336	3.91	489.3
268	179.2	180.3	1.11	55.2	180.1	124.94	0.469	1.0012	8.336	3.91	489.3
269	179.1	180.2	1.10	55.0	180.1	125.04	0.469	1.0012	8.337	3.91	489.7
270	179.0	180.1	1.13	54.9	179.9	124.98	0.469	1.0012	8.337	3.91	489.5
271	178.9	180.0	1.11	54.8	179.8	124.95	0.469	1.0012	8.337	3.91	489.3
272	178.8	179.9	1.10	54.8	179.7	124.96	0.469	1.0012	8.337	3.91	489.4
273	178.6	179.7	1.10	54.7	179.6	124.92	0.455	1.0012	8.337	3.80	474.9
274	178.6	179.6	1.07	54.7	179.5	124.85	0.469	1.0012	8.337	3.91	488.9
275	178.4	179.5	1.11	54.6	179.3	124.72	0.469	1.0012	8.337	3.91	488.5
276	178.3	179.4	1.11	54.5	179.2	124.69	0.469	1.0012	8.337	3.91	488.4
277	178.2	179.3	1.12	54.5	179.2	124.67	0.469	1.0012	8.337	3.91	488.3
278	178.1	179.2	1.09	54.5	179.1	124.60	0.469	1.0012	8.337	3.91	488.0
279	178.0	179.1	1.09	54.4	179.0	124.53	0.469	1.0012	8.337	3.91	487.7
280	178.0	179.0	1.09	54.4	178.9	124.47	0.455	1.0012	8.337	3.80	473.2
281	177.7	178.8	1.10	54.3	178.7	124.40	0.469	1.0012	8.337	3.91	487.2
282	177.7	178.8	1.09	54.3	178.7	124.40	0.469	1.0012	8.337	3.91	487.2
283	177.5	178.6	1.10	54.3	178.5	124.22	0.469	1.0012	8.337	3.91	486.5
284	177.5	178.5	1.06	54.2	178.4	124.18	0.455	1.0012	8.337	3.80	472.1
285	177.3	178.3	1.06	54.2	178.2	123.99	0.469	1.0012	8.337	3.91	485.6
286	177.2	178.2	1.06	54.4	178.1	123.76	0.469	1.0012	8.337	3.91	484.7
287	177.1	178.1	1.06	54.6	178.0	123.43	0.469	1.0012	8.337	3.91	483.4
288	177.0	178.1	1.08	54.8	177.9	123.13	0.469	1.0012	8.337	3.91	482.2
289	176.8	177.9	1.07	54.9	177.8	122.87	0.469	1.0012	8.337	3.91	481.2
290	176.7	177.7	1.04	55.0	177.6	122.63	0.469	1.0012	8.337	3.91	480.3
291	176.6	177.7	1.05	55.1	177.5	122.40	0.469	1.0012	8.336	3.91	479.4
292	176.6	177.6	1.06	55.3	177.4	122.17	0.455	1.0012	8.336	3.80	464.3
293	176.4	177.5	1.05	55.4	177.4	121.99	0.469	1.0012	8.336	3.91	477.7
294	176.3	177.4	1.05	55.5	177.2	121.71	0.469	1.0012	8.336	3.91	476.6
295	176.2	177.2	1.04	55.6	177.1	121.53	0.469	1.0012	8.336	3.91	475.9
296	176.1	177.1	1.06	55.5	177.0	121.43	0.469	1.0012	8.336	3.91	475.5
297	175.9	177.0	1.03	55.4	176.8	121.48	0.469	1.0012	8.336	3.91	475.7
298	175.8	176.8	1.02	55.2	176.7	121.53	0.469	1.0012	8.336	3.91	475.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
299	175.7	176.7	1.03	55.1	176.6	121.50	0.469	1.0012	8.337	3.91	475.8
300	175.5	176.5	1.03	55.0	176.4	121.45	0.469	1.0012	8.337	3.91	475.6
301	175.5	176.5	1.04	54.9	176.3	121.44	0.455	1.0012	8.337	3.80	461.6
302	175.3	176.4	1.05	54.8	176.2	121.37	0.469	1.0012	8.337	3.91	475.3
303	175.2	176.2	1.02	54.8	176.1	121.34	0.469	1.0012	8.337	3.91	475.2
304	175.1	176.2	1.04	54.7	176.0	121.26	0.469	1.0012	8.337	3.91	474.9
305	174.9	175.9	1.02	54.7	175.9	121.19	0.469	1.0012	8.337	3.91	474.6
306	174.8	175.8	1.03	54.6	175.7	121.12	0.469	1.0012	8.337	3.91	474.3
307	174.7	175.8	1.04	54.6	175.6	121.06	0.469	1.0012	8.337	3.91	474.1
308	174.6	175.6	1.03	54.5	175.5	120.95	0.469	1.0012	8.337	3.91	473.7
309	174.5	175.6	1.02	54.5	175.4	120.90	0.455	1.0012	8.337	3.80	459.6
310	174.4	175.4	1.04	54.4	175.2	120.78	0.469	1.0012	8.337	3.91	473.0
311	174.1	175.2	1.17	54.4	175.1	120.78	0.524	1.0012	8.337	4.37	528.7
312	173.9	175.1	1.21	54.3	175.0	120.68	0.538	1.0012	8.337	4.49	542.2
313	173.8	175.0	1.19	54.2	174.9	120.66	0.538	1.0012	8.337	4.49	542.1
314	173.7	174.9	1.20	54.2	174.7	120.59	0.524	1.0012	8.337	4.37	527.9
315	173.5	174.7	1.18	54.1	174.6	120.55	0.538	1.0012	8.337	4.49	541.6
316	173.4	174.6	1.20	54.0	174.4	120.41	0.538	1.0012	8.338	4.49	541.0
317	173.3	174.5	1.16	53.9	174.3	120.39	0.538	1.0012	8.338	4.49	540.9
318	173.1	174.3	1.18	54.0	174.2	120.12	0.524	1.0012	8.337	4.37	525.8
319	172.9	174.0	1.19	54.2	174.0	119.78	0.538	1.0012	8.337	4.49	538.1
320	172.8	174.0	1.16	54.4	173.9	119.50	0.538	1.0012	8.337	4.49	536.9
321	172.6	173.8	1.20	54.5	173.6	119.14	0.538	1.0012	8.337	4.49	535.2
322	172.5	173.7	1.16	54.6	173.6	118.95	0.538	1.0012	8.337	4.49	534.4
323	172.3	173.5	1.17	54.7	173.4	118.68	0.538	1.0012	8.337	4.49	533.1
324	172.3	173.5	1.17	54.8	173.3	118.48	0.524	1.0012	8.337	4.37	518.6
325	172.1	173.3	1.15	54.9	173.2	118.23	0.538	1.0012	8.337	4.49	531.1
326	172.0	173.1	1.11	55.0	173.0	117.96	0.538	1.0012	8.337	4.49	529.9
327	171.8	172.9	1.14	55.1	172.8	117.69	0.538	1.0012	8.336	4.49	528.7
328	171.6	172.8	1.16	55.2	172.6	117.41	0.552	1.0012	8.336	4.60	541.0
329	171.5	172.7	1.17	55.3	172.5	117.18	0.538	1.0012	8.336	4.49	526.4
330	171.4	172.6	1.14	55.4	172.4	117.06	0.538	1.0012	8.336	4.49	525.8
331	171.3	172.4	1.13	55.4	172.2	116.82	0.538	1.0012	8.336	4.49	524.8
332	171.0	172.2	1.15	55.5	172.1	116.55	0.538	1.0012	8.336	4.49	523.5
333	170.9	172.0	1.11	55.6	171.9	116.35	0.538	1.0012	8.336	4.49	522.6
334	170.8	171.9	1.09	55.6	171.9	116.24	0.524	1.0012	8.336	4.37	508.7
335	170.8	171.9	1.10	55.7	171.8	116.09	0.538	1.0012	8.336	4.49	521.4
336	170.5	171.6	1.12	55.7	171.5	115.80	0.552	1.0012	8.336	4.60	533.5
337	170.4	171.5	1.08	55.7	171.4	115.65	0.538	1.0012	8.336	4.49	519.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
338	170.2	171.3	1.13	55.7	171.1	115.41	0.538	1.0012	8.336	4.49	518.4
339	170.0	171.1	1.10	55.6	171.0	115.49	0.538	1.0012	8.336	4.49	518.8
340	169.9	171.0	1.11	55.3	170.8	115.54	0.538	1.0012	8.336	4.49	519.0
341	169.7	170.8	1.10	55.1	170.7	115.65	0.538	1.0012	8.337	4.49	519.5
342	169.7	170.8	1.09	54.9	170.6	115.73	0.538	1.0012	8.337	4.49	519.9
343	169.5	170.5	1.09	54.8	170.5	115.71	0.538	1.0012	8.337	4.49	519.8
344	169.3	170.4	1.10	54.7	170.3	115.68	0.538	1.0012	8.337	4.49	519.7
345	169.2	170.3	1.03	54.6	170.2	115.60	0.524	1.0012	8.337	4.37	506.0
346	169.0	170.1	1.11	54.5	170.0	115.53	0.538	1.0012	8.337	4.49	519.0
347	168.9	170.0	1.12	54.4	169.8	115.46	0.538	1.0012	8.337	4.49	518.7
348	168.7	169.9	1.11	54.3	169.8	115.45	0.538	1.0012	8.337	4.49	518.7
349	168.6	169.7	1.08	54.2	169.7	115.45	0.538	1.0012	8.337	4.49	518.6
350	168.4	169.5	1.09	54.2	169.5	115.32	0.538	1.0012	8.337	4.49	518.1
351	168.3	169.4	1.11	54.1	169.3	115.24	0.538	1.0012	8.337	4.49	517.7
352	168.1	169.2	1.12	54.0	169.1	115.05	0.538	1.0012	8.338	4.49	516.9
353	168.0	169.1	1.12	54.0	168.9	114.93	0.538	1.0012	8.338	4.49	516.4
354	167.8	168.9	1.11	53.9	168.8	114.91	0.538	1.0012	8.338	4.49	516.3
355	167.7	168.8	1.10	53.9	168.7	114.84	0.538	1.0012	8.338	4.49	515.9
356	167.6	168.7	1.10	53.8	168.5	114.71	0.538	1.0012	8.338	4.49	515.4
357	167.4	168.5	1.11	53.7	168.4	114.68	0.538	1.0012	8.338	4.49	515.2
358	167.3	168.4	1.09	53.7	168.3	114.59	0.538	1.0012	8.338	4.49	514.9
359	167.1	168.2	1.10	53.6	168.1	114.46	0.538	1.0012	8.338	4.49	514.2
360	166.9	168.0	1.08	53.6	167.9	114.34	0.538	1.0012	8.338	4.49	513.7
361	166.8	167.8	1.08	53.6	167.7	114.08	0.538	1.0012	8.338	4.49	512.6
362	166.7	167.7	1.06	53.8	167.7	113.87	0.538	1.0012	8.338	4.49	511.6
363	166.5	167.6	1.09	54.0	167.4	113.47	0.538	1.0012	8.338	4.49	509.8
364	166.3	167.3	1.08	54.1	167.3	113.19	0.538	1.0012	8.337	4.49	508.5
365	166.2	167.3	1.08	54.2	167.2	112.97	0.552	1.0012	8.337	4.60	520.5
366	166.1	167.2	1.08	54.3	167.0	112.70	0.538	1.0012	8.337	4.49	506.3
367	165.9	167.0	1.08	54.4	166.8	112.41	0.538	1.0012	8.337	4.49	505.0
368	165.8	166.8	1.05	54.5	166.7	112.15	0.538	1.0012	8.337	4.49	503.8
369	165.7	166.7	1.03	54.6	166.6	111.97	0.538	1.0012	8.337	4.49	503.0
370	165.5	166.5	1.04	54.7	166.4	111.71	0.552	1.0012	8.337	4.60	514.7
371	165.4	166.5	1.06	54.8	166.3	111.50	0.538	1.0012	8.337	4.49	500.9
372	165.2	166.3	1.06	54.9	166.1	111.23	0.538	1.0012	8.337	4.49	499.7
373	165.0	166.1	1.05	55.0	165.9	110.95	0.552	1.0012	8.337	4.60	511.2
374	164.8	165.9	1.02	55.0	165.8	110.72	0.538	1.0012	8.337	4.49	497.4
375	164.7	165.7	1.02	55.1	165.6	110.51	0.538	1.0012	8.336	4.49	496.4
376	164.6	165.6	1.02	55.2	165.5	110.35	0.538	1.0012	8.336	4.49	495.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
377	164.4	165.5	1.01	55.2	165.3	110.11	0.538	1.0012	8.336	4.49	494.6
378	164.4	165.4	1.00	55.3	165.3	110.01	0.552	1.0012	8.336	4.60	506.8
379	164.2	165.2	1.02	55.3	165.1	109.78	0.538	1.0012	8.336	4.49	493.1
380	164.0	165.0	1.00	55.3	164.9	109.61	0.538	1.0012	8.336	4.49	492.4
381	163.9	164.9	1.02	55.4	164.8	109.38	0.552	1.0012	8.336	4.60	503.9
382	163.8	164.8	1.01	55.4	164.6	109.21	0.524	1.0012	8.336	4.37	478.0
383	163.6	164.6	1.00	55.4	164.4	109.01	0.552	1.0012	8.336	4.60	502.2
384	163.4	164.4	1.01	55.5	164.3	108.85	0.538	1.0012	8.336	4.49	488.9
385	163.3	164.3	0.99	55.5	164.2	108.65	0.538	1.0012	8.336	4.49	488.0
386	163.2	164.2	0.98	55.5	164.1	108.54	0.538	1.0012	8.336	4.49	487.5
387	162.9	164.0	1.10	55.6	163.9	108.35	0.580	1.0012	8.336	4.83	524.1
388	162.7	163.8	1.13	55.6	163.7	108.09	0.593	1.0012	8.336	4.95	535.3
389	162.5	163.6	1.13	55.5	163.5	107.97	0.593	1.0012	8.336	4.95	534.7
390	162.4	163.5	1.10	55.5	163.4	107.90	0.593	1.0012	8.336	4.95	534.4
391	162.3	163.4	1.11	55.5	163.2	107.78	0.593	1.0012	8.336	4.95	533.8
392	162.1	163.2	1.12	55.4	163.1	107.63	0.593	1.0012	8.336	4.95	533.1
393	161.9	163.0	1.10	55.5	162.9	107.45	0.593	1.0012	8.336	4.95	532.1
394	161.8	162.9	1.11	55.5	162.8	107.32	0.607	1.0012	8.336	5.06	543.9
395	161.6	162.8	1.13	55.4	162.6	107.17	0.593	1.0012	8.336	4.95	530.8
396	161.4	162.5	1.08	55.4	162.5	107.12	0.593	1.0012	8.336	4.95	530.5
397	161.3	162.4	1.10	55.1	162.3	107.13	0.593	1.0012	8.336	4.95	530.6
398	161.1	162.2	1.10	54.9	162.2	107.30	0.607	1.0012	8.337	5.06	543.8
399	161.1	162.1	1.08	54.6	162.0	107.40	0.593	1.0012	8.337	4.95	531.9
400	160.8	161.9	1.09	54.4	161.9	107.41	0.593	1.0012	8.337	4.95	532.0
401	160.7	161.8	1.11	54.3	161.7	107.41	0.593	1.0012	8.337	4.95	532.0
402	160.5	161.6	1.11	54.2	161.5	107.29	0.607	1.0012	8.337	5.06	543.8
403	160.4	161.5	1.10	54.1	161.4	107.27	0.593	1.0012	8.337	4.95	531.3
404	160.2	161.3	1.10	54.0	161.2	107.20	0.593	1.0012	8.338	4.95	531.0
405	160.1	161.2	1.10	53.9	161.0	107.11	0.593	1.0012	8.338	4.95	530.6
406	159.9	161.0	1.09	53.9	160.9	106.94	0.607	1.0012	8.338	5.06	542.1
407	159.8	160.9	1.09	54.0	160.8	106.72	0.593	1.0012	8.337	4.95	528.6
408	159.6	160.6	1.09	54.2	160.5	106.34	0.593	1.0012	8.337	4.95	526.7
409	159.4	160.5	1.09	54.3	160.3	105.99	0.593	1.0012	8.337	4.95	525.0
410	159.2	160.3	1.09	54.4	160.2	105.79	0.607	1.0012	8.337	5.06	536.2
411	159.0	160.1	1.11	54.5	160.0	105.50	0.593	1.0012	8.337	4.95	522.6
412	158.9	160.0	1.05	54.6	159.9	105.31	0.593	1.0012	8.337	4.95	521.6
413	158.7	159.8	1.06	54.6	159.7	105.02	0.593	1.0012	8.337	4.95	520.2
414	158.6	159.7	1.06	54.7	159.5	104.86	0.593	1.0012	8.337	4.95	519.4
415	158.4	159.5	1.03	54.7	159.4	104.66	0.593	1.0012	8.337	4.95	518.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
416	158.3	159.4	1.07	54.8	159.2	104.45	0.593	1.0012	8.337	4.95	517.4
417	158.1	159.2	1.05	54.8	159.1	104.31	0.593	1.0012	8.337	4.95	516.7
418	158.1	159.1	1.04	54.9	159.0	104.12	0.607	1.0012	8.337	5.06	527.7
419	158.2	159.3	1.07	54.9	159.1	104.18	0.593	1.0012	8.337	4.95	516.0
420	158.9	160.0	1.08	55.0	159.6	104.64	0.593	1.0012	8.337	4.95	518.3
421	159.4	160.5	1.08	55.0	160.4	105.36	0.593	1.0012	8.337	4.95	521.8
422	160.1	161.3	1.14	55.0	161.0	105.97	0.593	1.0012	8.337	4.95	524.8
423	160.9	162.0	1.16	55.1	161.7	106.66	0.593	1.0012	8.337	4.95	528.3
424	161.6	162.7	1.15	55.1	162.4	107.32	0.593	1.0012	8.337	4.95	531.5
425	162.3	163.5	1.17	55.1	163.0	107.92	0.593	1.0012	8.336	4.95	534.5
426	163.0	164.2	1.15	55.0	163.9	108.91	0.593	1.0012	8.337	4.95	539.4
427	164.1	165.1	0.98	54.8	164.8	109.93	0.524	1.0012	8.337	4.37	481.2
428	164.9	165.9	1.00	54.7	165.6	110.89	0.524	1.0012	8.337	4.37	485.4
429	165.9	167.0	1.04	54.5	166.6	112.05	0.511	1.0012	8.337	4.26	477.6
430	166.8	167.9	1.10	54.4	167.4	113.02	0.524	1.0012	8.337	4.37	494.7
431	167.8	168.8	1.04	54.3	168.4	114.18	0.524	1.0012	8.337	4.37	499.8
432	168.7	169.8	1.12	54.2	169.4	115.17	0.511	1.0012	8.337	4.26	490.9
433	169.6	170.7	1.08	54.1	170.3	116.23	0.524	1.0012	8.337	4.37	508.8
434	170.7	171.9	1.15	54.1	171.3	117.28	0.511	1.0012	8.337	4.26	499.9
435	171.7	172.8	1.14	54.0	172.4	118.38	0.511	1.0012	8.337	4.26	504.6
436	172.7	173.9	1.20	54.2	173.3	119.12	0.511	1.0012	8.337	4.26	507.7
437	173.7	174.9	1.18	54.4	174.4	120.02	0.511	1.0012	8.337	4.26	511.5
438	174.7	175.9	1.20	54.6	175.5	120.88	0.524	1.0012	8.337	4.37	529.1
439	175.9	177.1	1.22	54.7	176.6	121.90	0.511	1.0012	8.337	4.26	519.5
440	176.6	177.9	1.25	54.8	177.5	122.68	0.511	1.0012	8.337	4.26	522.9
441	177.8	179.1	1.24	54.9	178.6	123.68	0.497	1.0012	8.337	4.14	512.8
442	178.8	180.1	1.25	55.0	179.6	124.63	0.511	1.0012	8.337	4.26	531.1
443	179.9	181.2	1.26	55.1	180.7	125.62	0.511	1.0012	8.337	4.26	535.4
444	180.5	181.8	1.27	55.1	181.5	126.34	0.511	1.0012	8.336	4.26	538.4
445	180.9	182.2	1.24	55.2	182.0	126.76	0.511	1.0012	8.336	4.26	540.2
446	181.1	182.4	1.28	55.2	182.2	126.92	0.497	1.0012	8.336	4.14	526.3
447	181.4	182.7	1.26	55.3	182.5	127.17	0.511	1.0012	8.336	4.26	541.9
448	181.6	182.8	1.27	55.4	182.6	127.23	0.511	1.0012	8.336	4.26	542.2
449	181.7	183.0	1.23	55.4	182.8	127.39	0.511	1.0012	8.336	4.26	542.9
450	181.8	183.0	1.26	55.5	182.8	127.34	0.497	1.0012	8.336	4.14	528.0
451	181.9	183.1	1.26	55.6	183.0	127.44	0.511	1.0012	8.336	4.26	543.1
452	181.9	183.2	1.26	55.6	183.0	127.37	0.511	1.0012	8.336	4.26	542.8
453	182.0	183.2	1.25	55.6	183.0	127.39	0.511	1.0012	8.336	4.26	542.9
454	182.0	183.2	1.23	55.7	183.1	127.43	0.497	1.0012	8.336	4.14	528.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
455	182.0	183.3	1.25	55.7	183.1	127.38	0.511	1.0012	8.336	4.26	542.8
456	182.0	183.2	1.26	55.7	183.0	127.28	0.497	1.0012	8.336	4.14	527.7
457	181.9	183.2	1.24	55.7	183.0	127.28	0.511	1.0012	8.336	4.26	542.4
458	181.9	183.2	1.25	55.8	183.0	127.20	0.497	1.0012	8.336	4.14	527.4
459	181.9	183.2	1.26	55.8	183.0	127.24	0.511	1.0012	8.336	4.26	542.2
460	181.9	183.1	1.27	55.8	182.9	127.17	0.497	1.0012	8.336	4.14	527.3
461	181.8	183.0	1.25	55.7	182.9	127.24	0.511	1.0012	8.336	4.26	542.2
462	181.8	183.0	1.25	55.4	182.9	127.44	0.497	1.0012	8.336	4.14	528.4
463	181.7	183.0	1.26	55.2	182.8	127.65	0.511	1.0012	8.336	4.26	544.0
464	181.7	182.9	1.23	55.0	182.8	127.85	0.511	1.0012	8.337	4.26	544.9
465	181.6	182.9	1.24	54.8	182.7	127.96	0.497	1.0012	8.337	4.14	530.6
466	181.6	182.8	1.25	54.7	182.7	128.06	0.511	1.0012	8.337	4.26	545.8
467	181.6	182.8	1.26	54.5	182.7	128.14	0.497	1.0012	8.337	4.14	531.4
468	181.5	182.7	1.25	54.5	182.6	128.13	0.511	1.0012	8.337	4.26	546.1
469	181.4	182.7	1.26	54.4	182.5	128.14	0.511	1.0012	8.337	4.26	546.2
470	181.4	182.6	1.25	54.3	182.4	128.16	0.497	1.0012	8.337	4.14	531.5
471	181.2	182.5	1.26	54.2	182.4	128.20	0.511	1.0012	8.337	4.26	546.4
472	181.2	182.4	1.23	54.1	182.3	128.22	0.511	1.0012	8.337	4.26	546.5
473	181.1	182.4	1.25	54.1	182.2	128.14	0.497	1.0012	8.337	4.14	531.4
474	181.1	182.3	1.28	54.0	182.1	128.12	0.511	1.0012	8.338	4.26	546.1
475	180.9	182.2	1.25	53.9	182.1	128.12	0.497	1.0012	8.338	4.14	531.3
476	180.9	182.1	1.26	53.9	182.0	128.12	0.511	1.0012	8.338	4.26	546.1
477	180.7	182.0	1.26	53.8	181.8	128.02	0.511	1.0012	8.338	4.26	545.7
478	180.7	181.9	1.24	53.8	181.8	128.03	0.497	1.0012	8.338	4.14	531.0
479	180.6	181.9	1.27	53.7	181.7	127.98	0.511	1.0012	8.338	4.26	545.5
480	180.5	181.7	1.27	53.7	181.6	127.92	0.497	1.0012	8.338	4.14	530.5
481	180.5	181.7	1.24	53.6	181.6	127.94	0.511	1.0012	8.338	4.26	545.3
482	180.3	181.6	1.22	53.6	181.4	127.86	0.497	1.0012	8.338	4.14	530.3
483	180.2	181.4	1.24	53.5	181.3	127.77	0.511	1.0012	8.338	4.26	544.6
484	180.2	181.4	1.23	53.5	181.2	127.70	0.497	1.0012	8.338	4.14	529.6
485	180.0	181.3	1.26	53.5	181.1	127.68	0.511	1.0012	8.338	4.26	544.2
486	179.9	181.1	1.24	53.6	181.0	127.45	0.511	1.0012	8.338	4.26	543.3
487	179.8	181.0	1.21	53.7	180.9	127.19	0.497	1.0012	8.338	4.14	527.5
488	179.7	180.9	1.22	53.9	180.8	126.89	0.511	1.0012	8.338	4.26	540.8
489	179.5	180.7	1.23	54.1	180.7	126.56	0.497	1.0012	8.337	4.14	524.9
490	179.5	180.7	1.23	54.2	180.5	126.29	0.511	1.0012	8.337	4.26	538.3
491	179.4	180.6	1.22	54.3	180.5	126.13	0.511	1.0012	8.337	4.26	537.6
492	179.2	180.4	1.21	54.4	180.3	125.82	0.497	1.0012	8.337	4.14	521.8
493	179.1	180.3	1.23	54.6	180.2	125.61	0.511	1.0012	8.337	4.26	535.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
494	179.0	180.2	1.20	54.7	180.1	125.42	0.497	1.0012	8.337	4.14	520.1
495	178.9	180.1	1.20	54.8	180.0	125.22	0.511	1.0012	8.337	4.26	533.7
496	178.8	180.0	1.20	54.8	179.8	125.00	0.511	1.0012	8.337	4.26	532.7
497	178.7	179.9	1.20	54.9	179.7	124.83	0.497	1.0012	8.337	4.14	517.6
498	178.5	179.7	1.18	55.0	179.6	124.60	0.511	1.0012	8.337	4.26	531.0
499	178.3	179.5	1.18	55.1	179.4	124.37	0.497	1.0012	8.337	4.14	515.7
500	178.3	179.4	1.12	55.1	179.3	124.16	0.497	1.0012	8.336	4.14	514.9
501	178.2	179.3	1.17	55.2	179.2	123.99	0.511	1.0012	8.336	4.26	528.4
502	178.1	179.2	1.16	55.3	179.2	123.86	0.497	1.0012	8.336	4.14	513.6
503	177.9	179.1	1.18	55.3	179.0	123.67	0.511	1.0012	8.336	4.26	527.0
504	177.9	179.0	1.15	55.4	178.9	123.50	0.497	1.0012	8.336	4.14	512.1
505	177.7	178.9	1.16	55.4	178.8	123.36	0.511	1.0012	8.336	4.26	525.7
506	177.6	178.8	1.16	55.5	178.7	123.18	0.497	1.0012	8.336	4.14	510.7
507	177.5	178.6	1.15	55.5	178.5	123.04	0.511	1.0012	8.336	4.26	524.3
508	177.3	178.5	1.17	55.5	178.4	122.82	0.497	1.0012	8.336	4.14	509.2
509	177.1	178.3	1.17	55.6	178.2	122.59	0.511	1.0012	8.336	4.26	522.4
510	177.1	178.3	1.14	55.6	178.2	122.55	0.497	1.0012	8.336	4.14	508.1
511	176.9	178.1	1.13	55.6	178.0	122.31	0.511	1.0012	8.336	4.26	521.2
512	176.8	178.0	1.14	55.7	177.8	122.18	0.497	1.0012	8.336	4.14	506.6
513	176.6	177.8	1.16	55.7	177.7	122.00	0.511	1.0012	8.336	4.26	519.9
514	176.5	177.6	1.14	55.7	177.5	121.86	0.497	1.0012	8.336	4.14	505.3
515	176.4	177.5	1.14	55.7	177.4	121.72	0.511	1.0012	8.336	4.26	518.7
516	176.3	177.5	1.14	55.7	177.3	121.63	0.497	1.0012	8.336	4.14	504.3
517	176.2	177.3	1.13	55.7	177.2	121.49	0.497	1.0012	8.336	4.14	503.7
518	176.0	177.2	1.12	55.7	177.1	121.41	0.511	1.0012	8.336	4.26	517.4
519	175.9	177.1	1.12	55.7	177.0	121.26	0.497	1.0012	8.336	4.14	502.8
520	175.8	176.9	1.13	55.7	176.8	121.07	0.511	1.0012	8.336	4.26	515.9
521	175.7	176.8	1.11	55.7	176.7	120.94	0.497	1.0012	8.336	4.14	501.4
522	175.5	176.6	1.09	55.7	176.5	120.80	0.511	1.0012	8.336	4.26	514.8
523	175.4	176.5	1.13	55.7	176.4	120.66	0.511	1.0012	8.336	4.26	514.2
524	175.4	176.5	1.12	55.8	176.3	120.52	0.497	1.0012	8.336	4.14	499.7
525	175.2	176.2	1.09	55.8	176.1	120.38	0.511	1.0012	8.336	4.26	513.0
526	175.0	176.2	1.12	55.7	176.0	120.24	0.497	1.0012	8.336	4.14	498.6
527	174.9	176.0	1.11	55.7	175.9	120.16	0.511	1.0012	8.336	4.26	512.0
528	174.8	175.9	1.11	55.7	175.8	120.02	0.497	1.0012	8.336	4.14	497.6
529	174.6	175.7	1.10	55.7	175.6	119.90	0.511	1.0012	8.336	4.26	510.9
530	174.5	175.6	1.11	55.6	175.5	119.91	0.497	1.0012	8.336	4.14	497.2
531	174.4	175.5	1.10	55.3	175.4	120.05	0.511	1.0012	8.336	4.26	511.6
532	174.3	175.4	1.10	55.1	175.2	120.19	0.511	1.0012	8.337	4.26	512.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
533	174.1	175.2	1.09	54.8	175.1	120.31	0.497	1.0012	8.337	4.14	498.9
534	174.0	175.1	1.13	54.7	174.9	120.26	0.511	1.0012	8.337	4.26	512.5
535	173.7	174.9	1.11	54.5	174.8	120.26	0.497	1.0012	8.337	4.14	498.7
536	173.7	174.8	1.11	54.4	174.6	120.25	0.511	1.0012	8.337	4.26	512.5
537	173.5	174.6	1.11	54.3	174.5	120.22	0.511	1.0012	8.337	4.26	512.4
538	173.4	174.5	1.10	54.2	174.4	120.17	0.511	1.0012	8.337	4.26	512.2
539	173.3	174.3	1.08	54.1	174.3	120.15	0.497	1.0012	8.337	4.14	498.3
540	173.1	174.2	1.09	54.0	174.1	120.04	0.511	1.0012	8.338	4.26	511.7
541	172.9	174.0	1.11	54.0	173.9	119.97	0.511	1.0012	8.338	4.26	511.4
542	172.9	174.0	1.11	53.9	173.8	119.93	0.497	1.0012	8.338	4.14	497.4
543	172.7	173.8	1.11	53.8	173.6	119.83	0.511	1.0012	8.338	4.26	510.8
544	172.5	173.6	1.10	53.7	173.5	119.77	0.497	1.0012	8.338	4.14	496.7
545	172.4	173.5	1.10	53.7	173.3	119.64	0.511	1.0012	8.338	4.26	510.0
546	172.3	173.4	1.10	53.6	173.2	119.59	0.511	1.0012	8.338	4.26	509.8
547	172.2	173.3	1.11	53.6	173.1	119.56	0.511	1.0012	8.338	4.26	509.6
548	172.1	173.2	1.10	53.5	173.1	119.60	0.497	1.0012	8.338	4.14	496.0
549	171.9	173.0	1.09	53.4	172.9	119.45	0.511	1.0012	8.338	4.26	509.2
550	171.7	172.8	1.09	53.4	172.7	119.31	0.511	1.0012	8.338	4.26	508.6
551	171.6	172.7	1.08	53.3	172.6	119.22	0.497	1.0012	8.338	4.14	494.4
552	171.5	172.6	1.11	53.3	172.4	119.11	0.511	1.0012	8.338	4.26	507.7
553	171.4	172.5	1.07	53.3	172.3	119.00	0.511	1.0012	8.338	4.26	507.3
554	171.2	172.3	1.10	53.4	172.2	118.77	0.511	1.0012	8.338	4.26	506.3
555	170.9	172.1	1.20	53.6	171.9	118.37	0.552	1.0012	8.338	4.60	545.4
556	170.8	172.0	1.19	53.7	171.8	118.06	0.552	1.0012	8.338	4.60	544.0
557	170.6	171.8	1.19	53.9	171.7	117.79	0.552	1.0012	8.338	4.60	542.8
558	170.5	171.7	1.18	53.9	171.6	117.62	0.566	1.0012	8.338	4.72	555.5
559	170.3	171.5	1.20	54.0	171.3	117.30	0.538	1.0012	8.338	4.49	527.0
560	170.2	171.4	1.20	54.1	171.3	117.17	0.566	1.0012	8.337	4.72	553.4
561	170.0	171.2	1.18	54.2	171.1	116.86	0.552	1.0012	8.337	4.60	538.5
562	169.9	171.1	1.18	54.3	170.9	116.60	0.552	1.0012	8.337	4.60	537.3
563	169.8	170.9	1.14	54.4	170.8	116.41	0.566	1.0012	8.337	4.72	549.8
564	169.6	170.7	1.15	54.5	170.6	116.13	0.552	1.0012	8.337	4.60	535.1
565	169.5	170.6	1.14	54.5	170.5	115.99	0.552	1.0012	8.337	4.60	534.4
566	169.3	170.5	1.17	54.6	170.3	115.70	0.552	1.0012	8.337	4.60	533.1
567	169.1	170.3	1.13	54.6	170.2	115.54	0.566	1.0012	8.337	4.72	545.6
568	169.0	170.1	1.14	54.7	170.0	115.24	0.552	1.0012	8.337	4.60	531.0
569	168.9	170.0	1.12	54.8	169.9	115.08	0.552	1.0012	8.337	4.60	530.2
570	168.7	169.8	1.13	54.8	169.7	114.84	0.552	1.0012	8.337	4.60	529.1
571	168.4	169.6	1.14	54.9	169.5	114.63	0.566	1.0012	8.337	4.72	541.3

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
572	168.4	169.5	1.12	54.9	169.4	114.49	0.552	1.0012	8.337	4.60	527.5
573	168.2	169.3	1.13	54.9	169.3	114.32	0.552	1.0012	8.337	4.60	526.7
574	168.1	169.2	1.10	54.9	169.1	114.14	0.566	1.0012	8.337	4.72	539.0
575	167.8	168.9	1.12	54.9	168.9	113.91	0.552	1.0012	8.337	4.60	524.8
576	167.6	168.8	1.14	54.9	168.7	113.72	0.552	1.0012	8.337	4.60	524.0
577	167.6	168.8	1.12	55.0	168.6	113.61	0.552	1.0012	8.337	4.60	523.4
578	167.5	168.6	1.10	55.0	168.4	113.43	0.566	1.0012	8.337	4.72	535.7
579	167.4	168.5	1.12	55.0	168.3	113.32	0.552	1.0012	8.337	4.60	522.1
580	167.2	168.3	1.09	55.0	168.2	113.19	0.552	1.0012	8.337	4.60	521.5
581	167.0	168.1	1.11	55.0	168.0	112.95	0.552	1.0012	8.337	4.60	520.4
582	166.9	167.9	1.09	54.9	167.8	112.92	0.552	1.0012	8.337	4.60	520.3
583	166.6	167.7	1.06	54.7	167.7	112.97	0.566	1.0012	8.337	4.72	533.5
584	166.5	167.6	1.11	54.4	167.5	113.07	0.552	1.0012	8.337	4.60	521.0
585	166.3	167.5	1.12	54.3	167.3	113.06	0.552	1.0012	8.337	4.60	520.9
586	166.2	167.3	1.12	54.1	167.2	113.10	0.552	1.0012	8.337	4.60	521.1
587	166.1	167.2	1.09	53.9	167.1	113.15	0.566	1.0012	8.338	4.72	534.4
588	165.9	167.0	1.10	53.8	166.9	113.05	0.552	1.0012	8.338	4.60	520.9
589	165.8	166.9	1.10	53.7	166.7	113.03	0.552	1.0012	8.338	4.60	520.8
590	165.6	166.7	1.10	53.6	166.6	112.99	0.566	1.0012	8.338	4.72	533.7
591	165.4	166.5	1.10	53.5	166.4	112.90	0.552	1.0012	8.338	4.60	520.3
592	165.3	166.4	1.07	53.5	166.3	112.85	0.552	1.0012	8.338	4.60	520.0
593	165.1	166.2	1.10	53.4	166.1	112.74	0.566	1.0012	8.338	4.72	532.5
594	164.9	166.0	1.11	53.3	165.9	112.60	0.552	1.0012	8.338	4.60	518.9
595	164.8	165.9	1.10	53.3	165.8	112.53	0.566	1.0012	8.338	4.72	531.5
596	164.6	165.7	1.09	53.2	165.6	112.43	0.552	1.0012	8.338	4.60	518.1
597	164.5	165.6	1.12	53.1	165.5	112.33	0.566	1.0012	8.338	4.72	530.6
598	164.4	165.4	1.08	53.1	165.3	112.27	0.552	1.0012	8.338	4.60	517.4
599	164.2	165.3	1.08	53.1	165.2	112.07	0.566	1.0012	8.338	4.72	529.4
600	164.1	165.2	1.09	53.2	165.0	111.81	0.552	1.0012	8.338	4.60	515.2
601	163.9	165.0	1.08	53.4	164.9	111.47	0.552	1.0012	8.338	4.60	513.7
602	163.7	164.8	1.09	53.5	164.7	111.13	0.566	1.0012	8.338	4.72	524.9
603	163.5	164.6	1.07	53.6	164.5	110.86	0.552	1.0012	8.338	4.60	510.9
604	163.4	164.5	1.05	53.7	164.4	110.67	0.552	1.0012	8.338	4.60	510.0
605	163.3	164.4	1.08	53.8	164.2	110.42	0.566	1.0012	8.338	4.72	521.5
606	163.1	164.2	1.09	53.9	164.1	110.15	0.552	1.0012	8.338	4.60	507.6
607	163.0	164.0	1.02	54.0	163.9	109.89	0.552	1.0012	8.338	4.60	506.4
608	162.8	163.8	1.05	54.1	163.7	109.63	0.566	1.0012	8.337	4.72	517.8
609	162.7	163.7	0.97	54.2	163.6	109.40	0.538	1.0012	8.337	4.49	491.5
610	162.5	163.5	1.03	54.3	163.4	109.18	0.538	1.0012	8.337	4.49	490.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
611	162.1	163.4	1.27	54.4	163.2	108.87	0.621	1.0012	8.337	5.18	564.3
612	161.9	163.2	1.24	54.4	163.1	108.76	0.635	1.0012	8.337	5.29	576.3
613	161.8	163.1	1.27	54.4	163.0	108.60	0.649	1.0012	8.337	5.41	588.0
614	161.6	162.9	1.24	54.3	162.8	108.49	0.635	1.0012	8.337	5.29	574.9
615	161.5	162.8	1.27	54.4	162.7	108.34	0.635	1.0012	8.337	5.29	574.1
616	161.4	162.6	1.25	54.4	162.5	108.12	0.635	1.0012	8.337	5.29	572.9
617	161.2	162.4	1.24	54.4	162.3	107.96	0.635	1.0012	8.337	5.29	572.1
618	161.0	162.2	1.22	54.4	162.1	107.75	0.635	1.0012	8.337	5.29	570.9
619	160.8	162.1	1.23	54.4	161.9	107.58	0.635	1.0012	8.337	5.29	570.1
620	160.7	161.9	1.24	54.3	161.8	107.47	0.649	1.0012	8.337	5.41	581.9
621	160.4	161.7	1.24	54.3	161.6	107.22	0.635	1.0012	8.337	5.29	568.2
622	160.3	161.5	1.21	54.3	161.4	107.09	0.649	1.0012	8.337	5.41	579.8
623	160.2	161.4	1.24	54.3	161.3	106.97	0.635	1.0012	8.337	5.29	566.8
624	160.0	161.2	1.22	54.3	161.1	106.85	0.649	1.0012	8.337	5.41	578.5
625	159.8	161.0	1.23	54.3	160.8	106.55	0.635	1.0012	8.337	5.29	564.6
626	159.6	160.8	1.23	54.3	160.7	106.45	0.649	1.0012	8.337	5.41	576.3
627	159.5	160.7	1.24	54.3	160.6	106.32	0.635	1.0012	8.337	5.29	563.4
628	159.2	160.5	1.21	54.3	160.4	106.19	0.649	1.0012	8.337	5.41	574.9
629	159.1	160.4	1.21	54.2	160.3	106.04	0.635	1.0012	8.337	5.29	561.9
630	158.9	160.1	1.23	54.2	160.0	105.73	0.649	1.0012	8.337	5.41	572.4
631	158.7	159.9	1.20	54.3	159.8	105.58	0.649	1.0012	8.337	5.41	571.6
632	158.6	159.8	1.18	54.3	159.7	105.43	0.635	1.0012	8.337	5.29	558.7
633	158.5	159.7	1.23	54.2	159.5	105.28	0.635	1.0012	8.337	5.29	557.9
634	158.3	159.5	1.19	54.3	159.4	105.16	0.649	1.0012	8.337	5.41	569.3
635	158.1	159.3	1.19	54.2	159.2	104.95	0.649	1.0012	8.337	5.41	568.2
636	157.9	159.1	1.18	54.2	159.0	104.77	0.635	1.0012	8.337	5.29	555.2
637	157.6	158.8	1.17	54.2	158.7	104.50	0.649	1.0012	8.337	5.41	565.8
638	157.7	158.9	1.19	54.2	158.7	104.54	0.635	1.0012	8.337	5.29	554.0
639	157.8	159.0	1.25	54.1	158.8	104.73	0.649	1.0012	8.337	5.41	567.1
640	158.3	159.5	1.24	53.8	159.3	105.47	0.635	1.0012	8.338	5.29	558.9
641	158.8	160.1	1.26	53.5	159.8	106.28	0.649	1.0012	8.338	5.41	575.5
642	159.5	160.8	1.31	53.4	160.3	106.94	0.635	1.0012	8.338	5.29	566.7
643	160.2	161.5	1.31	53.2	161.1	107.91	0.649	1.0012	8.338	5.41	584.3
644	161.1	162.4	1.30	53.1	161.9	108.82	0.635	1.0012	8.338	5.29	576.7
645	161.6	163.0	1.34	53.0	162.5	109.52	0.649	1.0012	8.338	5.41	593.0
646	162.3	163.7	1.39	52.9	163.3	110.38	0.649	1.0012	8.339	5.41	597.7
647	163.2	164.6	1.37	52.8	164.2	111.36	0.635	1.0012	8.339	5.29	590.2
648	164.3	165.6	1.37	52.8	165.3	112.50	0.649	1.0012	8.339	5.41	609.2
649	165.3	166.7	1.40	52.7	166.2	113.56	0.635	1.0012	8.339	5.29	601.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
650	166.2	167.7	1.44	52.6	167.1	114.52	0.649	1.0012	8.339	5.41	620.1
651	167.1	168.5	1.43	52.6	168.2	115.58	0.635	1.0012	8.339	5.29	612.6
652	168.2	169.7	1.49	52.5	169.2	116.65	0.649	1.0012	8.339	5.41	631.7
653	169.1	170.6	1.46	52.5	170.1	117.64	0.635	1.0012	8.339	5.29	623.5
654	170.1	171.6	1.51	52.5	171.2	118.69	0.649	1.0012	8.339	5.41	642.7
655	171.0	172.5	1.51	52.4	172.2	119.73	0.635	1.0012	8.339	5.29	634.6
656	172.0	173.5	1.54	52.4	173.1	120.72	0.635	1.0012	8.339	5.29	639.8
657	172.9	174.5	1.59	52.3	174.1	121.79	0.635	1.0012	8.339	5.29	645.5
658	174.1	175.6	1.54	52.3	175.1	122.78	0.607	1.0012	8.339	5.06	622.4
659	175.2	176.8	1.64	52.3	176.2	123.92	0.649	1.0012	8.339	5.41	671.0
660	176.2	177.8	1.57	52.3	177.3	125.03	0.607	1.0012	8.339	5.06	633.9
661	177.2	178.8	1.57	52.4	178.4	126.00	0.621	1.0012	8.339	5.18	653.3
662	178.3	179.8	1.55	52.6	179.4	126.83	0.607	1.0012	8.339	5.06	643.0
663	179.3	180.9	1.60	52.8	180.4	127.60	0.621	1.0012	8.339	5.18	661.5
664	180.0	181.6	1.59	52.9	181.4	128.49	0.607	1.0012	8.339	5.06	651.4
665	180.7	182.2	1.48	53.0	181.9	128.83	0.566	1.0012	8.338	4.72	608.6
666	181.1	182.5	1.44	53.2	182.3	129.12	0.580	1.0012	8.338	4.83	624.8
667	181.3	182.8	1.45	53.3	182.6	129.26	0.566	1.0012	8.338	4.72	610.5
668	181.5	183.0	1.49	53.4	182.7	129.27	0.566	1.0012	8.338	4.72	610.6
669	181.6	183.0	1.44	53.6	182.9	129.37	0.566	1.0012	8.338	4.72	611.1
670	181.8	183.2	1.47	53.7	183.0	129.38	0.552	1.0012	8.338	4.60	596.2
671	181.8	183.2	1.44	53.7	183.1	129.37	0.580	1.0012	8.338	4.83	625.9
672	181.9	183.4	1.45	53.8	183.2	129.33	0.552	1.0012	8.338	4.60	596.0
673	181.9	183.4	1.46	53.9	183.2	129.29	0.566	1.0012	8.338	4.72	610.6
674	181.9	183.4	1.46	54.0	183.2	129.21	0.566	1.0012	8.338	4.72	610.3
675	181.9	183.4	1.45	54.1	183.2	129.15	0.580	1.0012	8.337	4.83	624.8
676	182.0	183.4	1.37	54.1	183.3	129.18	0.552	1.0012	8.337	4.60	595.3
677	182.0	183.4	1.39	54.2	183.2	129.05	0.552	1.0012	8.337	4.60	594.6
678	181.9	183.3	1.40	54.2	183.2	128.97	0.552	1.0012	8.337	4.60	594.3
679	181.9	183.3	1.42	54.3	183.1	128.86	0.552	1.0012	8.337	4.60	593.7
680	181.9	183.3	1.42	54.3	183.1	128.80	0.552	1.0012	8.337	4.60	593.5
681	181.8	183.2	1.37	54.3	183.1	128.72	0.538	1.0012	8.337	4.49	578.3
682	181.8	183.1	1.38	54.4	183.0	128.67	0.552	1.0012	8.337	4.60	592.9
683	181.7	183.1	1.40	54.4	183.0	128.57	0.552	1.0012	8.337	4.60	592.4
684	181.7	183.0	1.38	54.4	182.9	128.47	0.552	1.0012	8.337	4.60	592.0
685	181.6	183.0	1.37	54.5	182.9	128.40	0.538	1.0012	8.337	4.49	576.8
686	181.6	183.0	1.39	54.5	182.8	128.29	0.552	1.0012	8.337	4.60	591.1
687	181.4	182.8	1.40	54.5	182.7	128.19	0.552	1.0012	8.337	4.60	590.7
688	181.4	182.8	1.38	54.5	182.7	128.20	0.552	1.0012	8.337	4.60	590.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
689	181.4	182.7	1.35	54.5	182.6	128.11	0.538	1.0012	8.337	4.49	575.5
690	181.3	182.6	1.36	54.6	182.5	127.99	0.552	1.0012	8.337	4.60	589.7
691	181.2	182.6	1.39	54.6	182.4	127.89	0.552	1.0012	8.337	4.60	589.2
692	181.2	182.5	1.37	54.6	182.4	127.82	0.552	1.0012	8.337	4.60	588.9
693	181.1	182.5	1.35	54.6	182.3	127.72	0.538	1.0012	8.337	4.49	573.8
694	181.0	182.3	1.38	54.6	182.2	127.61	0.552	1.0012	8.337	4.60	588.0
695	180.9	182.3	1.36	54.6	182.1	127.51	0.552	1.0012	8.337	4.60	587.5
696	180.7	182.0	1.34	54.6	182.0	127.41	0.552	1.0012	8.337	4.60	587.1
697	180.7	182.0	1.32	54.7	181.9	127.24	0.538	1.0012	8.337	4.49	571.6
698	180.6	182.0	1.36	54.7	181.8	127.15	0.552	1.0012	8.337	4.60	585.9
699	180.5	181.9	1.33	54.7	181.8	127.07	0.538	1.0012	8.337	4.49	570.9
700	180.4	181.7	1.35	54.7	181.6	126.82	0.552	1.0012	8.337	4.60	584.3
701	180.3	181.7	1.35	54.7	181.5	126.74	0.552	1.0012	8.337	4.60	583.9
702	180.2	181.5	1.34	54.7	181.5	126.73	0.538	1.0012	8.337	4.49	569.3
703	180.1	181.4	1.33	54.8	181.3	126.50	0.552	1.0012	8.337	4.60	582.8
704	179.9	181.3	1.34	54.8	181.1	126.36	0.552	1.0012	8.337	4.60	582.2
705	179.8	181.1	1.28	54.8	181.1	126.28	0.538	1.0012	8.337	4.49	567.3
706	179.7	181.0	1.36	54.8	180.9	126.13	0.552	1.0012	8.337	4.60	581.2
707	179.6	180.9	1.34	54.8	180.8	125.97	0.538	1.0012	8.337	4.49	565.9
708	179.5	180.9	1.35	54.8	180.7	125.88	0.552	1.0012	8.337	4.60	580.0
709	179.4	180.8	1.33	54.8	180.6	125.77	0.552	1.0012	8.337	4.60	579.5
710	179.3	180.6	1.32	54.8	180.5	125.67	0.552	1.0012	8.337	4.60	579.0
711	179.1	180.4	1.32	54.8	180.4	125.56	0.538	1.0012	8.337	4.49	564.0
712	179.0	180.3	1.34	54.7	180.2	125.52	0.552	1.0012	8.337	4.60	578.4
713	178.9	180.2	1.32	54.4	180.1	125.71	0.552	1.0012	8.337	4.60	579.2
714	178.8	180.1	1.31	54.2	180.0	125.80	0.552	1.0012	8.337	4.60	579.6
715	178.6	179.9	1.33	54.0	179.8	125.89	0.552	1.0012	8.338	4.60	580.1
716	178.4	179.8	1.33	53.8	179.7	125.88	0.552	1.0012	8.338	4.60	580.0
717	178.4	179.7	1.28	53.7	179.6	125.97	0.552	1.0012	8.338	4.60	580.5
718	178.4	179.6	1.27	53.6	179.5	125.92	0.538	1.0012	8.338	4.49	565.7
719	178.1	179.4	1.32	53.5	179.3	125.86	0.538	1.0012	8.338	4.49	565.5
720	178.1	179.3	1.17	53.4	179.2	125.80	0.524	1.0012	8.338	4.37	550.7
721	177.8	179.1	1.31	53.3	179.0	125.67	0.552	1.0012	8.338	4.60	579.1
722	177.6	179.0	1.34	53.2	178.9	125.63	0.552	1.0012	8.338	4.60	578.9
723	177.6	178.9	1.31	53.2	178.8	125.61	0.552	1.0012	8.338	4.60	578.8
724	177.4	178.8	1.31	53.1	178.6	125.54	0.538	1.0012	8.338	4.49	564.1
725	177.3	178.6	1.33	53.0	178.5	125.49	0.552	1.0012	8.338	4.60	578.3
726	177.1	178.5	1.32	53.0	178.4	125.41	0.552	1.0012	8.339	4.60	577.9
727	177.1	178.3	1.24	52.9	178.2	125.30	0.538	1.0012	8.339	4.49	563.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
728	176.9	178.2	1.27	52.8	178.1	125.23	0.524	1.0012	8.339	4.37	548.3
729	176.7	178.0	1.30	52.8	177.9	125.15	0.552	1.0012	8.339	4.60	576.8
730	176.6	177.9	1.31	52.7	177.8	125.09	0.566	1.0012	8.339	4.72	590.9
731	176.4	177.7	1.31	52.7	177.6	124.96	0.552	1.0012	8.339	4.60	575.9
732	176.3	177.6	1.30	52.7	177.5	124.80	0.538	1.0012	8.339	4.49	560.8
733	176.2	177.5	1.30	52.8	177.4	124.53	0.552	1.0012	8.339	4.60	573.9
734	176.0	177.3	1.30	53.0	177.1	124.11	0.552	1.0012	8.338	4.60	572.0
735	175.8	177.1	1.28	53.2	176.9	123.73	0.552	1.0012	8.338	4.60	570.2
736	175.7	177.0	1.29	53.4	176.9	123.56	0.552	1.0012	8.338	4.60	569.4
737	175.7	176.9	1.27	53.5	176.8	123.35	0.552	1.0012	8.338	4.60	568.4
738	175.5	176.8	1.28	53.6	176.7	123.10	0.552	1.0012	8.338	4.60	567.3
739	175.4	176.7	1.28	53.7	176.6	122.89	0.552	1.0012	8.338	4.60	566.3
740	175.2	176.5	1.25	53.7	176.4	122.63	0.538	1.0012	8.338	4.49	551.0
741	175.1	176.3	1.26	53.8	176.2	122.44	0.552	1.0012	8.338	4.60	564.2
742	174.9	176.2	1.23	53.9	176.0	122.17	0.552	1.0012	8.338	4.60	562.9
743	174.7	176.0	1.24	53.9	175.9	121.97	0.552	1.0012	8.338	4.60	562.1
744	174.6	175.8	1.25	54.0	175.7	121.76	0.538	1.0012	8.338	4.49	547.0
745	174.5	175.7	1.23	54.0	175.7	121.67	0.552	1.0012	8.338	4.60	560.7
746	174.3	175.6	1.25	54.1	175.5	121.42	0.552	1.0012	8.337	4.60	559.5
747	174.2	175.4	1.24	54.1	175.3	121.17	0.552	1.0012	8.337	4.60	558.3
748	174.1	175.3	1.24	54.1	175.2	121.06	0.552	1.0012	8.337	4.60	557.8
749	173.9	175.2	1.22	54.1	175.1	120.92	0.538	1.0012	8.337	4.49	543.3
750	173.8	175.0	1.22	54.2	174.9	120.69	0.552	1.0012	8.337	4.60	556.1
751	173.6	174.8	1.22	54.2	174.7	120.54	0.552	1.0012	8.337	4.60	555.4
752	173.5	174.7	1.24	54.2	174.5	120.32	0.552	1.0012	8.337	4.60	554.4
753	173.3	174.6	1.22	54.2	174.4	120.19	0.552	1.0012	8.337	4.60	553.8
754	173.2	174.4	1.24	54.3	174.3	120.01	0.552	1.0012	8.337	4.60	553.0
755	173.0	174.2	1.21	54.3	174.1	119.83	0.538	1.0012	8.337	4.49	538.3
756	172.8	174.0	1.22	54.3	174.0	119.62	0.552	1.0012	8.337	4.60	551.2
757	172.8	174.0	1.20	54.4	173.8	119.46	0.552	1.0012	8.337	4.60	550.5
758	172.6	173.8	1.22	54.4	173.7	119.29	0.538	1.0012	8.337	4.49	535.9
759	172.5	173.7	1.20	54.4	173.5	119.11	0.552	1.0012	8.337	4.60	548.8
760	172.3	173.5	1.20	54.4	173.4	118.93	0.552	1.0012	8.337	4.60	548.0
761	172.2	173.3	1.16	54.4	173.3	118.88	0.552	1.0012	8.337	4.60	547.7
762	172.0	173.2	1.19	54.4	173.1	118.63	0.538	1.0012	8.337	4.49	532.9
763	171.9	173.0	1.16	54.5	172.9	118.47	0.552	1.0012	8.337	4.60	545.8
764	171.8	173.0	1.19	54.5	172.8	118.34	0.552	1.0012	8.337	4.60	545.3
765	171.6	172.8	1.16	54.5	172.7	118.18	0.538	1.0012	8.337	4.49	530.9
766	171.5	172.6	1.18	54.5	172.5	117.92	0.552	1.0012	8.337	4.60	543.3

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
767	171.3	172.4	1.16	54.6	172.3	117.73	0.538	1.0012	8.337	4.49	528.9
768	171.2	172.4	1.18	54.6	172.2	117.56	0.552	1.0012	8.337	4.60	541.7
769	171.1	172.2	1.16	54.6	172.1	117.49	0.552	1.0012	8.337	4.60	541.4
770	170.9	172.0	1.16	54.7	171.9	117.25	0.538	1.0012	8.337	4.49	526.7
771	170.7	171.9	1.23	54.7	171.8	117.15	0.566	1.0012	8.337	4.72	553.3
772	170.5	171.7	1.19	54.4	171.6	117.17	0.566	1.0012	8.337	4.72	553.4
773	170.3	171.5	1.21	54.2	171.4	117.29	0.566	1.0012	8.337	4.72	553.9
774	170.2	171.5	1.22	53.9	171.3	117.37	0.566	1.0012	8.338	4.72	554.4
775	170.1	171.3	1.18	53.7	171.1	117.39	0.552	1.0012	8.338	4.60	540.9
776	169.8	171.1	1.25	53.6	170.9	117.35	0.566	1.0012	8.338	4.72	554.3
777	169.7	170.9	1.20	53.4	170.9	117.41	0.580	1.0012	8.338	4.83	568.1
778	169.6	170.8	1.20	53.3	170.8	117.42	0.566	1.0012	8.338	4.72	554.6
779	169.4	170.6	1.18	53.3	170.6	117.33	0.566	1.0012	8.338	4.72	554.2
780	169.4	170.6	1.15	53.2	170.5	117.29	0.538	1.0012	8.338	4.49	527.0
781	169.2	170.4	1.22	53.1	170.3	117.15	0.566	1.0012	8.338	4.72	553.4
782	169.0	170.2	1.19	53.0	170.1	117.09	0.580	1.0012	8.338	4.83	566.6
783	168.9	170.1	1.21	53.0	170.0	116.92	0.566	1.0012	8.338	4.72	552.3
784	168.7	170.0	1.24	53.2	169.8	116.62	0.566	1.0012	8.338	4.72	550.8
785	168.5	169.7	1.18	53.3	169.6	116.25	0.580	1.0012	8.338	4.83	562.5
786	168.4	169.5	1.17	53.5	169.5	115.99	0.566	1.0012	8.338	4.72	547.8
787	168.2	169.3	1.18	53.6	169.3	115.70	0.580	1.0012	8.338	4.83	559.8
788	168.0	169.2	1.15	53.7	169.1	115.47	0.566	1.0012	8.338	4.72	545.4
789	167.9	169.0	1.18	53.7	169.0	115.22	0.566	1.0012	8.338	4.72	544.2
790	167.8	168.9	1.17	53.8	168.8	114.99	0.580	1.0012	8.338	4.83	556.4
791	167.6	168.8	1.18	53.9	168.6	114.74	0.566	1.0012	8.338	4.72	541.9
792	167.5	168.6	1.18	53.9	168.5	114.60	0.566	1.0012	8.338	4.72	541.3
793	167.4	168.5	1.17	54.0	168.4	114.38	0.566	1.0012	8.338	4.72	540.2
794	167.2	168.4	1.16	54.0	168.2	114.18	0.580	1.0012	8.338	4.83	552.4
795	166.9	168.1	1.16	54.1	167.9	113.82	0.566	1.0012	8.337	4.72	537.6
796	166.8	167.9	1.13	54.1	167.9	113.75	0.580	1.0012	8.337	4.83	550.3
797	166.7	167.8	1.14	54.2	167.7	113.54	0.566	1.0012	8.337	4.72	536.2
798	166.5	167.7	1.15	54.2	167.5	113.32	0.566	1.0012	8.337	4.72	535.2
799	166.4	167.6	1.14	54.3	167.5	113.20	0.566	1.0012	8.337	4.72	534.6
800	166.3	167.4	1.17	54.2	167.3	113.10	0.580	1.0012	8.337	4.83	547.2
801	166.1	167.2	1.13	54.0	167.1	113.14	0.566	1.0012	8.338	4.72	534.4
802	166.0	167.1	1.14	53.7	166.9	113.24	0.566	1.0012	8.338	4.72	534.9
803	165.9	166.9	1.07	53.5	166.8	113.28	0.552	1.0012	8.338	4.60	522.0
804	165.6	166.8	1.14	53.4	166.6	113.28	0.580	1.0012	8.338	4.83	548.1
805	165.3	166.5	1.14	53.2	166.5	113.22	0.566	1.0012	8.338	4.72	534.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
806	165.3	166.4	1.14	53.1	166.3	113.18	0.580	1.0012	8.338	4.83	547.7
807	165.1	166.3	1.13	53.1	166.1	113.08	0.566	1.0012	8.338	4.72	534.1
808	165.0	166.1	1.11	53.0	166.0	113.00	0.580	1.0012	8.338	4.83	546.8
809	164.8	165.9	1.11	53.0	165.8	112.81	0.566	1.0012	8.338	4.72	532.9
810	164.7	165.8	1.10	53.2	165.7	112.55	0.566	1.0012	8.338	4.72	531.6
811	164.5	165.6	1.14	53.3	165.5	112.16	0.580	1.0012	8.338	4.83	542.7
812	164.4	165.5	1.11	53.5	165.4	111.91	0.566	1.0012	8.338	4.72	528.6
813	164.3	165.4	1.13	53.6	165.2	111.65	0.580	1.0012	8.338	4.83	540.2
814	164.1	165.2	1.09	53.7	165.1	111.46	0.566	1.0012	8.338	4.72	526.4
815	163.9	165.0	1.09	53.7	164.9	111.15	0.566	1.0012	8.338	4.72	525.0
816	163.8	164.9	1.09	53.8	164.7	110.94	0.580	1.0012	8.338	4.83	536.8
817	163.6	164.7	1.05	53.9	164.5	110.66	0.552	1.0012	8.338	4.60	509.9
818	163.4	164.5	1.07	53.9	164.4	110.48	0.552	1.0012	8.338	4.60	509.1
819	163.3	164.4	1.08	54.0	164.3	110.30	0.580	1.0012	8.338	4.83	533.7
820	163.2	164.3	1.08	53.9	164.1	110.17	0.566	1.0012	8.338	4.72	520.3
821	163.0	164.1	1.08	53.7	163.9	110.22	0.580	1.0012	8.338	4.83	533.3
822	162.8	163.9	1.09	53.5	163.8	110.31	0.566	1.0012	8.338	4.72	521.1
823	162.7	163.8	1.10	53.3	163.7	110.33	0.580	1.0012	8.338	4.83	533.9
824	162.5	163.6	1.10	53.2	163.5	110.27	0.580	1.0012	8.338	4.83	533.6
825	162.4	163.5	1.10	53.1	163.4	110.27	0.580	1.0012	8.338	4.83	533.6
826	162.2	163.3	1.09	53.0	163.2	110.18	0.580	1.0012	8.338	4.83	533.2
827	162.0	163.1	1.08	53.0	163.0	109.99	0.580	1.0012	8.338	4.83	532.2
828	161.9	163.0	1.09	53.2	162.8	109.66	0.580	1.0012	8.338	4.83	530.6
829	161.7	162.8	1.09	53.4	162.7	109.28	0.566	1.0012	8.338	4.72	516.2
830	161.5	162.6	1.09	53.6	162.5	108.93	0.580	1.0012	8.338	4.83	527.1
831	161.4	162.5	1.09	53.7	162.3	108.65	0.580	1.0012	8.338	4.83	525.7
832	161.3	162.3	1.07	53.8	162.2	108.45	0.580	1.0012	8.338	4.83	524.7
833	161.1	162.2	1.06	53.8	162.1	108.21	0.580	1.0012	8.338	4.83	523.6
834	161.0	162.0	1.07	53.9	161.9	108.00	0.580	1.0012	8.338	4.83	522.6
835	160.8	161.8	1.06	54.0	161.8	107.80	0.580	1.0012	8.338	4.83	521.6
836	160.6	161.6	1.05	54.0	161.5	107.56	0.580	1.0012	8.338	4.83	520.4
837	160.5	161.5	1.06	54.1	161.4	107.35	0.580	1.0012	8.337	4.83	519.4
838	160.3	161.4	1.04	54.1	161.3	107.17	0.580	1.0012	8.337	4.83	518.5
839	160.2	161.2	1.04	54.2	161.1	106.89	0.580	1.0012	8.337	4.83	517.2
840	160.0	161.0	1.04	54.2	160.9	106.74	0.566	1.0012	8.337	4.72	504.1
841	159.9	161.0	1.06	54.1	160.8	106.74	0.593	1.0012	8.337	4.95	528.7
842	159.7	160.8	1.07	53.8	160.7	106.88	0.580	1.0012	8.338	4.83	517.1
843	159.5	160.6	1.10	53.6	160.4	106.85	0.593	1.0012	8.338	4.95	529.3
844	159.3	160.4	1.05	53.4	160.3	106.95	0.593	1.0012	8.338	4.95	529.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
845	159.2	160.3	1.06	53.3	160.2	106.89	0.593	1.0012	8.338	4.95	529.5
846	159.0	160.1	1.05	53.2	160.0	106.85	0.580	1.0012	8.338	4.83	517.0
847	158.9	159.9	1.05	53.1	159.9	106.77	0.593	1.0012	8.338	4.95	528.9
848	158.7	159.8	1.03	53.0	159.7	106.70	0.580	1.0012	8.338	4.83	516.3
849	158.5	159.6	1.09	53.0	159.5	106.53	0.593	1.0012	8.339	4.95	527.8
850	158.4	159.5	1.08	52.9	159.4	106.52	0.593	1.0012	8.339	4.95	527.7
851	158.4	159.5	1.09	52.8	159.3	106.45	0.593	1.0012	8.339	4.95	527.4
852	158.0	159.1	1.07	52.7	159.1	106.33	0.593	1.0012	8.339	4.95	526.8
853	157.9	158.9	1.07	52.7	158.9	106.18	0.593	1.0012	8.339	4.95	526.0
854	157.9	159.0	1.05	52.6	158.9	106.21	0.593	1.0012	8.339	4.95	526.2
855	158.3	159.5	1.12	52.8	159.1	106.39	0.580	1.0012	8.339	4.83	514.8
856	159.2	160.3	1.10	53.0	159.9	106.90	0.593	1.0012	8.339	4.95	529.6
857	159.6	160.8	1.17	53.2	160.3	107.14	0.593	1.0012	8.338	4.95	530.8
858	160.5	161.6	1.15	53.3	161.2	107.84	0.593	1.0012	8.338	4.95	534.2
859	161.4	162.4	1.03	53.5	162.1	108.62	0.566	1.0012	8.338	4.72	513.0
860	162.3	163.3	1.08	53.6	162.9	109.35	0.552	1.0012	8.338	4.60	503.9
861	163.1	164.3	1.16	53.7	163.8	110.14	0.566	1.0012	8.338	4.72	520.2
862	164.0	165.1	1.17	53.8	164.6	110.81	0.593	1.0012	8.338	4.95	548.9
863	164.7	165.9	1.20	53.9	165.6	111.62	0.593	1.0012	8.338	4.95	552.9
864	165.6	166.8	1.21	54.0	166.6	112.57	0.580	1.0012	8.338	4.83	544.7
865	166.6	167.9	1.29	54.1	167.3	113.23	0.593	1.0012	8.337	4.95	560.9
866	167.5	168.8	1.24	54.1	168.4	114.28	0.580	1.0012	8.337	4.83	552.9
867	168.4	169.7	1.28	54.2	169.3	115.09	0.593	1.0012	8.337	4.95	570.1
868	169.4	170.7	1.28	54.3	170.3	115.96	0.580	1.0012	8.337	4.83	561.0
869	170.2	171.5	1.31	54.4	171.2	116.80	0.580	1.0012	8.337	4.83	565.1
870	171.2	172.5	1.31	54.4	172.1	117.68	0.580	1.0012	8.337	4.83	569.3
871	172.2	173.5	1.36	54.5	173.2	118.70	0.593	1.0012	8.337	4.95	588.0
872	173.1	174.5	1.38	54.5	174.0	119.49	0.580	1.0012	8.337	4.83	578.1
873	174.1	175.4	1.33	54.5	175.0	120.49	0.580	1.0012	8.337	4.83	583.0
874	175.1	176.4	1.39	54.5	176.0	121.49	0.580	1.0012	8.337	4.83	587.8
875	175.9	177.4	1.45	54.5	176.9	122.33	0.580	1.0012	8.337	4.83	591.8
876	176.9	178.3	1.42	54.6	177.8	123.22	0.580	1.0012	8.337	4.83	596.1
877	177.9	179.3	1.38	54.6	178.8	124.22	0.552	1.0012	8.337	4.60	572.3
878	178.8	180.2	1.44	54.6	179.8	125.22	0.566	1.0012	8.337	4.72	591.4
879	179.7	181.1	1.44	54.6	180.7	126.03	0.580	1.0012	8.337	4.83	609.7
880	180.3	181.7	1.42	54.6	181.4	126.76	0.566	1.0012	8.337	4.72	598.7
881	180.5	182.0	1.47	54.7	181.6	126.98	0.566	1.0012	8.337	4.72	599.7
882	180.8	182.2	1.45	54.7	181.9	127.26	0.580	1.0012	8.337	4.83	615.7
883	181.1	182.6	1.44	54.7	182.3	127.66	0.566	1.0012	8.337	4.72	602.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
884	181.4	182.7	1.36	54.7	182.6	127.90	0.566	1.0012	8.337	4.72	604.0
885	181.6	182.9	1.37	54.5	182.7	128.21	0.538	1.0012	8.337	4.49	576.0
886	181.6	183.0	1.45	54.2	182.8	128.62	0.580	1.0012	8.337	4.83	622.3
887	181.6	183.1	1.45	54.0	182.9	128.94	0.566	1.0012	8.338	4.72	609.0
888	181.7	183.2	1.44	53.8	183.0	129.25	0.566	1.0012	8.338	4.72	610.5
889	181.9	183.3	1.39	53.6	183.1	129.49	0.566	1.0012	8.338	4.72	611.6
890	181.9	183.3	1.42	53.5	183.1	129.60	0.552	1.0012	8.338	4.60	597.2
891	181.8	183.3	1.45	53.4	183.1	129.70	0.566	1.0012	8.338	4.72	612.6
892	181.8	183.3	1.43	53.3	183.1	129.78	0.580	1.0012	8.338	4.83	627.9
893	181.8	183.3	1.45	53.3	183.1	129.87	0.566	1.0012	8.338	4.72	613.4
894	181.8	183.3	1.47	53.2	183.0	129.83	0.580	1.0012	8.338	4.83	628.2
895	181.7	183.2	1.47	53.1	183.1	129.92	0.566	1.0012	8.338	4.72	613.7
896	181.7	183.2	1.46	53.1	183.0	129.94	0.566	1.0012	8.338	4.72	613.8
897	181.7	183.1	1.46	53.0	183.0	129.97	0.566	1.0012	8.338	4.72	613.9
898	181.7	183.1	1.47	52.9	183.0	130.03	0.580	1.0012	8.339	4.83	629.2
899	181.6	183.0	1.46	52.9	182.9	130.02	0.566	1.0012	8.339	4.72	614.2
900	181.5	182.9	1.42	52.8	182.8	130.00	0.566	1.0012	8.339	4.72	614.1
901	181.5	183.0	1.43	52.8	182.8	130.04	0.566	1.0012	8.339	4.72	614.3
902	181.4	182.9	1.45	52.8	182.7	129.93	0.566	1.0012	8.339	4.72	613.7
903	181.4	182.8	1.46	53.0	182.7	129.74	0.580	1.0012	8.339	4.83	627.8
904	181.3	182.7	1.45	53.2	182.6	129.39	0.566	1.0012	8.338	4.72	611.2
905	181.2	182.6	1.44	53.4	182.6	129.16	0.566	1.0012	8.338	4.72	610.1
906	181.1	182.5	1.41	53.5	182.5	128.94	0.566	1.0012	8.338	4.72	609.0
907	181.0	182.4	1.40	53.6	182.3	128.68	0.566	1.0012	8.338	4.72	607.8
908	180.9	182.3	1.39	53.7	182.2	128.49	0.566	1.0012	8.338	4.72	606.9
909	181.0	182.4	1.40	53.8	182.2	128.40	0.552	1.0012	8.338	4.60	591.7
910	180.9	182.2	1.32	53.9	182.1	128.18	0.524	1.0012	8.338	4.37	561.1
911	180.8	182.2	1.39	54.0	182.0	128.01	0.566	1.0012	8.338	4.72	604.6
912	180.7	182.1	1.40	54.1	181.9	127.80	0.552	1.0012	8.337	4.60	588.9
913	180.6	182.0	1.38	54.2	181.9	127.63	0.566	1.0012	8.337	4.72	602.8
914	180.5	181.9	1.35	54.3	181.8	127.43	0.552	1.0012	8.337	4.60	587.2
915	180.4	181.8	1.36	54.4	181.6	127.19	0.566	1.0012	8.337	4.72	600.7
916	180.3	181.7	1.36	54.5	181.6	127.02	0.552	1.0012	8.337	4.60	585.3
917	180.2	181.6	1.37	54.6	181.5	126.82	0.566	1.0012	8.337	4.72	599.0
918	180.0	181.4	1.37	54.7	181.3	126.65	0.552	1.0012	8.337	4.60	583.6
919	179.9	181.3	1.35	54.7	181.2	126.51	0.566	1.0012	8.337	4.72	597.5
920	179.9	181.2	1.36	54.8	181.1	126.36	0.552	1.0012	8.337	4.60	582.2
921	179.8	181.1	1.37	54.8	181.0	126.16	0.566	1.0012	8.337	4.72	595.8
922	179.7	181.1	1.38	54.9	180.9	126.03	0.552	1.0012	8.337	4.60	580.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
923	179.7	180.9	1.22	55.0	180.8	125.82	0.538	1.0012	8.337	4.49	565.2
924	179.4	180.8	1.35	55.0	180.7	125.64	0.538	1.0012	8.337	4.49	564.4
925	179.3	180.7	1.35	55.1	180.6	125.42	0.566	1.0012	8.336	4.72	592.3
926	179.3	180.6	1.35	55.2	180.5	125.28	0.552	1.0012	8.336	4.60	577.2
927	179.1	180.5	1.34	55.2	180.4	125.15	0.552	1.0012	8.336	4.60	576.6
928	179.0	180.3	1.33	55.2	180.2	124.95	0.566	1.0012	8.336	4.72	590.1
929	178.9	180.2	1.33	55.3	180.1	124.82	0.552	1.0012	8.336	4.60	575.1
930	178.8	180.1	1.33	55.3	180.0	124.66	0.566	1.0012	8.336	4.72	588.7
931	178.7	180.0	1.31	55.3	179.9	124.55	0.552	1.0012	8.336	4.60	573.8
932	178.6	179.9	1.31	55.4	179.8	124.36	0.552	1.0012	8.336	4.60	572.9
933	178.5	179.8	1.33	55.4	179.7	124.22	0.552	1.0012	8.336	4.60	572.3
934	178.3	179.6	1.30	55.5	179.5	123.99	0.566	1.0012	8.336	4.72	585.5
935	178.2	179.5	1.30	55.5	179.3	123.82	0.552	1.0012	8.336	4.60	570.5
936	178.1	179.3	1.28	55.5	179.2	123.69	0.552	1.0012	8.336	4.60	569.8
937	177.9	179.2	1.30	55.5	179.1	123.55	0.552	1.0012	8.336	4.60	569.2
938	177.7	179.1	1.31	55.5	178.9	123.38	0.566	1.0012	8.336	4.72	582.6
939	177.7	179.0	1.30	55.5	178.8	123.30	0.538	1.0012	8.336	4.49	553.8
940	177.5	178.8	1.28	55.5	178.7	123.15	0.566	1.0012	8.336	4.72	581.5
941	177.3	178.7	1.32	55.5	178.5	123.01	0.552	1.0012	8.336	4.60	566.7
942	177.3	178.5	1.28	55.5	178.4	122.94	0.552	1.0012	8.336	4.60	566.4
943	177.1	178.4	1.29	55.5	178.3	122.84	0.552	1.0012	8.336	4.60	565.9
944	176.9	178.2	1.30	55.5	178.1	122.67	0.552	1.0012	8.336	4.60	565.2
945	176.8	178.0	1.28	55.5	178.0	122.51	0.566	1.0012	8.336	4.72	578.5
946	176.7	178.0	1.30	55.5	177.9	122.44	0.566	1.0012	8.336	4.72	578.2
947	176.6	177.9	1.30	55.5	177.7	122.25	0.552	1.0012	8.336	4.60	563.2
948	176.5	177.7	1.21	55.5	177.6	122.14	0.552	1.0012	8.336	4.60	562.7
949	176.3	177.6	1.28	55.5	177.5	121.97	0.552	1.0012	8.336	4.60	561.9
950	176.1	177.4	1.27	55.6	177.3	121.71	0.566	1.0012	8.336	4.72	574.7
951	176.0	177.3	1.29	55.6	177.2	121.62	0.566	1.0012	8.336	4.72	574.3
952	175.9	177.1	1.27	55.6	177.1	121.50	0.552	1.0012	8.336	4.60	559.8
953	175.8	177.0	1.27	55.6	176.9	121.35	0.566	1.0012	8.336	4.72	573.0
954	175.6	176.9	1.27	55.6	176.8	121.23	0.566	1.0012	8.336	4.72	572.5
955	175.5	176.7	1.25	55.6	176.6	121.05	0.552	1.0012	8.336	4.60	557.7
956	175.4	176.6	1.25	55.6	176.5	120.92	0.566	1.0012	8.336	4.72	571.0
957	175.2	176.4	1.27	55.6	176.3	120.70	0.552	1.0012	8.336	4.60	556.1
958	175.1	176.4	1.26	55.6	176.3	120.64	0.566	1.0012	8.336	4.72	569.7
959	175.0	176.2	1.23	55.7	176.1	120.41	0.552	1.0012	8.336	4.60	554.7
960	174.8	176.1	1.25	55.7	175.9	120.24	0.566	1.0012	8.336	4.72	567.8
961	174.6	175.9	1.24	55.7	175.8	120.09	0.566	1.0012	8.336	4.72	567.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
962	174.6	175.8	1.24	55.7	175.7	119.97	0.552	1.0012	8.336	4.60	552.7
963	174.4	175.6	1.25	55.7	175.5	119.78	0.566	1.0012	8.336	4.72	565.6
964	174.3	175.5	1.24	55.7	175.4	119.63	0.552	1.0012	8.336	4.60	551.2
965	174.1	175.4	1.25	55.7	175.3	119.55	0.566	1.0012	8.336	4.72	564.5
966	174.0	175.2	1.26	55.7	175.1	119.40	0.552	1.0012	8.336	4.60	550.1
967	173.8	175.0	1.20	55.7	175.0	119.22	0.566	1.0012	8.336	4.72	563.0
968	173.7	175.0	1.23	55.8	174.8	119.03	0.552	1.0012	8.336	4.60	548.4
969	173.5	174.7	1.23	55.8	174.6	118.82	0.566	1.0012	8.336	4.72	561.1
970	173.4	174.7	1.23	55.8	174.5	118.69	0.552	1.0012	8.336	4.60	546.8
971	173.2	174.4	1.23	55.8	174.3	118.45	0.566	1.0012	8.336	4.72	559.3
972	173.1	174.3	1.23	55.9	174.2	118.31	0.552	1.0012	8.336	4.60	545.0
973	173.0	174.2	1.20	55.8	174.1	118.21	0.566	1.0012	8.336	4.72	558.2
974	172.8	174.0	1.19	55.9	173.9	118.06	0.552	1.0012	8.336	4.60	543.9
975	172.6	173.8	1.21	55.9	173.7	117.84	0.552	1.0012	8.336	4.60	542.9
976	172.6	173.8	1.21	55.9	173.6	117.74	0.566	1.0012	8.336	4.72	556.0
977	172.3	173.5	1.19	55.9	173.4	117.54	0.552	1.0012	8.336	4.60	541.5
978	172.2	173.4	1.22	55.9	173.3	117.34	0.566	1.0012	8.336	4.72	554.1
979	172.1	173.3	1.21	55.9	173.1	117.15	0.566	1.0012	8.336	4.72	553.2
980	171.9	173.1	1.19	56.0	173.0	117.01	0.552	1.0012	8.336	4.60	539.0
981	171.7	172.9	1.14	56.0	172.8	116.77	0.538	1.0012	8.336	4.49	524.5
982	171.6	172.8	1.22	56.0	172.6	116.60	0.552	1.0012	8.336	4.60	537.2
983	171.5	172.7	1.18	56.1	172.6	116.54	0.566	1.0012	8.336	4.72	550.3
984	171.4	172.6	1.20	56.1	172.5	116.36	0.552	1.0012	8.336	4.60	536.0
985	171.3	172.5	1.14	56.1	172.4	116.30	0.552	1.0012	8.336	4.60	535.8
986	171.2	172.4	1.17	56.1	172.2	116.06	0.552	1.0012	8.335	4.60	534.7
987	171.0	172.1	1.17	56.1	172.0	115.89	0.552	1.0012	8.335	4.60	533.9
988	170.8	172.0	1.17	56.2	171.9	115.71	0.566	1.0012	8.335	4.72	546.4
989	170.6	171.8	1.15	56.2	171.6	115.45	0.566	1.0012	8.335	4.72	545.1
990	170.5	171.6	1.15	56.2	171.5	115.32	0.566	1.0012	8.335	4.72	544.5
991	170.4	171.5	1.16	56.2	171.4	115.13	0.552	1.0012	8.335	4.60	530.4
992	170.3	171.4	1.17	56.2	171.3	115.03	0.566	1.0012	8.335	4.72	543.2
993	170.1	171.3	1.14	56.3	171.2	114.89	0.552	1.0012	8.335	4.60	529.3
994	169.9	171.1	1.14	56.3	170.9	114.61	0.566	1.0012	8.335	4.72	541.2
995	169.8	170.9	1.15	56.3	170.8	114.50	0.552	1.0012	8.335	4.60	527.4
996	169.6	170.7	1.12	56.3	170.7	114.35	0.566	1.0012	8.335	4.72	539.9
997	169.5	170.6	1.15	56.3	170.5	114.16	0.566	1.0012	8.335	4.72	539.0
998	169.3	170.5	1.14	56.3	170.4	114.11	0.552	1.0012	8.335	4.60	525.7
999	169.3	170.4	1.12	56.2	170.3	114.08	0.552	1.0012	8.335	4.60	525.5
1000	169.0	170.1	1.13	56.2	170.1	113.83	0.566	1.0012	8.335	4.72	537.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1001	169.0	170.1	1.12	56.2	170.0	113.73	0.552	1.0012	8.335	4.60	523.9
1002	168.8	169.9	1.13	56.2	169.8	113.58	0.566	1.0012	8.335	4.72	536.3
1003	168.6	169.8	1.15	56.3	169.6	113.37	0.566	1.0012	8.335	4.72	535.3
1004	168.5	169.6	1.14	56.2	169.5	113.23	0.552	1.0012	8.335	4.60	521.6
1005	168.4	169.5	1.12	56.2	169.4	113.12	0.566	1.0012	8.335	4.72	534.1
1006	168.3	169.4	1.13	56.3	169.2	112.99	0.552	1.0012	8.335	4.60	520.5
1007	168.1	169.2	1.07	56.2	169.1	112.86	0.538	1.0012	8.335	4.49	506.9
1008	167.9	169.0	1.10	56.0	168.9	112.91	0.552	1.0012	8.336	4.60	520.2
1009	167.7	168.8	1.13	55.7	168.7	112.98	0.566	1.0012	8.336	4.72	533.5
1010	167.7	168.8	1.05	55.5	168.6	113.14	0.552	1.0012	8.336	4.60	521.3
1011	167.4	168.5	1.12	55.3	168.5	113.18	0.552	1.0012	8.336	4.60	521.4
1012	167.2	168.4	1.12	55.1	168.3	113.16	0.566	1.0012	8.336	4.72	534.4
1013	167.1	168.3	1.16	55.0	168.1	113.08	0.566	1.0012	8.337	4.72	534.0
1014	167.1	168.2	1.13	54.9	168.0	113.16	0.566	1.0012	8.337	4.72	534.4
1015	166.9	168.0	1.13	54.8	167.9	113.09	0.566	1.0012	8.337	4.72	534.1
1016	166.8	167.9	1.13	54.8	167.8	113.03	0.566	1.0012	8.337	4.72	533.8
1017	166.6	167.7	1.12	54.7	167.6	112.90	0.566	1.0012	8.337	4.72	533.2
1018	166.4	167.5	1.12	54.6	167.4	112.78	0.566	1.0012	8.337	4.72	532.7
1019	166.2	167.4	1.12	54.6	167.3	112.71	0.566	1.0012	8.337	4.72	532.3
1020	166.1	167.2	1.13	54.5	167.1	112.59	0.566	1.0012	8.337	4.72	531.7
1021	166.0	167.1	1.11	54.4	166.9	112.49	0.566	1.0012	8.337	4.72	531.3
1022	165.8	166.9	1.10	54.4	166.8	112.41	0.566	1.0012	8.337	4.72	530.9
1023	165.6	166.7	1.08	54.3	166.6	112.34	0.566	1.0012	8.337	4.72	530.6
1024	165.5	166.6	1.12	54.2	166.5	112.24	0.566	1.0012	8.337	4.72	530.1
1025	165.4	166.5	1.14	54.2	166.3	112.15	0.566	1.0012	8.337	4.72	529.7
1026	165.3	166.4	1.10	54.1	166.3	112.13	0.566	1.0012	8.337	4.72	529.6
1027	165.1	166.2	1.09	54.1	166.1	111.98	0.566	1.0012	8.337	4.72	528.9
1028	164.9	166.0	1.09	54.0	165.9	111.85	0.566	1.0012	8.338	4.72	528.3
1029	164.8	165.9	1.11	54.0	165.8	111.77	0.566	1.0012	8.338	4.72	527.9
1030	164.6	165.7	1.10	54.0	165.6	111.66	0.566	1.0012	8.338	4.72	527.4
1031	164.4	165.5	1.09	53.9	165.4	111.51	0.566	1.0012	8.338	4.72	526.7
1032	164.4	165.4	1.08	53.9	165.3	111.42	0.566	1.0012	8.338	4.72	526.3
1033	164.2	165.2	1.08	53.9	165.1	111.24	0.566	1.0012	8.338	4.72	525.4
1034	163.9	165.0	1.07	53.9	164.9	111.06	0.566	1.0012	8.338	4.72	524.5
1035	163.8	164.9	1.07	53.9	164.8	110.93	0.552	1.0012	8.338	4.60	511.2
1036	163.7	164.8	1.08	53.8	164.7	110.90	0.580	1.0012	8.338	4.83	536.6
1037	163.5	164.6	1.09	53.8	164.5	110.71	0.566	1.0012	8.338	4.72	522.9
1038	163.4	164.5	1.07	53.8	164.4	110.59	0.566	1.0012	8.338	4.72	522.3
1039	163.2	164.3	1.09	53.8	164.2	110.44	0.566	1.0012	8.338	4.72	521.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1040	163.1	164.2	1.05	53.8	164.1	110.35	0.566	1.0012	8.338	4.72	521.2
1041	163.0	164.1	1.07	53.8	164.0	110.19	0.566	1.0012	8.338	4.72	520.5
1042	162.8	163.9	1.09	53.8	163.8	109.98	0.552	1.0012	8.338	4.60	506.8
1043	162.7	163.7	1.05	53.8	163.6	109.86	0.566	1.0012	8.338	4.72	518.9
1044	162.5	163.6	1.07	53.8	163.4	109.66	0.566	1.0012	8.338	4.72	518.0
1045	162.4	163.4	1.05	53.8	163.4	109.58	0.580	1.0012	8.338	4.83	530.2
1046	162.2	163.2	1.06	53.8	163.2	109.40	0.566	1.0012	8.338	4.72	516.7
1047	162.1	163.1	1.05	53.8	163.0	109.25	0.566	1.0012	8.338	4.72	516.0
1048	161.9	163.0	1.05	53.8	162.9	109.08	0.566	1.0012	8.338	4.72	515.2
1049	161.7	162.8	1.06	53.8	162.7	108.90	0.566	1.0012	8.338	4.72	514.3
1050	161.5	162.6	1.04	53.8	162.5	108.69	0.566	1.0012	8.338	4.72	513.4
1051	161.6	162.6	1.02	53.8	162.4	108.63	0.552	1.0012	8.338	4.60	500.6
1052	161.4	162.4	1.06	53.8	162.3	108.47	0.566	1.0012	8.338	4.72	512.3
1053	161.2	162.2	1.04	53.8	162.1	108.32	0.566	1.0012	8.338	4.72	511.6
1054	161.1	162.1	1.01	53.8	162.0	108.17	0.566	1.0012	8.338	4.72	510.9
1055	160.9	161.9	1.06	53.8	161.8	107.94	0.566	1.0012	8.338	4.72	509.8
1056	160.8	161.8	1.03	53.8	161.7	107.84	0.566	1.0012	8.338	4.72	509.3
1057	160.6	161.7	1.05	53.8	161.5	107.63	0.566	1.0012	8.338	4.72	508.4
1058	160.5	161.5	1.03	53.8	161.4	107.54	0.566	1.0012	8.338	4.72	507.9
1059	160.3	161.4	1.03	53.8	161.2	107.41	0.552	1.0012	8.338	4.60	494.9
1060	160.2	161.2	1.03	53.8	161.1	107.25	0.566	1.0012	8.338	4.72	506.6
1061	160.0	161.1	1.04	53.8	160.9	107.07	0.566	1.0012	8.338	4.72	505.7
1062	159.9	160.9	1.01	53.8	160.8	106.97	0.566	1.0012	8.338	4.72	505.2
1063	159.8	160.8	1.00	53.8	160.6	106.76	0.566	1.0012	8.338	4.72	504.2
1064	159.6	160.6	1.01	53.8	160.4	106.63	0.566	1.0012	8.338	4.72	503.6
1065	159.4	160.4	0.98	53.8	160.3	106.49	0.566	1.0012	8.338	4.72	503.0
1066	159.3	160.3	1.03	53.8	160.1	106.31	0.566	1.0012	8.338	4.72	502.1
1067	159.1	160.2	1.04	53.8	160.0	106.18	0.566	1.0012	8.338	4.72	501.5
1068	159.0	159.9	0.98	53.8	159.9	106.07	0.566	1.0012	8.338	4.72	501.0
1069	158.8	159.8	1.01	53.8	159.7	105.87	0.566	1.0012	8.338	4.72	500.1
1070	158.7	159.6	0.97	53.8	159.6	105.75	0.566	1.0012	8.338	4.72	499.5
1071	158.5	159.5	0.97	53.8	159.4	105.61	0.552	1.0012	8.338	4.60	486.7
1072	158.4	159.4	0.99	53.8	159.2	105.40	0.566	1.0012	8.338	4.72	497.8
1073	158.1	159.2	1.02	53.8	159.1	105.23	0.580	1.0012	8.338	4.83	509.1
1074	158.0	159.0	1.03	53.8	158.9	105.08	0.566	1.0012	8.338	4.72	496.3
1075	157.8	158.9	1.01	53.8	158.8	104.99	0.580	1.0012	8.338	4.83	508.0
1076	157.9	158.9	1.03	53.8	158.7	104.87	0.580	1.0012	8.338	4.83	507.4
1077	158.1	159.2	1.09	53.9	158.8	104.95	0.566	1.0012	8.338	4.72	495.7
1078	158.7	159.8	1.08	54.1	159.5	105.35	0.580	1.0012	8.337	4.83	509.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1079	159.7	160.8	1.10	54.4	160.4	106.02	0.580	1.0012	8.337	4.83	512.9
1080	160.3	161.4	1.07	54.6	161.1	106.48	0.566	1.0012	8.337	4.72	502.9
1081	161.1	162.2	1.10	54.7	161.7	106.99	0.580	1.0012	8.337	4.83	517.6
1082	161.7	162.8	1.07	54.9	162.6	107.67	0.580	1.0012	8.337	4.83	520.9
1083	162.5	163.7	1.11	55.1	163.3	108.20	0.580	1.0012	8.337	4.83	523.4
1084	163.4	164.6	1.19	55.2	164.2	108.98	0.580	1.0012	8.336	4.83	527.2
1085	164.6	165.7	1.17	55.3	165.3	109.95	0.566	1.0012	8.336	4.72	519.2
1086	165.3	166.5	1.17	55.4	166.1	110.62	0.580	1.0012	8.336	4.83	535.1
1087	166.1	167.3	1.22	55.5	166.9	111.36	0.580	1.0012	8.336	4.83	538.7
1088	166.8	168.0	1.16	55.6	167.7	112.06	0.566	1.0012	8.336	4.72	529.2
1089	167.8	169.0	1.18	55.7	168.6	112.91	0.580	1.0012	8.336	4.83	546.2
1090	168.7	170.0	1.25	55.8	169.7	113.85	0.580	1.0012	8.336	4.83	550.7
1091	169.6	170.9	1.25	55.9	170.5	114.62	0.566	1.0012	8.336	4.72	541.2
1092	170.6	171.8	1.24	56.0	171.5	115.53	0.580	1.0012	8.336	4.83	558.8
1093	171.4	172.7	1.29	56.0	172.2	116.23	0.580	1.0012	8.336	4.83	562.2
1094	172.3	173.6	1.32	56.1	173.3	117.16	0.566	1.0012	8.336	4.72	553.2
1095	173.2	174.6	1.31	56.2	174.2	118.00	0.566	1.0012	8.335	4.72	557.2
1096	174.2	175.6	1.34	56.2	175.1	118.88	0.566	1.0012	8.335	4.72	561.3
1097	175.0	176.4	1.36	56.3	176.0	119.68	0.580	1.0012	8.335	4.83	578.9
1098	176.1	177.4	1.35	56.4	177.0	120.61	0.566	1.0012	8.335	4.72	569.5
1099	176.9	178.3	1.39	56.4	177.8	121.41	0.566	1.0012	8.335	4.72	573.3
1100	177.8	179.1	1.36	56.5	178.7	122.27	0.580	1.0012	8.335	4.83	591.4
1101	178.7	180.1	1.40	56.5	179.7	123.17	0.566	1.0012	8.335	4.72	581.6
1102	179.4	180.8	1.36	56.5	180.5	123.99	0.566	1.0012	8.335	4.72	585.4
1103	180.1	181.5	1.38	56.6	181.3	124.74	0.566	1.0012	8.335	4.72	589.0
1104	180.5	181.9	1.42	56.6	181.6	124.99	0.552	1.0012	8.335	4.60	575.8
1105	180.8	182.2	1.40	56.6	182.0	125.32	0.580	1.0012	8.335	4.83	606.1
1106	181.1	182.5	1.41	56.7	182.3	125.61	0.552	1.0012	8.335	4.60	578.6
1107	181.3	182.8	1.41	56.7	182.5	125.80	0.566	1.0012	8.335	4.72	594.0
1108	181.5	183.0	1.40	56.8	182.7	125.97	0.566	1.0012	8.335	4.72	594.8
1109	181.6	183.0	1.38	56.8	182.9	126.06	0.552	1.0012	8.335	4.60	580.7
1110	181.7	183.1	1.44	56.8	182.9	126.10	0.580	1.0012	8.335	4.83	609.9
1111	181.8	183.2	1.43	56.8	183.0	126.19	0.552	1.0012	8.335	4.60	581.3
1112	181.9	183.3	1.42	56.9	183.1	126.26	0.566	1.0012	8.335	4.72	596.1
1113	182.0	183.3	1.34	56.9	183.2	126.26	0.552	1.0012	8.335	4.60	581.6
1114	182.1	183.4	1.32	56.9	183.2	126.29	0.524	1.0012	8.335	4.37	552.6
1115	181.9	183.3	1.40	57.0	183.2	126.18	0.566	1.0012	8.335	4.72	595.8
1116	182.0	183.4	1.39	57.0	183.2	126.19	0.566	1.0012	8.335	4.72	595.8
1117	182.0	183.4	1.40	57.0	183.2	126.18	0.566	1.0012	8.335	4.72	595.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1118	182.0	183.4	1.39	57.1	183.3	126.21	0.566	1.0012	8.335	4.72	595.9
1119	181.9	183.3	1.41	57.1	183.2	126.06	0.566	1.0012	8.335	4.72	595.2
1120	181.9	183.3	1.40	57.1	183.2	126.11	0.566	1.0012	8.335	4.72	595.4
1121	181.9	183.3	1.37	57.1	183.2	126.09	0.566	1.0012	8.335	4.72	595.3
1122	181.9	183.3	1.40	57.1	183.1	126.02	0.566	1.0012	8.335	4.72	595.0
1123	181.8	183.2	1.39	57.1	183.1	125.95	0.566	1.0012	8.335	4.72	594.7
1124	181.9	183.3	1.39	57.1	183.1	125.94	0.566	1.0012	8.334	4.72	594.6
1125	181.8	183.2	1.40	57.0	183.0	125.97	0.566	1.0012	8.335	4.72	594.7
1126	181.7	183.1	1.40	56.8	182.9	126.18	0.566	1.0012	8.335	4.72	595.8
1127	181.6	183.0	1.41	56.5	182.9	126.41	0.566	1.0012	8.335	4.72	596.8
1128	181.7	183.0	1.31	56.3	182.8	126.57	0.538	1.0012	8.335	4.49	568.5
1129	181.5	182.9	1.38	56.1	182.8	126.69	0.566	1.0012	8.336	4.72	598.2
1130	181.5	182.8	1.31	55.9	182.7	126.80	0.552	1.0012	8.336	4.60	584.1
1131	181.3	182.7	1.40	55.8	182.6	126.82	0.566	1.0012	8.336	4.72	598.9
1132	181.2	182.6	1.39	55.6	182.6	126.95	0.566	1.0012	8.336	4.72	599.5
1133	181.2	182.6	1.37	55.5	182.4	126.93	0.566	1.0012	8.336	4.72	599.4
1134	181.1	182.5	1.40	55.4	182.4	126.94	0.566	1.0012	8.336	4.72	599.4
1135	181.0	182.4	1.40	55.3	182.3	126.96	0.566	1.0012	8.336	4.72	599.5
1136	181.0	182.4	1.40	55.2	182.2	126.99	0.580	1.0012	8.336	4.83	614.3
1137	180.9	182.2	1.37	55.1	182.2	127.03	0.566	1.0012	8.336	4.72	599.9
1138	180.7	182.1	1.40	55.1	182.0	126.93	0.566	1.0012	8.337	4.72	599.4
1139	180.7	182.1	1.39	55.0	181.9	126.95	0.566	1.0012	8.337	4.72	599.5
1140	180.6	182.0	1.40	54.9	181.8	126.88	0.566	1.0012	8.337	4.72	599.2
1141	180.5	181.9	1.42	54.9	181.7	126.84	0.566	1.0012	8.337	4.72	599.0
1142	180.3	181.7	1.39	54.8	181.6	126.75	0.580	1.0012	8.337	4.83	613.2
1143	180.3	181.6	1.34	54.8	181.5	126.68	0.552	1.0012	8.337	4.60	583.7
1144	180.2	181.6	1.33	54.7	181.4	126.67	0.538	1.0012	8.337	4.49	569.0
1145	180.0	181.4	1.39	54.7	181.3	126.58	0.566	1.0012	8.337	4.72	597.8
1146	179.9	181.3	1.38	54.6	181.1	126.48	0.566	1.0012	8.337	4.72	597.3
1147	179.8	181.2	1.34	54.6	181.1	126.53	0.566	1.0012	8.337	4.72	597.6
1148	179.7	181.1	1.39	54.6	181.0	126.41	0.566	1.0012	8.337	4.72	597.0
1149	179.6	181.0	1.40	54.5	180.9	126.32	0.566	1.0012	8.337	4.72	596.6
1150	179.5	180.8	1.30	54.5	180.7	126.23	0.552	1.0012	8.337	4.60	581.6
1151	179.3	180.7	1.39	54.5	180.6	126.10	0.566	1.0012	8.337	4.72	595.6
1152	179.2	180.6	1.37	54.5	180.5	126.01	0.566	1.0012	8.337	4.72	595.1
1153	179.1	180.4	1.37	54.5	180.4	125.88	0.566	1.0012	8.337	4.72	594.5
1154	179.0	180.3	1.38	54.5	180.2	125.71	0.566	1.0012	8.337	4.72	593.7
1155	178.9	180.3	1.38	54.5	180.2	125.67	0.566	1.0012	8.337	4.72	593.5
1156	178.8	180.2	1.37	54.5	180.0	125.55	0.566	1.0012	8.337	4.72	592.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1157	178.6	179.9	1.37	54.5	179.9	125.37	0.580	1.0012	8.337	4.83	606.5
1158	178.5	179.9	1.37	54.5	179.7	125.24	0.566	1.0012	8.337	4.72	591.5
1159	178.4	179.7	1.34	54.5	179.6	125.19	0.566	1.0012	8.337	4.72	591.2
1160	178.3	179.6	1.37	54.4	179.5	125.08	0.566	1.0012	8.337	4.72	590.7
1161	178.0	179.4	1.34	54.4	179.3	124.92	0.566	1.0012	8.337	4.72	590.0
1162	177.9	179.2	1.35	54.3	179.1	124.78	0.566	1.0012	8.337	4.72	589.3
1163	177.8	179.1	1.33	54.3	179.0	124.75	0.566	1.0012	8.337	4.72	589.2
1164	177.7	179.1	1.37	54.3	178.9	124.60	0.580	1.0012	8.337	4.83	602.8
1165	177.5	178.9	1.33	54.3	178.8	124.50	0.566	1.0012	8.337	4.72	588.0
1166	177.4	178.8	1.34	54.2	178.6	124.37	0.566	1.0012	8.337	4.72	587.4
1167	177.3	178.6	1.33	54.2	178.5	124.29	0.566	1.0012	8.337	4.72	587.0
1168	177.1	178.4	1.33	54.2	178.4	124.18	0.566	1.0012	8.337	4.72	586.5
1169	177.0	178.3	1.33	54.2	178.2	124.01	0.566	1.0012	8.337	4.72	585.7
1170	176.9	178.3	1.35	54.2	178.1	123.93	0.580	1.0012	8.337	4.83	599.6
1171	176.7	178.0	1.30	54.2	178.0	123.80	0.566	1.0012	8.337	4.72	584.7
1172	176.5	177.8	1.31	54.2	177.7	123.58	0.566	1.0012	8.337	4.72	583.7
1173	176.4	177.7	1.33	54.2	177.6	123.44	0.566	1.0012	8.337	4.72	583.0
1174	176.3	177.7	1.35	54.1	177.5	123.31	0.566	1.0012	8.337	4.72	582.4
1175	176.2	177.5	1.31	54.1	177.4	123.24	0.580	1.0012	8.337	4.83	596.3
1176	176.1	177.4	1.31	54.1	177.3	123.16	0.566	1.0012	8.337	4.72	581.7
1177	175.9	177.2	1.32	54.1	177.2	123.02	0.566	1.0012	8.337	4.72	581.0
1178	175.9	177.2	1.30	54.1	177.0	122.90	0.566	1.0012	8.337	4.72	580.5
1179	175.6	176.9	1.29	54.2	176.8	122.68	0.566	1.0012	8.337	4.72	579.4
1180	175.5	176.8	1.29	54.2	176.7	122.57	0.580	1.0012	8.337	4.83	593.0
1181	175.4	176.7	1.30	54.2	176.6	122.39	0.552	1.0012	8.337	4.60	563.9
1182	175.2	176.5	1.29	54.2	176.4	122.20	0.566	1.0012	8.337	4.72	577.1
1183	175.1	176.4	1.30	54.2	176.3	122.07	0.580	1.0012	8.337	4.83	590.6
1184	175.0	176.3	1.30	54.3	176.2	121.92	0.566	1.0012	8.337	4.72	575.8
1185	174.8	176.1	1.30	54.3	176.0	121.74	0.566	1.0012	8.337	4.72	575.0
1186	174.7	176.0	1.28	54.3	175.9	121.60	0.580	1.0012	8.337	4.83	588.3
1187	174.5	175.8	1.28	54.3	175.7	121.36	0.566	1.0012	8.337	4.72	573.2
1188	174.3	175.6	1.31	54.3	175.5	121.13	0.580	1.0012	8.337	4.83	586.0
1189	174.2	175.5	1.30	54.4	175.3	120.97	0.566	1.0012	8.337	4.72	571.3
1190	174.0	175.3	1.27	54.4	175.2	120.80	0.566	1.0012	8.337	4.72	570.5
1191	173.9	175.2	1.26	54.4	175.1	120.67	0.552	1.0012	8.337	4.60	556.0
1192	173.8	175.1	1.27	54.4	174.9	120.52	0.580	1.0012	8.337	4.83	583.1
1193	173.6	174.9	1.27	54.4	174.7	120.31	0.566	1.0012	8.337	4.72	568.2
1194	173.4	174.7	1.27	54.5	174.6	120.13	0.566	1.0012	8.337	4.72	567.3
1195	173.2	174.5	1.25	54.5	174.4	119.98	0.580	1.0012	8.337	4.83	580.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1196	173.2	174.5	1.27	54.5	174.3	119.84	0.566	1.0012	8.337	4.72	566.0
1197	173.0	174.2	1.23	54.5	174.2	119.65	0.566	1.0012	8.337	4.72	565.1
1198	172.9	174.2	1.27	54.5	174.0	119.49	0.566	1.0012	8.337	4.72	564.3
1199	172.8	174.0	1.26	54.5	173.9	119.36	0.566	1.0012	8.337	4.72	563.7
1200	172.5	173.8	1.25	54.6	173.7	119.15	0.580	1.0012	8.337	4.83	576.4
1201	172.3	173.6	1.27	54.6	173.5	118.92	0.566	1.0012	8.337	4.72	561.6
1202	172.3	173.5	1.25	54.6	173.4	118.87	0.566	1.0012	8.337	4.72	561.4
1203	172.1	173.3	1.24	54.6	173.3	118.69	0.566	1.0012	8.337	4.72	560.5
1204	171.9	173.1	1.25	54.6	173.0	118.44	0.580	1.0012	8.337	4.83	573.0
1205	171.9	173.1	1.24	54.6	173.0	118.38	0.566	1.0012	8.337	4.72	559.1
1206	171.8	173.0	1.24	54.6	172.9	118.31	0.566	1.0012	8.337	4.72	558.8
1207	171.6	172.9	1.21	54.6	172.7	118.17	0.552	1.0012	8.337	4.60	544.5
1208	171.4	172.7	1.23	54.6	172.5	117.96	0.566	1.0012	8.337	4.72	557.1
1209	171.3	172.5	1.24	54.6	172.4	117.80	0.580	1.0012	8.337	4.83	569.9
1210	171.1	172.3	1.24	54.6	172.2	117.62	0.566	1.0012	8.337	4.72	555.5
1211	171.0	172.2	1.24	54.5	172.0	117.50	0.580	1.0012	8.337	4.83	568.5
1212	170.9	172.1	1.20	54.5	172.0	117.43	0.566	1.0012	8.337	4.72	554.6
1213	170.6	171.8	1.21	54.5	171.8	117.25	0.566	1.0012	8.337	4.72	553.7
1214	170.5	171.7	1.21	54.5	171.6	117.06	0.580	1.0012	8.337	4.83	566.3
1215	170.4	171.6	1.21	54.5	171.5	116.92	0.566	1.0012	8.337	4.72	552.2
1216	170.2	171.4	1.21	54.5	171.2	116.71	0.580	1.0012	8.337	4.83	564.6
1217	170.1	171.3	1.23	54.5	171.2	116.63	0.566	1.0012	8.337	4.72	550.8
1218	169.9	171.1	1.19	54.6	171.0	116.49	0.580	1.0012	8.337	4.83	563.6
1219	169.9	171.0	1.13	54.6	170.9	116.36	0.538	1.0012	8.337	4.49	522.7
1220	169.6	170.8	1.22	54.6	170.8	116.19	0.566	1.0012	8.337	4.72	548.7
1221	169.5	170.7	1.22	54.5	170.6	116.07	0.566	1.0012	8.337	4.72	548.2
1222	169.3	170.5	1.21	54.5	170.4	115.82	0.580	1.0012	8.337	4.83	560.4
1223	169.2	170.4	1.20	54.5	170.3	115.80	0.566	1.0012	8.337	4.72	546.9
1224	169.0	170.2	1.17	54.5	170.1	115.63	0.580	1.0012	8.337	4.83	559.4
1225	168.8	170.0	1.18	54.5	170.0	115.50	0.566	1.0012	8.337	4.72	545.5
1226	168.7	169.9	1.19	54.4	169.8	115.38	0.580	1.0012	8.337	4.83	558.2
1227	168.6	169.8	1.17	54.4	169.7	115.28	0.566	1.0012	8.337	4.72	544.5
1228	168.3	169.6	1.20	54.4	169.5	115.07	0.580	1.0012	8.337	4.83	556.7
1229	168.3	169.5	1.20	54.4	169.4	115.00	0.566	1.0012	8.337	4.72	543.1
1230	168.2	169.3	1.18	54.4	169.2	114.87	0.580	1.0012	8.337	4.83	555.8
1231	167.9	169.1	1.17	54.4	168.9	114.58	0.566	1.0012	8.337	4.72	541.2
1232	167.9	169.1	1.18	54.3	168.9	114.56	0.566	1.0012	8.337	4.72	541.1
1233	167.6	168.8	1.17	54.3	168.7	114.35	0.566	1.0012	8.337	4.72	540.1
1234	167.5	168.6	1.16	54.3	168.6	114.28	0.580	1.0012	8.337	4.83	552.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1235	167.3	168.5	1.16	54.3	168.4	114.12	0.566	1.0012	8.337	4.72	539.0
1236	167.3	168.4	1.17	54.2	168.3	114.03	0.580	1.0012	8.337	4.83	551.7
1237	167.1	168.2	1.16	54.2	168.1	113.94	0.566	1.0012	8.337	4.72	538.1
1238	167.0	168.2	1.20	54.2	168.0	113.84	0.580	1.0012	8.337	4.83	550.8
1239	166.8	167.9	1.16	54.2	167.9	113.68	0.566	1.0012	8.337	4.72	536.9
1240	166.6	167.8	1.16	54.2	167.7	113.51	0.580	1.0012	8.337	4.83	549.2
1241	166.5	167.6	1.16	54.2	167.5	113.36	0.566	1.0012	8.337	4.72	535.4
1242	166.4	167.5	1.15	54.2	167.4	113.23	0.566	1.0012	8.337	4.72	534.8
1243	166.2	167.3	1.12	54.2	167.2	113.07	0.580	1.0012	8.337	4.83	547.1
1244	166.0	167.2	1.15	54.2	167.0	112.83	0.566	1.0012	8.337	4.72	532.9
1245	165.9	167.0	1.14	54.2	166.9	112.70	0.580	1.0012	8.337	4.83	545.3
1246	165.8	166.9	1.13	54.2	166.8	112.59	0.566	1.0012	8.337	4.72	531.8
1247	165.6	166.8	1.13	54.2	166.7	112.46	0.580	1.0012	8.337	4.83	544.1
1248	165.4	166.5	1.13	54.2	166.4	112.22	0.566	1.0012	8.337	4.72	530.0
1249	165.3	166.5	1.13	54.2	166.4	112.15	0.580	1.0012	8.337	4.83	542.6
1250	165.1	166.2	1.11	54.2	166.2	112.00	0.566	1.0012	8.337	4.72	529.0
1251	165.0	166.1	1.13	54.2	166.0	111.78	0.566	1.0012	8.337	4.72	527.9
1252	164.9	166.0	1.11	54.2	165.9	111.67	0.580	1.0012	8.337	4.83	540.3
1253	164.7	165.8	1.11	54.2	165.7	111.52	0.566	1.0012	8.337	4.72	526.7
1254	164.5	165.7	1.13	54.2	165.5	111.31	0.566	1.0012	8.337	4.72	525.7
1255	164.4	165.5	1.11	54.2	165.4	111.20	0.580	1.0012	8.337	4.83	538.0
1256	164.3	165.4	1.10	54.2	165.3	111.01	0.566	1.0012	8.337	4.72	524.3
1257	164.1	165.2	1.12	54.3	165.1	110.80	0.580	1.0012	8.337	4.83	536.1
1258	164.0	165.1	1.09	54.3	165.0	110.72	0.566	1.0012	8.337	4.72	522.9
1259	163.8	164.9	1.09	54.3	164.8	110.51	0.580	1.0012	8.337	4.83	534.7
1260	163.6	164.7	1.09	54.3	164.6	110.31	0.566	1.0012	8.337	4.72	521.0
1261	163.4	164.5	1.11	54.3	164.4	110.09	0.580	1.0012	8.337	4.83	532.6
1262	163.3	164.4	1.07	54.4	164.3	109.96	0.566	1.0012	8.337	4.72	519.3
1263	163.2	164.3	1.11	54.4	164.2	109.80	0.566	1.0012	8.337	4.72	518.6
1264	163.1	164.2	1.10	54.4	164.0	109.64	0.580	1.0012	8.337	4.83	530.5
1265	162.9	164.0	1.09	54.4	163.9	109.44	0.566	1.0012	8.337	4.72	516.9
1266	162.7	163.8	1.07	54.4	163.7	109.28	0.580	1.0012	8.337	4.83	528.7
1267	162.5	163.6	1.09	54.4	163.5	109.03	0.566	1.0012	8.337	4.72	514.9
1268	162.6	163.6	1.07	54.5	163.5	109.02	0.566	1.0012	8.337	4.72	514.9
1269	162.4	163.5	1.08	54.5	163.3	108.88	0.580	1.0012	8.337	4.83	526.8
1270	162.2	163.2	1.08	54.5	163.2	108.69	0.566	1.0012	8.337	4.72	513.3
1271	162.1	163.1	1.06	54.5	163.0	108.52	0.580	1.0012	8.337	4.83	525.0
1272	161.9	162.9	1.09	54.5	162.8	108.27	0.566	1.0012	8.337	4.72	511.4
1273	161.8	162.8	1.04	54.5	162.8	108.24	0.580	1.0012	8.337	4.83	523.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1274	161.6	162.6	1.06	54.5	162.5	108.02	0.566	1.0012	8.337	4.72	510.2
1275	161.5	162.5	1.05	54.5	162.4	107.87	0.580	1.0012	8.337	4.83	521.9
1276	161.3	162.3	1.04	54.6	162.2	107.67	0.566	1.0012	8.337	4.72	508.5
1277	161.1	162.2	1.05	54.6	162.1	107.54	0.580	1.0012	8.337	4.83	520.3
1278	161.1	162.1	1.04	54.6	162.0	107.42	0.566	1.0012	8.337	4.72	507.3
1279	160.9	161.9	1.06	54.6	161.8	107.21	0.580	1.0012	8.337	4.83	518.7
1280	160.8	161.8	1.06	54.6	161.7	107.10	0.580	1.0012	8.337	4.83	518.1
1281	160.6	161.7	1.04	54.6	161.5	106.94	0.566	1.0012	8.337	4.72	505.0
1282	160.4	161.5	1.05	54.6	161.4	106.76	0.580	1.0012	8.337	4.83	516.5
1283	160.3	161.3	1.04	54.6	161.2	106.59	0.566	1.0012	8.337	4.72	503.4
1284	160.1	161.1	1.03	54.6	161.0	106.38	0.580	1.0012	8.337	4.83	514.6
1285	160.0	161.0	0.99	54.6	160.9	106.28	0.552	1.0012	8.337	4.60	489.7
1286	159.8	160.8	1.02	54.6	160.8	106.14	0.566	1.0012	8.337	4.72	501.3
1287	159.7	160.7	1.03	54.6	160.6	105.98	0.580	1.0012	8.337	4.83	512.7
1288	159.5	160.5	1.04	54.6	160.5	105.81	0.580	1.0012	8.337	4.83	511.9
1289	159.4	160.4	1.05	54.6	160.3	105.62	0.580	1.0012	8.337	4.83	511.0
1290	159.3	160.3	1.01	54.6	160.2	105.56	0.566	1.0012	8.337	4.72	498.6
1291	159.1	160.1	1.02	54.6	160.0	105.32	0.580	1.0012	8.337	4.83	509.5
1292	158.9	159.9	1.03	54.6	159.8	105.14	0.566	1.0012	8.337	4.72	496.6
1293	158.9	159.8	0.94	54.7	159.7	105.08	0.552	1.0012	8.337	4.60	484.1
1294	158.6	159.6	1.04	54.7	159.5	104.83	0.566	1.0012	8.337	4.72	495.1
1295	158.5	159.6	1.03	54.7	159.4	104.77	0.580	1.0012	8.337	4.83	506.9
1296	158.4	159.4	1.01	54.7	159.3	104.62	0.580	1.0012	8.337	4.83	506.2
1297	158.2	159.2	1.00	54.7	159.1	104.43	0.580	1.0012	8.337	4.83	505.2
1298	158.1	159.1	1.04	54.7	158.9	104.26	0.566	1.0012	8.337	4.72	492.4
1299	158.0	159.0	1.01	54.7	158.8	104.18	0.580	1.0012	8.337	4.83	504.0
1300	158.5	159.5	1.05	54.7	159.1	104.44	0.580	1.0012	8.337	4.83	505.3
1301	158.9	160.0	1.04	54.7	159.8	105.09	0.580	1.0012	8.337	4.83	508.4
1302	159.5	160.5	1.09	54.6	160.3	105.65	0.566	1.0012	8.337	4.72	499.0
1303	160.0	161.1	1.07	54.6	160.8	106.11	0.580	1.0012	8.337	4.83	513.4
1304	160.9	161.9	1.08	54.6	161.5	106.88	0.566	1.0012	8.337	4.72	504.8
1305	161.4	162.5	1.10	54.6	162.2	107.60	0.580	1.0012	8.337	4.83	520.6
1306	162.4	163.5	1.14	54.6	163.1	108.48	0.580	1.0012	8.337	4.83	524.8
1307	163.1	164.3	1.18	54.6	163.9	109.26	0.580	1.0012	8.337	4.83	528.6
1308	164.0	165.1	1.17	54.6	164.7	110.12	0.566	1.0012	8.337	4.72	520.1
1309	164.9	166.0	1.18	54.6	165.6	110.99	0.580	1.0012	8.337	4.83	536.9
1310	165.6	166.8	1.17	54.5	166.5	111.94	0.580	1.0012	8.337	4.83	541.6
1311	166.5	167.7	1.20	54.5	167.4	112.87	0.566	1.0012	8.337	4.72	533.0
1312	167.4	168.6	1.22	54.5	168.3	113.78	0.580	1.0012	8.337	4.83	550.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1313	168.5	169.8	1.27	54.5	169.3	114.77	0.580	1.0012	8.337	4.83	555.3
1314	169.4	170.6	1.24	54.5	170.3	115.78	0.580	1.0012	8.337	4.83	560.1
1315	170.4	171.8	1.32	54.5	171.2	116.75	0.566	1.0012	8.337	4.72	551.4
1316	171.3	172.6	1.32	54.5	172.1	117.66	0.580	1.0012	8.337	4.83	569.2
1317	172.2	173.6	1.37	54.5	173.0	118.55	0.566	1.0012	8.337	4.72	559.9
1318	173.0	174.3	1.34	54.5	174.0	119.53	0.580	1.0012	8.337	4.83	578.3
1319	174.1	175.5	1.34	54.5	175.0	120.54	0.566	1.0012	8.337	4.72	569.3
1320	175.2	176.5	1.35	54.5	176.1	121.61	0.566	1.0012	8.337	4.72	574.3
1321	176.3	177.6	1.38	54.5	177.2	122.74	0.580	1.0012	8.337	4.83	593.8
1322	177.1	178.5	1.36	54.5	178.2	123.71	0.566	1.0012	8.337	4.72	584.3
1323	177.9	179.4	1.44	54.5	178.9	124.42	0.566	1.0012	8.337	4.72	587.6
1324	179.0	180.4	1.43	54.5	180.0	125.51	0.566	1.0012	8.337	4.72	592.7
1325	179.9	181.3	1.40	54.5	181.0	126.54	0.566	1.0012	8.337	4.72	597.6
1326	180.3	181.7	1.43	54.5	181.4	126.94	0.580	1.0012	8.337	4.83	614.1
1327	180.6	182.1	1.42	54.5	181.8	127.35	0.566	1.0012	8.337	4.72	601.4
1328	180.9	182.4	1.45	54.5	182.1	127.64	0.566	1.0012	8.337	4.72	602.8
1329	181.2	182.6	1.47	54.5	182.4	127.88	0.566	1.0012	8.337	4.72	603.9
1330	181.4	182.8	1.44	54.5	182.6	128.08	0.566	1.0012	8.337	4.72	604.9
1331	181.5	182.9	1.42	54.5	182.7	128.18	0.566	1.0012	8.337	4.72	605.4
1332	181.7	183.0	1.27	54.6	182.8	128.24	0.524	1.0012	8.337	4.37	561.4
1333	181.8	183.1	1.28	54.6	182.9	128.23	0.497	1.0012	8.337	4.14	531.7
1334	181.8	183.1	1.27	54.7	182.9	128.25	0.511	1.0012	8.337	4.26	546.6
1335	181.9	183.2	1.27	54.7	183.0	128.32	0.497	1.0012	8.337	4.14	532.1
1336	181.9	183.3	1.35	54.7	183.1	128.31	0.524	1.0012	8.337	4.37	561.6
1337	181.9	183.2	1.38	54.8	183.1	128.32	0.538	1.0012	8.337	4.49	576.5
1338	181.9	183.3	1.39	54.8	183.1	128.35	0.552	1.0012	8.337	4.60	591.4
1339	181.8	183.2	1.42	54.8	183.1	128.24	0.552	1.0012	8.337	4.60	590.9
1340	181.8	183.2	1.35	54.9	183.1	128.27	0.552	1.0012	8.337	4.60	591.0
1341	181.9	183.2	1.30	54.9	183.0	128.16	0.524	1.0012	8.337	4.37	561.0
1342	181.9	183.2	1.22	54.9	183.0	128.14	0.497	1.0012	8.337	4.14	531.4
1343	182.0	183.2	1.22	54.9	183.0	128.11	0.483	1.0012	8.337	4.03	516.5
1344	181.9	183.2	1.23	54.9	183.0	128.07	0.483	1.0012	8.337	4.03	516.3
1345	181.9	183.2	1.22	55.0	182.9	127.97	0.483	1.0012	8.337	4.03	515.9
1346	181.9	183.1	1.21	55.0	182.9	127.92	0.497	1.0012	8.337	4.14	530.5
1347	181.8	183.0	1.21	55.0	182.9	127.92	0.483	1.0012	8.337	4.03	515.7
1348	181.8	183.0	1.21	55.0	182.9	127.87	0.483	1.0012	8.337	4.03	515.5
1349	181.8	183.0	1.19	55.1	182.8	127.78	0.483	1.0012	8.337	4.03	515.1
1350	181.8	182.9	1.19	55.1	182.8	127.73	0.497	1.0012	8.337	4.14	529.6
1351	181.6	182.9	1.30	55.1	182.8	127.68	0.524	1.0012	8.337	4.37	558.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1352	181.5	182.8	1.31	55.1	182.7	127.59	0.524	1.0012	8.337	4.37	558.4
1353	181.5	182.8	1.29	55.1	182.6	127.56	0.524	1.0012	8.337	4.37	558.3
1354	181.4	182.7	1.30	55.1	182.6	127.53	0.524	1.0012	8.337	4.37	558.2
1355	181.4	182.7	1.31	55.1	182.6	127.50	0.524	1.0012	8.337	4.37	558.0
1356	181.3	182.6	1.31	55.1	182.5	127.43	0.538	1.0012	8.337	4.49	572.4
1357	181.2	182.5	1.30	55.0	182.3	127.30	0.524	1.0012	8.337	4.37	557.2
1358	181.2	182.5	1.30	55.0	182.3	127.30	0.524	1.0012	8.337	4.37	557.2
1359	181.0	182.3	1.30	55.0	182.2	127.16	0.524	1.0012	8.337	4.37	556.6
1360	181.0	182.2	1.28	55.0	182.1	127.08	0.524	1.0012	8.337	4.37	556.2
1361	180.9	182.2	1.28	55.0	182.1	127.02	0.538	1.0012	8.337	4.49	570.6
1362	180.7	182.0	1.29	55.0	181.9	126.91	0.524	1.0012	8.337	4.37	555.5
1363	180.7	182.0	1.33	55.0	181.8	126.76	0.524	1.0012	8.337	4.37	554.8
1364	180.7	182.0	1.29	55.0	181.8	126.76	0.524	1.0012	8.337	4.37	554.8
1365	180.5	181.8	1.30	55.0	181.7	126.65	0.524	1.0012	8.337	4.37	554.4
1366	180.4	181.7	1.30	55.0	181.6	126.53	0.524	1.0012	8.337	4.37	553.8
1367	180.3	181.6	1.29	55.0	181.4	126.40	0.538	1.0012	8.337	4.49	567.8
1368	180.1	181.4	1.27	55.0	181.4	126.32	0.524	1.0012	8.337	4.37	552.9
1369	180.1	181.4	1.28	55.0	181.3	126.23	0.524	1.0012	8.337	4.37	552.5
1370	180.0	181.3	1.29	55.0	181.2	126.12	0.524	1.0012	8.337	4.37	552.0
1371	179.9	181.2	1.25	55.0	181.0	126.02	0.524	1.0012	8.337	4.37	551.6
1372	179.8	181.1	1.27	55.0	180.9	125.89	0.538	1.0012	8.337	4.49	565.5
1373	179.7	181.0	1.31	55.0	180.8	125.76	0.524	1.0012	8.337	4.37	550.4
1374	179.5	180.8	1.29	55.0	180.6	125.59	0.524	1.0012	8.337	4.37	549.7
1375	179.5	180.7	1.27	55.0	180.6	125.57	0.524	1.0012	8.337	4.37	549.6
1376	179.4	180.6	1.24	55.0	180.5	125.45	0.524	1.0012	8.337	4.37	549.1
1377	179.2	180.5	1.26	55.0	180.4	125.33	0.524	1.0012	8.337	4.37	548.6
1378	179.1	180.4	1.29	55.0	180.3	125.21	0.524	1.0012	8.337	4.37	548.1
1379	178.9	180.2	1.24	55.1	180.1	125.06	0.538	1.0012	8.337	4.49	561.8
1380	178.9	180.1	1.25	55.1	180.0	124.94	0.524	1.0012	8.337	4.37	546.9
1381	178.7	180.0	1.26	55.1	179.9	124.82	0.524	1.0012	8.337	4.37	546.3
1382	178.6	179.9	1.26	55.1	179.7	124.68	0.524	1.0012	8.337	4.37	545.7
1383	178.5	179.8	1.26	55.1	179.6	124.58	0.524	1.0012	8.337	4.37	545.3
1384	178.3	179.6	1.27	55.1	179.5	124.41	0.524	1.0012	8.337	4.37	544.5
1385	178.2	179.5	1.27	55.1	179.4	124.33	0.524	1.0012	8.337	4.37	544.2
1386	178.2	179.4	1.24	55.1	179.3	124.22	0.524	1.0012	8.337	4.37	543.7
1387	178.0	179.2	1.24	55.1	179.1	124.08	0.538	1.0012	8.337	4.49	557.4
1388	177.9	179.1	1.24	55.1	179.0	123.98	0.524	1.0012	8.337	4.37	542.6
1389	177.8	179.0	1.25	55.1	178.9	123.82	0.524	1.0012	8.337	4.37	541.9
1390	177.6	178.8	1.23	55.1	178.8	123.70	0.524	1.0012	8.337	4.37	541.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1391	177.5	178.8	1.22	55.1	178.6	123.57	0.524	1.0012	8.337	4.37	540.9
1392	177.4	178.6	1.24	55.1	178.5	123.40	0.524	1.0012	8.337	4.37	540.1
1393	177.3	178.5	1.23	55.1	178.4	123.33	0.538	1.0012	8.337	4.49	554.0
1394	177.1	178.4	1.25	55.1	178.2	123.13	0.524	1.0012	8.337	4.37	538.9
1395	176.9	178.1	1.22	55.1	178.0	122.97	0.524	1.0012	8.337	4.37	538.2
1396	176.7	178.0	1.22	55.1	177.8	122.78	0.524	1.0012	8.337	4.37	537.4
1397	176.8	178.0	1.19	55.1	177.9	122.81	0.524	1.0012	8.337	4.37	537.5
1398	176.7	177.9	1.19	55.1	177.8	122.72	0.538	1.0012	8.337	4.49	551.3
1399	176.6	177.8	1.22	55.0	177.6	122.54	0.524	1.0012	8.337	4.37	536.4
1400	176.4	177.6	1.24	55.1	177.5	122.42	0.524	1.0012	8.337	4.37	535.8
1401	176.2	177.4	1.23	55.1	177.3	122.30	0.524	1.0012	8.337	4.37	535.3
1402	176.1	177.4	1.23	55.0	177.2	122.15	0.538	1.0012	8.337	4.49	548.7
1403	176.0	177.2	1.18	55.0	177.1	122.04	0.524	1.0012	8.337	4.37	534.1
1404	175.9	177.1	1.20	55.0	176.9	121.86	0.524	1.0012	8.337	4.37	533.4
1405	175.7	176.9	1.20	55.0	176.8	121.75	0.524	1.0012	8.337	4.37	532.9
1406	175.6	176.8	1.20	55.0	176.7	121.62	0.524	1.0012	8.337	4.37	532.3
1407	175.5	176.7	1.19	55.0	176.6	121.53	0.538	1.0012	8.337	4.49	546.0
1408	175.3	176.5	1.18	55.0	176.4	121.38	0.524	1.0012	8.337	4.37	531.3
1409	175.2	176.4	1.21	55.0	176.3	121.31	0.524	1.0012	8.337	4.37	531.0
1410	175.0	176.2	1.21	55.0	176.1	121.05	0.524	1.0012	8.337	4.37	529.8
1411	174.9	176.1	1.19	55.0	176.0	120.96	0.524	1.0012	8.337	4.37	529.4
1412	174.9	176.0	1.11	55.0	175.9	120.86	0.511	1.0012	8.337	4.26	515.1
1413	174.5	175.9	1.33	55.0	175.7	120.70	0.552	1.0012	8.337	4.60	556.1
1414	174.4	175.7	1.34	55.0	175.6	120.63	0.580	1.0012	8.337	4.83	583.6
1415	174.2	175.5	1.33	55.0	175.4	120.46	0.580	1.0012	8.337	4.83	582.8
1416	174.0	175.4	1.32	54.9	175.3	120.36	0.580	1.0012	8.337	4.83	582.3
1417	173.9	175.2	1.32	54.9	175.2	120.27	0.580	1.0012	8.337	4.83	581.8
1418	173.8	175.1	1.32	54.9	175.0	120.11	0.580	1.0012	8.337	4.83	581.1
1419	173.6	174.9	1.32	54.9	174.8	119.93	0.580	1.0012	8.337	4.83	580.2
1420	173.4	174.7	1.32	54.8	174.7	119.82	0.580	1.0012	8.337	4.83	579.7
1421	173.3	174.6	1.30	54.8	174.5	119.72	0.580	1.0012	8.337	4.83	579.2
1422	173.2	174.5	1.32	54.8	174.3	119.53	0.580	1.0012	8.337	4.83	578.2
1423	173.0	174.3	1.29	54.8	174.2	119.38	0.580	1.0012	8.337	4.83	577.6
1424	172.8	174.1	1.32	54.8	174.1	119.28	0.580	1.0012	8.337	4.83	577.1
1425	172.7	174.0	1.28	54.8	173.9	119.07	0.580	1.0012	8.337	4.83	576.1
1426	172.4	173.7	1.30	54.8	173.6	118.88	0.580	1.0012	8.337	4.83	575.1
1427	172.3	173.6	1.29	54.7	173.6	118.83	0.580	1.0012	8.337	4.83	574.9
1428	172.3	173.6	1.31	54.7	173.4	118.73	0.593	1.0012	8.337	4.95	588.1
1429	172.1	173.4	1.31	54.7	173.3	118.65	0.580	1.0012	8.337	4.83	574.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1430	172.0	173.3	1.28	54.6	173.2	118.55	0.580	1.0012	8.337	4.83	573.6
1431	171.7	173.0	1.29	54.6	172.9	118.34	0.580	1.0012	8.337	4.83	572.5
1432	171.6	172.9	1.27	54.6	172.8	118.23	0.580	1.0012	8.337	4.83	572.0
1433	171.5	172.8	1.28	54.6	172.7	118.11	0.580	1.0012	8.337	4.83	571.4
1434	171.3	172.6	1.29	54.5	172.5	117.94	0.580	1.0012	8.337	4.83	570.6
1435	171.1	172.4	1.29	54.5	172.3	117.74	0.580	1.0012	8.337	4.83	569.6
1436	171.0	172.3	1.30	54.5	172.1	117.58	0.593	1.0012	8.337	4.95	582.4
1437	170.9	172.1	1.27	54.5	172.0	117.54	0.580	1.0012	8.337	4.83	568.7
1438	170.6	171.9	1.27	54.5	171.8	117.33	0.580	1.0012	8.337	4.83	567.6
1439	170.6	171.8	1.26	54.5	171.8	117.27	0.580	1.0012	8.337	4.83	567.4
1440	170.5	171.7	1.26	54.5	171.6	117.14	0.580	1.0012	8.337	4.83	566.7
1441	170.3	171.5	1.16	54.5	171.4	116.92	0.566	1.0012	8.337	4.72	552.2
1442	170.3	171.4	1.11	54.5	171.3	116.78	0.524	1.0012	8.337	4.37	511.2
1443	170.1	171.2	1.11	54.5	171.1	116.61	0.538	1.0012	8.337	4.49	523.9
1444	169.9	171.0	1.08	54.5	171.0	116.45	0.524	1.0012	8.337	4.37	509.7
1445	169.8	170.9	1.11	54.5	170.8	116.28	0.524	1.0012	8.337	4.37	509.0
1446	169.6	170.7	1.11	54.5	170.6	116.11	0.538	1.0012	8.337	4.49	521.6
1447	169.5	170.6	1.10	54.5	170.5	116.01	0.524	1.0012	8.337	4.37	507.8
1448	169.3	170.4	1.10	54.5	170.3	115.81	0.538	1.0012	8.337	4.49	520.3
1449	169.1	170.2	1.10	54.5	170.1	115.63	0.524	1.0012	8.337	4.37	506.1
1450	169.0	170.1	1.08	54.5	170.0	115.52	0.524	1.0012	8.337	4.37	505.7
1451	168.9	170.0	1.09	54.5	169.9	115.33	0.538	1.0012	8.337	4.49	518.1
1452	168.8	169.9	1.09	54.5	169.8	115.28	0.524	1.0012	8.337	4.37	504.6
1453	168.7	169.8	1.08	54.5	169.6	115.03	0.524	1.0012	8.337	4.37	503.5
1454	168.5	169.6	1.07	54.6	169.5	114.94	0.524	1.0012	8.337	4.37	503.1
1455	168.4	169.4	1.05	54.6	169.4	114.80	0.538	1.0012	8.337	4.49	515.7
1456	168.2	169.3	1.09	54.6	169.2	114.57	0.524	1.0012	8.337	4.37	501.5
1457	168.0	169.1	1.06	54.6	169.0	114.41	0.524	1.0012	8.337	4.37	500.8
1458	167.9	168.9	1.07	54.6	168.8	114.20	0.538	1.0012	8.337	4.49	513.0
1459	167.8	168.8	1.07	54.6	168.7	114.07	0.524	1.0012	8.337	4.37	499.3
1460	167.7	168.7	1.07	54.6	168.6	113.95	0.524	1.0012	8.337	4.37	498.8
1461	167.6	168.7	1.05	54.6	168.6	113.96	0.538	1.0012	8.337	4.49	512.0
1462	167.5	168.5	1.07	54.6	168.4	113.75	0.524	1.0012	8.337	4.37	497.9
1463	167.2	168.3	1.06	54.7	168.2	113.53	0.524	1.0012	8.337	4.37	496.9
1464	167.1	168.1	1.05	54.7	168.1	113.39	0.524	1.0012	8.337	4.37	496.3
1465	167.0	168.0	1.04	54.7	167.9	113.25	0.538	1.0012	8.337	4.49	508.8
1466	166.8	167.8	1.04	54.7	167.8	113.10	0.524	1.0012	8.337	4.37	495.0
1467	166.7	167.7	1.05	54.7	167.6	112.89	0.538	1.0012	8.337	4.49	507.1
1468	166.6	167.6	1.03	54.7	167.5	112.79	0.524	1.0012	8.337	4.37	493.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1469	166.4	167.5	1.05	54.7	167.4	112.67	0.524	1.0012	8.337	4.37	493.2
1470	166.3	167.3	1.02	54.7	167.3	112.54	0.524	1.0012	8.337	4.37	492.6
1471	166.1	167.1	1.03	54.7	167.0	112.31	0.538	1.0012	8.337	4.49	504.6
1472	166.0	167.0	1.02	54.7	166.9	112.19	0.524	1.0012	8.337	4.37	491.1
1473	165.9	166.8	0.96	54.7	166.8	112.03	0.524	1.0012	8.337	4.37	490.4
1474	165.6	166.7	1.12	54.7	166.7	111.93	0.552	1.0012	8.337	4.60	515.7
1475	165.5	166.6	1.11	54.7	166.5	111.76	0.566	1.0012	8.337	4.72	527.8
1476	165.3	166.4	1.12	54.7	166.3	111.60	0.566	1.0012	8.337	4.72	527.1
1477	165.1	166.2	1.11	54.7	166.2	111.48	0.566	1.0012	8.337	4.72	526.5
1478	165.0	166.2	1.12	54.7	166.0	111.35	0.566	1.0012	8.337	4.72	525.9
1479	164.9	166.0	1.15	54.7	165.9	111.21	0.566	1.0012	8.337	4.72	525.2
1480	164.8	165.9	1.11	54.7	165.8	111.11	0.580	1.0012	8.337	4.83	537.5
1481	164.6	165.7	1.14	54.7	165.5	110.88	0.566	1.0012	8.337	4.72	523.6
1482	164.4	165.5	1.12	54.6	165.4	110.74	0.580	1.0012	8.337	4.83	535.8
1483	164.3	165.4	1.11	54.6	165.3	110.64	0.566	1.0012	8.337	4.72	522.5
1484	164.0	165.2	1.12	54.6	165.1	110.42	0.566	1.0012	8.337	4.72	521.5
1485	164.0	165.1	1.09	54.6	165.0	110.36	0.566	1.0012	8.337	4.72	521.2
1486	163.8	164.9	1.09	54.6	164.8	110.21	0.580	1.0012	8.337	4.83	533.2
1487	163.7	164.8	1.10	54.6	164.6	110.01	0.566	1.0012	8.337	4.72	519.5
1488	163.4	164.6	1.13	54.6	164.4	109.83	0.580	1.0012	8.337	4.83	531.4
1489	163.4	164.5	1.12	54.6	164.3	109.74	0.566	1.0012	8.337	4.72	518.3
1490	163.2	164.3	1.10	54.6	164.2	109.62	0.580	1.0012	8.337	4.83	530.3
1491	163.2	164.3	1.11	54.6	164.1	109.55	0.566	1.0012	8.337	4.72	517.4
1492	162.9	164.0	1.08	54.6	163.9	109.36	0.566	1.0012	8.337	4.72	516.5
1493	162.7	163.8	1.09	54.5	163.7	109.18	0.580	1.0012	8.337	4.83	528.2
1494	162.6	163.7	1.09	54.5	163.6	109.03	0.566	1.0012	8.337	4.72	514.9
1495	162.5	163.5	1.10	54.5	163.4	108.91	0.566	1.0012	8.337	4.72	514.4
1496	162.3	163.4	1.10	54.5	163.2	108.73	0.580	1.0012	8.337	4.83	526.0
1497	162.1	163.2	1.07	54.5	163.1	108.60	0.580	1.0012	8.337	4.83	525.4
1498	162.0	163.1	1.10	54.5	162.9	108.41	0.566	1.0012	8.337	4.72	512.0
1499	161.9	162.9	1.09	54.5	162.8	108.28	0.566	1.0012	8.337	4.72	511.4
1500	161.7	162.7	1.07	54.5	162.7	108.16	0.580	1.0012	8.337	4.83	523.3
1501	161.6	162.7	1.06	54.5	162.5	108.05	0.566	1.0012	8.337	4.72	510.3
1502	161.4	162.5	1.08	54.5	162.3	107.84	0.566	1.0012	8.337	4.72	509.3
1503	161.2	162.3	1.07	54.5	162.2	107.70	0.580	1.0012	8.337	4.83	521.1
1504	161.1	162.2	1.09	54.5	162.0	107.53	0.580	1.0012	8.337	4.83	520.3
1505	160.9	162.0	1.07	54.5	161.9	107.41	0.566	1.0012	8.337	4.72	507.3
1506	160.8	161.9	1.05	54.5	161.8	107.31	0.580	1.0012	8.337	4.83	519.2
1507	160.7	161.7	1.06	54.4	161.6	107.18	0.566	1.0012	8.337	4.72	506.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1508	160.5	161.6	1.06	54.4	161.5	107.02	0.580	1.0012	8.337	4.83	517.8
1509	160.4	161.4	1.04	54.4	161.3	106.85	0.566	1.0012	8.337	4.72	504.6
1510	160.2	161.3	1.04	54.4	161.2	106.75	0.566	1.0012	8.337	4.72	504.2
1511	160.1	161.1	1.04	54.4	161.0	106.56	0.580	1.0012	8.337	4.83	515.5
1512	159.9	160.9	1.05	54.4	160.8	106.38	0.566	1.0012	8.337	4.72	502.4
1513	159.8	160.8	1.03	54.4	160.7	106.27	0.580	1.0012	8.337	4.83	514.1
1514	159.6	160.6	1.03	54.4	160.5	106.12	0.566	1.0012	8.337	4.72	501.2
1515	159.5	160.5	1.06	54.4	160.3	105.95	0.580	1.0012	8.337	4.83	512.6
1516	159.3	160.4	1.06	54.4	160.2	105.86	0.566	1.0012	8.337	4.72	500.0
1517	159.1	160.1	1.01	54.4	160.1	105.71	0.580	1.0012	8.337	4.83	511.5
1518	159.0	160.0	1.01	54.4	159.9	105.51	0.580	1.0012	8.337	4.83	510.4
1519	158.8	159.9	1.03	54.4	159.7	105.38	0.566	1.0012	8.337	4.72	497.7
1520	158.6	159.6	1.01	54.4	159.6	105.19	0.580	1.0012	8.337	4.83	508.9
1521	158.6	159.6	1.02	54.5	159.5	105.01	0.566	1.0012	8.337	4.72	495.9
1522	158.4	159.4	1.02	54.6	159.3	104.67	0.580	1.0012	8.337	4.83	506.4
1523	158.3	159.3	1.00	54.8	159.2	104.40	0.566	1.0012	8.337	4.72	493.0
1524	158.2	159.2	1.02	55.0	159.0	104.04	0.580	1.0012	8.337	4.83	503.3
1525	158.3	159.4	1.02	55.1	159.2	104.07	0.566	1.0012	8.337	4.72	491.5
1526	158.7	159.7	1.06	55.2	159.4	104.21	0.580	1.0012	8.336	4.83	504.1
1527	159.5	160.6	1.07	55.3	160.2	104.87	0.566	1.0012	8.336	4.72	495.2
1528	160.4	161.5	1.07	55.4	161.2	105.74	0.580	1.0012	8.336	4.83	511.5
1529	161.1	162.2	1.15	55.5	161.7	106.18	0.566	1.0012	8.336	4.72	501.4
1530	161.9	162.9	1.09	55.4	162.6	107.18	0.566	1.0012	8.336	4.72	506.1
1531	162.8	163.9	1.14	55.3	163.5	108.19	0.580	1.0012	8.336	4.83	523.4
1532	163.5	164.6	1.12	55.1	164.4	109.21	0.566	1.0012	8.336	4.72	515.8
1533	164.5	165.6	1.17	55.1	165.2	110.14	0.580	1.0012	8.337	4.83	532.8
1534	165.3	166.5	1.18	55.0	166.0	110.96	0.566	1.0012	8.337	4.72	524.0
1535	166.2	167.5	1.21	55.0	167.0	112.06	0.566	1.0012	8.337	4.72	529.2
1536	167.3	168.6	1.23	54.9	168.0	113.09	0.580	1.0012	8.337	4.83	547.1
1537	168.5	169.7	1.21	54.9	169.3	114.35	0.566	1.0012	8.337	4.72	540.0
1538	169.3	170.6	1.28	54.9	170.1	115.22	0.566	1.0012	8.337	4.72	544.1
1539	170.4	171.6	1.27	54.8	171.2	116.41	0.566	1.0012	8.337	4.72	549.8
1540	171.4	172.7	1.29	54.8	172.2	117.41	0.580	1.0012	8.337	4.83	568.0
1541	172.5	173.8	1.34	54.8	173.3	118.56	0.566	1.0012	8.337	4.72	559.9
1542	173.4	174.7	1.34	54.7	174.4	119.67	0.566	1.0012	8.337	4.72	565.1
1543	174.4	175.7	1.32	54.7	175.3	120.64	0.566	1.0012	8.337	4.72	569.8
1544	175.4	176.7	1.37	54.7	176.3	121.63	0.566	1.0012	8.337	4.72	574.4
1545	176.4	177.8	1.36	54.6	177.4	122.76	0.566	1.0012	8.337	4.72	579.8
1546	177.3	178.7	1.42	54.6	178.3	123.71	0.566	1.0012	8.337	4.72	584.3

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1547	178.4	179.8	1.40	54.6	179.3	124.75	0.566	1.0012	8.337	4.72	589.2
1548	179.4	180.8	1.43	54.6	180.4	125.81	0.566	1.0012	8.337	4.72	594.2
1549	180.3	181.7	1.39	54.5	181.5	126.94	0.566	1.0012	8.337	4.72	599.5
1550	180.8	182.2	1.43	54.5	181.9	127.38	0.566	1.0012	8.337	4.72	601.6
1551	181.0	182.5	1.43	54.5	182.3	127.83	0.566	1.0012	8.337	4.72	603.7
1552	181.3	182.8	1.45	54.5	182.5	128.05	0.552	1.0012	8.337	4.60	590.0
1553	181.5	182.9	1.43	54.5	182.8	128.32	0.580	1.0012	8.337	4.83	620.8
1554	181.7	183.1	1.46	54.4	182.9	128.48	0.552	1.0012	8.337	4.60	592.0
1555	181.8	183.2	1.45	54.4	183.0	128.59	0.566	1.0012	8.337	4.72	607.3
1556	181.9	183.2	1.37	54.4	183.1	128.63	0.538	1.0012	8.337	4.49	577.9
1557	182.0	183.3	1.38	54.4	183.1	128.69	0.538	1.0012	8.337	4.49	578.1
1558	182.0	183.4	1.37	54.4	183.2	128.79	0.524	1.0012	8.337	4.37	563.7
1559	182.0	183.4	1.35	54.4	183.3	128.81	0.524	1.0012	8.337	4.37	563.8
1560	182.1	183.5	1.35	54.4	183.3	128.86	0.538	1.0012	8.337	4.49	578.9
1561	182.0	183.4	1.35	54.5	183.3	128.83	0.524	1.0012	8.337	4.37	563.9
1562	182.1	183.5	1.38	54.4	183.3	128.85	0.538	1.0012	8.337	4.49	578.8
1563	182.1	183.4	1.37	54.5	183.2	128.79	0.524	1.0012	8.337	4.37	563.8
1564	182.1	183.5	1.37	54.5	183.3	128.80	0.538	1.0012	8.337	4.49	578.6
1565	182.1	183.4	1.33	54.5	183.3	128.81	0.524	1.0012	8.337	4.37	563.8
1566	182.0	183.4	1.37	54.5	183.2	128.78	0.538	1.0012	8.337	4.49	578.5
1567	181.9	183.3	1.35	54.5	183.2	128.72	0.524	1.0012	8.337	4.37	563.4
1568	181.9	183.2	1.33	54.5	183.1	128.65	0.524	1.0012	8.337	4.37	563.1
1569	181.8	183.2	1.33	54.5	183.0	128.52	0.538	1.0012	8.337	4.49	577.4
1570	181.8	183.1	1.33	54.5	183.1	128.62	0.524	1.0012	8.337	4.37	563.0
1571	181.8	183.1	1.32	54.5	183.0	128.57	0.538	1.0012	8.337	4.49	577.6
1572	181.8	183.1	1.34	54.5	183.0	128.51	0.524	1.0012	8.337	4.37	562.5
1573	181.7	183.0	1.32	54.5	182.9	128.46	0.524	1.0012	8.337	4.37	562.3
1574	181.6	183.0	1.34	54.4	182.8	128.36	0.538	1.0012	8.337	4.49	576.6
1575	181.6	182.9	1.34	54.5	182.7	128.25	0.524	1.0012	8.337	4.37	561.4
1576	181.5	182.9	1.34	54.6	182.7	128.10	0.538	1.0012	8.337	4.49	575.5
1577	181.4	182.8	1.33	54.8	182.6	127.84	0.524	1.0012	8.337	4.37	559.6
1578	181.3	182.7	1.33	55.0	182.6	127.59	0.524	1.0012	8.337	4.37	558.5
1579	181.3	182.6	1.31	55.1	182.4	127.31	0.524	1.0012	8.336	4.37	557.2
1580	181.3	182.5	1.24	55.2	182.4	127.13	0.511	1.0012	8.336	4.26	541.8
1581	181.1	182.4	1.30	55.4	182.3	126.98	0.538	1.0012	8.336	4.49	570.4
1582	181.0	182.3	1.29	55.5	182.2	126.71	0.524	1.0012	8.336	4.37	554.6
1583	181.0	182.3	1.29	55.6	182.2	126.58	0.524	1.0012	8.336	4.37	554.0
1584	180.9	182.2	1.30	55.7	182.0	126.33	0.538	1.0012	8.336	4.49	567.4
1585	180.8	182.1	1.30	55.7	181.9	126.24	0.524	1.0012	8.336	4.37	552.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1586	180.7	182.0	1.27	55.6	181.9	126.31	0.524	1.0012	8.336	4.37	552.8
1587	180.6	181.9	1.31	55.4	181.7	126.29	0.538	1.0012	8.336	4.49	567.3
1588	180.6	181.8	1.28	55.3	181.7	126.42	0.524	1.0012	8.336	4.37	553.3
1589	180.4	181.7	1.29	55.2	181.5	126.28	0.538	1.0012	8.336	4.49	567.3
1590	180.2	181.5	1.30	55.2	181.4	126.21	0.524	1.0012	8.336	4.37	552.4
1591	180.1	181.4	1.31	55.1	181.3	126.19	0.524	1.0012	8.336	4.37	552.3
1592	180.1	181.4	1.31	55.1	181.3	126.20	0.538	1.0012	8.337	4.49	566.9
1593	180.0	181.3	1.27	55.0	181.2	126.17	0.524	1.0012	8.337	4.37	552.2
1594	179.9	181.2	1.28	55.0	181.0	126.03	0.538	1.0012	8.337	4.49	566.2
1595	179.7	181.0	1.29	54.9	180.9	125.98	0.524	1.0012	8.337	4.37	551.4
1596	179.6	180.9	1.29	54.9	180.8	125.87	0.538	1.0012	8.337	4.49	565.4
1597	179.5	180.8	1.29	54.9	180.7	125.83	0.524	1.0012	8.337	4.37	550.8
1598	179.5	180.8	1.29	54.8	180.6	125.79	0.524	1.0012	8.337	4.37	550.6
1599	179.3	180.6	1.29	54.7	180.4	125.71	0.538	1.0012	8.337	4.49	564.7
1600	179.2	180.5	1.29	54.7	180.4	125.72	0.524	1.0012	8.337	4.37	550.3
1601	179.1	180.4	1.28	54.6	180.2	125.56	0.524	1.0012	8.337	4.37	549.6
1602	178.9	180.2	1.28	54.6	180.1	125.52	0.538	1.0012	8.337	4.49	563.9
1603	178.8	180.1	1.28	54.5	179.9	125.41	0.524	1.0012	8.337	4.37	548.9
1604	178.7	180.0	1.29	54.5	179.9	125.36	0.538	1.0012	8.337	4.49	563.2
1605	178.6	179.9	1.26	54.5	179.8	125.29	0.524	1.0012	8.337	4.37	548.4
1606	178.4	179.7	1.27	54.4	179.6	125.20	0.524	1.0012	8.337	4.37	548.0
1607	178.3	179.6	1.29	54.4	179.5	125.04	0.538	1.0012	8.337	4.49	561.8
1608	178.2	179.5	1.27	54.4	179.4	124.98	0.524	1.0012	8.337	4.37	547.1
1609	178.0	179.3	1.26	54.4	179.2	124.80	0.524	1.0012	8.337	4.37	546.3
1610	177.9	179.2	1.25	54.4	179.0	124.67	0.524	1.0012	8.337	4.37	545.7
1611	177.8	179.0	1.24	54.4	178.9	124.59	0.538	1.0012	8.337	4.49	559.7
1612	177.7	179.0	1.25	54.3	178.9	124.51	0.524	1.0012	8.337	4.37	545.0
1613	177.5	178.8	1.26	54.3	178.7	124.33	0.538	1.0012	8.337	4.49	558.5
1614	177.4	178.6	1.24	54.3	178.6	124.28	0.524	1.0012	8.337	4.37	544.0
1615	177.3	178.6	1.24	54.3	178.5	124.14	0.524	1.0012	8.337	4.37	543.4
1616	177.1	178.4	1.25	54.3	178.3	123.94	0.538	1.0012	8.337	4.49	556.8
1617	177.0	178.3	1.23	54.3	178.2	123.88	0.524	1.0012	8.337	4.37	542.3
1618	176.9	178.1	1.25	54.3	178.0	123.67	0.524	1.0012	8.337	4.37	541.4
1619	176.7	177.9	1.22	54.3	177.8	123.49	0.538	1.0012	8.337	4.49	554.8
1620	176.6	177.8	1.21	54.3	177.7	123.38	0.524	1.0012	8.337	4.37	540.1
1621	176.6	177.8	1.17	54.3	177.7	123.40	0.511	1.0012	8.337	4.26	526.0
1622	176.4	177.6	1.17	54.3	177.6	123.25	0.511	1.0012	8.337	4.26	525.3
1623	176.3	177.5	1.16	54.5	177.4	122.90	0.511	1.0012	8.337	4.26	523.8
1624	176.2	177.4	1.16	54.7	177.3	122.61	0.511	1.0012	8.337	4.26	522.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1625	176.1	177.2	1.17	54.8	177.1	122.26	0.511	1.0012	8.337	4.26	521.1
1626	175.9	177.1	1.16	55.0	177.0	122.00	0.511	1.0012	8.337	4.26	519.9
1627	175.7	176.9	1.18	55.1	176.8	121.65	0.511	1.0012	8.336	4.26	518.4
1628	175.7	176.8	1.13	55.3	176.8	121.52	0.511	1.0012	8.336	4.26	517.9
1629	175.6	176.7	1.15	55.4	176.6	121.24	0.511	1.0012	8.336	4.26	516.7
1630	175.4	176.5	1.14	55.4	176.4	121.04	0.511	1.0012	8.336	4.26	515.8
1631	175.2	176.4	1.14	55.3	176.3	120.96	0.511	1.0012	8.336	4.26	515.5
1632	175.1	176.2	1.14	55.2	176.1	120.92	0.497	1.0012	8.336	4.14	501.4
1633	175.0	176.1	1.13	55.1	176.1	120.96	0.511	1.0012	8.336	4.26	515.5
1634	174.8	176.0	1.12	55.0	175.9	120.87	0.511	1.0012	8.337	4.26	515.1
1635	174.8	175.9	1.11	55.0	175.8	120.77	0.511	1.0012	8.337	4.26	514.7
1636	174.6	175.8	1.16	55.0	175.6	120.65	0.511	1.0012	8.337	4.26	514.2
1637	174.5	175.6	1.11	54.9	175.5	120.60	0.511	1.0012	8.337	4.26	514.0
1638	174.3	175.5	1.14	54.9	175.4	120.51	0.497	1.0012	8.337	4.14	499.7
1639	174.2	175.4	1.13	54.8	175.2	120.38	0.511	1.0012	8.337	4.26	513.0
1640	174.1	175.3	1.12	54.8	175.2	120.36	0.511	1.0012	8.337	4.26	513.0
1641	173.9	175.1	1.14	54.8	174.9	120.16	0.511	1.0012	8.337	4.26	512.1
1642	173.8	174.9	1.13	54.7	174.8	120.09	0.511	1.0012	8.337	4.26	511.8
1643	173.7	174.8	1.13	54.7	174.7	120.00	0.497	1.0012	8.337	4.14	497.6
1644	173.6	174.7	1.11	54.7	174.6	119.95	0.511	1.0012	8.337	4.26	511.2
1645	173.4	174.6	1.13	54.6	174.5	119.81	0.511	1.0012	8.337	4.26	510.6
1646	173.4	174.5	1.10	54.6	174.4	119.75	0.511	1.0012	8.337	4.26	510.4
1647	173.2	174.3	1.11	54.6	174.2	119.65	0.511	1.0012	8.337	4.26	510.0
1648	173.0	174.1	1.13	54.5	174.0	119.44	0.511	1.0012	8.337	4.26	509.1
1649	172.8	174.0	1.12	54.5	173.8	119.33	0.511	1.0012	8.337	4.26	508.6
1650	172.7	173.8	1.11	54.5	173.7	119.24	0.511	1.0012	8.337	4.26	508.2
1651	172.6	173.7	1.12	54.5	173.6	119.10	0.511	1.0012	8.337	4.26	507.6
1652	172.5	173.6	1.09	54.4	173.5	119.06	0.511	1.0012	8.337	4.26	507.4
1653	172.5	173.6	1.10	54.4	173.5	119.05	0.511	1.0012	8.337	4.26	507.4
1654	172.3	173.4	1.10	54.4	173.3	118.94	0.511	1.0012	8.337	4.26	506.9
1655	172.2	173.3	1.09	54.4	173.2	118.85	0.511	1.0012	8.337	4.26	506.6
1656	172.1	173.2	1.11	54.4	173.0	118.64	0.511	1.0012	8.337	4.26	505.7
1657	171.9	173.0	1.10	54.4	172.9	118.50	0.511	1.0012	8.337	4.26	505.0
1658	171.7	172.8	1.08	54.4	172.7	118.37	0.511	1.0012	8.337	4.26	504.5
1659	171.7	172.8	1.06	54.3	172.6	118.26	0.511	1.0012	8.337	4.26	504.0
1660	171.5	172.6	1.07	54.4	172.4	118.02	0.511	1.0012	8.337	4.26	503.0
1661	171.2	172.4	1.22	54.6	172.3	117.77	0.552	1.0012	8.337	4.60	542.6
1662	171.1	172.3	1.24	54.8	172.2	117.43	0.566	1.0012	8.337	4.72	554.6
1663	170.9	172.1	1.24	54.9	172.1	117.15	0.580	1.0012	8.337	4.83	566.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1664	170.7	171.9	1.23	55.0	171.9	116.89	0.566	1.0012	8.337	4.72	552.0
1665	170.7	171.9	1.22	55.1	171.8	116.70	0.566	1.0012	8.336	4.72	551.1
1666	170.5	171.7	1.20	55.2	171.6	116.46	0.580	1.0012	8.336	4.83	563.4
1667	170.3	171.5	1.23	55.3	171.4	116.13	0.566	1.0012	8.336	4.72	548.4
1668	170.1	171.3	1.21	55.3	171.3	115.97	0.580	1.0012	8.336	4.83	561.0
1669	170.0	171.2	1.23	55.2	171.0	115.82	0.566	1.0012	8.336	4.72	547.0
1670	169.8	171.1	1.23	55.1	170.9	115.86	0.566	1.0012	8.337	4.72	547.2
1671	169.6	170.9	1.22	54.9	170.8	115.83	0.580	1.0012	8.337	4.83	560.4
1672	169.5	170.8	1.25	54.8	170.6	115.80	0.566	1.0012	8.337	4.72	546.9
1673	169.3	170.5	1.20	54.8	170.4	115.67	0.580	1.0012	8.337	4.83	559.6
1674	169.2	170.4	1.23	54.7	170.3	115.62	0.566	1.0012	8.337	4.72	546.0
1675	169.2	170.4	1.22	54.6	170.2	115.57	0.580	1.0012	8.337	4.83	559.1
1676	169.0	170.2	1.19	54.6	170.1	115.48	0.566	1.0012	8.337	4.72	545.4
1677	168.8	170.0	1.21	54.5	169.9	115.33	0.580	1.0012	8.337	4.83	558.0
1678	168.6	169.9	1.22	54.5	169.7	115.21	0.566	1.0012	8.337	4.72	544.1
1679	168.4	169.6	1.20	54.5	169.6	115.10	0.580	1.0012	8.337	4.83	556.9
1680	168.2	169.4	1.20	54.4	169.3	114.88	0.566	1.0012	8.337	4.72	542.6
1681	168.1	169.3	1.20	54.4	169.2	114.80	0.580	1.0012	8.337	4.83	555.4
1682	167.9	169.1	1.22	54.3	169.0	114.66	0.580	1.0012	8.337	4.83	554.7
1683	167.9	169.1	1.21	54.3	168.9	114.63	0.580	1.0012	8.337	4.83	554.6
1684	167.7	168.9	1.18	54.2	168.8	114.58	0.566	1.0012	8.337	4.72	541.1
1685	167.6	168.8	1.21	54.2	168.7	114.50	0.580	1.0012	8.337	4.83	554.0
1686	167.4	168.6	1.19	54.1	168.5	114.38	0.580	1.0012	8.337	4.83	553.4
1687	167.3	168.5	1.21	54.1	168.4	114.25	0.580	1.0012	8.337	4.83	552.8
1688	167.2	168.3	1.17	54.1	168.3	114.18	0.566	1.0012	8.337	4.72	539.3
1689	166.9	168.1	1.15	54.0	168.0	113.99	0.580	1.0012	8.337	4.83	551.5
1690	166.9	168.1	1.18	54.0	167.9	113.93	0.580	1.0012	8.338	4.83	551.2
1691	166.6	167.8	1.20	54.0	167.6	113.64	0.580	1.0012	8.338	4.83	549.8
1692	166.4	167.6	1.17	54.0	167.5	113.54	0.580	1.0012	8.338	4.83	549.3
1693	166.4	167.5	1.18	54.0	167.4	113.44	0.580	1.0012	8.338	4.83	548.9
1694	166.2	167.3	1.16	54.0	167.2	113.25	0.566	1.0012	8.338	4.72	534.9
1695	166.0	167.2	1.18	54.1	167.0	112.97	0.580	1.0012	8.337	4.83	546.6
1696	165.8	167.0	1.17	54.2	166.9	112.65	0.566	1.0012	8.337	4.72	532.1
1697	165.7	166.8	1.16	54.4	166.7	112.30	0.580	1.0012	8.337	4.83	543.3
1698	165.5	166.7	1.15	54.6	166.6	112.01	0.580	1.0012	8.337	4.83	541.9
1699	165.5	166.6	1.14	54.7	166.5	111.81	0.566	1.0012	8.337	4.72	528.0
1700	165.3	166.4	1.15	54.8	166.3	111.48	0.580	1.0012	8.337	4.83	539.3
1701	165.1	166.2	1.12	54.9	166.1	111.22	0.566	1.0012	8.337	4.72	525.2
1702	165.0	166.1	1.13	54.9	166.1	111.12	0.552	1.0012	8.337	4.60	512.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1703	164.7	165.9	1.26	54.9	165.8	110.89	0.607	1.0012	8.337	5.06	562.0
1704	164.5	165.7	1.26	54.7	165.6	110.90	0.607	1.0012	8.337	5.06	562.1
1705	164.3	165.6	1.24	54.5	165.5	110.96	0.607	1.0012	8.337	5.06	562.4
1706	164.2	165.4	1.25	54.4	165.4	110.91	0.607	1.0012	8.337	5.06	562.2
1707	164.0	165.3	1.24	54.4	165.2	110.85	0.621	1.0012	8.337	5.18	574.6
1708	163.9	165.2	1.24	54.3	165.1	110.75	0.607	1.0012	8.337	5.06	561.4
1709	163.7	164.9	1.25	54.2	164.8	110.58	0.607	1.0012	8.337	5.06	560.5
1710	163.6	164.8	1.26	54.2	164.7	110.46	0.621	1.0012	8.337	5.18	572.6
1711	163.4	164.6	1.24	54.1	164.5	110.36	0.607	1.0012	8.337	5.06	559.4
1712	163.2	164.4	1.22	54.1	164.4	110.31	0.607	1.0012	8.337	5.06	559.1
1713	163.0	164.3	1.23	54.0	164.2	110.12	0.621	1.0012	8.337	5.18	570.8
1714	162.9	164.2	1.23	54.0	164.1	110.06	0.607	1.0012	8.338	5.06	557.9
1715	162.8	164.0	1.24	53.9	163.9	109.96	0.621	1.0012	8.338	5.18	570.0
1716	162.8	163.8	1.06	53.9	163.8	109.88	0.566	1.0012	8.338	4.72	519.0
1717	162.6	163.7	1.06	53.9	163.5	109.65	0.552	1.0012	8.338	4.60	505.3
1718	162.5	163.5	1.06	53.8	163.4	109.54	0.566	1.0012	8.338	4.72	517.4
1719	162.3	163.3	1.04	53.8	163.3	109.48	0.566	1.0012	8.338	4.72	517.1
1720	162.1	163.2	1.04	53.8	163.1	109.31	0.552	1.0012	8.338	4.60	503.7
1721	161.9	163.0	1.05	53.7	162.9	109.17	0.566	1.0012	8.338	4.72	515.6
1722	161.8	162.9	1.05	53.7	162.8	109.05	0.566	1.0012	8.338	4.72	515.1
1723	161.7	162.7	1.07	53.7	162.6	108.89	0.552	1.0012	8.338	4.60	501.8
1724	161.6	162.7	1.05	53.7	162.5	108.81	0.566	1.0012	8.338	4.72	513.9
1725	161.4	162.5	1.05	53.7	162.4	108.68	0.566	1.0012	8.338	4.72	513.3
1726	161.3	162.3	1.03	53.7	162.3	108.60	0.552	1.0012	8.338	4.60	500.5
1727	161.1	162.2	1.05	53.6	162.1	108.41	0.566	1.0012	8.338	4.72	512.1
1728	160.9	162.0	1.03	53.6	161.9	108.27	0.566	1.0012	8.338	4.72	511.4
1729	160.8	161.9	1.05	53.6	161.7	108.07	0.552	1.0012	8.338	4.60	498.0
1730	160.6	161.7	1.03	53.7	161.6	107.87	0.566	1.0012	8.338	4.72	509.5
1731	160.5	161.5	1.04	53.8	161.4	107.56	0.552	1.0012	8.338	4.60	495.6
1732	160.4	161.4	1.04	54.0	161.3	107.23	0.566	1.0012	8.337	4.72	506.5
1733	160.2	161.2	1.03	54.2	161.1	106.90	0.566	1.0012	8.337	4.72	504.9
1734	160.1	161.1	1.00	54.3	161.0	106.72	0.552	1.0012	8.337	4.60	491.7
1735	160.0	161.0	0.99	54.4	160.9	106.44	0.566	1.0012	8.337	4.72	502.7
1736	159.8	160.8	1.00	54.6	160.7	106.15	0.552	1.0012	8.337	4.60	489.1
1737	159.7	160.7	1.00	54.7	160.5	105.86	0.566	1.0012	8.337	4.72	500.0
1738	159.5	160.4	0.98	54.8	160.4	105.61	0.566	1.0012	8.337	4.72	498.8
1739	159.4	160.4	0.98	54.9	160.2	105.35	0.566	1.0012	8.337	4.72	497.5
1740	159.3	160.3	0.99	54.9	160.2	105.28	0.552	1.0012	8.337	4.60	485.1
1741	159.1	160.1	0.99	54.8	160.0	105.18	0.566	1.0012	8.337	4.72	496.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1742	158.9	159.9	0.99	54.6	159.8	105.18	0.566	1.0012	8.337	4.72	496.7
1743	158.8	159.8	0.98	54.5	159.7	105.18	0.552	1.0012	8.337	4.60	484.6
1744	158.6	159.6	0.98	54.4	159.5	105.12	0.566	1.0012	8.337	4.72	496.5
1745	158.5	159.5	1.01	54.3	159.4	105.09	0.580	1.0012	8.337	4.83	508.5
1746	158.3	159.4	1.01	54.3	159.3	104.98	0.566	1.0012	8.337	4.72	495.8
1747	158.2	159.2	1.02	54.2	159.1	104.92	0.580	1.0012	8.337	4.83	507.6
1748	158.3	159.4	1.04	54.2	159.1	104.94	0.580	1.0012	8.337	4.83	507.7
1749	158.9	159.9	1.08	54.1	159.5	105.42	0.566	1.0012	8.337	4.72	497.9
1750	159.9	161.0	1.08	54.1	160.6	106.49	0.580	1.0012	8.337	4.83	515.2
1751	160.3	161.4	1.09	54.1	161.0	106.97	0.566	1.0012	8.337	4.72	505.2
1752	161.3	162.4	1.15	54.0	162.0	107.94	0.580	1.0012	8.338	4.83	522.2
1753	162.2	163.3	1.11	54.0	163.0	108.99	0.566	1.0012	8.338	4.72	514.8
1754	163.0	164.2	1.14	53.9	163.8	109.85	0.580	1.0012	8.338	4.83	531.5
1755	163.8	165.0	1.14	53.9	164.6	110.71	0.580	1.0012	8.338	4.83	535.6
1756	164.8	166.0	1.23	53.9	165.6	111.69	0.566	1.0012	8.338	4.72	527.5
1757	165.6	166.8	1.15	53.8	166.5	112.66	0.566	1.0012	8.338	4.72	532.1
1758	166.7	167.9	1.25	53.8	167.4	113.61	0.580	1.0012	8.338	4.83	549.7
1759	167.6	168.9	1.29	53.8	168.4	114.65	0.566	1.0012	8.338	4.72	541.5
1760	168.8	170.0	1.24	53.8	169.6	115.80	0.580	1.0012	8.338	4.83	560.3
1761	169.7	171.0	1.28	53.8	170.5	116.69	0.566	1.0012	8.338	4.72	551.2
1762	170.6	171.9	1.30	53.9	171.5	117.52	0.566	1.0012	8.338	4.72	555.0
1763	171.6	172.9	1.32	54.1	172.5	118.33	0.566	1.0012	8.337	4.72	558.9
1764	172.6	173.9	1.33	54.3	173.5	119.12	0.566	1.0012	8.337	4.72	562.6
1765	173.6	174.9	1.33	54.5	174.5	120.05	0.566	1.0012	8.337	4.72	567.0
1766	174.7	176.1	1.35	54.6	175.6	121.07	0.566	1.0012	8.337	4.72	571.8
1767	175.6	177.0	1.38	54.7	176.6	121.87	0.580	1.0012	8.337	4.83	589.6
1768	176.6	178.0	1.41	54.8	177.5	122.71	0.566	1.0012	8.337	4.72	579.5
1769	177.6	179.0	1.39	54.9	178.6	123.71	0.566	1.0012	8.337	4.72	584.2
1770	178.7	180.1	1.45	54.9	179.7	124.73	0.566	1.0012	8.337	4.72	589.0
1771	179.6	181.1	1.44	54.9	180.7	125.82	0.566	1.0012	8.337	4.72	594.2
1772	180.5	182.0	1.44	54.8	181.6	126.84	0.566	1.0012	8.337	4.72	599.0
1773	181.0	182.4	1.43	54.6	182.1	127.48	0.552	1.0012	8.337	4.60	587.4
1774	181.3	182.7	1.42	54.5	182.4	127.90	0.566	1.0012	8.337	4.72	604.1
1775	181.6	183.0	1.44	54.5	182.8	128.33	0.566	1.0012	8.337	4.72	606.1
1776	181.8	183.2	1.45	54.4	183.1	128.67	0.566	1.0012	8.337	4.72	607.7
1777	181.9	183.4	1.48	54.3	183.2	128.90	0.566	1.0012	8.337	4.72	608.8
1778	182.1	183.5	1.46	54.3	183.4	129.10	0.552	1.0012	8.337	4.60	594.8
1779	182.2	183.7	1.46	54.2	183.5	129.23	0.566	1.0012	8.337	4.72	610.4
1780	182.3	183.8	1.47	54.2	183.5	129.36	0.566	1.0012	8.337	4.72	611.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1781	182.3	183.8	1.46	54.1	183.6	129.45	0.566	1.0012	8.337	4.72	611.4
1782	182.3	183.8	1.46	54.1	183.6	129.55	0.552	1.0012	8.337	4.60	596.9
1783	182.3	183.8	1.45	54.0	183.6	129.59	0.566	1.0012	8.338	4.72	612.1
1784	182.4	183.8	1.47	54.0	183.7	129.70	0.566	1.0012	8.338	4.72	612.6
1785	182.3	183.8	1.48	54.0	183.6	129.63	0.566	1.0012	8.338	4.72	612.3
1786	182.3	183.8	1.47	53.9	183.6	129.70	0.552	1.0012	8.338	4.60	597.7
1787	182.3	183.8	1.47	53.9	183.6	129.72	0.566	1.0012	8.338	4.72	612.7
1788	182.1	183.6	1.49	53.8	183.5	129.65	0.566	1.0012	8.338	4.72	612.4
1789	182.2	183.6	1.47	53.8	183.5	129.71	0.566	1.0012	8.338	4.72	612.6
1790	182.1	183.6	1.47	53.8	183.4	129.66	0.552	1.0012	8.338	4.60	597.5
1791	182.1	183.6	1.48	53.8	183.4	129.62	0.566	1.0012	8.338	4.72	612.2
1792	182.1	183.5	1.48	53.7	183.4	129.67	0.566	1.0012	8.338	4.72	612.5
1793	182.0	183.5	1.48	53.7	183.4	129.67	0.552	1.0012	8.338	4.60	597.5
1794	181.9	183.4	1.45	53.7	183.2	129.58	0.566	1.0012	8.338	4.72	612.0
1795	181.8	183.3	1.45	53.7	183.2	129.55	0.566	1.0012	8.338	4.72	611.9
1796	181.8	183.3	1.46	53.6	183.1	129.42	0.552	1.0012	8.338	4.60	596.4
1797	181.7	183.1	1.45	53.6	183.0	129.38	0.566	1.0012	8.338	4.72	611.1
1798	181.9	183.2	1.26	53.7	183.0	129.37	0.524	1.0012	8.338	4.37	566.3
1799	181.9	183.2	1.28	53.7	182.9	129.28	0.483	1.0012	8.338	4.03	521.3
1800	181.8	183.0	1.23	53.8	182.9	129.12	0.511	1.0012	8.338	4.26	550.4
1801	181.6	182.9	1.26	53.9	182.7	128.79	0.483	1.0012	8.338	4.03	519.3
1802	181.6	182.8	1.24	54.2	182.7	128.55	0.497	1.0012	8.337	4.14	533.1
1803	181.6	182.8	1.25	54.3	182.7	128.35	0.497	1.0012	8.337	4.14	532.2
1804	181.5	182.8	1.23	54.5	182.6	128.15	0.497	1.0012	8.337	4.14	531.4
1805	181.4	182.6	1.22	54.6	182.5	127.88	0.497	1.0012	8.337	4.14	530.3
1806	181.4	182.6	1.22	54.7	182.4	127.66	0.497	1.0012	8.337	4.14	529.4
1807	181.3	182.5	1.21	54.9	182.3	127.46	0.497	1.0012	8.337	4.14	528.5
1808	181.2	182.4	1.22	55.0	182.3	127.26	0.497	1.0012	8.337	4.14	527.7
1809	181.0	182.3	1.23	55.1	182.1	127.04	0.497	1.0012	8.336	4.14	526.8
1810	181.0	182.2	1.24	55.1	182.0	126.93	0.497	1.0012	8.336	4.14	526.3
1811	180.9	182.1	1.23	55.0	181.9	126.93	0.497	1.0012	8.337	4.14	526.3
1812	180.8	182.0	1.22	54.8	181.9	127.02	0.511	1.0012	8.337	4.26	541.3
1813	180.8	182.0	1.23	54.7	181.8	127.06	0.497	1.0012	8.337	4.14	526.9
1814	180.6	181.8	1.20	54.6	181.7	127.09	0.497	1.0012	8.337	4.14	527.0
1815	180.5	181.7	1.23	54.6	181.6	127.04	0.483	1.0012	8.337	4.03	512.2
1816	180.6	181.8	1.22	54.5	181.6	127.06	0.497	1.0012	8.337	4.14	526.9
1817	180.3	181.5	1.23	54.5	181.4	126.94	0.497	1.0012	8.337	4.14	526.4
1818	180.2	181.4	1.22	54.4	181.3	126.88	0.497	1.0012	8.337	4.14	526.2
1819	180.1	181.3	1.19	54.4	181.2	126.79	0.497	1.0012	8.337	4.14	525.8

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1820	180.1	181.3	1.22	54.4	181.1	126.77	0.497	1.0012	8.337	4.14	525.7
1821	179.9	181.1	1.22	54.3	181.0	126.67	0.497	1.0012	8.337	4.14	525.3
1822	179.8	181.0	1.21	54.3	180.8	126.55	0.497	1.0012	8.337	4.14	524.8
1823	179.7	180.9	1.21	54.2	180.8	126.56	0.497	1.0012	8.337	4.14	524.8
1824	179.6	180.9	1.21	54.2	180.8	126.56	0.497	1.0012	8.337	4.14	524.8
1825	179.5	180.7	1.21	54.2	180.5	126.36	0.497	1.0012	8.337	4.14	524.0
1826	179.4	180.6	1.19	54.1	180.4	126.30	0.497	1.0012	8.337	4.14	523.8
1827	179.2	180.5	1.22	54.1	180.3	126.20	0.497	1.0012	8.337	4.14	523.4
1828	179.1	180.3	1.19	54.0	180.2	126.15	0.497	1.0012	8.337	4.14	523.2
1829	179.1	180.3	1.20	54.0	180.1	126.07	0.497	1.0012	8.338	4.14	522.8
1830	178.9	180.1	1.19	54.0	180.0	125.98	0.497	1.0012	8.338	4.14	522.4
1831	178.8	179.9	1.18	54.0	179.8	125.86	0.483	1.0012	8.338	4.03	507.5
1832	178.7	179.9	1.20	54.0	179.7	125.76	0.497	1.0012	8.338	4.14	521.5
1833	178.6	179.8	1.19	53.9	179.6	125.66	0.497	1.0012	8.338	4.14	521.1
1834	178.5	179.7	1.19	53.9	179.5	125.63	0.497	1.0012	8.338	4.14	521.0
1835	178.3	179.5	1.19	53.9	179.4	125.53	0.497	1.0012	8.338	4.14	520.6
1836	178.1	179.3	1.18	53.9	179.2	125.36	0.497	1.0012	8.338	4.14	519.9
1837	178.1	179.3	1.18	53.9	179.1	125.25	0.497	1.0012	8.338	4.14	519.4
1838	178.0	179.1	1.16	53.9	179.0	125.06	0.497	1.0012	8.338	4.14	518.6
1839	177.8	179.0	1.18	54.1	178.9	124.79	0.497	1.0012	8.337	4.14	517.5
1840	177.7	178.9	1.18	54.3	178.7	124.40	0.497	1.0012	8.337	4.14	515.9
1841	177.6	178.8	1.17	54.5	178.7	124.20	0.483	1.0012	8.337	4.03	500.7
1842	177.4	178.5	1.13	54.6	178.4	123.82	0.497	1.0012	8.337	4.14	513.5
1843	177.3	178.5	1.14	54.7	178.4	123.65	0.497	1.0012	8.337	4.14	512.7
1844	177.3	178.4	1.14	54.9	178.3	123.45	0.497	1.0012	8.337	4.14	511.9
1845	177.2	178.3	1.15	55.0	178.2	123.25	0.511	1.0012	8.337	4.26	525.3
1846	177.0	178.2	1.15	55.1	178.1	123.02	0.483	1.0012	8.337	4.03	495.9
1847	177.0	178.1	1.14	55.2	178.0	122.77	0.497	1.0012	8.336	4.14	509.1
1848	176.8	178.0	1.14	55.3	177.8	122.47	0.497	1.0012	8.336	4.14	507.8
1849	176.7	177.8	1.11	55.4	177.7	122.29	0.497	1.0012	8.336	4.14	507.1
1850	176.5	177.7	1.12	55.5	177.6	122.07	0.497	1.0012	8.336	4.14	506.1
1851	176.5	177.6	1.14	55.5	177.4	121.97	0.497	1.0012	8.336	4.14	505.7
1852	176.3	177.4	1.14	55.4	177.3	121.91	0.497	1.0012	8.336	4.14	505.5
1853	176.2	177.3	1.11	55.2	177.2	122.05	0.497	1.0012	8.336	4.14	506.1
1854	176.0	177.2	1.13	55.0	177.1	122.05	0.497	1.0012	8.337	4.14	506.1
1855	175.9	177.0	1.13	54.9	176.9	121.98	0.497	1.0012	8.337	4.14	505.8
1856	175.7	176.9	1.12	54.8	176.7	121.94	0.497	1.0012	8.337	4.14	505.7
1857	175.6	176.8	1.17	54.7	176.6	121.91	0.497	1.0012	8.337	4.14	505.5
1858	175.5	176.7	1.12	54.6	176.6	121.94	0.497	1.0012	8.337	4.14	505.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1859	175.4	176.5	1.11	54.6	176.5	121.90	0.497	1.0012	8.337	4.14	505.5
1860	175.3	176.4	1.11	54.5	176.3	121.78	0.497	1.0012	8.337	4.14	505.0
1861	175.0	176.2	1.20	54.5	176.2	121.71	0.524	1.0012	8.337	4.37	532.8
1862	174.9	176.1	1.25	54.4	176.0	121.61	0.538	1.0012	8.337	4.49	546.3
1863	174.8	175.9	1.17	54.3	175.9	121.58	0.524	1.0012	8.337	4.37	532.2
1864	174.5	175.9	1.34	54.3	175.8	121.52	0.566	1.0012	8.337	4.72	573.9
1865	174.4	175.8	1.33	54.2	175.7	121.50	0.566	1.0012	8.337	4.72	573.8
1866	174.3	175.6	1.34	54.1	175.5	121.40	0.580	1.0012	8.337	4.83	587.4
1867	174.1	175.4	1.33	54.0	175.3	121.29	0.580	1.0012	8.338	4.83	586.8
1868	174.0	175.3	1.31	53.9	175.2	121.27	0.580	1.0012	8.338	4.83	586.8
1869	173.8	175.1	1.33	53.9	175.0	121.14	0.580	1.0012	8.338	4.83	586.1
1870	173.7	175.0	1.31	53.8	174.8	121.03	0.566	1.0012	8.338	4.72	571.7
1871	173.4	174.8	1.34	53.7	174.6	120.89	0.580	1.0012	8.338	4.83	584.9
1872	173.3	174.6	1.35	53.7	174.5	120.78	0.580	1.0012	8.338	4.83	584.4
1873	173.1	174.4	1.33	53.8	174.3	120.54	0.580	1.0012	8.338	4.83	583.2
1874	173.0	174.3	1.33	53.9	174.2	120.29	0.580	1.0012	8.338	4.83	582.0
1875	173.0	174.3	1.32	54.1	174.1	120.06	0.580	1.0012	8.337	4.83	580.9
1876	172.9	174.2	1.30	54.2	174.1	119.89	0.580	1.0012	8.337	4.83	580.1
1877	172.6	173.9	1.29	54.3	173.9	119.58	0.580	1.0012	8.337	4.83	578.5
1878	172.5	173.8	1.29	54.4	173.7	119.30	0.566	1.0012	8.337	4.72	563.4
1879	172.3	173.6	1.28	54.5	173.4	118.95	0.580	1.0012	8.337	4.83	575.5
1880	172.2	173.5	1.28	54.5	173.4	118.83	0.580	1.0012	8.337	4.83	574.9
1881	172.0	173.3	1.26	54.6	173.2	118.56	0.580	1.0012	8.337	4.83	573.6
1882	171.8	173.1	1.30	54.7	173.0	118.29	0.580	1.0012	8.337	4.83	572.3
1883	171.8	173.0	1.28	54.8	172.9	118.10	0.580	1.0012	8.337	4.83	571.3
1884	171.6	172.9	1.30	54.8	172.7	117.90	0.580	1.0012	8.337	4.83	570.4
1885	171.5	172.8	1.27	54.7	172.6	117.85	0.580	1.0012	8.337	4.83	570.2
1886	171.3	172.5	1.26	54.6	172.4	117.84	0.580	1.0012	8.337	4.83	570.1
1887	171.1	172.4	1.27	54.4	172.3	117.86	0.580	1.0012	8.337	4.83	570.2
1888	170.9	172.2	1.28	54.3	172.1	117.86	0.580	1.0012	8.337	4.83	570.2
1889	171.0	172.1	1.18	54.2	172.0	117.83	0.566	1.0012	8.337	4.72	556.5
1890	170.8	171.9	1.11	54.1	171.8	117.76	0.524	1.0012	8.337	4.37	515.5
1891	170.6	171.7	1.12	54.0	171.6	117.58	0.524	1.0012	8.338	4.37	514.7
1892	170.5	171.6	1.12	54.0	171.5	117.49	0.524	1.0012	8.338	4.37	514.3
1893	170.4	171.5	1.09	53.9	171.4	117.44	0.524	1.0012	8.338	4.37	514.1
1894	170.3	171.4	1.11	53.9	171.2	117.31	0.524	1.0012	8.338	4.37	513.5
1895	170.0	171.2	1.11	53.8	171.1	117.23	0.524	1.0012	8.338	4.37	513.2
1896	169.9	171.0	1.09	53.8	170.9	117.10	0.524	1.0012	8.338	4.37	512.6
1897	169.7	170.8	1.10	53.8	170.7	116.95	0.524	1.0012	8.338	4.37	512.0

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1898	169.6	170.7	1.09	53.7	170.6	116.89	0.524	1.0012	8.338	4.37	511.7
1899	169.5	170.5	1.06	53.7	170.5	116.82	0.524	1.0012	8.338	4.37	511.4
1900	169.4	170.5	1.11	53.7	170.3	116.66	0.511	1.0012	8.338	4.26	497.3
1901	169.2	170.3	1.12	53.6	170.2	116.54	0.524	1.0012	8.338	4.37	510.2
1902	169.0	170.1	1.10	53.6	170.0	116.43	0.538	1.0012	8.338	4.49	523.1
1903	168.8	169.9	1.10	53.5	169.8	116.28	0.524	1.0012	8.338	4.37	509.0
1904	168.9	169.9	1.06	53.5	169.8	116.26	0.511	1.0012	8.338	4.26	495.6
1905	168.7	169.8	1.07	53.6	169.6	115.98	0.524	1.0012	8.338	4.37	507.7
1906	168.5	169.6	1.07	53.8	169.5	115.70	0.524	1.0012	8.338	4.37	506.5
1907	168.4	169.5	1.08	54.0	169.4	115.37	0.538	1.0012	8.338	4.49	518.3
1908	168.3	169.4	1.07	54.1	169.2	115.07	0.524	1.0012	8.337	4.37	503.7
1909	168.2	169.2	1.03	54.2	169.1	114.88	0.524	1.0012	8.337	4.37	502.9
1910	168.0	169.1	1.05	54.4	168.9	114.58	0.524	1.0012	8.337	4.37	501.6
1911	167.8	168.9	1.06	54.5	168.8	114.32	0.524	1.0012	8.337	4.37	500.4
1912	167.7	168.8	1.06	54.6	168.6	114.04	0.524	1.0012	8.337	4.37	499.2
1913	167.4	168.6	1.22	54.7	168.5	113.79	0.580	1.0012	8.337	4.83	550.5
1914	167.3	168.5	1.22	54.8	168.4	113.55	0.580	1.0012	8.337	4.83	549.3
1915	167.1	168.3	1.22	54.8	168.2	113.36	0.593	1.0012	8.337	4.95	561.5
1916	166.9	168.1	1.22	54.8	168.1	113.30	0.580	1.0012	8.337	4.83	548.1
1917	166.8	168.1	1.22	54.6	168.0	113.33	0.593	1.0012	8.337	4.95	561.3
1918	166.7	167.9	1.22	54.4	167.8	113.36	0.580	1.0012	8.337	4.83	548.4
1919	166.5	167.7	1.24	54.3	167.6	113.28	0.593	1.0012	8.337	4.95	561.1
1920	166.3	167.5	1.22	54.2	167.4	113.26	0.593	1.0012	8.337	4.95	561.0
1921	166.3	167.5	1.23	54.1	167.3	113.22	0.580	1.0012	8.337	4.83	547.8
1922	166.1	167.3	1.22	54.0	167.2	113.20	0.593	1.0012	8.338	4.95	560.7
1923	166.0	167.2	1.24	53.9	167.1	113.15	0.593	1.0012	8.338	4.95	560.5
1924	165.7	166.9	1.22	53.8	166.8	112.98	0.580	1.0012	8.338	4.83	546.7
1925	165.5	166.7	1.22	53.8	166.6	112.80	0.593	1.0012	8.338	4.95	558.8
1926	165.3	166.5	1.22	53.7	166.4	112.71	0.593	1.0012	8.338	4.95	558.3
1927	165.2	166.4	1.22	53.6	166.3	112.68	0.593	1.0012	8.338	4.95	558.2
1928	165.1	166.3	1.22	53.6	166.1	112.53	0.580	1.0012	8.338	4.83	544.5
1929	164.9	166.1	1.21	53.6	166.0	112.43	0.593	1.0012	8.338	4.95	556.9
1930	164.7	165.9	1.20	53.5	165.9	112.35	0.593	1.0012	8.338	4.95	556.6
1931	164.6	165.8	1.18	53.5	165.7	112.28	0.580	1.0012	8.338	4.83	543.3
1932	164.5	165.6	1.18	53.4	165.5	112.12	0.593	1.0012	8.338	4.95	555.4
1933	164.3	165.4	1.18	53.4	165.4	112.00	0.593	1.0012	8.338	4.95	554.9
1934	164.1	165.3	1.19	53.3	165.2	111.92	0.593	1.0012	8.338	4.95	554.4
1935	164.0	165.1	1.17	53.3	165.0	111.73	0.593	1.0012	8.338	4.95	553.5
1936	163.8	165.0	1.19	53.3	164.9	111.61	0.593	1.0012	8.338	4.95	552.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1937	163.7	164.9	1.18	53.2	164.8	111.54	0.580	1.0012	8.338	4.83	539.7
1938	163.6	164.8	1.19	53.2	164.6	111.44	0.593	1.0012	8.338	4.95	552.1
1939	163.4	164.6	1.19	53.3	164.4	111.18	0.593	1.0012	8.338	4.95	550.8
1940	163.2	164.4	1.20	53.4	164.2	110.78	0.593	1.0012	8.338	4.95	548.8
1941	163.2	164.3	1.17	53.6	164.2	110.58	0.593	1.0012	8.338	4.95	547.8
1942	162.9	164.0	1.16	53.8	163.9	110.16	0.580	1.0012	8.338	4.83	533.0
1943	162.8	164.0	1.18	53.9	163.8	109.95	0.593	1.0012	8.338	4.95	544.6
1944	162.6	163.8	1.15	54.0	163.7	109.68	0.593	1.0012	8.338	4.95	543.3
1945	162.5	163.6	1.16	54.1	163.5	109.41	0.593	1.0012	8.337	4.95	541.9
1946	162.3	163.4	1.15	54.2	163.4	109.21	0.580	1.0012	8.337	4.83	528.4
1947	162.1	163.2	1.14	54.3	163.1	108.83	0.593	1.0012	8.337	4.95	539.1
1948	162.0	163.1	1.13	54.3	163.0	108.67	0.593	1.0012	8.337	4.95	538.3
1949	161.8	162.9	1.13	54.4	162.9	108.41	0.593	1.0012	8.337	4.95	537.0
1950	161.7	162.8	1.13	54.5	162.7	108.18	0.593	1.0012	8.337	4.95	535.9
1951	161.5	162.7	1.14	54.6	162.5	107.91	0.580	1.0012	8.337	4.83	522.1
1952	161.4	162.5	1.12	54.6	162.4	107.79	0.593	1.0012	8.337	4.95	533.9
1953	161.2	162.3	1.13	54.5	162.2	107.69	0.593	1.0012	8.337	4.95	533.4
1954	161.1	162.2	1.12	54.3	162.1	107.79	0.593	1.0012	8.337	4.95	533.9
1955	160.9	162.0	1.10	54.1	161.9	107.78	0.580	1.0012	8.337	4.83	521.5
1956	160.7	161.8	1.10	54.0	161.8	107.77	0.607	1.0012	8.338	5.06	546.3
1957	160.6	161.8	1.11	53.9	161.6	107.74	0.580	1.0012	8.338	4.83	521.3
1958	160.4	161.5	1.11	53.8	161.4	107.62	0.593	1.0012	8.338	4.95	533.1
1959	160.3	161.4	1.11	53.7	161.3	107.57	0.593	1.0012	8.338	4.95	532.8
1960	160.2	161.3	1.09	53.7	161.2	107.49	0.593	1.0012	8.338	4.95	532.5
1961	160.0	161.1	1.07	53.6	161.0	107.34	0.566	1.0012	8.338	4.72	507.0
1962	159.8	160.9	1.13	53.6	160.8	107.25	0.593	1.0012	8.338	4.95	531.3
1963	159.7	160.8	1.12	53.5	160.7	107.15	0.607	1.0012	8.338	5.06	543.2
1964	159.5	160.6	1.14	53.4	160.5	107.07	0.593	1.0012	8.338	4.95	530.4
1965	159.3	160.4	1.09	53.4	160.4	106.99	0.593	1.0012	8.338	4.95	530.0
1966	159.2	160.3	1.13	53.3	160.1	106.82	0.593	1.0012	8.338	4.95	529.2
1967	159.0	160.1	1.12	53.3	160.0	106.70	0.593	1.0012	8.338	4.95	528.6
1968	159.0	160.1	1.10	53.2	159.9	106.70	0.593	1.0012	8.338	4.95	528.6
1969	158.7	159.8	1.09	53.3	159.8	106.45	0.607	1.0012	8.338	5.06	539.6
1970	158.6	159.6	1.09	53.4	159.6	106.13	0.593	1.0012	8.338	4.95	525.7
1971	158.4	159.5	1.08	53.6	159.4	105.77	0.593	1.0012	8.338	4.95	523.9
1972	158.3	159.4	1.08	53.7	159.3	105.53	0.593	1.0012	8.338	4.95	522.8
1973	158.1	159.2	1.11	53.8	159.1	105.26	0.593	1.0012	8.338	4.95	521.4
1974	157.9	159.0	1.10	53.9	158.9	105.02	0.593	1.0012	8.338	4.95	520.2
1975	158.0	159.1	1.11	54.0	158.9	104.90	0.607	1.0012	8.338	5.06	531.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
1976	158.6	159.7	1.10	54.1	159.3	105.21	0.593	1.0012	8.337	4.95	521.1
1977	159.3	160.6	1.21	54.2	160.0	105.80	0.593	1.0012	8.337	4.95	524.1
1978	160.1	161.3	1.16	54.2	160.9	106.62	0.593	1.0012	8.337	4.95	528.1
1979	160.7	161.9	1.20	54.3	161.5	107.15	0.593	1.0012	8.337	4.95	530.8
1980	161.7	163.0	1.33	54.4	162.5	108.09	0.621	1.0012	8.337	5.18	560.3
1981	162.3	163.7	1.36	54.5	163.3	108.80	0.635	1.0012	8.337	5.29	576.5
1982	163.3	164.6	1.28	54.5	164.2	109.73	0.635	1.0012	8.337	5.29	581.4
1983	164.3	165.6	1.34	54.5	165.2	110.69	0.621	1.0012	8.337	5.18	573.8
1984	165.2	166.6	1.35	54.3	166.1	111.76	0.635	1.0012	8.337	5.29	592.2
1985	166.2	167.6	1.39	54.1	167.1	112.97	0.621	1.0012	8.337	5.18	585.6
1986	166.9	168.3	1.40	53.9	168.0	114.05	0.635	1.0012	8.338	5.29	604.3
1987	168.0	169.4	1.43	53.8	169.0	115.25	0.621	1.0012	8.338	5.18	597.4
1988	169.0	170.2	1.15	53.7	169.8	116.10	0.580	1.0012	8.338	4.83	561.8
1989	170.3	171.5	1.18	53.6	170.9	117.23	0.497	1.0012	8.338	4.14	486.2
1990	171.3	172.4	1.14	53.6	171.9	118.35	0.511	1.0012	8.338	4.26	504.5
1991	172.4	173.5	1.16	53.6	173.0	119.42	0.497	1.0012	8.338	4.14	495.3
1992	173.5	174.7	1.13	53.5	174.0	120.50	0.511	1.0012	8.338	4.26	513.6
1993	174.5	175.7	1.17	53.5	175.2	121.70	0.497	1.0012	8.338	4.14	504.7
1994	175.5	176.7	1.23	53.5	176.3	122.74	0.497	1.0012	8.338	4.14	509.0
1995	176.7	177.9	1.20	53.5	177.4	123.93	0.497	1.0012	8.338	4.14	514.0
1996	177.7	178.9	1.21	53.5	178.6	125.08	0.497	1.0012	8.338	4.14	518.8
1997	178.7	180.0	1.28	53.5	179.5	126.03	0.497	1.0012	8.338	4.14	522.7
1998	180.0	181.2	1.28	53.5	180.7	127.17	0.497	1.0012	8.338	4.14	527.4
1999	181.0	182.3	1.28	53.5	181.8	128.28	0.483	1.0012	8.338	4.03	517.3
2000	181.9	183.2	1.30	53.5	182.8	129.27	0.497	1.0012	8.338	4.14	536.1
2001	182.1	183.4	1.27	53.7	183.1	129.42	0.497	1.0012	8.338	4.14	536.8
2002	182.6	183.9	1.30	53.9	183.6	129.73	0.483	1.0012	8.338	4.03	523.1
2003	182.8	184.0	1.26	54.0	183.9	129.81	0.497	1.0012	8.337	4.14	538.3
2004	183.0	184.3	1.30	54.2	184.1	129.91	0.483	1.0012	8.337	4.03	523.8
2005	183.2	184.5	1.28	54.3	184.3	130.00	0.497	1.0012	8.337	4.14	539.1
2006	183.4	184.7	1.29	54.4	184.4	130.03	0.483	1.0012	8.337	4.03	524.2
2007	183.4	184.7	1.29	54.5	184.5	130.00	0.483	1.0012	8.337	4.03	524.1
2008	183.5	184.8	1.27	54.6	184.6	129.96	0.497	1.0012	8.337	4.14	538.9
2009	183.6	184.8	1.25	54.8	184.7	129.96	0.483	1.0012	8.337	4.03	523.9
2010	183.6	184.9	1.29	54.8	184.7	129.89	0.483	1.0012	8.337	4.03	523.6
2011	183.7	185.0	1.30	54.8	184.7	129.97	0.497	1.0012	8.337	4.14	538.9
2012	183.7	185.0	1.30	54.6	184.8	130.19	0.483	1.0012	8.337	4.03	524.9
2013	183.7	185.0	1.30	54.5	184.8	130.31	0.497	1.0012	8.337	4.14	540.4
2014	183.6	184.9	1.29	54.4	184.8	130.44	0.483	1.0012	8.337	4.03	525.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2015	183.7	184.9	1.29	54.3	184.8	130.52	0.483	1.0012	8.337	4.03	526.2
2016	183.6	184.9	1.31	54.2	184.7	130.53	0.483	1.0012	8.337	4.03	526.3
2017	183.5	184.8	1.27	54.1	184.6	130.52	0.469	1.0012	8.337	3.91	511.2
2018	183.6	184.9	1.27	54.0	184.7	130.67	0.483	1.0012	8.337	4.03	526.9
2019	183.5	184.8	1.30	54.0	184.7	130.65	0.497	1.0012	8.338	4.14	541.8
2020	183.5	184.8	1.29	53.9	184.7	130.74	0.483	1.0012	8.338	4.03	527.1
2021	183.5	184.7	1.27	53.9	184.6	130.72	0.483	1.0012	8.338	4.03	527.1
2022	183.5	184.7	1.29	53.8	184.6	130.72	0.483	1.0012	8.338	4.03	527.0
2023	183.4	184.7	1.28	53.8	184.5	130.74	0.497	1.0012	8.338	4.14	542.2
2024	183.4	184.7	1.30	53.8	184.5	130.75	0.483	1.0012	8.338	4.03	527.2
2025	183.3	184.6	1.29	53.7	184.5	130.77	0.483	1.0012	8.338	4.03	527.3
2026	183.2	184.5	1.28	53.7	184.4	130.69	0.483	1.0012	8.338	4.03	526.9
2027	183.2	184.5	1.28	53.7	184.4	130.70	0.483	1.0012	8.338	4.03	527.0
2028	183.2	184.5	1.28	53.6	184.3	130.73	0.497	1.0012	8.338	4.14	542.2
2029	183.1	184.4	1.29	53.6	184.3	130.68	0.483	1.0012	8.338	4.03	526.9
2030	183.0	184.3	1.26	53.5	184.2	130.63	0.483	1.0012	8.338	4.03	526.7
2031	182.9	184.2	1.25	53.6	184.0	130.48	0.483	1.0012	8.338	4.03	526.1
2032	182.9	184.2	1.27	53.7	184.0	130.32	0.497	1.0012	8.338	4.14	540.5
2033	182.8	184.0	1.23	53.8	184.0	130.12	0.483	1.0012	8.338	4.03	524.6
2034	182.8	184.0	1.26	54.0	183.9	129.85	0.483	1.0012	8.338	4.03	523.5
2035	182.6	183.9	1.26	54.1	183.7	129.54	0.483	1.0012	8.337	4.03	522.3
2036	182.6	183.9	1.28	54.3	183.8	129.50	0.483	1.0012	8.337	4.03	522.1
2037	182.5	183.8	1.31	54.4	183.6	129.25	0.497	1.0012	8.337	4.14	536.0
2038	182.3	183.6	1.33	54.5	183.5	129.07	0.524	1.0012	8.337	4.37	565.0
2039	182.2	183.5	1.31	54.6	183.4	128.87	0.511	1.0012	8.337	4.26	549.2
2040	182.2	183.5	1.34	54.6	183.3	128.68	0.524	1.0012	8.337	4.37	563.3
2041	182.0	183.3	1.34	54.7	183.2	128.51	0.524	1.0012	8.337	4.37	562.5
2042	182.0	183.3	1.31	54.8	183.1	128.36	0.524	1.0012	8.337	4.37	561.9
2043	181.9	183.2	1.31	54.8	183.1	128.21	0.524	1.0012	8.337	4.37	561.2
2044	181.7	183.0	1.28	54.9	182.9	128.01	0.511	1.0012	8.337	4.26	545.6
2045	181.6	182.9	1.30	55.0	182.8	127.83	0.524	1.0012	8.337	4.37	559.5
2046	181.5	182.8	1.31	54.9	182.6	127.76	0.524	1.0012	8.337	4.37	559.2
2047	181.4	182.6	1.26	54.7	182.5	127.84	0.511	1.0012	8.337	4.26	544.8
2048	181.2	182.5	1.31	54.5	182.4	127.92	0.524	1.0012	8.337	4.37	559.9
2049	181.2	182.5	1.32	54.3	182.3	127.96	0.524	1.0012	8.337	4.37	560.1
2050	181.1	182.4	1.27	54.2	182.3	128.05	0.524	1.0012	8.337	4.37	560.5
2051	180.9	182.2	1.27	54.1	182.1	127.99	0.511	1.0012	8.337	4.26	545.5
2052	180.8	182.1	1.29	54.0	182.0	127.95	0.524	1.0012	8.338	4.37	560.1
2053	180.6	182.0	1.33	54.0	181.8	127.84	0.524	1.0012	8.338	4.37	559.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2054	180.6	181.9	1.30	53.9	181.7	127.83	0.524	1.0012	8.338	4.37	559.6
2055	180.4	181.7	1.30	53.8	181.6	127.80	0.511	1.0012	8.338	4.26	544.8
2056	180.3	181.6	1.28	53.8	181.5	127.69	0.524	1.0012	8.338	4.37	559.0
2057	180.2	181.4	1.28	53.8	181.3	127.55	0.524	1.0012	8.338	4.37	558.4
2058	180.1	181.4	1.27	53.8	181.3	127.43	0.524	1.0012	8.338	4.37	557.8
2059	180.0	181.3	1.27	54.0	181.1	127.14	0.511	1.0012	8.338	4.26	541.9
2060	179.8	181.1	1.27	54.1	181.0	126.82	0.524	1.0012	8.337	4.37	555.1
2061	179.7	181.0	1.27	54.3	180.9	126.58	0.524	1.0012	8.337	4.37	554.1
2062	179.6	180.8	1.26	54.4	180.7	126.37	0.511	1.0012	8.337	4.26	538.6
2063	179.4	180.7	1.26	54.5	180.6	126.10	0.524	1.0012	8.337	4.37	552.0
2064	179.3	180.5	1.23	54.5	180.4	125.87	0.524	1.0012	8.337	4.37	551.0
2065	179.1	180.3	1.24	54.6	180.3	125.63	0.524	1.0012	8.337	4.37	549.9
2066	179.0	180.2	1.25	54.7	180.1	125.44	0.511	1.0012	8.337	4.26	534.6
2067	178.9	180.2	1.25	54.7	180.0	125.30	0.524	1.0012	8.337	4.37	548.5
2068	178.8	180.0	1.26	54.6	179.9	125.30	0.524	1.0012	8.337	4.37	548.4
2069	178.6	179.9	1.22	54.4	179.7	125.31	0.524	1.0012	8.337	4.37	548.5
2070	178.7	179.9	1.24	54.3	179.7	125.44	0.524	1.0012	8.337	4.37	549.1
2071	178.4	179.6	1.26	54.2	179.6	125.40	0.524	1.0012	8.337	4.37	548.9
2072	178.5	179.7	1.25	54.1	179.5	125.47	0.511	1.0012	8.337	4.26	534.8
2073	178.3	179.6	1.26	54.0	179.4	125.46	0.524	1.0012	8.338	4.37	549.2
2074	178.2	179.5	1.23	53.9	179.3	125.42	0.524	1.0012	8.338	4.37	549.0
2075	177.9	179.2	1.23	53.9	179.1	125.25	0.524	1.0012	8.338	4.37	548.3
2076	177.9	179.1	1.22	53.8	179.0	125.21	0.524	1.0012	8.338	4.37	548.1
2077	177.8	179.1	1.25	53.8	178.9	125.13	0.511	1.0012	8.338	4.26	533.4
2078	177.7	178.9	1.26	53.7	178.8	125.09	0.524	1.0012	8.338	4.37	547.6
2079	177.5	178.7	1.22	53.7	178.6	124.97	0.524	1.0012	8.338	4.37	547.1
2080	177.4	178.6	1.23	53.7	178.5	124.81	0.524	1.0012	8.338	4.37	546.4
2081	177.2	178.4	1.24	53.7	178.3	124.56	0.524	1.0012	8.338	4.37	545.3
2082	177.1	178.4	1.25	53.9	178.2	124.30	0.524	1.0012	8.338	4.37	544.1
2083	176.9	178.1	1.23	54.0	178.1	124.07	0.524	1.0012	8.338	4.37	543.1
2084	176.7	178.0	1.24	54.2	177.9	123.73	0.511	1.0012	8.337	4.26	527.4
2085	176.7	177.9	1.20	54.3	177.8	123.54	0.524	1.0012	8.337	4.37	540.8
2086	176.6	177.8	1.21	54.4	177.7	123.27	0.524	1.0012	8.337	4.37	539.6
2087	176.4	177.6	1.19	54.5	177.5	123.08	0.524	1.0012	8.337	4.37	538.7
2088	176.3	177.5	1.21	54.5	177.4	122.87	0.524	1.0012	8.337	4.37	537.8
2089	176.1	177.3	1.21	54.5	177.3	122.73	0.524	1.0012	8.337	4.37	537.2
2090	176.0	177.2	1.20	54.4	177.1	122.63	0.524	1.0012	8.337	4.37	536.8
2091	175.8	177.0	1.21	54.2	176.9	122.66	0.524	1.0012	8.337	4.37	536.9
2092	175.7	176.9	1.19	54.1	176.8	122.72	0.524	1.0012	8.337	4.37	537.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2093	175.5	176.7	1.23	54.0	176.6	122.55	0.538	1.0012	8.338	4.49	550.6
2094	175.4	176.6	1.21	53.9	176.5	122.57	0.524	1.0012	8.338	4.37	536.5
2095	175.3	176.5	1.20	53.9	176.4	122.49	0.524	1.0012	8.338	4.37	536.2
2096	175.1	176.3	1.19	53.8	176.2	122.43	0.524	1.0012	8.338	4.37	535.9
2097	174.9	176.2	1.22	53.7	176.0	122.28	0.524	1.0012	8.338	4.37	535.3
2098	174.8	176.0	1.18	53.7	175.9	122.23	0.538	1.0012	8.338	4.49	549.2
2099	174.7	175.9	1.20	53.7	175.8	122.13	0.524	1.0012	8.338	4.37	534.6
2100	174.5	175.7	1.20	53.6	175.6	122.00	0.524	1.0012	8.338	4.37	534.1
2101	174.4	175.6	1.20	53.6	175.4	121.82	0.524	1.0012	8.338	4.37	533.3
2102	174.2	175.4	1.19	53.5	175.3	121.78	0.524	1.0012	8.338	4.37	533.1
2103	174.3	175.5	1.21	53.5	175.3	121.76	0.538	1.0012	8.338	4.49	547.1
2104	174.1	175.3	1.19	53.6	175.2	121.57	0.524	1.0012	8.338	4.37	532.2
2105	173.9	175.1	1.17	53.8	175.0	121.27	0.524	1.0012	8.338	4.37	530.9
2106	173.8	175.0	1.18	53.9	174.8	120.90	0.524	1.0012	8.338	4.37	529.2
2107	173.6	174.8	1.17	54.1	174.7	120.65	0.524	1.0012	8.337	4.37	528.1
2108	173.5	174.7	1.16	54.2	174.6	120.39	0.524	1.0012	8.337	4.37	527.0
2109	173.3	174.5	1.17	54.3	174.4	120.11	0.538	1.0012	8.337	4.49	539.6
2110	173.3	174.4	1.11	54.4	174.2	119.87	0.497	1.0012	8.337	4.14	497.1
2111	173.1	174.2	1.14	54.5	174.1	119.69	0.524	1.0012	8.337	4.37	523.9
2112	173.0	174.1	1.16	54.5	174.1	119.54	0.524	1.0012	8.337	4.37	523.2
2113	172.8	174.0	1.13	54.5	173.9	119.34	0.524	1.0012	8.337	4.37	522.4
2114	172.6	173.8	1.14	54.4	173.6	119.26	0.524	1.0012	8.337	4.37	522.0
2115	172.5	173.7	1.14	54.2	173.6	119.37	0.524	1.0012	8.337	4.37	522.5
2116	172.3	173.4	1.14	54.1	173.4	119.33	0.538	1.0012	8.337	4.49	536.1
2117	172.2	173.3	1.14	54.0	173.2	119.24	0.524	1.0012	8.338	4.37	522.0
2118	172.1	173.2	1.14	53.9	173.1	119.20	0.524	1.0012	8.338	4.37	521.8
2119	172.0	173.1	1.13	53.8	173.0	119.15	0.524	1.0012	8.338	4.37	521.6
2120	171.9	173.0	1.16	53.8	172.8	119.04	0.524	1.0012	8.338	4.37	521.1
2121	171.7	172.8	1.13	53.7	172.7	118.98	0.524	1.0012	8.338	4.37	520.9
2122	171.5	172.7	1.13	53.7	172.5	118.87	0.538	1.0012	8.338	4.49	534.1
2123	171.3	172.5	1.18	53.6	172.3	118.68	0.524	1.0012	8.338	4.37	519.6
2124	171.2	172.3	1.15	53.6	172.2	118.61	0.524	1.0012	8.338	4.37	519.2
2125	171.0	172.2	1.14	53.5	172.1	118.52	0.524	1.0012	8.338	4.37	518.8
2126	170.9	172.1	1.13	53.5	171.9	118.44	0.524	1.0012	8.338	4.37	518.5
2127	170.8	171.9	1.13	53.6	171.8	118.17	0.524	1.0012	8.338	4.37	517.3
2128	170.7	171.8	1.11	53.7	171.7	117.94	0.524	1.0012	8.338	4.37	516.3
2129	170.5	171.6	1.13	53.9	171.6	117.66	0.524	1.0012	8.338	4.37	515.0
2130	170.4	171.5	1.11	54.0	171.4	117.35	0.538	1.0012	8.338	4.49	527.2
2131	170.2	171.3	1.11	54.1	171.2	117.05	0.524	1.0012	8.337	4.37	512.4

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2132	170.1	171.1	1.09	54.2	171.1	116.85	0.524	1.0012	8.337	4.37	511.5
2133	169.9	171.0	1.11	54.3	170.8	116.55	0.524	1.0012	8.337	4.37	510.2
2134	169.9	171.0	1.09	54.4	170.8	116.36	0.524	1.0012	8.337	4.37	509.3
2135	169.6	170.7	1.10	54.5	170.6	116.16	0.524	1.0012	8.337	4.37	508.5
2136	169.5	170.6	1.10	54.5	170.5	115.96	0.524	1.0012	8.337	4.37	507.6
2137	169.4	170.5	1.07	54.5	170.4	115.92	0.524	1.0012	8.337	4.37	507.4
2138	169.3	170.3	1.09	54.4	170.2	115.82	0.524	1.0012	8.337	4.37	507.0
2139	169.1	170.2	1.07	54.2	170.1	115.88	0.538	1.0012	8.337	4.49	520.6
2140	169.0	170.0	1.08	54.0	169.9	115.88	0.524	1.0012	8.337	4.37	507.3
2141	168.8	169.9	1.07	53.9	169.8	115.84	0.524	1.0012	8.338	4.37	507.1
2142	168.7	169.7	1.08	53.8	169.7	115.85	0.538	1.0012	8.338	4.49	520.5
2143	168.5	169.6	1.08	53.8	169.5	115.70	0.524	1.0012	8.338	4.37	506.5
2144	168.4	169.5	1.10	53.7	169.4	115.66	0.524	1.0012	8.338	4.37	506.3
2145	168.3	169.4	1.09	53.6	169.2	115.58	0.524	1.0012	8.338	4.37	506.0
2146	168.1	169.2	1.07	53.6	169.1	115.48	0.538	1.0012	8.338	4.49	518.8
2147	168.0	169.0	1.07	53.6	168.9	115.35	0.524	1.0012	8.338	4.37	505.0
2148	167.8	168.8	1.06	53.5	168.8	115.25	0.524	1.0012	8.338	4.37	504.6
2149	167.6	168.7	1.11	53.5	168.6	115.12	0.524	1.0012	8.338	4.37	504.0
2150	167.6	168.6	1.08	53.4	168.5	115.13	0.538	1.0012	8.338	4.49	517.3
2151	167.4	168.4	1.06	53.4	168.4	114.96	0.524	1.0012	8.338	4.37	503.3
2152	167.3	168.3	1.06	53.5	168.2	114.66	0.524	1.0012	8.338	4.37	501.9
2153	167.1	168.2	1.06	53.7	168.1	114.41	0.538	1.0012	8.338	4.49	514.0
2154	167.0	168.0	0.99	53.8	167.9	114.07	0.497	1.0012	8.338	4.14	473.1
2155	166.8	167.9	1.07	54.0	167.8	113.80	0.524	1.0012	8.338	4.37	498.2
2156	166.7	167.8	1.06	54.1	167.6	113.50	0.538	1.0012	8.337	4.49	509.9
2157	166.5	167.6	1.06	54.2	167.4	113.23	0.524	1.0012	8.337	4.37	495.6
2158	166.4	167.4	1.02	54.3	167.4	113.06	0.524	1.0012	8.337	4.37	494.9
2159	166.3	167.3	1.02	54.4	167.1	112.76	0.524	1.0012	8.337	4.37	493.6
2160	166.1	167.2	1.05	54.5	167.0	112.50	0.538	1.0012	8.337	4.49	505.4
2161	165.9	167.0	1.03	54.6	166.8	112.26	0.524	1.0012	8.337	4.37	491.4
2162	165.8	166.9	1.05	54.6	166.7	112.13	0.524	1.0012	8.337	4.37	490.8
2163	165.7	166.8	1.04	54.5	166.6	112.13	0.538	1.0012	8.337	4.49	503.7
2164	165.5	166.5	1.02	54.3	166.4	112.16	0.524	1.0012	8.337	4.37	491.0
2165	165.4	166.4	1.02	54.1	166.3	112.20	0.524	1.0012	8.337	4.37	491.1
2166	165.3	166.3	1.03	54.0	166.2	112.17	0.538	1.0012	8.338	4.49	504.0
2167	165.1	166.1	1.02	53.9	166.0	112.12	0.524	1.0012	8.338	4.37	490.8
2168	165.1	166.1	1.03	53.8	165.9	112.05	0.538	1.0012	8.338	4.49	503.4
2169	164.9	165.9	1.00	53.8	165.7	111.97	0.524	1.0012	8.338	4.37	490.2
2170	164.7	165.7	1.02	53.7	165.5	111.84	0.538	1.0012	8.338	4.49	502.5

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2171	164.5	165.6	1.02	53.7	165.4	111.79	0.524	1.0012	8.338	4.37	489.4
2172	164.4	165.4	1.02	53.6	165.3	111.71	0.524	1.0012	8.338	4.37	489.0
2173	164.3	165.3	1.01	53.5	165.2	111.68	0.538	1.0012	8.338	4.49	501.8
2174	164.1	165.1	1.00	53.5	165.0	111.49	0.524	1.0012	8.338	4.37	488.1
2175	164.0	165.0	1.03	53.4	164.9	111.45	0.538	1.0012	8.338	4.49	500.7
2176	163.9	164.9	1.01	53.4	164.8	111.37	0.524	1.0012	8.338	4.37	487.6
2177	163.7	164.7	1.02	53.3	164.6	111.27	0.538	1.0012	8.338	4.49	499.9
2178	163.6	164.6	1.00	53.3	164.5	111.16	0.538	1.0012	8.338	4.49	499.5
2179	163.4	164.5	1.01	53.3	164.3	111.05	0.524	1.0012	8.338	4.37	486.2
2180	163.3	164.3	1.02	53.2	164.1	110.92	0.538	1.0012	8.338	4.49	498.4
2181	163.1	164.1	1.00	53.2	164.0	110.83	0.538	1.0012	8.338	4.49	498.0
2182	163.0	164.0	1.01	53.2	163.8	110.65	0.538	1.0012	8.338	4.49	497.2
2183	162.9	163.9	1.01	53.3	163.7	110.37	0.524	1.0012	8.338	4.37	483.2
2184	162.7	163.7	1.01	53.5	163.6	110.07	0.538	1.0012	8.338	4.49	494.5
2185	162.6	163.6	0.99	53.7	163.4	109.78	0.524	1.0012	8.338	4.37	480.6
2186	162.4	163.4	0.98	53.8	163.2	109.47	0.538	1.0012	8.338	4.49	491.8
2187	162.3	163.3	0.99	53.9	163.1	109.29	0.538	1.0012	8.338	4.49	491.0
2188	162.1	163.1	0.98	54.0	163.0	109.05	0.524	1.0012	8.338	4.37	477.4
2189	162.1	163.0	0.97	54.0	162.9	108.81	0.524	1.0012	8.337	4.37	476.3
2190	161.8	162.8	0.97	54.1	162.7	108.53	0.538	1.0012	8.337	4.49	487.6
2191	161.6	162.6	0.95	54.2	162.5	108.29	0.538	1.0012	8.337	4.49	486.5
2192	161.6	162.5	0.98	54.3	162.4	108.06	0.524	1.0012	8.337	4.37	473.0
2193	161.4	162.3	0.94	54.3	162.3	107.95	0.524	1.0012	8.337	4.37	472.5
2194	161.3	162.2	0.94	54.2	162.1	107.90	0.538	1.0012	8.337	4.49	484.8
2195	161.1	162.1	0.95	54.1	161.9	107.85	0.538	1.0012	8.337	4.49	484.5
2196	161.0	161.9	0.94	53.9	161.8	107.88	0.524	1.0012	8.338	4.37	472.2
2197	161.0	162.0	0.97	53.8	161.8	107.93	0.538	1.0012	8.338	4.49	484.9
2198	160.7	161.7	0.95	53.8	161.6	107.81	0.538	1.0012	8.338	4.49	484.4
2199	160.6	161.5	0.97	53.7	161.3	107.65	0.524	1.0012	8.338	4.37	471.3
2200	160.4	161.4	0.96	53.6	161.2	107.62	0.538	1.0012	8.338	4.49	483.5
2201	160.3	161.2	0.94	53.6	161.1	107.55	0.524	1.0012	8.338	4.37	470.8
2202	160.1	161.1	0.96	53.5	161.0	107.48	0.538	1.0012	8.338	4.49	482.9
2203	160.0	160.9	0.95	53.5	160.9	107.38	0.524	1.0012	8.338	4.37	470.1
2204	159.9	160.8	0.96	53.4	160.7	107.27	0.538	1.0012	8.338	4.49	482.0
2205	159.7	160.7	0.94	53.4	160.5	107.13	0.538	1.0012	8.338	4.49	481.3
2206	159.7	160.6	0.95	53.3	160.4	107.08	0.524	1.0012	8.338	4.37	468.8
2207	159.4	160.4	0.93	53.4	160.3	106.94	0.538	1.0012	8.338	4.49	480.5
2208	159.4	160.3	0.87	53.5	160.1	106.61	0.511	1.0012	8.338	4.26	454.4
2209	159.2	160.1	0.92	53.7	160.1	106.37	0.538	1.0012	8.338	4.49	477.9

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2210	159.0	159.9	0.93	53.8	159.8	106.00	0.524	1.0012	8.338	4.37	464.0
2211	158.9	159.8	0.92	54.0	159.7	105.76	0.538	1.0012	8.338	4.49	475.1
2212	158.8	159.8	0.93	54.1	159.6	105.52	0.524	1.0012	8.337	4.37	461.9
2213	158.7	159.6	0.91	54.2	159.4	105.26	0.538	1.0012	8.337	4.49	472.9
2214	158.5	159.5	0.92	54.2	159.3	105.09	0.538	1.0012	8.337	4.49	472.1
2215	158.3	159.2	0.89	54.3	159.2	104.84	0.538	1.0012	8.337	4.49	471.0
2216	158.2	159.1	0.90	54.4	159.0	104.56	0.524	1.0012	8.337	4.37	457.7
2217	158.2	159.1	0.93	54.5	158.9	104.38	0.538	1.0012	8.337	4.49	468.9
2218	158.2	159.1	0.92	54.5	158.9	104.37	0.538	1.0012	8.337	4.49	468.9
2219	158.6	159.5	0.95	54.4	159.2	104.81	0.524	1.0012	8.337	4.37	458.8
2220	159.4	160.4	1.00	54.2	159.9	105.61	0.538	1.0012	8.337	4.49	474.5
2221	160.0	161.0	1.02	54.1	160.5	106.44	0.538	1.0012	8.337	4.49	478.2
2222	161.0	162.0	1.03	54.0	161.5	107.47	0.524	1.0012	8.338	4.37	470.5
2223	161.9	162.9	1.06	53.9	162.3	108.40	0.538	1.0012	8.338	4.49	487.0
2224	162.9	163.9	1.07	53.8	163.4	109.58	0.538	1.0012	8.338	4.49	492.3
2225	164.1	165.2	1.08	53.7	164.5	110.81	0.538	1.0012	8.338	4.49	497.9
2226	165.2	166.3	1.10	53.7	165.7	112.08	0.524	1.0012	8.338	4.37	490.6
2227	166.4	167.5	1.09	53.6	166.9	113.25	0.538	1.0012	8.338	4.49	508.8
2228	167.2	168.3	1.13	53.6	167.9	114.35	0.524	1.0012	8.338	4.37	500.6
2229	168.2	169.4	1.15	53.5	168.9	115.33	0.538	1.0012	8.338	4.49	518.2
2230	169.5	170.7	1.14	53.5	170.3	116.83	0.524	1.0012	8.338	4.37	511.4
2231	170.4	171.7	1.22	53.4	171.2	117.72	0.538	1.0012	8.338	4.49	528.9
2232	171.6	172.8	1.20	53.4	172.2	118.86	0.524	1.0012	8.338	4.37	520.3
2233	172.7	173.9	1.20	53.4	173.4	120.04	0.524	1.0012	8.338	4.37	525.5
2234	173.7	174.9	1.24	53.3	174.5	121.17	0.538	1.0012	8.338	4.49	544.4
2235	174.8	176.1	1.31	53.3	175.6	122.30	0.524	1.0012	8.338	4.37	535.4
2236	176.0	177.3	1.28	53.2	176.8	123.61	0.524	1.0012	8.338	4.37	541.1
2237	176.9	178.2	1.25	53.2	177.8	124.65	0.538	1.0012	8.338	4.49	560.1
2238	178.2	179.5	1.28	53.2	179.0	125.82	0.524	1.0012	8.338	4.37	550.8
2239	179.0	180.4	1.37	53.4	179.9	126.50	0.511	1.0012	8.338	4.26	539.2
2240	180.1	181.4	1.32	53.5	181.1	127.53	0.524	1.0012	8.338	4.37	558.3
2241	181.0	182.3	1.32	53.7	182.0	128.28	0.524	1.0012	8.338	4.37	561.5
2242	181.3	182.7	1.34	53.8	182.5	128.62	0.524	1.0012	8.338	4.37	563.1
2243	181.3	182.6	1.30	54.0	182.5	128.47	0.524	1.0012	8.338	4.37	562.4
2244	181.6	182.9	1.34	54.1	182.7	128.60	0.524	1.0012	8.337	4.37	563.0
2245	181.8	183.1	1.34	54.2	182.9	128.65	0.524	1.0012	8.337	4.37	563.1
2246	181.9	183.2	1.33	54.3	183.0	128.66	0.524	1.0012	8.337	4.37	563.2
2247	181.9	183.2	1.33	54.3	183.0	128.70	0.511	1.0012	8.337	4.26	548.5
2248	181.9	183.3	1.32	54.2	183.1	128.87	0.524	1.0012	8.337	4.37	564.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2249	182.0	183.3	1.33	54.1	183.1	129.07	0.524	1.0012	8.337	4.37	565.0
2250	182.1	183.4	1.33	53.9	183.2	129.26	0.524	1.0012	8.338	4.37	565.8
2251	182.0	183.4	1.32	53.9	183.2	129.40	0.524	1.0012	8.338	4.37	566.4
2252	182.1	183.4	1.34	53.8	183.3	129.53	0.524	1.0012	8.338	4.37	567.0
2253	182.1	183.4	1.32	53.7	183.2	129.54	0.524	1.0012	8.338	4.37	567.1
2254	182.0	183.3	1.33	53.6	183.1	129.49	0.511	1.0012	8.338	4.26	551.9
2255	181.9	183.3	1.35	53.6	183.2	129.56	0.524	1.0012	8.338	4.37	567.2
2256	181.9	183.2	1.33	53.6	183.1	129.51	0.524	1.0012	8.338	4.37	567.0
2257	181.9	183.2	1.33	53.5	183.1	129.60	0.524	1.0012	8.338	4.37	567.3
2258	181.9	183.2	1.34	53.5	183.1	129.59	0.524	1.0012	8.338	4.37	567.3
2259	181.8	183.1	1.32	53.4	183.0	129.54	0.524	1.0012	8.338	4.37	567.1
2260	181.7	183.0	1.32	53.4	182.9	129.50	0.524	1.0012	8.338	4.37	566.9
2261	181.6	183.0	1.37	53.4	182.8	129.41	0.511	1.0012	8.338	4.26	551.6
2262	181.7	183.0	1.34	53.3	182.8	129.48	0.524	1.0012	8.338	4.37	566.8
2263	181.7	182.9	1.23	53.4	182.8	129.38	0.497	1.0012	8.338	4.14	536.6
2264	181.6	182.9	1.34	53.6	182.8	129.18	0.524	1.0012	8.338	4.37	565.5
2265	181.5	182.9	1.31	53.8	182.7	128.92	0.524	1.0012	8.338	4.37	564.4
2266	181.5	182.8	1.29	53.9	182.6	128.70	0.511	1.0012	8.338	4.26	548.6
2267	181.3	182.6	1.29	54.1	182.5	128.48	0.524	1.0012	8.337	4.37	562.4
2268	181.3	182.5	1.27	54.2	182.4	128.26	0.524	1.0012	8.337	4.37	561.4
2269	181.2	182.5	1.30	54.3	182.4	128.04	0.524	1.0012	8.337	4.37	560.5
2270	181.1	182.4	1.28	54.4	182.3	127.85	0.511	1.0012	8.337	4.26	544.9
2271	181.1	182.4	1.27	54.5	182.3	127.74	0.524	1.0012	8.337	4.37	559.1
2272	181.0	182.3	1.29	54.6	182.1	127.57	0.524	1.0012	8.337	4.37	558.4
2273	180.9	182.2	1.28	54.5	182.0	127.58	0.524	1.0012	8.337	4.37	558.5
2274	180.8	182.0	1.28	54.3	181.9	127.64	0.524	1.0012	8.337	4.37	558.7
2275	180.6	181.9	1.30	54.1	181.8	127.67	0.524	1.0012	8.337	4.37	558.9
2276	180.5	181.8	1.27	54.0	181.7	127.70	0.524	1.0012	8.338	4.37	559.0
2277	180.5	181.7	1.27	53.9	181.6	127.72	0.511	1.0012	8.338	4.26	544.4
2278	180.4	181.7	1.31	53.8	181.5	127.69	0.524	1.0012	8.338	4.37	559.0
2279	180.3	181.6	1.33	53.8	181.4	127.65	0.524	1.0012	8.338	4.37	558.8
2280	180.2	181.5	1.27	53.7	181.3	127.59	0.524	1.0012	8.338	4.37	558.5
2281	180.1	181.3	1.27	53.7	181.2	127.52	0.524	1.0012	8.338	4.37	558.2
2282	179.9	181.2	1.29	53.6	181.1	127.43	0.524	1.0012	8.338	4.37	557.8
2283	179.9	181.2	1.28	53.6	181.0	127.45	0.511	1.0012	8.338	4.26	543.3
2284	179.7	181.0	1.27	53.5	180.9	127.39	0.524	1.0012	8.338	4.37	557.7
2285	179.6	180.9	1.28	53.5	180.7	127.26	0.524	1.0012	8.338	4.37	557.1
2286	179.5	180.7	1.28	53.4	180.6	127.20	0.524	1.0012	8.338	4.37	556.9
2287	179.4	180.7	1.24	53.4	180.6	127.18	0.524	1.0012	8.338	4.37	556.7

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2288	179.3	180.6	1.29	53.4	180.4	127.01	0.524	1.0012	8.338	4.37	556.0
2289	179.1	180.4	1.28	53.3	180.2	126.91	0.511	1.0012	8.338	4.26	541.0
2290	179.0	180.3	1.26	53.3	180.1	126.83	0.524	1.0012	8.338	4.37	555.2
2291	178.9	180.1	1.24	53.3	180.0	126.77	0.524	1.0012	8.338	4.37	555.0
2292	178.8	180.1	1.26	53.4	180.0	126.60	0.524	1.0012	8.338	4.37	554.2
2293	178.7	180.0	1.27	53.6	179.8	126.26	0.524	1.0012	8.338	4.37	552.7
2294	178.6	179.8	1.26	53.7	179.7	125.95	0.511	1.0012	8.338	4.26	536.8
2295	178.4	179.7	1.26	53.9	179.6	125.69	0.524	1.0012	8.338	4.37	550.2
2296	178.3	179.5	1.24	54.0	179.4	125.37	0.524	1.0012	8.338	4.37	548.8
2297	178.2	179.4	1.25	54.2	179.3	125.13	0.524	1.0012	8.337	4.37	547.8
2298	178.0	179.3	1.22	54.3	179.1	124.84	0.524	1.0012	8.337	4.37	546.5
2299	177.9	179.1	1.24	54.4	178.9	124.52	0.511	1.0012	8.337	4.26	530.7
2300	177.7	179.0	1.24	54.5	178.9	124.37	0.524	1.0012	8.337	4.37	544.4
2301	177.6	178.9	1.25	54.4	178.7	124.32	0.524	1.0012	8.337	4.37	544.2
2302	177.4	178.6	1.23	54.2	178.6	124.33	0.511	1.0012	8.337	4.26	529.9
2303	177.4	178.6	1.22	54.1	178.5	124.38	0.538	1.0012	8.337	4.49	558.8
2304	177.2	178.5	1.24	54.0	178.4	124.41	0.524	1.0012	8.338	4.37	544.6
2305	177.1	178.3	1.24	53.9	178.2	124.32	0.524	1.0012	8.338	4.37	544.2
2306	177.0	178.2	1.19	53.8	178.1	124.31	0.524	1.0012	8.338	4.37	544.2
2307	176.8	178.0	1.20	53.8	177.9	124.17	0.524	1.0012	8.338	4.37	543.6
2308	176.7	177.9	1.22	53.7	177.8	124.05	0.524	1.0012	8.338	4.37	543.1
2309	176.6	177.8	1.21	53.7	177.7	123.96	0.524	1.0012	8.338	4.37	542.7
2310	176.4	177.6	1.22	53.6	177.4	123.78	0.524	1.0012	8.338	4.37	541.9
2311	176.4	177.6	1.22	53.6	177.5	123.85	0.524	1.0012	8.338	4.37	542.2
2312	176.3	177.6	1.24	53.6	177.4	123.84	0.524	1.0012	8.338	4.37	542.2
2313	176.3	177.5	1.21	53.5	177.4	123.83	0.524	1.0012	8.338	4.37	542.1
2314	176.1	177.3	1.21	53.5	177.2	123.69	0.524	1.0012	8.338	4.37	541.5
2315	176.0	177.2	1.22	53.5	177.0	123.57	0.524	1.0012	8.338	4.37	541.0
2316	175.8	177.0	1.20	53.4	176.9	123.44	0.524	1.0012	8.338	4.37	540.4
2317	175.7	176.9	1.20	53.4	176.8	123.38	0.524	1.0012	8.338	4.37	540.1
2318	175.6	176.8	1.20	53.4	176.7	123.29	0.524	1.0012	8.338	4.37	539.7
2319	175.5	176.7	1.20	53.4	176.5	123.13	0.524	1.0012	8.338	4.37	539.0
2320	175.3	176.5	1.18	53.3	176.4	123.02	0.524	1.0012	8.338	4.37	538.6
2321	175.2	176.4	1.24	53.3	176.2	122.88	0.524	1.0012	8.338	4.37	537.9
2322	175.0	176.2	1.17	53.3	176.1	122.78	0.511	1.0012	8.338	4.26	523.3
2323	174.8	176.0	1.19	53.3	175.9	122.60	0.524	1.0012	8.338	4.37	536.7
2324	174.7	176.0	1.21	53.3	175.8	122.49	0.524	1.0012	8.338	4.37	536.2
2325	174.6	175.7	1.18	53.3	175.7	122.35	0.524	1.0012	8.338	4.37	535.6
2326	174.4	175.6	1.19	53.3	175.5	122.22	0.524	1.0012	8.338	4.37	535.1

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
2327	174.3	175.5	1.21	53.3	175.3	122.02	0.524	1.0012	8.338	4.37	534.2
2328	174.2	175.4	1.21	53.3	175.2	121.89	0.524	1.0012	8.338	4.37	533.6
2329	174.0	175.2	1.19	53.3	175.1	121.80	0.524	1.0012	8.338	4.37	533.2
2330	173.8	175.0	1.20	53.3	174.9	121.64	0.524	1.0012	8.338	4.37	532.5
2331	173.8	174.9	1.19	53.3	174.8	121.52	0.524	1.0012	8.338	4.37	532.0
2332	173.7	174.8	1.17	53.3	174.7	121.34	0.524	1.0012	8.338	4.37	531.2
2333	173.5	174.6	1.16	53.5	174.5	121.00	0.524	1.0012	8.338	4.37	529.7
2334	173.3	174.5	1.16	53.8	174.4	120.64	0.524	1.0012	8.338	4.37	528.1
2335	173.2	174.3	1.15	53.9	174.2	120.29	0.524	1.0012	8.338	4.37	526.6
2336	173.1	174.2	1.16	54.1	174.0	119.96	0.524	1.0012	8.337	4.37	525.1
2337	172.9	174.1	1.15	54.2	173.9	119.73	0.524	1.0012	8.337	4.37	524.1
2338	172.8	173.9	1.13	54.4	173.8	119.45	0.524	1.0012	8.337	4.37	522.9
2339	172.7	173.8	1.13	54.5	173.7	119.20	0.524	1.0012	8.337	4.37	521.8
2340	172.6	173.6	1.10	54.6	173.6	118.99	0.524	1.0012	8.337	4.37	520.8
2341	172.3	173.5	1.13	54.6	173.3	118.74	0.524	1.0012	8.337	4.37	519.7
2342	172.2	173.3	1.13	54.5	173.2	118.74	0.524	1.0012	8.337	4.37	519.8
2343	172.2	173.3	1.16	54.3	173.1	118.84	0.524	1.0012	8.337	4.37	520.2
2344	172.0	173.1	1.13	54.2	173.0	118.84	0.524	1.0012	8.337	4.37	520.2
2345	171.9	173.0	1.14	54.1	172.9	118.83	0.524	1.0012	8.337	4.37	520.2
2346	171.8	172.9	1.12	54.0	172.7	118.76	0.524	1.0012	8.338	4.37	519.9
2347	171.6	172.8	1.11	53.9	172.6	118.70	0.524	1.0012	8.338	4.37	519.6
2348	171.5	172.6	1.11	53.9	172.5	118.68	0.524	1.0012	8.338	4.37	519.5
2349	171.3	172.4	1.11	53.8	172.3	118.51	0.524	1.0012	8.338	4.37	518.8
2350	171.2	172.3	1.10	53.8	172.2	118.40	0.524	1.0012	8.338	4.37	518.3
2351	171.0	172.1	1.10	53.7	172.0	118.27	0.524	1.0012	8.338	4.37	517.7
2352	170.9	172.0	1.12	53.7	171.9	118.19	0.524	1.0012	8.338	4.37	517.4
2353	170.8	171.9	1.11	53.7	171.8	118.11	0.538	1.0012	8.338	4.49	530.7
2354	170.6	171.7	1.10	53.6	171.6	118.01	0.524	1.0012	8.338	4.37	516.6
2355	170.4	171.6	1.13	53.6	171.4	117.82	0.524	1.0012	8.338	4.37	515.8
2356	170.3	171.4	1.10	53.6	171.3	117.70	0.524	1.0012	8.338	4.37	515.3
2357	170.1	171.2	1.10	53.6	171.1	117.55	0.524	1.0012	8.338	4.37	514.6
2358	170.0	171.1	1.10	53.5	171.0	117.47	0.538	1.0012	8.338	4.49	527.8
2359	169.9	171.0	1.09	53.5	170.9	117.36	0.524	1.0012	8.338	4.37	513.8
2360	169.8	170.9	1.11	53.5	170.8	117.24	0.524	1.0012	8.338	4.37	513.2
2361	169.6	170.7	1.09	53.5	170.6	117.11	0.524	1.0012	8.338	4.37	512.7
2362	169.5	170.6	1.12	53.5	170.5	116.97	0.538	1.0012	8.338	4.49	525.6
2363	169.2	170.4	1.13	53.5	170.2	116.74	0.538	1.0012	8.338	4.49	524.5
2364	169.2	170.3	1.13	53.5	170.2	116.69	0.538	1.0012	8.338	4.49	524.3
2365	169.0	170.1	1.12	53.5	170.0	116.54	0.524	1.0012	8.338	4.37	510.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2366	168.9	170.0	1.10	53.5	169.9	116.42	0.538	1.0012	8.338	4.49	523.1
2367	168.8	169.9	1.09	53.5	169.8	116.34	0.538	1.0012	8.338	4.49	522.7
2368	168.6	169.7	1.11	53.4	169.6	116.20	0.524	1.0012	8.338	4.37	508.7
2369	168.4	169.5	1.11	53.4	169.4	116.01	0.538	1.0012	8.338	4.49	521.2
2370	168.2	169.4	1.12	53.4	169.2	115.75	0.538	1.0012	8.338	4.49	520.0
2371	168.2	169.3	1.11	53.4	169.1	115.72	0.538	1.0012	8.338	4.49	519.9
2372	168.0	169.1	1.11	53.4	169.0	115.60	0.524	1.0012	8.338	4.37	506.1
2373	167.8	168.9	1.12	53.4	168.8	115.36	0.538	1.0012	8.338	4.49	518.3
2374	167.8	168.9	1.09	53.4	168.6	115.23	0.538	1.0012	8.338	4.49	517.7
2375	167.6	168.7	1.10	53.4	168.6	115.17	0.524	1.0012	8.338	4.37	504.2
2376	167.5	168.6	1.08	53.4	168.5	115.01	0.538	1.0012	8.338	4.49	516.7
2377	167.3	168.4	1.08	53.4	168.3	114.84	0.538	1.0012	8.338	4.49	516.0
2378	167.2	168.2	1.06	53.4	168.2	114.73	0.538	1.0012	8.338	4.49	515.5
2379	167.1	168.2	1.07	53.5	168.0	114.56	0.524	1.0012	8.338	4.37	501.5
2380	166.9	168.0	1.08	53.5	167.9	114.43	0.538	1.0012	8.338	4.49	514.1
2381	166.8	167.9	1.10	53.5	167.7	114.25	0.538	1.0012	8.338	4.49	513.3
2382	166.6	167.7	1.06	53.5	167.5	114.07	0.538	1.0012	8.338	4.49	512.5
2383	166.5	167.6	1.08	53.5	167.4	113.97	0.538	1.0012	8.338	4.49	512.1
2384	166.3	167.3	1.06	53.5	167.3	113.79	0.538	1.0012	8.338	4.49	511.3
2385	166.2	167.3	1.12	53.5	167.2	113.73	0.538	1.0012	8.338	4.49	511.0
2386	166.0	167.1	1.07	53.5	167.0	113.51	0.552	1.0012	8.338	4.60	523.1
2387	165.8	166.9	1.13	53.5	166.8	113.36	0.538	1.0012	8.338	4.49	509.3
2388	165.7	166.8	1.11	53.5	166.7	113.21	0.552	1.0012	8.338	4.60	521.7
2389	165.6	166.7	1.10	53.5	166.6	113.10	0.552	1.0012	8.338	4.60	521.2
2390	165.4	166.5	1.10	53.5	166.4	112.92	0.552	1.0012	8.338	4.60	520.4
2391	165.2	166.3	1.12	53.5	166.2	112.74	0.566	1.0012	8.338	4.72	532.5
2392	165.1	166.2	1.12	53.5	166.1	112.62	0.552	1.0012	8.338	4.60	519.0
2393	165.0	166.1	1.10	53.5	165.9	112.45	0.552	1.0012	8.338	4.60	518.2
2394	164.8	165.9	1.10	53.5	165.8	112.28	0.552	1.0012	8.338	4.60	517.4
2395	164.6	165.8	1.12	53.5	165.6	112.16	0.552	1.0012	8.338	4.60	516.9
2396	164.5	165.6	1.10	53.5	165.5	112.00	0.566	1.0012	8.338	4.72	529.0
2397	164.3	165.4	1.07	53.5	165.3	111.89	0.552	1.0012	8.338	4.60	515.6
2398	164.2	165.2	1.07	53.5	165.2	111.69	0.552	1.0012	8.338	4.60	514.7
2399	164.1	165.1	1.08	53.5	165.0	111.56	0.552	1.0012	8.338	4.60	514.1
2400	163.9	164.9	1.07	53.4	164.8	111.40	0.566	1.0012	8.338	4.72	526.2
2401	163.7	164.8	1.07	53.5	164.7	111.23	0.552	1.0012	8.338	4.60	512.6
2402	163.5	164.6	1.06	53.4	164.5	111.10	0.552	1.0012	8.338	4.60	512.0
2403	163.5	164.5	1.08	53.4	164.4	110.99	0.566	1.0012	8.338	4.72	524.2
2404	163.3	164.4	1.07	53.4	164.2	110.80	0.552	1.0012	8.338	4.60	510.6

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp _i	σ _i	M _i Mass lb/min	Heat Output Btu
2405	163.1	164.2	1.05	53.4	164.1	110.66	0.552	1.0012	8.338	4.60	509.9
2406	163.0	164.0	1.08	53.4	163.9	110.51	0.552	1.0012	8.338	4.60	509.2
2407	162.9	164.0	1.06	53.4	163.8	110.36	0.566	1.0012	8.338	4.72	521.3
2408	162.7	163.8	1.06	53.4	163.7	110.21	0.552	1.0012	8.338	4.60	507.9
2409	162.6	163.6	1.07	53.4	163.5	110.07	0.552	1.0012	8.338	4.60	507.2
2410	162.4	163.5	1.08	53.4	163.4	109.92	0.566	1.0012	8.338	4.72	519.2
2411	162.3	163.4	1.08	53.4	163.2	109.81	0.552	1.0012	8.338	4.60	506.0
2412	162.2	163.2	1.03	53.4	163.1	109.62	0.552	1.0012	8.338	4.60	505.2
2413	161.9	163.0	1.05	53.4	162.9	109.45	0.552	1.0012	8.338	4.60	504.4
2414	161.9	162.9	1.03	53.5	162.8	109.36	0.552	1.0012	8.338	4.60	504.0
2415	161.7	162.8	1.05	53.5	162.7	109.27	0.566	1.0012	8.338	4.72	516.1
2416	161.5	162.6	1.05	53.5	162.5	109.00	0.552	1.0012	8.338	4.60	502.3
2417	161.5	162.5	1.04	53.5	162.4	108.93	0.552	1.0012	8.338	4.60	502.0
2418	161.2	162.3	1.05	53.5	162.2	108.74	0.566	1.0012	8.338	4.72	513.6
2419	161.2	162.2	1.01	53.5	162.1	108.63	0.552	1.0012	8.338	4.60	500.6
2420	161.0	162.0	1.03	53.5	161.9	108.41	0.552	1.0012	8.338	4.60	499.6
2421	160.9	161.9	1.03	53.5	161.8	108.32	0.552	1.0012	8.338	4.60	499.2
2422	160.7	161.7	1.04	53.5	161.6	108.14	0.566	1.0012	8.338	4.72	510.8
2423	160.6	161.6	1.02	53.5	161.5	108.01	0.552	1.0012	8.338	4.60	497.7
2424	160.4	161.4	1.01	53.5	161.3	107.85	0.566	1.0012	8.338	4.72	509.4
2425	160.3	161.3	1.02	53.5	161.2	107.71	0.552	1.0012	8.338	4.60	496.4
2426	160.2	161.2	1.02	53.5	161.1	107.57	0.552	1.0012	8.338	4.60	495.7
2427	159.9	160.9	1.03	53.5	160.8	107.33	0.566	1.0012	8.338	4.72	506.9
2428	159.8	160.8	1.01	53.5	160.7	107.16	0.566	1.0012	8.338	4.72	506.2
2429	159.7	160.7	1.03	53.5	160.5	107.02	0.552	1.0012	8.338	4.60	493.2
2430	159.5	160.6	1.05	53.5	160.4	106.87	0.552	1.0012	8.338	4.60	492.5
2431	159.4	160.4	0.99	53.5	160.3	106.75	0.566	1.0012	8.338	4.72	504.2
2432	159.3	160.3	1.01	53.5	160.1	106.59	0.552	1.0012	8.338	4.60	491.2
2433	159.1	160.1	0.99	53.5	160.0	106.42	0.566	1.0012	8.338	4.72	502.6
2434	158.9	159.9	1.00	53.6	159.8	106.22	0.552	1.0012	8.338	4.60	489.5
2435	158.9	159.8	0.99	53.6	159.7	106.11	0.566	1.0012	8.338	4.72	501.2
2436	158.7	159.6	0.98	53.6	159.6	105.98	0.552	1.0012	8.338	4.60	488.4
2437	158.5	159.5	1.00	53.6	159.4	105.87	0.552	1.0012	8.338	4.60	487.8
2438	158.5	159.5	1.00	53.6	159.4	105.78	0.566	1.0012	8.338	4.72	499.7
2439	158.3	159.3	0.99	53.6	159.1	105.55	0.566	1.0012	8.338	4.72	498.6
2440	158.0	159.0	0.98	53.6	158.9	105.33	0.552	1.0012	8.338	4.60	485.4
2441	158.0	159.0	1.00	53.6	158.8	105.22	0.552	1.0012	8.338	4.60	484.8
2442	158.1	159.1	1.01	53.6	158.9	105.28	0.566	1.0012	8.338	4.72	497.3
2443	158.7	159.7	1.03	53.6	159.3	105.73	0.552	1.0012	8.338	4.60	487.2

Elapsed Time (min)	Appliance			Load							
	T2 Return Temp °F	T1 Supply Temp °F	ΔT across Appliance	T3 Load IN Temp °F	Load Out Temp °F	Delta - T °F	Flow-Rate GPM	cp_i	σ_i	M_i Mass lb/min	Heat Output Btu
2444	159.6	160.7	1.09	53.6	160.2	106.59	0.566	1.0012	8.338	4.72	503.5
2445	160.2	161.3	1.01	53.6	161.0	107.37	0.552	1.0012	8.338	4.60	494.8
2446	161.0	162.0	1.02	53.7	161.7	108.06	0.566	1.0012	8.338	4.72	510.4
2447	162.3	163.4	1.14	53.7	162.8	109.07	0.552	1.0012	8.338	4.60	502.6
2448	163.2	164.4	1.13	53.7	164.0	110.25	0.552	1.0012	8.338	4.60	508.0
2449	164.3	165.4	1.11	53.7	165.2	111.46	0.552	1.0012	8.338	4.60	513.6
2450	165.6	166.8	1.16	53.7	166.3	112.59	0.566	1.0012	8.338	4.72	531.8
2451	166.7	167.9	1.20	53.8	167.4	113.62	0.552	1.0012	8.338	4.60	523.6
2452	168.0	169.3	1.26	53.8	168.6	114.78	0.552	1.0012	8.338	4.60	528.9
2453	169.0	170.2	1.18	53.8	169.9	116.09	0.552	1.0012	8.338	4.60	535.0
2454	170.1	171.4	1.25	53.8	170.8	116.97	0.552	1.0012	8.338	4.60	539.0
2455	171.4	172.6	1.20	53.8	172.1	118.31	0.552	1.0012	8.338	4.60	545.2
2456	172.4	173.7	1.31	53.8	173.2	119.39	0.552	1.0012	8.338	4.60	550.1
2457	173.6	174.9	1.33	53.8	174.4	120.54	0.552	1.0012	8.338	4.60	555.5
2458	174.8	176.1	1.29	53.8	175.7	121.89	0.552	1.0012	8.338	4.60	561.7
2459	175.9	177.3	1.38	53.9	176.6	122.77	0.552	1.0012	8.338	4.60	565.7
2460	177.1	178.6	1.43	53.9	177.9	124.00	0.552	1.0012	8.338	4.60	571.4

Gravimetric Lab Data

ASTM E2515

Manufacturer: Central Boiler
 Model: Classic Edge 760.1
 Tracking No.: 2501
 Project No.: 0117WB044E
 Run No.: 4
 Test Date: 2/27/25

OMNI Eq. ID Numbers
 Analytical Scale: 00637
 Audit Weight Set: 00283A/00273
 Analytical Scale: 00715
 Hygrometer: 00715
 Filters are weighed: In Pairs

Train A

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F516A	244.5	238.2	6.3	6.3
Probe catch*	5/14/24 @ 6:15	Probe	36	114884.5	114883.7	0.8	0.8
filter seals catch*	5/14/24 @ 6:15	Seals	S934	3379.4	3378.9	0.5	0.5
				Total Particulate, mg:		7.6	7.6

Train B

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F517A	245.1	239.4	5.7	5.7
Probe catch*	5/14/24 @ 6:15	Probe	68	116839.3	116838.7	0.6	0.6
filter seals catch*	5/14/24 @ 6:15	Seals	S935	3341.4	3339.9	1.5	1.5
Sub-Total				Total Particulate, mg:		7.8	7.8

Train C - First Hour

Sample Component Date / Time in Desiccator		Reagent	Filter, Probe or Dish #	Weights			
				Final, mg	Tare, mg	Particulate, mg	
						Uncorrected	Corrected
FilterPairs	5/14/24 @ 6:15	Filter	F518A	239.2	239.5	-0.3	0.0
Probe catch*	5/14/24 @ 6:15	Probe	OES4	114149.1	114148.8	0.3	0.3
filter seals catch*	5/14/24 @ 6:15	Seals	S936	3338.1	3337.3	0.8	0.8
				Total Particulate, mg:		0.8	1.1

Train D - Ambient Background

Sample Component Date / Time in Desiccator		Reagent	Filter # or	Weights			
				Final, mg	Tare, mg	Particulate, mg	
Filter catch*	5/14/24 @ 6:15	Filter	F524	116.6	115.2	1.4	
				Total Particulate, mg:		1.4	

$$\text{Final (mg)} - \text{Tare (mg)} = \text{Particulate (mg)}$$

NOTE: The Uncorrected values are those where any negative filter weights are taken as a negative value. This can possibly occur when filter matter adheres the O-ring seals and thereby transfers some mass to the O-ring. The Corrected values reflect where any negative filter weights are taken as ZERO, thus not accounting for any transfer of mass and resultingly over-reporting. Corrected values were added to this analysis to report the "Corrected" results in this report in response to a request by the US EPA. In cases where the Final weight minus the Tare weight of the Ambient filter occurs, it is taken as a ZERO. Any negative probe weights are evaluated pursuant to clause of ASTM E25215 (or appropriately associated test standard as defined in the introduction of this report).

Technician Signature: _____

Reviewed By: _____

Run 4 - Run Notes

Manufacturer: Central Boiler
Model: Classic Edge 760.1
Project Number: 0117WB044E
Run Number: 4
Test Date: 2/27/2025

This supplemental section of miscellaneous run notes is comprised of the following:

- Appliance Operation Notes
- Velocity Traverse / Supplemental Run Notes
- Test Fuel Notes
- Gravimetric Analysis Notes

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 4Model: EDGE 760.1

Tracking Number: 2501

Date: 2-27-25Test Crew: KM, RT, JM

Primary Air Control Settings

N/A - Automatic

Secondary:

FIXED

Tertiary/Pilot:

N/A

Fan:

N/A

Preburn Notes

Time	Notes
	SEE SEPARATE HAND-WRITTEN notes

Sampling Portion Notes

Sketch test fuel configuration:

SEE FUEL PROPERTIES and Photos

Start up procedures & Timeline:

Bypass:

Not Used

Fuel loaded by:

100 sec

Door closed at:

106 sec.

Primary air:

Notes:

Time	Notes
18:15	STIR
19:36	start test
19:37	Loaded + Door closed,

Technician Signature: [Signature]Date: 2-27-25

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler Project Number: 0117WB044E Run Number: 4
 Model: Edge 760.1 Tracking Number: 2501 Date: 2-27-25
 Test Crew: KM, RT, JM

Supplemental Data

Test Booth No. E3 Sampling Start Time: 19:36 Sampling End Time: 12:36 (3/01/25)
 Tunnel Cleaned Date 2-19-25 % Smoke Capture 100 Induced Draft 0 in. H₂O

Systems Leak Checks			
System	Pre-Test	Post-Test	Sampling Probe Change-out
Pitot	@	@	
Train A	<u>0</u> @ <u>16.96</u>	<u>0</u> @ <u>5.38</u>	
Train B	<u>0</u> @ <u>15.85</u>	<u>0</u> @ <u>5.75</u>	
Train C	<u>0.002</u> @ <u>14.5</u>	<u>0.002</u> @ <u>17.6</u>	

Velocity Traverse, 6-inch tunnel			
Location	Microtector (in. H ₂ O)	Δp (in. H ₂ O)	Tunnel Temp., °F
Center	<u>.055</u>	<u>0.110</u>	<u>68</u>
1	<u>.052</u>	<u>.104</u>	<u>68</u>
2	<u>.060</u>	<u>.120</u>	<u>68</u>
3	<u>.062</u>	<u>.124</u>	<u>68</u>
4	<u>.057</u>	<u>.114</u>	<u>68</u>
5	<u>.051</u>	<u>.102</u>	<u>66</u>
6	<u>.043</u>	<u>.086</u>	<u>68</u>
7			
8			
Tunnel Static (in. H ₂ O)		Pre-Test <u>-0.33</u>	Post-Test <u>-0.33</u>

7 .053 .106 68
 8 .058 .116 68
 9 .056 .112 68
 10 .056 .112 68
 11 .051 .102 68
 12 .034 .068 68

Miscellaneous Parameters			
Item	Initial	Final	Equipment No.
Room Air Velocity, ft/min.	<u>12</u>	<u>9</u>	
Scale Audit, lb. (20-80 % of fuel load)	<u>20.0</u>	<u>20.0</u>	
Room Relative Humidity, %	<u>44</u>	<u>47</u>	
Barometric Pressure, in. Hg	<u>30.12</u>	<u>29.85</u>	
Room Temperature, °F	<u>67.0</u>	<u>66</u>	

Flue Gas Continuous Analyzer						
Analyzer ID		Response Time, sec.		Leak Check Performed?		
Bias Checks	Concentration:	<u>16.88</u>	Pre-Test Response	<u>16.88</u>	Post-Test Response	<u>16.89</u>
Concentration	Bottle No.	Value, %	Pre-Test Response		Post-Test Response	
			Zero	Span	Zero	Span
CO ₂ % Span	<u>CC506601</u>	<u>16.88</u>	<u>0.00</u>	<u>16.88</u>	<u>0.01</u>	<u>16.89</u>
CO % Span	<u>CC506601</u>	<u>4.07</u>	<u>0.000</u>		<u>-0.001</u>	<u>4.06</u>
CO ppm Span	<u>CC242987</u>	<u>502</u>	<u>1497</u>	<u>497</u>	<u>3</u>	<u>496</u>
Zero	<u>TC-3ARM183</u>	<u>0</u>				

Technician Signature: K.M. MorganDate: 3/01/25

Test Fuel Properties

ASTM E2780

Manufacturer : Central Boiler
 Model : Classic Edge 760.1
 Tracking No. : 2501
 Project No. : 0117WB044E
 Test Date :
 Run No. :

Moisture Meter Cal	
Cal Block	Measured
12.0	
22.0	

Firebox Volume : 22.090 ft³
 Manufacturer's Recommended Loading Density : 13
 Ideal Fuel Weight : 287.17 lb.
 Minimum Fuel Weight : 258.45 lb.
 Maximum Fuel Weight : 315.89 lb.
 Fuel Species : Maple

Fuel Piece Data

PC No.	Weight, Lb. (W _i)	Cross- Section, Inches			Moisture, % DB						
		Max	Min	Length	1	2	3	4	5	Average (MC _i)	W _i · MC _i
1	10.1	6	5	24	27.5	26.5	24.5	22.4	19.1		
2	10.8	5.5	4.5	24	23.9	20.6	24.2	19.6	20.6		
3	9.8	6	4.5	24	22.4	24.0	22.9	22.9	22.4		
4	10.0	6	5.5	24	25.9	24.8	26.0	18.9	19.4		
5	8.9	6.5	5.75	24	18.8	18.9	21.0	24.0	24.3		
6	13.6	7.5	4.5	24	19.5	19.8	21.8	25.8	22.4		
7	10.2	6.25	4.25	24	25.7	19.7	20.8	19.6	19.4		
8	9.5	6.10	4.0	24	25.2	26.2	23.7	22.9	20.7		
9	9.2	5.5	5.0	24	24.9	24.7	19.3	21.9	20.4		
10	10.0	6.0	4.0	24	24.2	22.1	18.5	21.7	20.2		
11	9.7	6.0	4.25	24	19.0	24.2	26.2	24.9	19.8		
12	14.6	8.0	5.25	24	21.5	19.5	19.4	19.4	19.5		
13	11.6	6.5	4.0	24	25.3	21.4	22.7	22.9	20.7		
14	10.2	6.0	3.5	24	21.6	24.1	21.3	19.0	18.5		
15	13.1	7.0	5.0	24	20.9	20.2	21.2	24.9	24.9		
16	11.4	6.0	3.75	24	23.7	23.0	25.7	20.5	21.5		
17	12.8	6.5	4.85	24.9	20.1	21.6	18.6	24.9	20.2		
18	10.7	6.0	4.5	24	19.4	21.4	19.5	23.7	26.2		
19	10.5	5.75	4.0	24	19.7	21.5	19.4	25.9	19.6		
20	13.0	6.75	4.75	24	18.9	20.4	23.0	27.1	25.5		
21	11.2	6.25	5.00	24	24.7	20.0	23.0	26.0	24.8		
22	11.1	6.5	4.5	24	21.4	20.7	21.9	20.9	19.8		
23	12.5	6.5	4.75	24	20.0	20.6	19.8	22.1	20.9		
24	10.8	6.5	4.5	24	20.4	20.8	19.9	22.0	22.0		
25											
26											
27											
28											
29											
30											
TOTAL	0.0										0.00
Averages	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

264.7

ASTM E2780 Wood Heater Test Notes

Client: Central Boiler

Project Number: 0117WB044E

Run Number: 4

Model: CLASSIC Edge 760.1

Tracking Number: 2501

Date: 2-27-2025

Test Crew: RT, KM, JM

Gravimetric Analysis Sheet

Assembled By:

Joseph McShane

Date/Time in Desiccator:

3/1/25 @ 12:59

Weighing's

Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:
3-3-25 12:00	3/4/25 7:25			
R/H %:	R/H %:	R/H %:	R/H %:	R/H %:
5	5			
Temp:	Temp:	Temp:	Temp:	Temp:
68.0	66.8			
100 mg Audit	100 mg Audit	100 mg Audit	100 mg Audit	100 mg Audit
100.0	100.0			
200 mg Audit	200 mg Audit	200 mg Audit	200 mg Audit	200 mg Audit
200.1	200.1			
2 g Audit	2 g Audit	2 g Audit	2 g Audit	2 g Audit
2000.2	2000.2			
100 g Audit	100 g Audit	100 g Audit	100 g Audit	100 g Audit
99997.6	99997.6			
Initials:	Initials:	Initials:	Initials:	Initials:
JK	JK			

Train	Element	ID #	Tare (mg)	✓	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)	Weight (mg)
A	Filter Pair	F516	238.2	✓	244.7	244.5	—		✓
	Probe	36	114883.7	✓	114884.6	114884.5	—		✓
	O-Ring Set	S934	3378.9	✓	3379.3	3379.4	—		✓
B	Front Filter	F517	239.4	✓	245.2	245.1	—		✓
	Probe	68	116838.7	✓	116839.2	116839.3	—		✓
	O-Ring Set	S935	3339.9	✓	3341.5	3341.4	—		✓
C (1 st hr)	Front Filter	F518	239.5	✓	239.3	239.2	—		✓
	Probe	OES4	114148.8	✓	114149.2	114149.1	—		✓
	O-Ring Set	S936	3337.3	✓	3338.0	3338.1	—		✓
BG	Filter	F524	115.2	✓	116.5	116.6	—		✓

Technician Signature:

JK Morgan

Date:

3/04/25

CENTRAL Boiler 760.1 - Run 4 2-27-25

13:42 14.5 Coals + ~~57.0~~ Raw Fuel 0117WB044E

71.5 total

14:15 Scale = 40.5, Scale = 82.0 added 41.5 lb

113 lb. total

15:05 Scale = 40.0, Scale = 87.0 added 47.0 lb

Total = 160.0

16:08 Scale = 40.5, Scale = 88.5 added 48.0 lb

208 lb. total

17:11 Scale = 41.5, Scale = 80.5 added 39.0 lb.

247 lb. total

17:41 Scale = 55.5, Scale = 90.5 added 35.0 lb

282.0 lb. total

18:15 STIR

19:24 Bucket test 5.05 lb./min

2/28 0530 Bucket 4.61 lb/min

3/1 12:38 Bucket test 4.62 lb in 1 min

Equations and Calculations – ASTM E2618 & ASTM E2515



Manufacturer Central Boiler
 Model: Classic Edge 760.1
 Project Number: 0117WB044E
 Run Number: 4

Summary of INPUT values necessary for calculations

Global Input Parameters for Equations	Value	Source
MC_{Ave} - Average Fuel Load Moisture Content, % dry basis	21.96	Fuel Properties Work Sheet
W_{fuel} - Fuel charge weight (wet), pounds	264.7	Fuel Properties Work Sheet
HHV - Higher Heating Value of Fuel, Btu/lb.	8297	ISO Lab Report ¹
LHV - Lower Heating Value of Fuel, Btu/lb.	7698	CSA B415.1:22 ²
W_{app} - Mass of dry boiler, lb.	2457	Measured
W_{water} - Mass of Water within Boiler, lb.	2711	Measured
V_{SCENT} - Average gas velocity at the center of the dilution tunnel calculated after the Pitot tube traverse, ft/sec	21.92	Traverse Worksheet
V_{STRAV} - Average gas velocity calculated after the multipoint Pitot traverse	21.85	Traverse Worksheet
θ - Duration of test, min	2460	Train A Worksheet
P_{bar} - Barometric pressure (average) at the testing site, in. Hg	29.99	Traverse Worksheet
P_g - Tunnel Static Pressure	-0.33	Traverse Worksheet

¹ From an Ultimate Analysis performed on a sample of the fuel lot that was used.

² CSA B415 only accepts input for the HHV and calculates the LHV from that data. This differs from the LHV reported in the ultimate analysis, however the CSA value was used for consistency in comparing SLM and delivered efficiencies.

Sample Train Input Parameters for Equations	Train A	Train B	Train C	Train D
V_m - Volume of gas sample measured at the dry gas meter, dcf	394.868	394.502	9.323	384.732
Y Dry gas meter calibration factor	1.012	1.024	1.006	1.007
ΔH - Average pressure differential across the orifice meter, in. H ₂ O	1.23	1.23	0.99	1.11
T_m - Temperature of Dry Gas Meter, °F	94.6	90.4	72.9	77.5

Uncorrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.8	0.6	0.3	n/a
m_f - mass of particulate matter from filters, mg	6.3	5.7	-0.3	1.4
m_g - mass of particulate matter from seals, mg	0.5	1.5	0.8	n/a

Corrected Sample Mass

m_p - mass of particulate matter from probe, mg	0.8	0.6	0.3	n/a
m_f - mass of particulate matter from filters, mg	6.3	5.7	0.0	n/a
m_g - mass of particulate matter from seals, mg	0.5	1.5	0.8	n/a

TI_{avg} - Average Temperature of Appliance and Water at Start of Test, °F - ASTM E2618 equation (1)

$$TI_{avg} = (T1 + T2)/2 \quad \text{At beginning of Test}$$

Where,

	Value
$T1$ = Temperature at inlet of supply side of exchanger, °F	166.9
$T2$ = Temperature at outlet of supply side of exchanger, °F	165.5

$$Ti_{avg} = (166.85 + 165.54) / 2 = 166.2$$

 TF_{avg} - Average Temperature of Appliance and Water at End of Test, °F - ASTM E2618 equation (2)

$$TF_{avg} = (T1 + T2)/2 \quad \text{At end of test}$$

Where,

	Value
$T1$ = Temperature at inlet of load side of heat exchanger, °F	178.6
$T2$ = Temperature at outlet of load side of heat exchanger, °F	177.1

$$TF_{avg} = (178.57 + 177.14) / 2 = 177.9$$

 MC_{Ave} - Average Fuel Load Moisture Content, dry basis, % - ASTM E2618 equation (3)

$$MC_{Ave} = (\sum W_i \cdot MC_i) / \sum W_i$$

Where,

W_i = Weight of individual pieces
 MC_i = Average moisture content of individual fuel pieces, dry basis

$\sum(W_i \cdot MC_i)$	5814.1	Taken from fuel properties sheet
$\sum W_i$	264.7	Taken from fuel properties sheet

$$MC_{Ave} = (5814.1 / 264.7) = 21.96 \quad \%, \text{ dry basis}$$

Q_{in} - Heat Input, Btu (HHV) - ASTM E2618 equation (4)

$$Q_{in} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times HHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	264.7
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	21.96
HHV =	Higher Heating Value of Fuel, Btu/lb.	8297

$$Q_{in} = (264.7 / (1 + (21.96 / 100))) \times 8297 = 1800694.982 \quad \text{Btu}$$

Q_{in LHV} - Heat Input, Btu (LHV) - ASTM E2618 equation (5)

$$Q_{in LHV} = (W_{fuel} / (1 + (MC_{Ave}/100))) \times LHV$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	264.7
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	21.96
LHV =	Higher Heating Value of Fuel, Btu/lb.	7698

$$Q_{in LHV} = (264.7 / (1 + (21.96 / 100))) \times 7698 = 1670694.223 \quad \text{Btu}$$

BR - Dry Burn-Rate, kg/hr

$$BR = [(W_{fuel} / (1 + (MC_{Ave}/100))) / 2.2046] / \theta$$

Where,		Value
W_{fuel} =	Weight of the Wet Fuel Load, lb.	264.7
MC_{Ave} =	Average Fuel Load Moisture Content, dry basis	21.96
2.2046 =	Conversion kg -> lb.	2.2046
θ =	Duration of Test, hours	41.000

$$BR = [(264.7 / (1 + (21.96 / 100))) / 2.2046] / 41 = 2.40 \quad \text{kg/hr}$$

Q_{out} - Heat Output, Btu - ASTM E2618 equation (7)

$$Q_{out} = \left[\sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) \right] + (W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg})$$

Where,

	<u>Value</u>
C_{pi} = Specific heat of water during interval (i), Btu/lb °F	Varies
ΔT_i = Temperature difference between water entering and exiting heat exchanger (load), °F	Varies
M_i = Mass flow-rate of water through heat exchanger during interval (i), lb./min	Varies
t_i = Data sampling interval, min	<u>Varies</u>
W_{app} = Weight of empty appliance, lb.	2457
C_{steel} = Specific heat of steel, Btu/lb.°F	0.1
C_{pa} = Specific heat of water at average appliance temperature, Btu/lb °F	1.0008
W_{water} = Weight of water in supply side of system, lb.	2711
TF_{avg} = Average temperature of appliance and water at end of test	177.86
TI_{avg} = Average temperature of appliance and water at start of test	166.20

$$\begin{aligned} \sum (C_{pi} \cdot \Delta T_i \cdot M_i \cdot t_i) & \text{ from Water Data sheet} = 1328853.666 \quad 32411.06503 \\ C_{pa} &= 1.0014 + (-0.000003485 \cdot (TI_{avg} + TF_{avg}) / 2) = 1.0008 \\ (W_{app} \cdot C_{steel} + C_{pa} \cdot W_{water}) \cdot (TF_{avg} - TI_{avg}) &= 34504.30 \\ Q_{OUT} &= 1328853.666 + 1.0008 \times 34504.296 = 1363357.96 \quad \text{Btu} \end{aligned}$$

Heat Output Rate, Btu/hr - ASTM E2618 equation (15)

$$\text{Heat Output Rate} = Q_{OUT} / \theta$$

Where,	<u>Value</u>
Q_{OUT} = Heat Output	1363358.0
Θ = Duration of test, hr	41.0000

$$\text{Heat Output Rate} = 33252.6 \quad \text{Btu/hr}$$

V_S – Average gas velocity in the dilution tunnel, ft/sec - ASTM E2515 equation (9)

$$V_S = F_P \times K_P \times C_P \times (\sqrt{\Delta P})_{avg} \times \sqrt{\frac{T_{S(avg)}}{P_S \times M_S}}$$

Where

 F_P = Adjustment factor for center of tunnel pitot tube placement, where

$$F_P = V_{STRAV} / V_{SCENT}$$

 V_{SCENT} = Dilution tunnel velocity, at the center, ft/sec V_{STRAV} = Dilution tunnel velocity, multi-point pitot traverse, ft/sec K_P = Pitot tube constant, 85.49 C_P = Pitot tube coefficient: 0.99, unitless $\Delta P^{1/2}_{AVG}$ = Velocity pressure in the dilution tunnel, in H_2O $T_{S(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R P_S = Absolute average gas static pressure in tunnel, = $P_{bar} + P_g$, where P_{bar} = Barometric Pressure, in. Hg, P_g = Static pressure in tunnel, Hg (in H_2O / 13.6) M_S = The dilution tunnel wet molecular weight; $M_s = 28.78$ assuming a dry weight of 29 lb/lb-mole

(Duration of Test)

$$F_P = 0.9970$$

$$\Delta P^{1/2}_{AVG} = 0.3409$$

$$T_{S(avg)} = 530.4886$$

$$P_{bar} = 29.9850$$

$$P_g = -0.3300$$

$$P_S = 29.9607$$

$$V_S = 0.997 \times 85.49 \times 0.99 \times 0.341 \times \sqrt{[(530 / (29.96 \times 28.78))]}$$

$$V_S = \mathbf{22.562} \quad \text{ft/sec}$$

(First Hour of Test)

$$F_P = 0.9970$$

$$\Delta P^{1/2}_{AVG} = 0.3388$$

$$T_{S(avg)} = 532.6082$$

$$P_{bar} = 30.1200$$

$$P_g = -0.3300$$

$$P_S = 30.0957$$

$$V_S = 0.997 \times 85.49 \times 0.99 \times 0.339 \times \sqrt{[(533 / (30.1 \times 28.78))]}$$

$$V_S = \mathbf{22.418} \quad \text{ft/sec}$$

Q_{std} – Average gas flow rate in dilution tunnel, dscf/hr - ASTM E2515 equation (3)

$$Q_{std} = 3600 \times (1 - B_{ws}) \times v_s \times A \times \frac{T_{std}}{T_{s(avg)}} \times \frac{P_s}{P_{std}}$$

Where:

3600 = Conversion from seconds to hours (ASTM method uses 60 to convert in minutes)

B_{ws} = Water vapor in gas stream, proportion by volume; assume 2%

A = Cross sectional area of dilution tunnel, ft²

T_{std} = solute temperature, 528 °R

P_s = Absolute average gas static pressure in dilution tunnel, = Pbar + Pg , in Hg

$T_{s(avg)}$ = Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)

P_{std} = Standard absolute pressure, 29.92 in Hg

(Full Duration of Test):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 29.96 \\ T_{s(avg)} &= 530 \\ V_s &= 22.56 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 22.562 \times 0.7854 \times (528 / 530) \times (29.96 / 29.92)$$

$$Q_{std} = \mathbf{62309.0} \quad \text{dscf/hr}$$

(First Hour):

$$\begin{aligned} B_{ws} &= 0.02 \\ A &= 0.78540 \\ P_s &= 30.10 \\ T_{s(avg)} &= 533 \\ V_s &= 22.418 \end{aligned}$$

$$Q_{std} = 3600 \times (1 - 0.02) \times 22.418 \times 0.7854 \times (528 / 533) \times (30.1 / 29.92)$$

$$Q_{std} = \mathbf{61940.8} \quad \text{dscf/hr}$$

V_{m(std)} – Volume of Gas Sampled (Corrected), dscf - ASTM E2515 equation (6)

$$V_{m(std)} = K_1 V_m Y \frac{P_{bar} + \left(\frac{\Delta H}{13.6} \right)}{T_m}$$

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_{bar}	=	Barometric pressure at the testing site, in. Hg
ΔH	=	Average pressure differential across the orifice meter, in. H ₂ O
T_m	=	Absolute average dry gas meter temperature, °R

Train A

$$V_{m(std)} = 17.64 \times 394.868 \times 1.012 \times \frac{(29.99 + \frac{1.23}{13.6})}{(94.6 + 460)}$$

$$V_{m(std)} = \mathbf{382.361} \text{ dscf}$$

Train B

$$V_{m(std)} = 17.64 \times 394.502 \times 1.024 \times \frac{(29.99 + \frac{1.23}{13.6})}{(90 + 460)}$$

$$V_{m(std)} = \mathbf{389.531} \text{ dscf}$$

Train C (1st Hour)

$$V_{m(std)} = 17.64 \times 9.32 \times 1.006 \times \frac{(30.12 + \frac{0.99}{13.6})}{(72.9 + 460)}$$

$$V_{m(std)} = \mathbf{9.369} \text{ dscf}$$

Train D (Background)

$$V_{m(std)} = 17.64 \times 384.73 \times 1.007 \times \frac{(29.99 + \frac{1.11}{13.6})}{(77.5 + 460)}$$

$$V_{m(std)} = \mathbf{382.458} \text{ dscf}$$

mn – Total Particulate Matter Collected, mg - ASTM E2515 Equation (12)

$$m_n = m_p + m_f + m_g$$

Where:

m_p	=	mass of particulate matter from probe, mg
m_f	=	mass of particulate matter from filters, mg
m_g	=	mass of particulate matter from filter seals, mg

Uncorrected:

Train A	$m_n =$	0.8	+	6.3	+	0.5	
	$m_n =$	7.6					mg

Train B	$m_n =$	0.6	+	5.7	+	1.5	
	$m_n =$	7.8					mg

Train C (1st hour)	$m_n =$	0.3	+	-0.3	+	0.8	
	$m_n =$	0.8					mg

Train D (Background)	$m_n = m_f =$	1.4	
	$m_n =$	1.4	mg

Corrected:

Train A	$m_n =$	0.8	+	6.3	+	0.5	
	$m_n =$	7.6					mg

Train B	$m_n =$	0.6	+	5.7	+	1.5	
	$m_n =$	7.8					mg

Train C (1st hour)	$m_n =$	0.3	+	0.0	+	0.8	
	$m_n =$	1.1					mg

Train D (Background)	$m_n = m_f =$	1.4	
	$m_n =$	1.4	mg

**C_s - Concentration of particulate matter in tunnel gas, dry basis, corrected to standard conditions
g/dscf - ASTM E2515 equation (13)**

$$C_s = K_2 \times \frac{m_n}{V_{m(std)}}$$

Where:

K₂ = Constant, 0.001 g/mg

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

Uncorrected:

Train A	C _s =	0.001 x	$\frac{7.6}{382.36}$
---------	------------------	---------	----------------------

C_s = **0.000020** g/dscf

Train B	C _s =	0.001 x	$\frac{7.8}{389.53}$
---------	------------------	---------	----------------------

C_s = **0.0000200** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{0.8}{9.37}$
--------------------	------------------	---------	--------------------

C_s = **0.000085** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{1.4}{382.46}$
----------------------	------------------	---------	----------------------

C_r = **0.000004** g/dscf

Corrected:

Train A	C _s =	0.001 x	$\frac{7.6}{382.36}$
---------	------------------	---------	----------------------

C_s = **0.000020** g/dscf

Train B	C _s =	0.001 x	$\frac{7.8}{389.53}$
---------	------------------	---------	----------------------

C_s = **0.0000200** g/dscf

Train C (1st Hour)	C _s =	0.001 x	$\frac{1.1}{9.37}$
--------------------	------------------	---------	--------------------

C_s = **0.000117** g/dscf

Train D (Background)	C _r =	0.001 x	$\frac{1.4}{382.46}$
----------------------	------------------	---------	----------------------

C_r = **0.000004** g/dscf

ET – Total Particulate Emissions, g - ASTM E2515 equation (15)

$$E_T = (c_s - c_r) \times Q_{std} \times \theta$$

Where:

C_s	=	Concentration of particulate matter in tunnel gas, g/dscf
C_r	=	Concentration particulate matter room air, g/dscf
Q_{std}	=	Average dilution tunnel gas flow rate, dscf/hr
θ	=	Total time of test run, minutes

Uncorrected:

Train A

$$E_T = (0.000020 - 0.000004) \times 62309.0 \times 2460 / 60$$

$$E_T = 41.43 \text{ g}$$

Train B

$$E_T = (0.000020 - 0.000004) \times 62309.0 \times 2460 / 60$$

$$E_T = 41.80 \text{ g}$$

First Hour

$$E_T = (0.000085 - 0.000004) \times 61940.8 \times 60 / 60$$

$$E_T = 5.06 \text{ g}$$

Trains A and B Average

$$E_T = 41.61 \text{ g}$$

Corrected:

Train A

$$E_T = (0.000020 - 0.000004) \times 62309.0 \times 2460 / 60$$

$$E_T = 41.43 \text{ g}$$

Train B

$$E_T = (0.000020 - 0.000004) \times 62309.0 \times 2460 / 60$$

$$E_T = 41.80 \text{ g}$$

First Hour

$$E_T = (0.000117 - 0.000004) \times 61940.8 \times 60 / 60$$

$$E_T = 7.05 \text{ g}$$

Trains A and B Average

$$E_T = 41.61 \text{ g}$$

PM_R – Particulate emissions for test run, g/hr - ASTM E2780 equation (6)

$$PM_R = 60(E_T/\theta)$$

Where,

 E_T = Total particulate emissions, grams θ = Total length of full integrated test run, min**Uncorrected:**

Train A

$E_T = 41.43 \text{ g}$

$\theta = 2460 \text{ min}$

$PM_R = 60 \times (41.43 / \text{###})$

$PM_R = \mathbf{1.01} \text{ g/hr}$

Train B

$E_T = 41.80 \text{ g}$

$\theta = 2460 \text{ min}$

$PM_R = 60 \times (41.80 / \text{###})$

$PM_R = \mathbf{1.02} \text{ g/hr}$

A and B Average

$PM_R = \mathbf{1.01} \text{ g/hr}$

First Hour

$E_T = 5.06 \text{ g}$

$\theta = 60 \text{ min}$

$PM_R = 60 \times (5.06 / 60)$

$PM_R = \mathbf{5.06} \text{ g/hr}$

Corrected:

Train A

$E_T = 41.43 \text{ g}$

$\theta = 2460 \text{ min}$

$PM_R = 60 \times (41.43 / \text{###})$

$PM_R = \mathbf{1.01} \text{ g/hr}$

Train B

$E_T = 41.80 \text{ g}$

$\theta = 2460 \text{ min}$

$PM_R = 60 \times (41.80 / \text{###})$

$PM_R = \mathbf{1.02} \text{ g/hr}$

A and B Average

$E_T = \mathbf{1.01} \text{ g}$

First Hour

$E_T = 7.05 \text{ g}$

$\theta = 60 \text{ min}$

$PM_R = 60 \times (7.05 / 60)$

$PM_R = \mathbf{7.05} \text{ g/hr}$

E_{g/kg} - Particulate emission factor for test run, g/dry kg of fuel burned - ASTM E2618 equation (18)

$$E_{g/kg} = E_T / (W_{fuel} / (1 + MC/100))$$

Uncorrected:

Train A	E _T =	41.43	g
	W _{fuel} =	120.07	kg
	MC =	21.96	
	E _{g/kg} =	0.421	/kg

Train B	E _T =	41.80	g
	W _{fuel} =	120.07	kg
	MC =	21.96	
	E _{g/kg} =	0.425	/kg

Corrected:

Train A	E _T =	41.43	g
	W _{fuel} =	120.07	kg
	MC =	21.96	
	E _{g/kg} =	0.421	/kg

Train B	E _T =	41.80	g
	W _{fuel} =	120.07	kg
	MC =	21.96	
	E _{g/kg} =	0.425	/kg

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:

	Train A	Train B	Train C
θ = Total sampling time, min	2460	2460	60
θ_i = Length of recording interval, min	1	1	1
V_{mi} = Volume of gas sample measured by the dry gas meter during the "ith" time interval, dcf	0.155	0.161	0.156
V_m = Volume of gas sample as measured by dry gas meter, dcf	394.868	394.502	9.323
V_{si} = Average gas velocity in the dilution tunnel during the "ith" time interval, ft/sec	22.572	22.572	22.572
V_s = Average gas velocity in the dilution tunnel, ft/sec	22.563	22.563	22.484
T_{mi} = Absolute average dry gas meter temperature during the "ith" time interval, °R	529.8	528.0	529.9
T_m = Absolute average dry gas meter temperature, °R	554.6	550.4	532.9
T_{si} = Absolute average gas temperature in the dilution tunnel during the "ith" time interval, °R	536.5	536.5	536.5
T_s = Absolute average gas temperature in the dilution tunnel, °R	530.5	530.5	532.6

NOTE: These calculations are for the Second interval of each train)

$$\text{Train A PR} = \left(\frac{2460 \times 0.155 \times 22.563 \times 555 \times 537}{1 \times 394.868 \times 22.572 \times 530 \times 530} \right) \times 100 = 102.2 \%$$

$$\text{Train B PR} = \left(\frac{2460 \times 0.161 \times 22.563 \times 550 \times 537}{1 \times 394.502 \times 22.572 \times 528 \times 530} \right) \times 100 = 105.8 \%$$

$$\text{Train C PR} = \left(\frac{60 \times 0.156 \times 22.484 \times 533 \times 537}{1 \times 9.323 \times 22.572 \times 530 \times 533} \right) \times 100 = 101.3 \%$$

Emission Rates and Factors - ASTM E2618 equations 16, 17, 18 and 19

Uncorrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 41.61 / (1363358 \times 0.001055) = 0.0289$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (41.61 / 453.59) / (1363358 \times 10^{-6}) = 0.0673$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 41.61 / ((264.7 / (1 + 21.96 / 100)) / 2.2046) = 0.423$$

Corrected:

$$E_{g/MJ} = E_T / (Q_{out} \times 0.001055) \quad (16)$$

$$E_{g/MJ} = 41.61 / (1363358 \times 0.001055) = 0.0289$$

$$E_{lbs./MM \text{ Btu output}} = (E_T / 453.59) / (Q_{out} \times 10^{-6}) \quad (17)$$

$$E_{lbs./MM \text{ Btu output}} = (41.61 / 453.59) / (1363358 \times 10^{-6}) = 0.0673$$

$$E_{g/kg} = E_T / \left(\left(W_{fuel} / \left(1 + \frac{M_C}{100} \right) \right) / 2.2046 \right) \quad (18)$$

$$E_{g/kg} = 41.61 / ((264.7 / (1 + 21.96 / 100)) / 2.2046) = 0.423$$

Tare Sheet: (check one)

Probes

47mm Filters

100mm Filters

O-Ring Pair

Prepared By:

Balance ID #:

Thermohygrometer ID #:

Audit Weight ID #/Mass:

Placed in

Dessicator:

Date: 12/11/24

Time: 14:15

Date: 12/12/24

Time: 14:20

RH %: 14.3

T (°F): 67.6

Audit: 300.1

Date: 12/16/24

Time: 14:30

RH %: 11.4

T (°F): 69.4

Audit: 299.9

Date:

Time:

RH %:

T (°F):

Audit:

Date:

Time:

RH %:

T (°F):

Audit:

Date Used

Project Number

Run No.

ID #

F501/501A

F502/502A

F503/503A

F504/504A

F505/505A

F506/506A

F507/507A

F508/508A

F509/509A

F510/510A

F511/511A

F512/512A

F513/513A

F514/514A

F515/515A

F516/516A

F517/517A

F518/518A

F519/519A

F520/520A

239.7

240.1

239.9

240.0

241.5

240.1

239.4

240.0

238.8

238.9

239.0

238.3

238.3

238.5

237.7

238.2

239.4

239.6

239.1

238.2

239.8

240.1

239.8

239.9

241.5

240.2

239.5

239.9

238.9

239.1

238.9

238.1

238.2

238.6

237.6

238.2

239.4

239.5

239.2

238.2

2-24-25

2-25-25

2-25-25

2-26-25

2-27-25

2-28-25

2-29-25

2-30-25

2-31-25

2-32-25

2-33-25

2-34-25

2-35-25

2-36-25

2-37-25

2-38-25

2-39-25

2-40-25

2-41-25

2-42-25

0117W8044E

0117W8044E

0117W8044E

0117W8044E

0117W8044E

0117W8044E

0117W8044E

0117W8044E

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0117W8044E

0117W8044E

1

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5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

Initials:

Initials:

Initials:

Initials:

Final Technician Signature: Terry Tenk

Date: 12/16/24

Date: 12/16/24

Evaluator signature: J. P. Morgan

Control No. P-SFDP-0002.xls, Effective date: 2/1/2017

Tare Sheet: (check one)

Probes

47mm Filters

100mm Filters

O-Ring Pair

Prepared By:

Balance ID #:

Thermohygrometer ID #:

Audit Weight ID #/Mass:

Placed in

Dessicator:

Date: 12/16/24

Time: 14:35

Date: 12/12/24

Time: 14:40

RH %: 14.3

T (°F): 67.6

Audit: 100.1

Date: 12/16/24

Time: 15:00

RH %: 15.6

T (°F): 66.6

Audit: 200.1

Date:

Time:

RH %:

T (°F):

Audit:

Date:

Time:

RH %:

T (°F):

Audit:

Date:

Time:

RH %:

T (°F):

Audit:

Date:

Time:

RH %:

T (°F):

Audit:

ID #

F521

F522

F523

F524

F525

F526

F527

F528

F529

F530

Date Used

2-24-25

2-25-25

2-26-25

2-27-25

Project Number

0117WB044E

0117WB044E

0117WB044E

0117WB044E

Run No.

1

2

3

4

Initials:

TT

Initials:

TT

Initials:

Initials:

Final Technician Signature: *Theresa*

Control No. P-SFDP-0002.xls, Effective date: 2/1/2017

Date: 12/16/24

Evaluator signature:

Tare Sheet: (check one) Probes 47mm Filters 100mm Filters O-Ring Pair
 Prepared By: Balance ID #: Thermohygrometer ID #: Audit Weight ID #/Mass: /

Placed in Dessicator: Date: <u>1-15-25</u> Time: <u>13:30</u>	Date: <u>1-22-25</u>				Date: <u>1-23-2025</u>				Date: <u>2-24-2025</u>				Run No.
	Time: <u>12:52</u>	RH %: <u>17.7</u>	T (°F): <u>67.0</u>	Audit: <u>5000.1</u>	Time: <u>10:00</u>	RH %: <u>14.9</u>	T (°F): <u>67.8</u>	Audit: <u>5000.0</u>	Time: <u>8:00</u>	RH %: <u>15.6</u>	T (°F): <u>67.6</u>	Audit: <u>5000.1</u>	
ID #													
S926	3398.8	3310.6	3378.6	3310.4									
S927	3310.6	3310.4	3310.4	3310.4									
S928	4150.8				4150.9								1
S929	3459.1				3459.2								↓
S930	3327.5				3327.3								↓
S931	3320.7				3320.7								3
S932	3220.4				3220.4								↓
S933	3319.5				3319.4								↓
S934	3378.8				33378.9								4
S935	3339.3				33378.9	3339.8	3339.9	✓					↓
S936	3337.2				3337.3								↓
S937	3335.8				3335.8								
S938	3410.8				3410.6								
S939	3390.6				3390.4								
S940	3272.2				3272.0								
S941	3332.5				3332.1								2
S942	3319.5				3319.3								2
S943	4165.8				4165.7								2
S944	3385.6				3385.5								
S945	4151.1				4151.0								
	Initials: <u>RO</u>	Initials: <u>RT</u>	Initials: <u>RT</u>	Initials: <u>RT</u>									

Final Technician Signature: K. J. Moyn Date: 2/1/2017
 Control No. P-SFDP-0002.xls, Effective date: 2/1/2017
 Evaluator signature: K. J. Moyn

Tare Sheet: (check one) Probes 47mm Filters 100mm Filters O-Ring Pair
 Prepared By: _____ Balance ID #: _____ Thermohygrometer ID #: _____ Audit Weight ID #/Mass: _____

Placed in Dessicator: Date: <u>1-15-25</u> Time: <u>1450</u>	Date: <u>1-22-25</u> Time: <u>1450</u> RH %: <u>15.9</u> T (°F): <u>67.6</u> Audit: <u>101998.0</u>	Date: <u>1-23-25</u> Time: <u>1000</u> RH %: <u>16.9</u> T (°F): <u>67.8</u> Audit: <u>101998.5</u>	Date: <u>2-17-25</u> Time: <u>12:06</u> RH %: <u>12.8</u> T (°F): <u>99.976</u> Audit: <u>101998.5</u>	Date: <u>2-18-25</u> Time: <u>0740</u> RH %: <u>12.4</u> T (°F): <u>66.9</u> Audit: <u>101998.8</u>	Date Used	Project Number	Run No.
ID #							
75	117643.1 ✓	117643.1 ✓					
18	114400.5	114400.5 ✓					
12	114284.0		114283.8 ✓			0117WB044E	1
30	114326.6		114326.5 ✓				
72	115939.8		115939.82 ✓				
73	117074.6		117073.8			0117WB044E	2
66	118457.0		118456.6			0117WB044E	2
2	115012.5		115012.0			0117WB044E	3
36	114883.9		114883.7 ✓			0117WB044E	4
68	116839.0		116838.5				
0ES4	114149.3		114148.7				
29	114276.6		114276.2				
50	118128.7		118128.0			0117WB044E	2
56	118641.6		118641.4 ✓				
20	114254.2		114253.8			0117WB044E	3
8	115594.6		115594.1				
78	117461.6		117461.3			0117WB044E	3
82	116288.3		116288.0				
0ES6	113707.1		113706.7				
83	117542.2		117541.5				
	Initials: <u>RT</u>	Initials:	Initials: <u>RT</u>	Initials: <u>RT</u>			

Final Technician Signature: _____ Date: _____
 Control No. P-SFDP-0002.xls, Effective date: 2/1/2017

Evaluator signature: 16.1.11.11.11.11

Central Boiler 760.1 Water Flow Verifications

Project Number: 0117WB044E

2/24/25 - 3/01/25

Run	Date	Bucket Measurement							Logged Data		
		Time	Weight	T, min	lb/min	Water, °F	lb/gal	GPM	Data Rows	GPM	± %
1	2/24/2025	16:26	47.62	1.000	47.620	46.8	8.3439	5.707	429-430	5.730	-0.40
1	2/24/2025	22:02	57.19	1.502	38.089	46.4	8.3442	4.565	765-766	4.580	-0.34
2	2/25/2025	11:39	16.54	1.000	16.540	47.7	8.3432	1.982	107-108	1.990	-0.38
2	2/25/2025	22:10	16.72	1.000	16.720	47.9	8.3430	2.004	738-739	2.020	-0.79
3	2/26/2025	10:40	8.40	1.000	8.400	49.1	8.3420	1.007	328-329	1.000	0.69
3	2/27/2025	1:03	8.48	1.000	8.480	51.2	8.3401	1.017	1191-1192	1.010	0.67
3	2/27/2025	13:27	7.90	1.000	7.900	50.8	8.3405	0.947	1935-1936	0.945	0.23
4	2/27/2025	19:29	5.05	1.000	5.050	53.0	8.3385	0.606	363-364	0.600	0.88
4	2/28/2025	5:30	4.61	1.000000	4.610	53.3	8.3382	0.553	964-965	0.557	-0.67
4	3/1/2025	12:38	4.52	1.000000	4.520	53.9	8.3376	0.542	2832-2833	0.545	-0.55

16:26 Bucket Check 60 sec → 47.62 lb

18:35 Bucket test 60 sec = 47.62 lb

90.21 seconds: 66.61 lbs

22:02 Bucket test

90.09 sec : 57.19

BL 11:39 16.54 lb. 1.00 min

BL 22:10 16.72 1.00 min

10:40 Bucket test 8.40 lb/min

0103 Bucket test 8.48 lb/min

13:27 " " 7.90 lb/min

19:29 Bucket test 5.05 lb/min

2/28 0530 Bucket 4.61 lb/min

3/1 12:38 Bucket test 4.52 lb in 1 min

6. Appliance Engineering Drawings

(CBI Report Only)

7. Appliance Labeling and Owner's Manual(s)

Tested &
Listed By



Portland
Oregon USA

OMNI-Test Laboratories, Inc.



Central Boiler
20502 160th Street
Greenbush, MN 56726

Report (rapport) # 0117WB036S (12/2014), 0117WB044E

Serial No. (Numéro de série)

Model (Modèle)

Month/Year Manufactured
(Date de fabrication)

Solid Fuel Only Models: Classic Edge 760.1 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 AND CHIMNEY 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 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 760.1

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). 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 NAPHTA, 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.

Tested &
Listed By



Portland
Oregon USA

OMNI-Test Laboratories, Inc.



WoodMaster, Inc.
20502 160th Street
Greenbush, MN 56726

Report (rapport) # 0117WB036S (12/2014), 0117WB044E

Serial No. (Numéro de série)

Model (Modèle)

Month/Year Manufactured
(Date de fabrication)

Solid Fuel Only Models: CleanFire 700.1 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.

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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

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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 CleanFire 700.1

La chaudière hydronique extérieure CleanFire fabriquée par WoodMaster 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.

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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'entrez 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). 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 NAPHTA, 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.

WoodMaster, Inc.
20502 160th Street
Greenbush, MN 56726

Serial No:

Date Manufactured:

Model: CleanFire 700.1

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: 1.58 g/hr annual weighted average
0.05 lbs/Million Btu heat output

Thermal Output Rating: 0 - 245,000 Btu/hr

Firebox Volume: 22.1 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: 7001215



CLASSIC EDGE™

TITANIUM HDX

OUTDOOR WOOD FURNACE



OWNER'S MANUAL

CLASSIC EDGE 760.1

TITANIUM HDX

CLASSIC EDGE 560.1

TITANIUM HDX

CLASSIC EDGE 360

TITANIUM HDX

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.



0117WB036S
0117WB044E



**SAVE THESE
INSTRUCTIONS**

(p/n 9001135 - REV. A)



CLASSIC EDGE™

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 includes two 4-foot stainless steel insulated chimney sections. 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 760.1 Annual Efficiency Rating*: 84.4% (lower heating value), 78.3% (higher heating value)
Manufacturer's Rated Heat Output Capacity: 245,000 Btu/hr | Range**: 0 to 243,056 Btu/hr.
Water Capacity: 330 gal. | Weight: 2,186 lbs

CLASSIC EDGE 560.1 Annual Efficiency Rating*: 86.4% (lower heating value), 80.6% (higher heating value)
Manufacturer's Rated Heat Output Capacity: 190,000 Btu/hr | Range**: 0 to 171,956 Btu/hr.
Water Capacity: 205 gal. | Weight: 1,668 lbs

CLASSIC EDGE 360 Annual Efficiency Rating*: 88% (lower heating value), 82% (higher heating value)
Manufacturer's Rated Heat Output Capacity: 150,000 Btu/hr | Range**: 0 to 148,625 Btu/hr.
Water Capacity: 150 gal. | Weight: 1,460 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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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.



Online Support Center

CentralBoiler.com/Support

Enter your serial number for information specific to your furnace.

Write your **serial number** here for future reference.



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 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

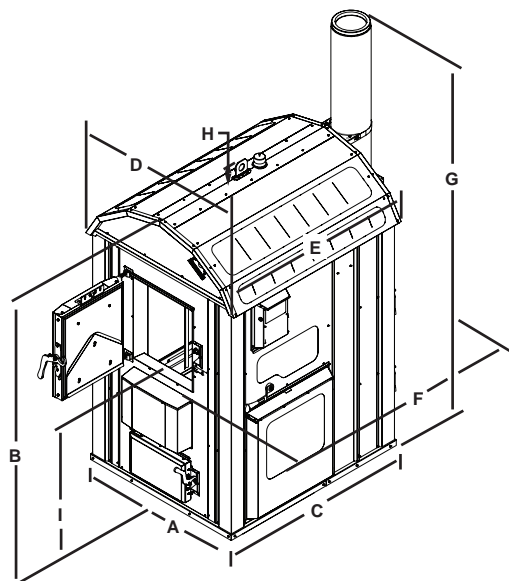
This symbol and text indicate the presence of a hazard which can cause severe personal injury or death to an operator or bystander, or substantial property damage if ignored.

⚠ 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 760.1 Measurements

	A	B	C	D	E	F	G	H	I
in.	51	84.75	59.75	53.5	60.5	79	164	5	39
cm	130	215	152	136	154	201	417	13	99

Classic Edge 560.1 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

Classic Edge 360 Measurements

	A	B	C	D	E	F	G	H	I
in.	40.5	72	50.75	43	51.5	69	150	5	38
cm	103	183	129	109	131	175	381	13	97

- 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

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

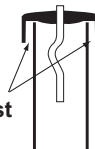
This outdoor furnace and/or chimney is not intended or safety tested to be used or installed in a building where contents of that building could be damaged or where a financial loss could occur from smoke, soot, fire or water.

⚠ 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.**



Vent Cap Must Fit Loosely



⚠ 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. MolyArmor 350 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 MolyArmor 350 Corrosion Inhibitor (p/n 2900630) 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

Maintain the following clearances from combustibles for the furnace installation:

- 44" (112 cm) from the back
- 12" (30.5 cm) from the sides
- 48" (122 cm) from the front
- 18" (46 cm) from chimney inspection cover
- The foundation must be noncombustible

⚠ 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.

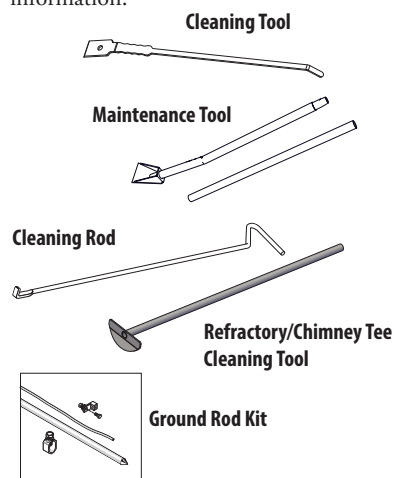
NOTE: At least one circulation pump must run continuously to ensure proper operation of the outdoor furnace.

NOTE: CO and smoke detectors are not required for this appliance, as it is designed and intended for outdoor installation only. However, always follow local codes and regulations regarding installations and safety requirements.

Tools/Ground Rod Kit

Included with each new furnace are tools that are invaluable for maintenance and cleaning and a Ground Rod Kit for electrically grounding the furnace. Use the **maintenance tool** to clean the firebox and to remove ash from the Reaction Chamber. Use the **cleaning tool** to clean the heat exchangers. The maintenance tool and cleaning tool are 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 **Refractory/Chimney Tee cleaning tool** is used to clean ash from the Reaction Chamber and to clean the chimney tee.

Refer to the Maintenance section for more information.



Foundation

The outdoor furnace may be installed using patio blocks under the perimeter of the base as an alternative to a concrete foundation. The installation surface or foundation must be noncombustible.

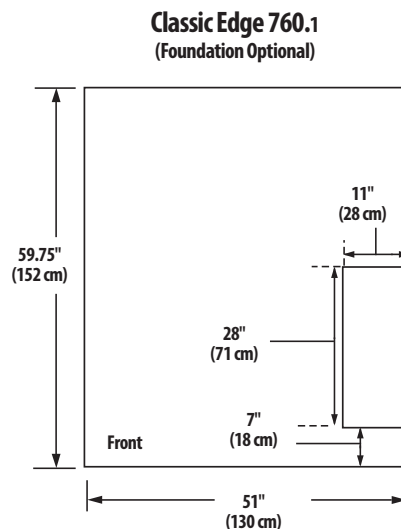
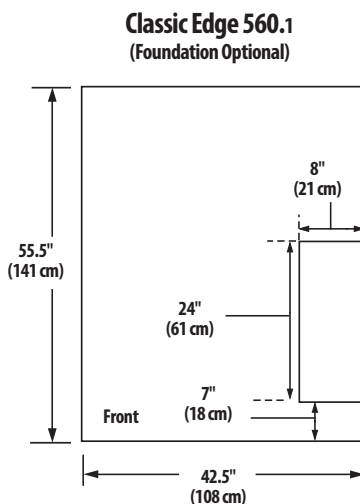
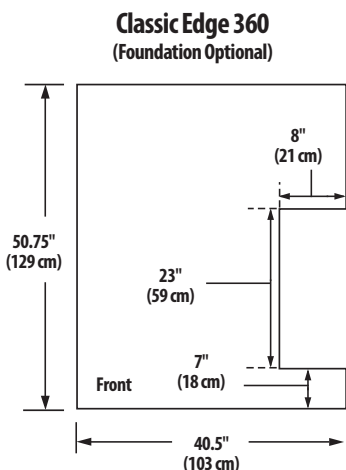
⚠ CAUTION

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.

The illustration below shows the outside dimensions of the furnace and the location of the hollowed-out area (where the supply and return lines will be connected) for each model.

Classic Edge Furnace Base Dimensions



⚠ CAUTION

Do not use any combustible materials for the foundation.

The installation surface must be noncombustible and incorporate 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.

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.

NOTE: At least one circulation pump must run continuously to ensure proper operation of the outdoor furnace.

Classic Edge 760.1 Models – 3-Pump Configuration

3 - Pump Parts List*

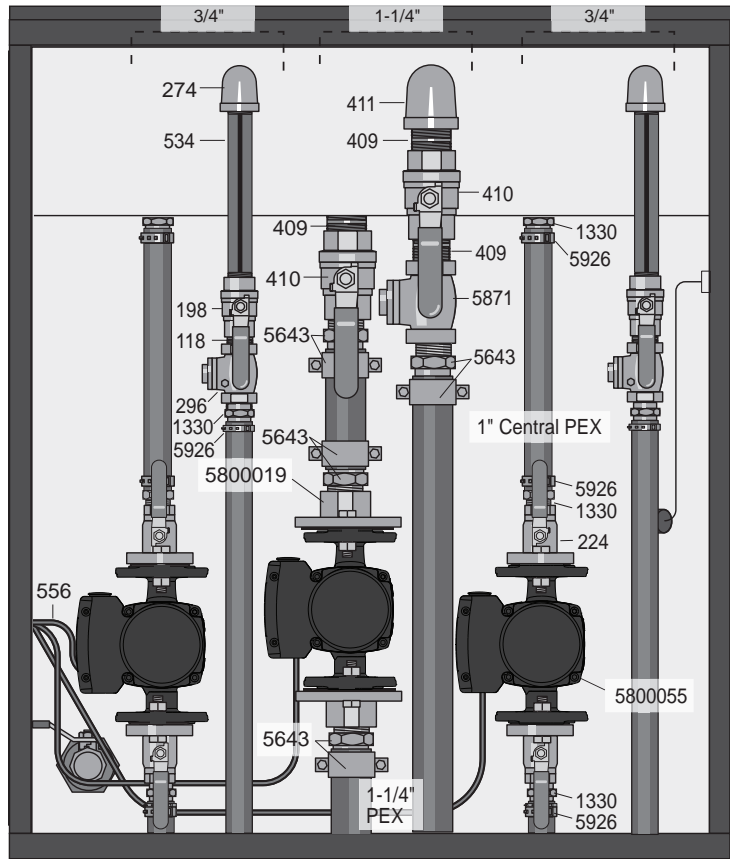
3/4" Supply		
Qty	p/n	Description
6	1330	MPT to PEX, 3/4" x 1"
6	5926	Clamp Crimp Ring, 1"
2	224	Isolation Flange Kit, 3/4"
2	5800055	Pump, UPMS 20-58 F
2	556	Power Supply Cord, 32"
		1" Central PEX

3/4" Return		
Qty	p/n	Description
2	274	90° Street Elbow, 3/4"
2	534	Nipple, 3/4" x 7"
2	198	Ball Valve, 3/4"
2	118	Close Nipple, 3/4"
2	296	Swing Check Valve, 3/4"
2	1330	MPT to PEX, 3/4" x 1"
2	5926	Clamp Crimp Ring, 1"

1-1/4" Supply & Return		
Qty	p/n	Description
3	409	Close Nipple, 1-1/4"
2	410	Ball Valve, 1-1/4"
4	5643	Brass Clamp, 1-1/4"
1	5800019	Pump Flange Kit, 1-1/4"
1	5871	Swing Check Valve, 1-1/4"
1	5800055	Pump, UPMS 20-58 F
1	556	Power Supply Cord, 32"
1	411	90° Street Elbow, 1-1/4"

*Parts and accessories sold separately.
Pump size may vary.

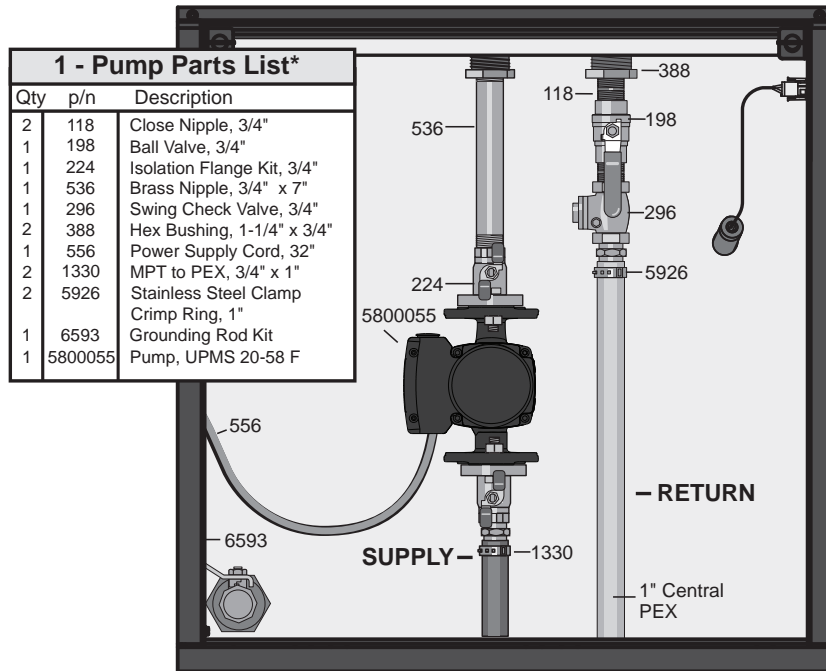
For illustration purposes only.



NOTE

The Ground Rod Kit (p/n 6593), included with the outdoor furnace, must be installed with every furnace.

Classic Edge 360/560.1 Models – 1-Pump Configuration

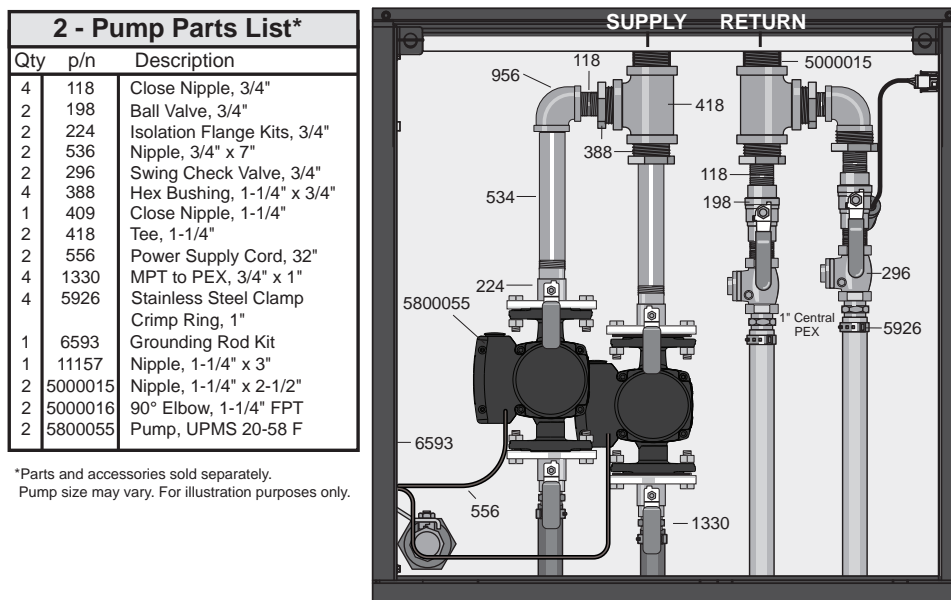


*Parts and accessories sold separately.
Pump size may vary.
For illustration purposes only.

NOTE

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

Classic Edge 360/560.1 Models – 2-Pump Configuration*



*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.

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

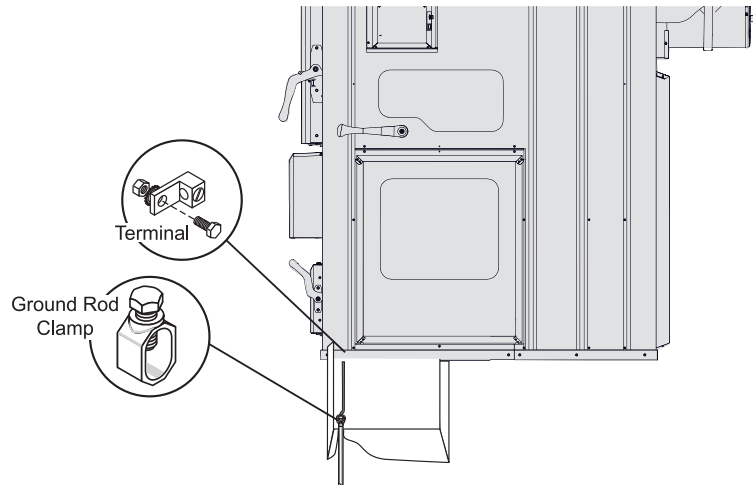
Ground Rod Kit

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 the Ground Rod Kit (p/n 6593) included with the outdoor furnace 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.



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.

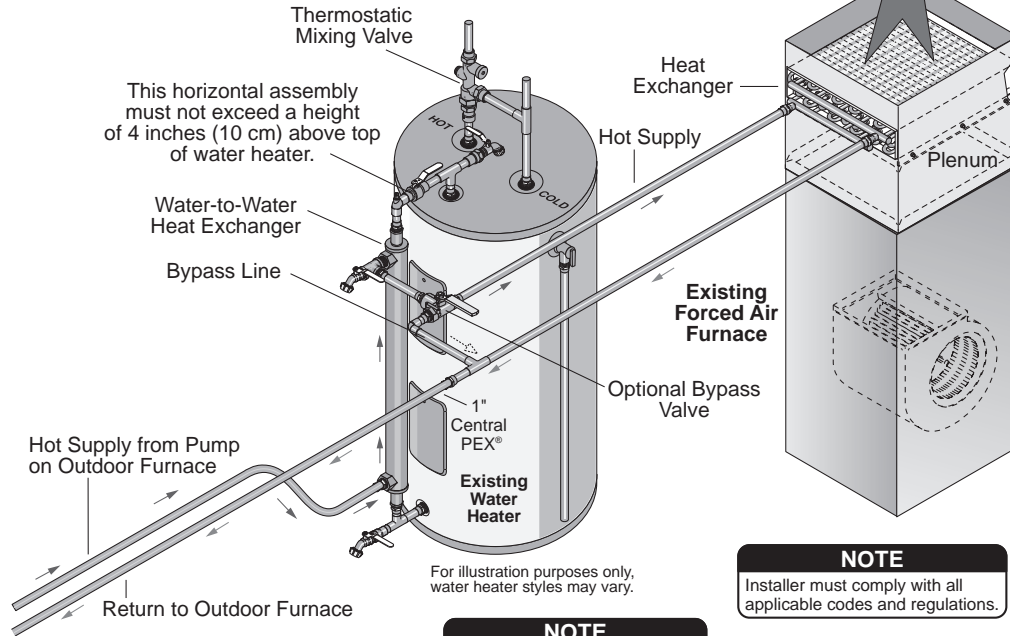
NOTE: There are numerous ways to connect to your heating system. Refer to the Central Boiler Outdoor Furnace Installation Guide for other installations.

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.

Typical Installation

Connecting to Water Heater and Forced Air Furnace



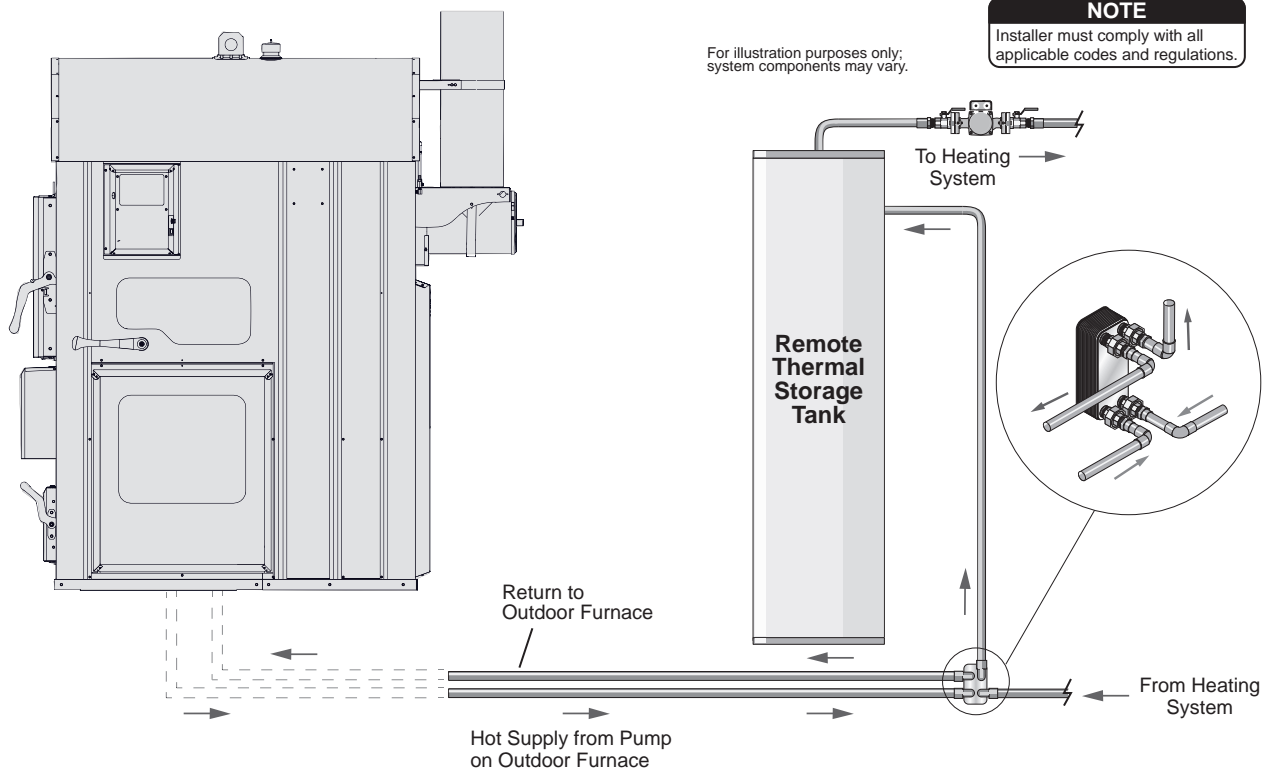
NOTE: A certified electrician must do the electrical installation.

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

NOTE
Installer must comply with all applicable codes and regulations.

Remote Thermal Storage Installation

Connecting to Remote Thermal Storage Tank



NOTE
Installer must comply with all applicable codes and regulations.

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.

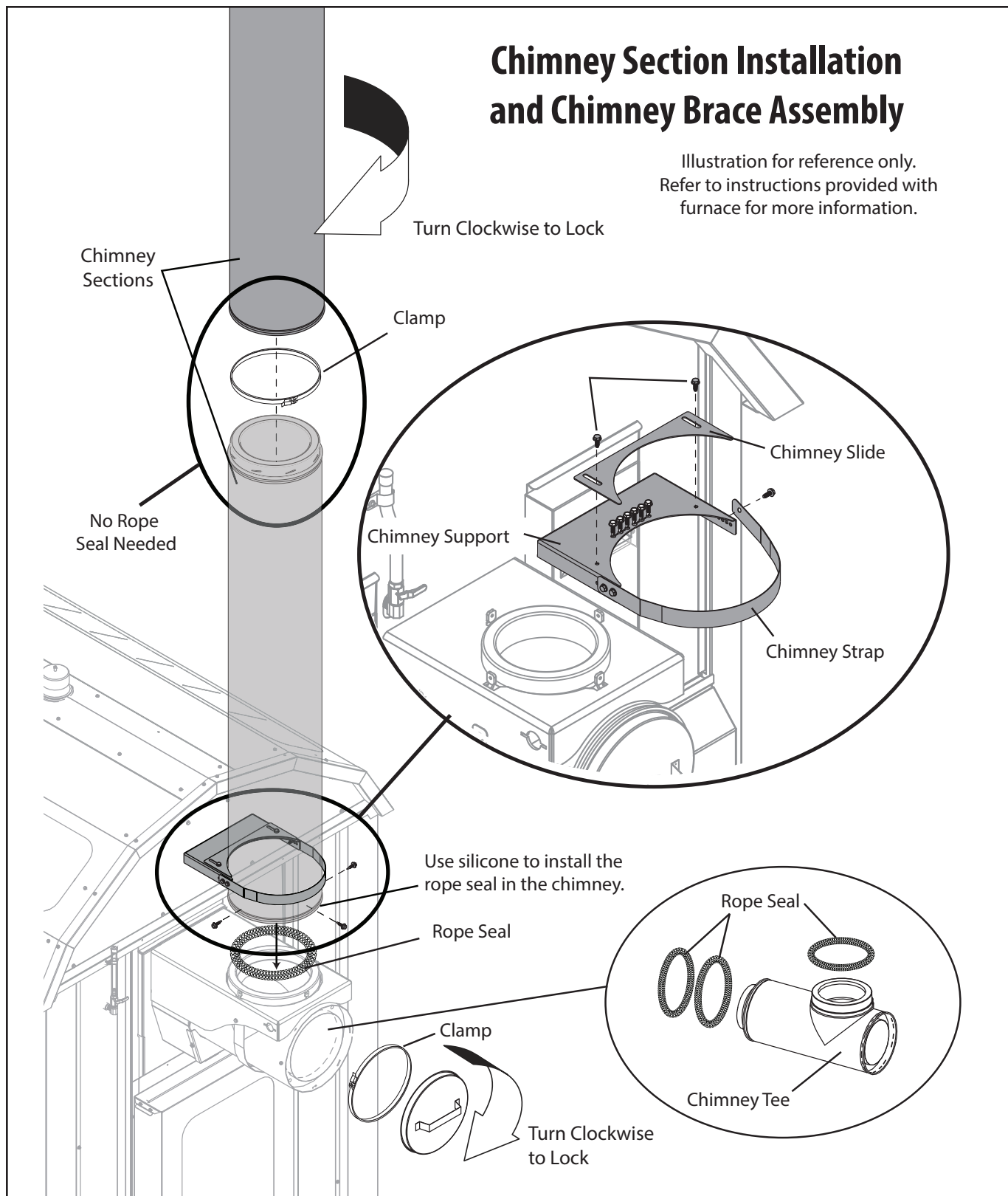
Chimney Installation

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 with three self-tapping screws.
9. Secure the joint between the first two chimney sections with the clamp.

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.

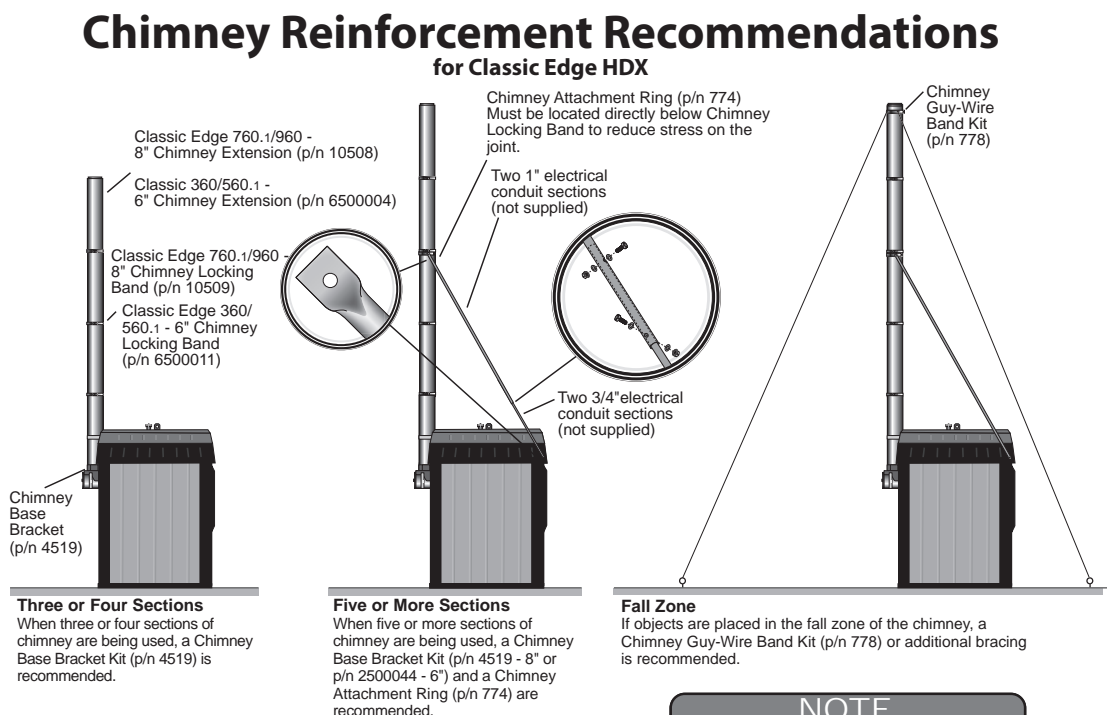
NOTE: For chimney extensions or chimney replacement, use only genuine Central Boiler chimney components. Parts are available from an authorized Central Boiler dealer.

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.



WATER QUALITY AND MAINTENANCE

Follow the steps provided here to add MolyArmor 350 and to fill the outdoor furnace system for the first time, or any time the system has been completely drained and needs to be refilled.



SEE HOW IT'S DONE

CentralBoiler.com > Support

Before you fire the outdoor furnace for the first time, it is very important to perform the following important steps in order.

1. Test Supply Water

Test a sample of the supply water (makeup water) that will be used to fill the outdoor furnace (softened water is recommended). Test strips for testing pH are included in the water test kit which is provided with the outdoor furnace.

1. Collect a small sample of the water to be used to fill the outdoor furnace in a clean container.
2. Dip a test strip from the test kit in the water sample for **1 second** and remove. Shake off excess liquid (very important to prevent water bleed from one pad to the other). Compare the pH test pad to the color chart at **30 seconds**.
3. If the pH level is between 6.5 and 8.0 and there are no other known water quality problems, then the outdoor furnace may be filled with this water.
4. Water that has a pH level of less than 6.5 or greater than 8.0, or that has other known water quality problems, should not be used to fill the furnace. Instead, water should be supplied from a different source.

2. Check the Vent Cap

If the vent cap has been secured with a wire tie-down, the wire tie-down **MUST** be removed before operating the furnace. If the vent cap is held in place by a spring retainer, the spring retainer can be left in place. The vent cap must fit loosely over the outdoor furnace vent.

3. Check Heating System for Leaks

Close the valves on the outdoor furnace before checking the heating system for leaks.

⚠ CAUTION

Do not pressurize the outdoor furnace or damage could occur. Isolate the furnace when pressure testing by closing all of the valves on the outdoor furnace.

Pressure-test the entire plumbing heating system. Apply 50 psi (3.5 kg/cm²) of air pressure for thirty minutes and closely monitor for any pressure loss. Inspect all fittings and hose ends for any signs of leakage using leak detection solution (leak soap); repair as necessary.

Release the pressure from the entire plumbing heating system and open the valves on the outdoor furnace.

4. Cover Supply and Return Lines

Backfill the trench for the supply and return lines. Enclose the area where the supply and return lines enter the outdoor furnace. Do not leave the PEX hot supply and return lines exposed to sunlight as exposure to UV rays will damage them.

5. Add MolyArmor through Vent Pipe

⚠ CAUTION

Avoid damaging your furnace and voiding your warranty. Add water treatment BEFORE adding water to the system. Water treatment in your outdoor furnace is just as important as the oil in a car's engine.

MolyArmor 350 Corrosion Inhibitor (p/n 2900630) gives optimum protection for the furnace water jacket and system parts when it is used to initially treat the water and is maintained at a minimum of 350 ppm of moly and pH level between 8.0 and 9.5.

NOTE: The recommended minimal treatment amounts are based on an average heating system with less than 50 feet of ThermoPEX, one heat exchanger in a forced-air furnace and a heat exchanger on a domestic water heater.

NOTE: If the system has a larger than normal water capacity, more MolyArmor 350 should be added at a recommended rate of 6.5 oz. (190 ml) per 10 gallons (37.8 liters) of system water. One gallon (3.78 liters) of MolyArmor 350 Corrosion Inhibitor will treat 200 gallons (757 liters) of system water.

MOLYARMOR 350 MINIMAL TREATMENT AMOUNTS	
Classic Edge 760.1	2-1/2 gallons
Classic Edge 560.1	1-1/2 gallons
Classic Edge 360	1-1/2 gallons

1. Add the recommended amount of MolyArmor 350 Corrosion Inhibitor (or more depending on the water capacity of the heating system) through the vent pipe on the outdoor furnace.

NOTE: Be sure to add enough MolyArmor 350 to obtain at least 350 ppm moly. There are no negative effects from adding more than the recommended amount of MolyArmor 350.

6. Fill Outdoor Furnace with Water and Purge Air

NOTE: If adding antifreeze to the system, refer to Adding Antifreeze to Outdoor Furnace System section for important information.

⚠ CAUTION

If using antifreeze, use only a nontoxic boiler-type antifreeze. It is imperative that the entire system contain at least 30% antifreeze concentration mixed with water that is 6.5 to 8.0 pH. Softened water is recommended, if available. Do not use reverse osmosis or deionized water that has very low pH. Be sure to adhere to all warnings and precautions on the antifreeze label.

NOTE: If the outdoor furnace is being filled with water when the temperature is below freezing, circulate the water immediately after filling to prevent freezing the water lines.

NOTE: The circulation pump(s) must be installed in the hot supply line(s).

NOTE: All air must be purged from the water lines when filling the system. Be sure to purge the air from each pump circuit from the outdoor furnace.

NOTE: All valves in the outdoor furnace system should be opened before starting this procedure.

1. Connect a garden hose to the water source to be used to fill the outdoor furnace. Purge the garden hose of any impurities by running water through it until the water is clear.
2. Connect the hose to the drain valve on the outdoor furnace. Open the drain valve and fill with water to thoroughly mix the MolyArmor 350, which is heavier than water.

7. Immediately Start the Pump(s); then Heat the System Water to 185°F (85°C)

⚠ CAUTION

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.

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

1. Start the pump(s). Refer to Initial Fire Up - Start of Heating Season in the Owner's Manual to start the outdoor furnace. Bring the water temperature up to operating temperature (185°F or 85°C) for two hours with the system circulating; then add water to the full mark. Continue to run the pump and circulate the water for 24 hours. If a multi-speed pump is used, set the pump on high.

NOTE: It is important to bring the water in the system up to operating temperature (i.e., 185°F or 85°C) immediately after filling the system and to circulate for at least 24 hours to kill bacteria. This also applies any time water is added to the system.

⚠ CAUTION

The water in the system may be hot. Use caution and the appropriate personal protective equipment (PPE) when checking for leaks.

2. Check the system for leaks. Inspect all fittings and hose ends for any signs of leakage. Use several dry paper towels and wrap them around and squeeze each fitting, valve and pipe connection. The paper towels will get wet even if there is a very small leak. Immediately repair any leaks to eliminate the need for adding water. If a screw-type clamp has been used, it may be possible to stop a very slow leak at a hose clamp by tightening the clamp after the system has warmed up and the poly becomes more pliable. It might also be necessary to install a second hose clamp with the screw positioned on the opposite side.

NOTE: After a week of operating, use the procedure in step 2 to check the system for leaks again.

NOTE: If water is ever added, it is important to bring the water in the system up to operating temperature (i.e., 185°F or 85°C) immediately. Refer to Water Quality and Maintenance in the Owner's Manual for water testing procedures. If indicated by test results, add MolyArmor 350 as required. Deterioration due to improper operation and/or maintenance is not covered by warranty.

8. Test the Treated System Water

After circulating the heated water in the system for 24 hours, test the treated system water for the recommended moly of at least 350 ppm and pH level between 8.0 and 9.5.

⚠ CAUTION

The water in the sight gauge may be hot. Use caution when obtaining a sample.

1. To obtain a system water sample, bend the sight gauge tube away from the outdoor furnace. Before collecting the sample, open the valve and drain about a quart of water from the sight gauge tube; then carefully fill the sample container without contaminating the sample. **Be sure to properly install the sight gauge tube and close the valve when finished.** The water in the sight gauge valve and tube will drain when the valve is closed.
2. Dip a test strip from the test kit in the water sample for **1 second** and remove. Shake off excess liquid (very important to prevent water bleed from one pad to the other). Compare moly test pad to the color chart within 10 seconds. The moly level must be **350 ppm or more**.
3. Compare pH test pad to the color chart at **30 seconds**. The pH of the treated water should be **between 8.0 and 9.5**. If the pH is higher than 10.0, dilute the water in the furnace by draining approximately 1/4 of the water from the furnace. Add MolyArmor 350 and refill with water that has a pH between 6.5 and 8.0. After refilling, circulate the water with furnace at operating temperature for at least 24 hours and test to confirm the moly is **350 ppm or more and the pH is between 8.0 and 9.5**.

Send in Initial Water Sample

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.

Your owner's packet contains a Water Sample Kit for submitting an initial water test and an informational sheet entitled Submitting Water Samples for Your Titanium Series Outdoor Furnace. Follow the instructions to collect and submit your initial water sample. Additional Water Samples Kits are available from your Central Boiler dealer.

NOTE: Your water sample will be tested and must indicate acceptable levels of water treatment to qualify for the 25 year warranty.

Initial Water Sample

You are required to submit an initial water sample within 30 days of purchase of your outdoor furnace.

Deferred Installation

If your outdoor furnace is not being installed within 30 days of purchase, you must email service@centralboiler.com with your name and your furnace serial number. When the furnace installation is complete, send the water sample **within 10 days of the initial fill.**

Check Status of Water Sample

If you have provided an email address, you will receive an email with the results of your water test.

If you did not provide an email address, you will be notified by mail **ONLY** if your water sample test is **NOT ACCEPTABLE**. If your water sample test is acceptable, you will **NOT** be notified with a mailed letter. You can however check the status of your water test online.

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. For a deferred installation, your status will be available approximately 10 days after you email the deferred installation message.

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

System Maintenance

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 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. No warranty claim can be approved unless the outdoor furnace registration and the acceptable levels of water treatment are on file at Central Boiler.

Test the pH and moly levels after the first three months and every six months thereafter, and after adding water to furnace.

NOTE: If using antifreeze, test the pH and Moly levels once each month. If the bacterial issues occur, the pH will decrease.

Water Test Kits and Test Results

DATE	pH LEVEL	MOLY LEVEL

Record the results of pH and Moly 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 (including the date, pH and Moly level). The pH and Moly test strips and indicator have a shelf life of approximately two years 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.

Biological contamination can occur if the furnace is not heated up to 185°F immediately after filling it with inhibitor and water as directed.

NOTE: It should not be necessary to add water to the outdoor furnace more frequently than once every twelve months. If it is more frequent, either there is a leak in the system or the outdoor furnace is boiling because of improper operation or maintenance (see Troubleshooting Section in the Owner's Manual). Be sure to locate and repair the problem immediately. Frequently adding water can cause deterioration in the water jacket. 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 may increase the potential for corrosion in the system.

If the test indicates a significantly lower-than-recommended pH level (below 8.0), add MolyArmor to increase the pH level.

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.

Draining Treated System Water

MolyArmor 350 is composed of common materials. Molybdenum compounds characterized as nontoxic in US Public Health Bulletin 293, by the Federal Hazardous Substances Labeling Act, and by the Occupational Safety and Health Act. However, in keeping with good safety and environmental practices, dispose furnace water in accordance with federal, state and local regulation. Unless regulation prohibits, you may drain the outdoor furnace to a home 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.

Flushing the System

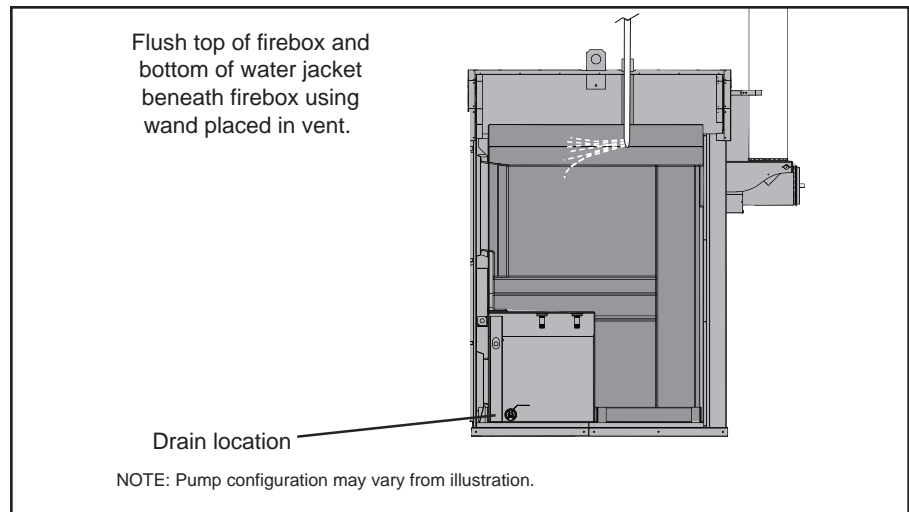
If the system water is brown or orange, it is an indication that the corrosion inhibitor level has not been maintained correctly and corrosion is present in the water jacket. Sludge Conditioner (p/n 166) can be used by circulating the recommended amount through the furnace **for one week** to help clean some of the corrosion from inside the water jacket before flushing, draining and refilling with water and the correct amount of MolyArmor 350.

NOTE: Use one unit of Sludge Conditioner per 200 gallons of system water.

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 recommended amount of MolyArmor 350.
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 24 hours with the system circulating to thoroughly mix the MolyArmor 350.

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, which may increase the potential for corrosion in the system.

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

Adding Antifreeze to Outdoor Furnace System

If using other antifreeze, use **ONLY** uninhibited, undyed, “raw” propylene glycol industrial grade with softened water and add the correct amount of MolyArmor 350 to achieve 350 ppm moly and 8.0 to 9.5 pH levels. Some distributors call this type of antifreeze PGI (shorthand for Propylene Glycol Industrial grade).

Most outdoor furnaces are installed **without** antifreeze when an existing heating system is in place and there is no anticipation of leaving the outdoor furnace unattended for extended periods of time (10 days or more). If the building being heated has an alternate heat source, system water may be kept from freezing by running the circulating pump(s) and drawing heat from the existing furnace or boiler in the home or building.

To prevent freezing if the outdoor furnace is not fired for extended time periods or if lengthy power outages are anticipated during cold weather, a nontoxic propylene glycol may be used in the system. Some types of antifreeze that contain various inhibitors have been known to create problems like coagulation and jelling. To prevent potential problems, **do not use propylene glycol that is premixed with inhibitors**. MolyArmor 350 is compatible with (raw) propylene glycol. It is important to use MolyArmor 350 with straight propylene glycol for corrosion protection. If adding antifreeze to the system, it is imperative that the entire system contain **at least 30% antifreeze concentration mixed with water that is 6.5 to 8.0 pH**. Softened water is recommended, if available. **Do not use reverse osmosis or deionized water that has very low pH**. Bacterial growth is likely to occur with low antifreeze concentrations and can cause corrosion in the furnace water jacket and/or clogging of heat exchangers. To confirm the antifreeze solution is adequate and to kill bacteria, immediately heat the system up to 185° F, allow the pumps to circulate for at least 24 hours and then obtain a sample of the system water. Using an antifreeze tester, the solution must be protected to 10°F (-12°C) or below.

NOTE: If using antifreeze, test the pH and Moly levels once each month. If the bacterial issues occur, the pH will decrease.

NOTE: Be sure to adhere to all warnings and precautions on the antifreeze label.

NOTE: Do not use automotive or RV types of antifreeze.

Wood Selection and Preparation

Before You Start Operating Your Classic Edge Outdoor Wood Furnace

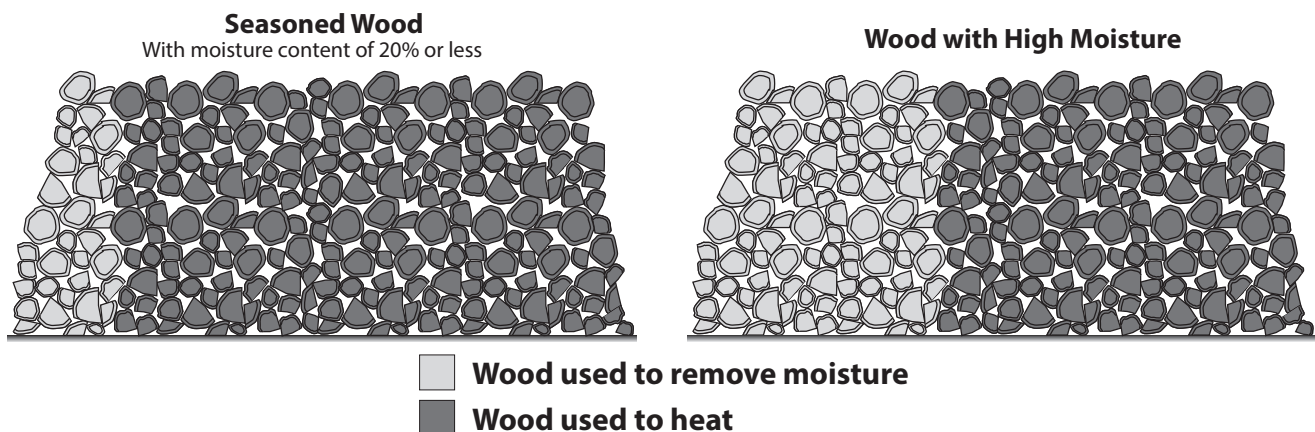
Be sure to read carefully and observe all of the information in the entire Owner's Manual.

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.

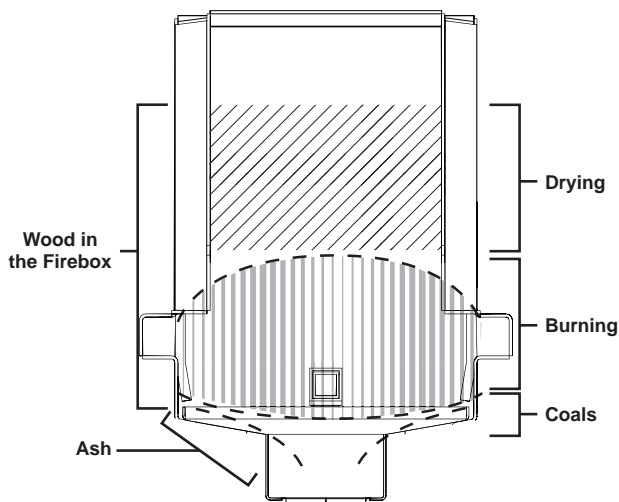
How the Classic Edge Works

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).

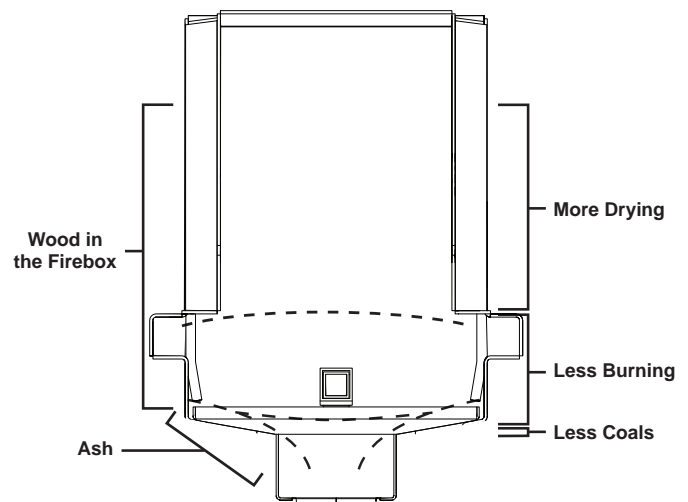
1. The combustion air fan pressurizes the airbox located at the front of the outdoor furnace. Primary air flow, regulated by an actuator motor, flows into the firebox through combustion air inlets located on the front and sides near the bottom. Secondary air is regulated by a second actuator motor that 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

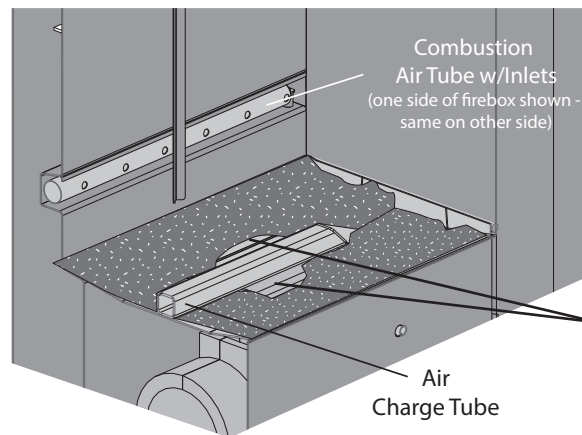
Operating with Wood with Too Much Moisture



- 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.

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

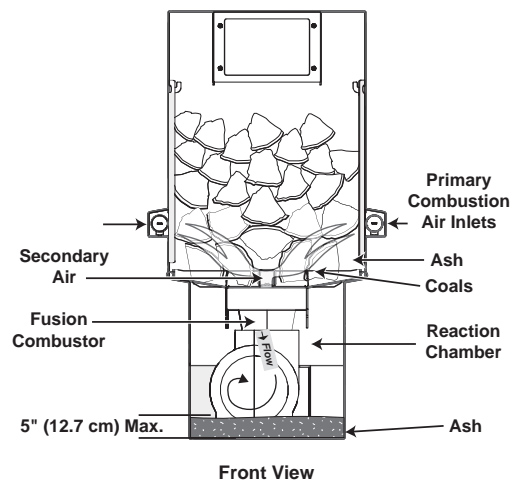


Keep the combustion air tube inlets open and clear of ash and coals to allow the furnace to operate properly.

Keep the area on BOTH sides of the air charge tube open

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.

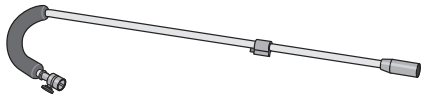
CORRECT (Proper Flow)



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.



Outdoor Torch

The optional Outdoor Torch (p/n 2900325) is an excellent tool for starting a fire. Attaches quickly to an external propane tank and can be directed at the bottom of a wood pile for quicker, easier combustion.



Watch the Classic Edge HDX
Initial Start Up Video

Initial Fire Up - Start of Heating Season

NOTE: These procedures apply to initial firing at the start of the heating season.

⚠ CAUTION

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


NOTE: Before firing the outdoor furnace for the first time, make sure the proper amount of MolyArmor 350 has been added and the water level is 1" below the full mark on the sight gauge, as the water will expand when heated.

Two options are provided for a clean, easy startup. Using lump charcoal is the easiest and fastest method. Be sure the wood (including the kindling) is dry for the best results.

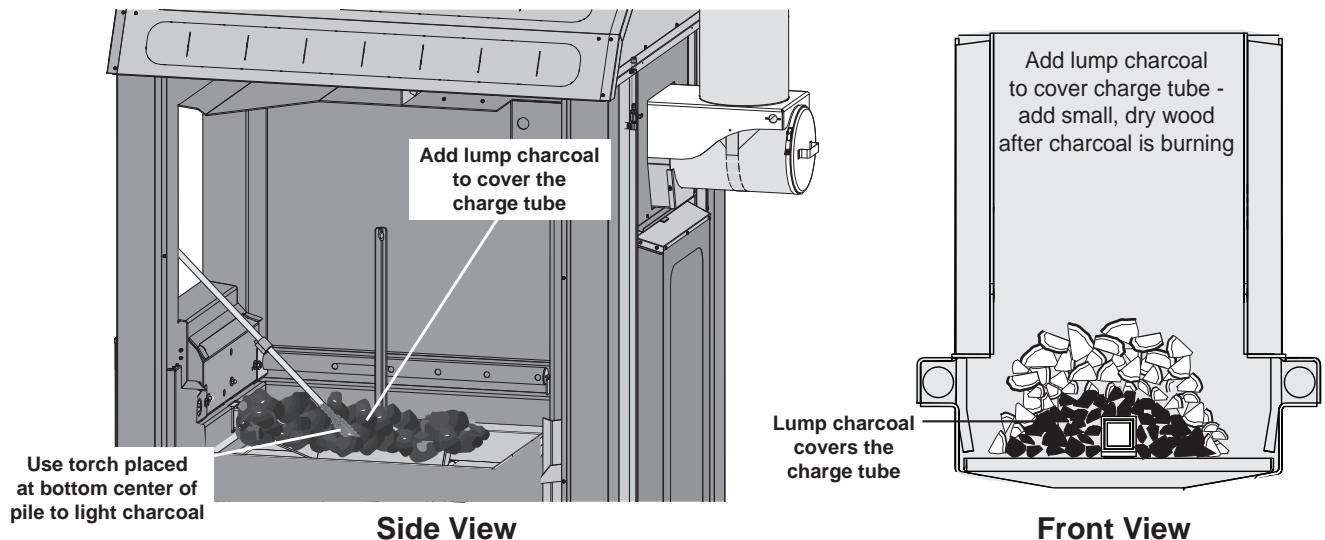
NOTE: During startup, the Reaction Chamber percentage will increase as the combustion process ramps up. Optimum burn occurs when the Reaction Chamber percentage is maintained between 70% and 100%. The drier the wood that is used during startup, the faster these percentages can be reached.

Startup Option A - Lump Charcoal

NOTE: Keep the bypass door closed for this procedure.

1. Disconnect the heat load draw by turning off the pump(s).
2. Open the firebox door and add 10 pounds of lump charcoal to cover the charge tube.
3. Turn the controller on by pressing the **Power**  button; then press the Ignition Air button to turn on the primary combustion air for the initial fire up process when the firebox door is open.

Initial Fire Up with Lump Charcoal



4. Ignite the lump charcoal making sure that the charcoal on both sides of the charge tube is burning.
5. Add small pieces of dry wood to a level just above the primary air tubes on the sides of the firebox.
6. Close and latch the firebox 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.

7. Allow the wood load to burn until the water temperature reaches 175°F (79°C). Turn on the pump(s) and let run for 24 hours to circulate the system water. If this is the initial startup of the furnace, at this point a proper water sample can be taken.

⚠ WARNING

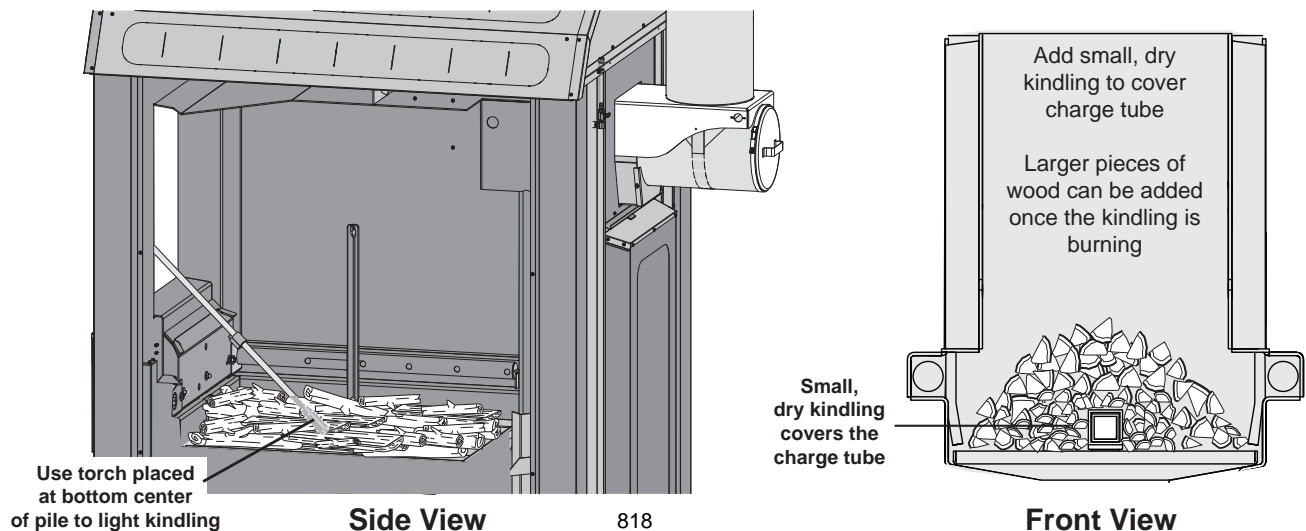
When opening the firebox door, the door switch will shut off the primary air actuator motor while the firebox door is open. Do NOT disable the door switch.


Startup Option B - Dry Kindling

NOTE: Keep the bypass door closed for this procedure.

1. Disconnect the heat load draw by turning off the pump(s).
2. Open the firebox door and add small, dry kindling to cover the charge tube. Smaller kindling is preferred. It should be staggered and able to ignite and burn quickly for the initial fire. The intent is to make sure the combustion air will be able to flow past the charge tube and into the Reaction Chamber.

Initial Fire Up with Dry Kindling



3. Turn the controller on by pressing the **Power**  button; then press the Ignition Air button to turn on the primary combustion air for the initial fire up process when the firebox door is open.
4. Ignite the bottom side of the kindling. Make sure the wood on both sides of the charge tube is burning. Once the kindling is burning, add larger pieces of dry wood to just above the primary air tubes.

NOTE: Add enough wood to bring the water temperature up to 175°F (79°C).

5. Close and latch the firebox 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.

6. Allow the wood load to burn until the water temperature reaches 175°F (79°C). Turn on the pump(s) and let run for 24 hours to circulate the system water. If this is the initial startup of the furnace, at this point a proper water sample can be taken.

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.

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

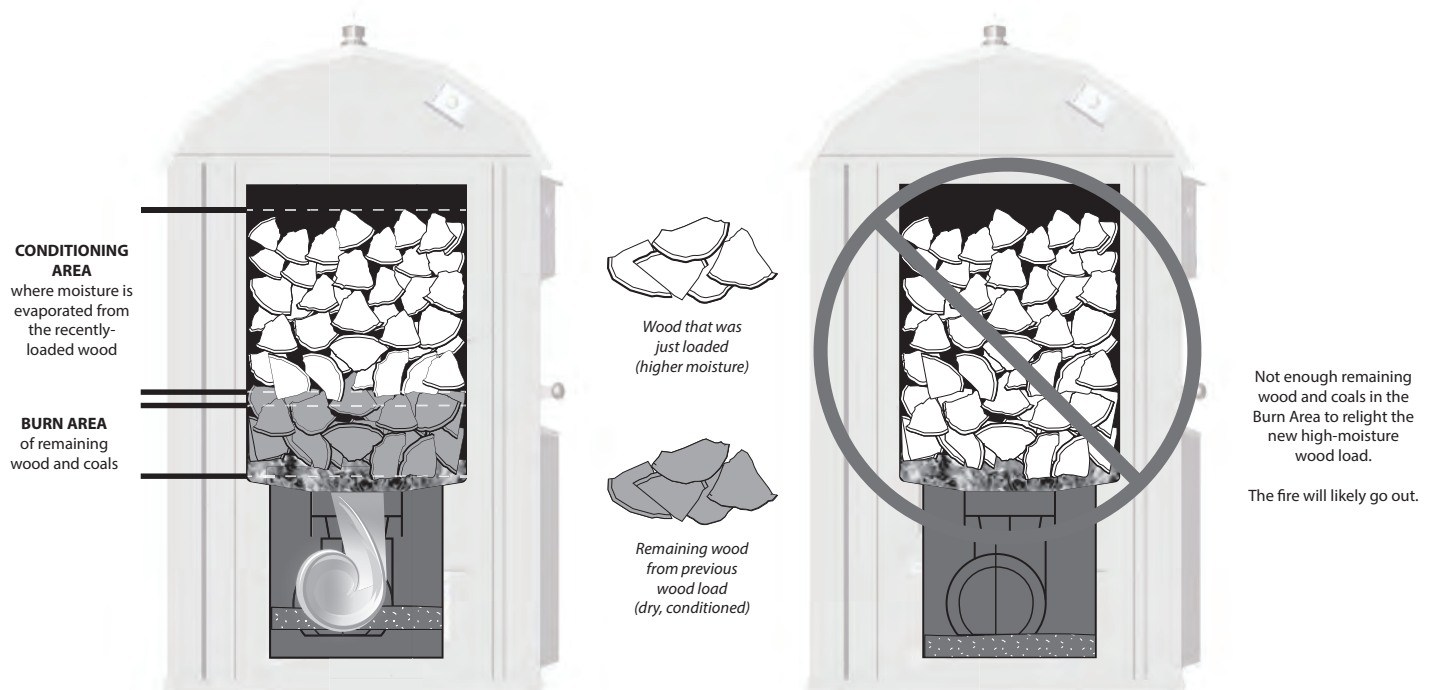
1. Classic Edge 760.1/560.1 only - slowly lift and push the bypass door handle toward the back of the outdoor furnace to open the bypass door; then wait for 15 seconds.

NOTE: The alarm is a reminder that the bypass door is open. During initial 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.

How to Load Wood for Best Operation

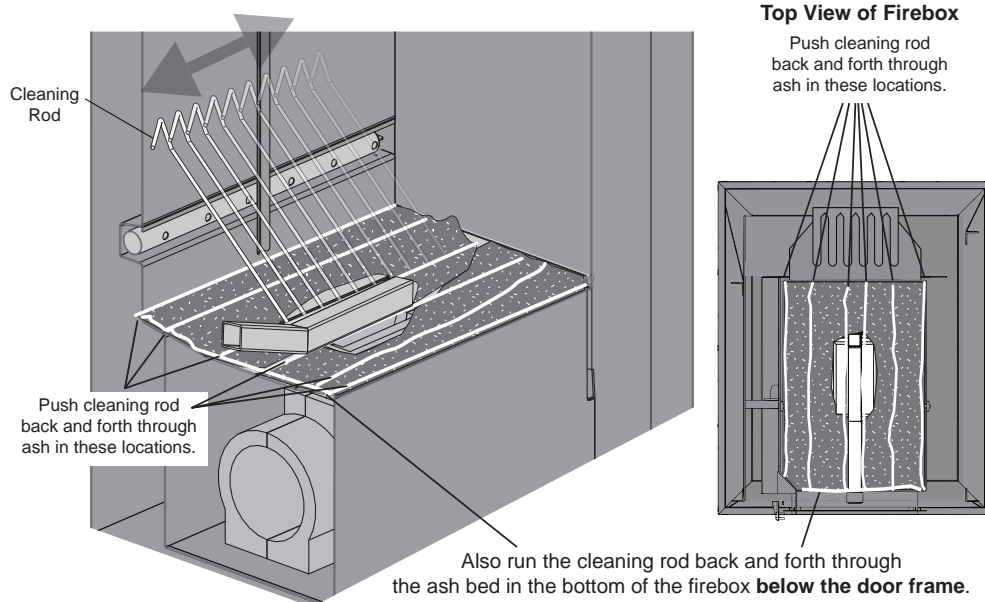


Follow these steps for trouble-free operation:

1. Make sure there is enough wood and coals left to relight the new wood load. Use the Reserve Mode function to ensure an adequate amount of wood and coals is available to start the new wood load.
2. Use the cleaning rod as directed to ensure airflow is free and unobstructed. EVERY time you add wood, run the cleaning rod back and forth through the ash/coal bed, along the air charge tube and beneath the firebox door.
3. Fill the firebox completely with wood.



Watch the Furnace Operation Video, an excellent resource showing how easy the furnace is to maintain. **NOTE:** You'll need to enter your serial number to view.



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.



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 sideways on each side of the air charge tube 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 inlets 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 inlets 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.**
- Pay extra attention to clearing the **front corners** and **below the door**.
- 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. When the firebox is filled completely each loading, the FireStar's default Reserve Mode will help "reserve" a portion of the previous wood load for a quicker, more efficient fire up after reloading.

- 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 Initial Fire Up - Start of Heating Season.
- 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.

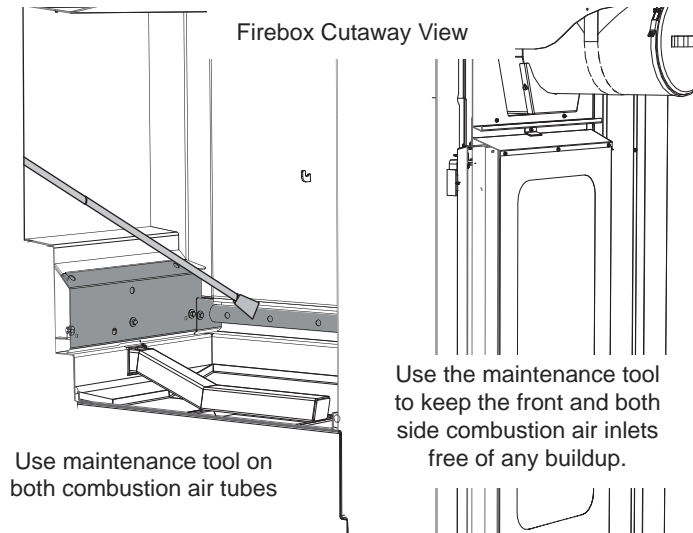
NOTE: If the furnace has been operated without adequate airflow and efficient combustion, it may be necessary to inspect and clean the primary combustion air inlets, air channels, primary air elbow, heat exchanger, and Reaction Chamber.

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 inlets, and the combustion inlets on both air tubes free of any buildup.



9. When loading, load the wood so that the combustion air inlets 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. Classic Edge 760.1/560.1 only - 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.

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.

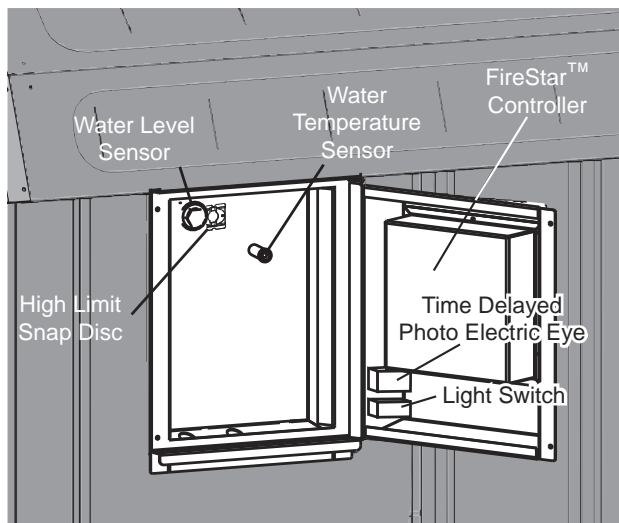
OPERATION	SERVICE INTERVAL							See Section Number
	Before first operation of season	Daily	Weekly	Monthly	Semi-Annually	Post Season	Other	
Check water level.	●	●						1
Remove ash.			C			●		3
Scrape firebox door frame; use cleaning rod in ash.		A				●		8
Inspect firebox door seal.		A				●		4
Inspect 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.	●		C			●		7
Inspect secondary air tube and refractory.						●		11
Inspect firebox and firebox ash area.	●	A				●		8
Inspect and clean combustion air inlets.	●		C			●	B	9
Inspect and clean the combustion fan and inlet screen.					D			10
Oil the combustion fan.						●		10
Check pH and moly levels of water.	●				D	●	E	
Inspect primary and secondary combustion air elbows.						G		12
Grease bypass door handle (760/560 only).				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.

Maintenance Schedule

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.

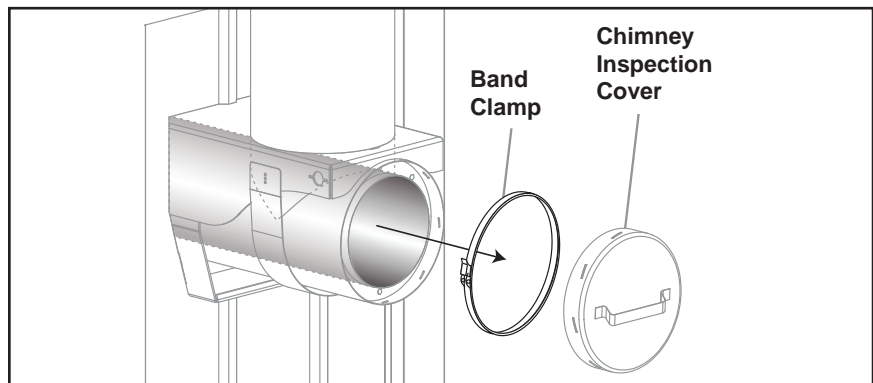
Section 4 - Firebox Door Seal and Bushings

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.

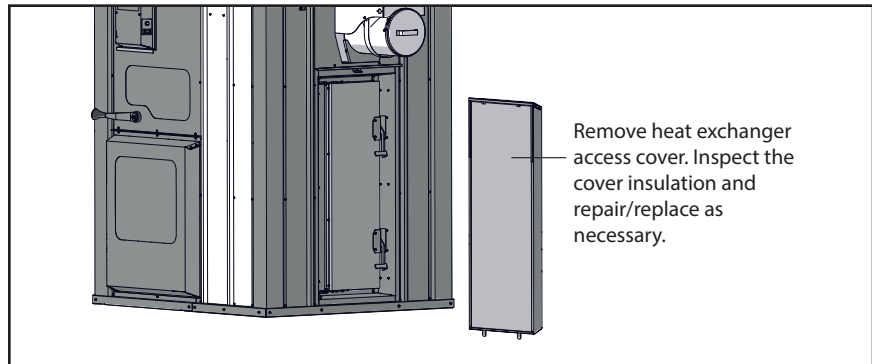
1. Press the **Power**  button on the FireStar combustion controller to turn it off.

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.

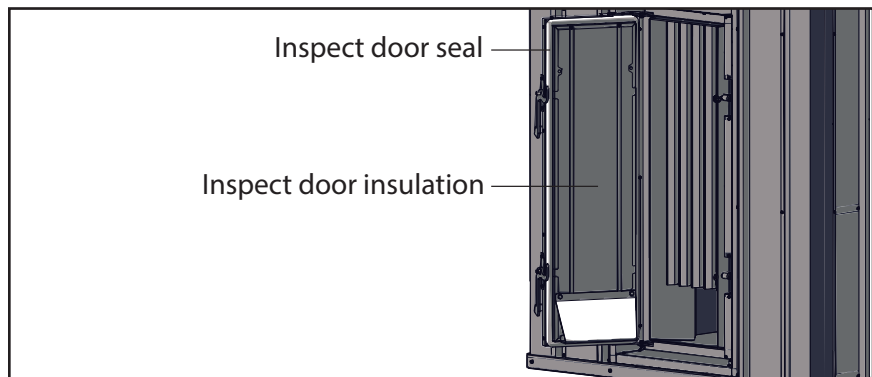
3. Remove the heat exchanger access cover from the back of the furnace. Inspect the cover insulation and repair/replace as necessary.



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.

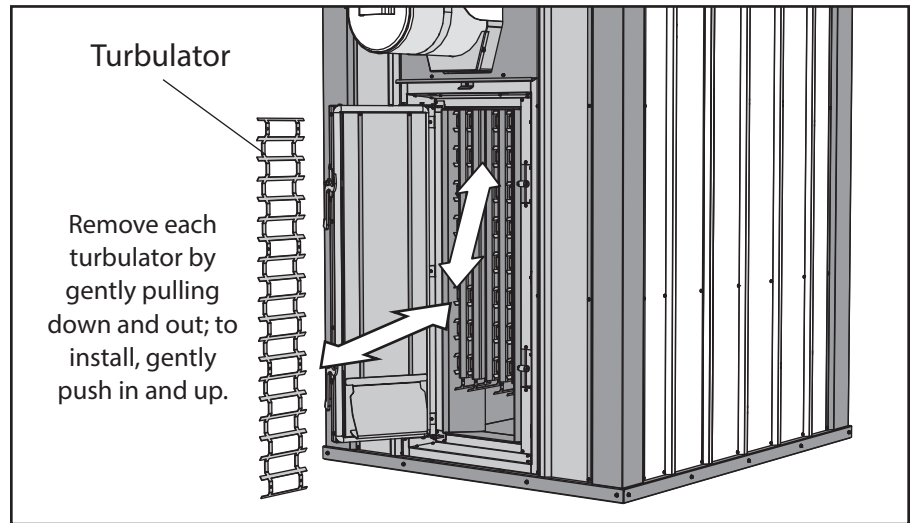


5. Inspect the door insulation and door seal. Repair/replace any defective seal or insulation.
6. Inspect the door frame edge for any buildup of creosote or ash. Use the maintenance tool to clean the door edges.

⚠ 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.

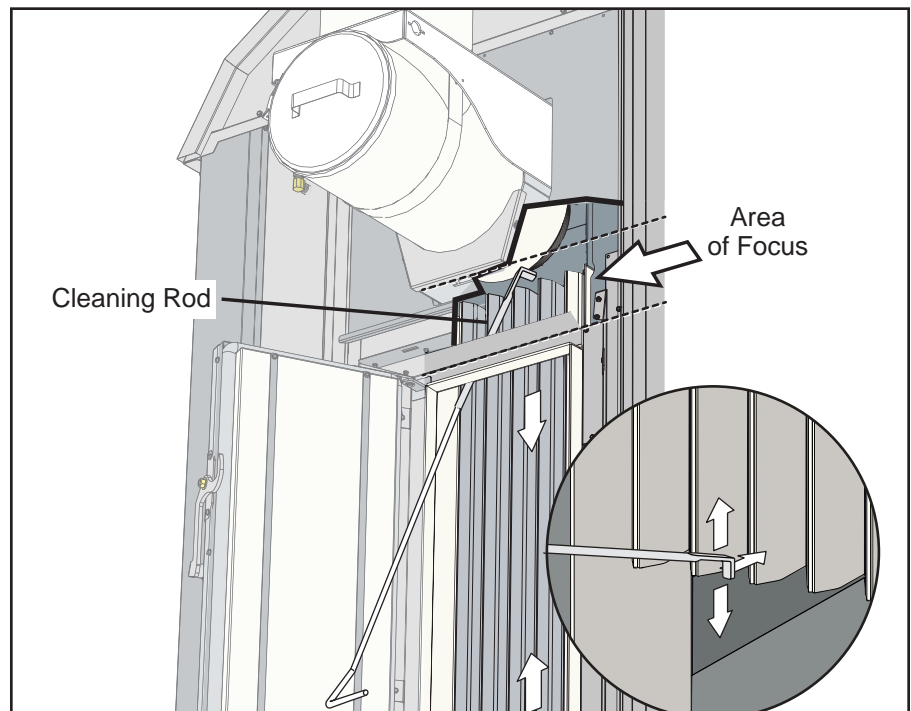



8. Inspect the heat exchangers for excessive buildup of creosote or ash. Use the scraping end of the maintenance tool to clean any accumulations from the sides of the heat exchanger sections. Angle the cleaning rod up to clean from the top of the exchangers and then down to the bottom between each folder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

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



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).



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.

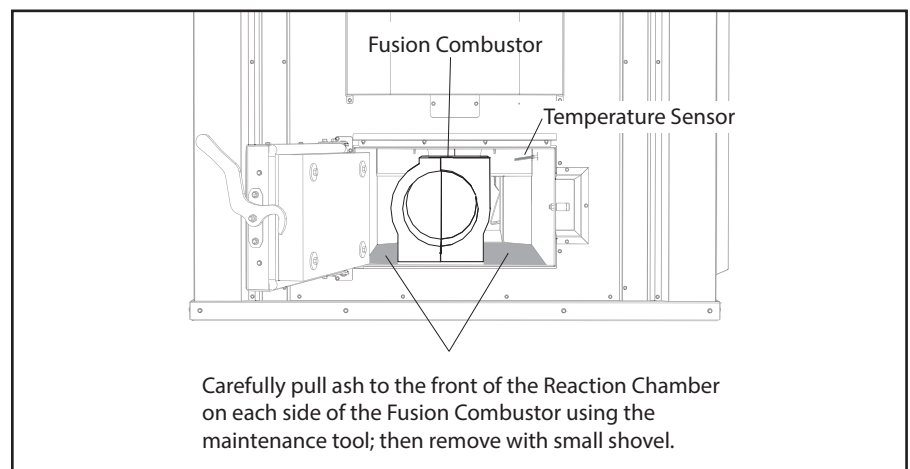
Section 7 - Reaction Chamber

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.

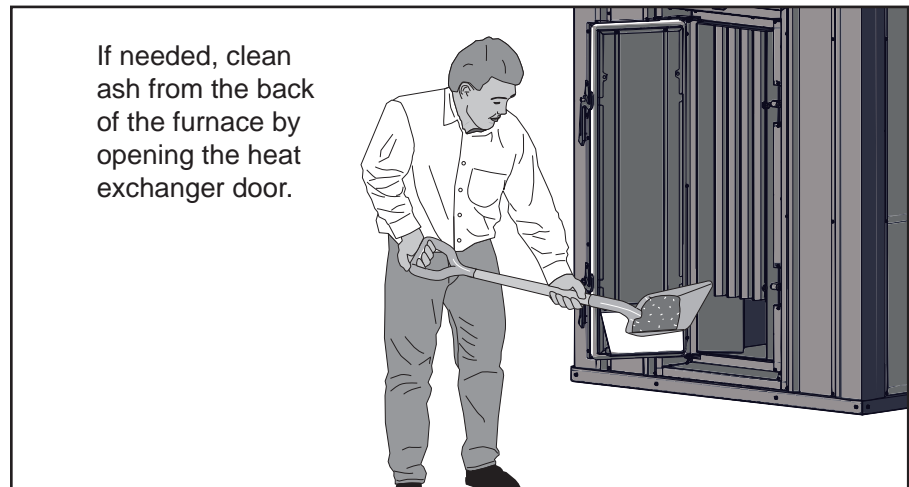
2. Unlatch and open the Reaction Chamber door.
3. Use the maintenance tool to pull the ash to the front of the furnace. Take care when pulling ash from each side of the Fusion Combustor not to move the refractory sections.
4. Use a small shovel to remove all of the ash and deposits from the Reaction 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.




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.



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 inlets 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.

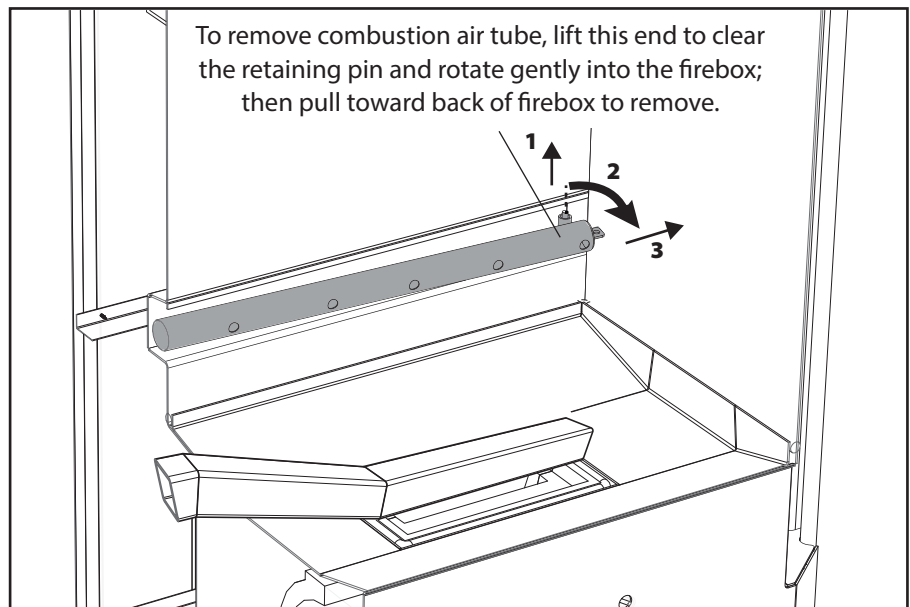
Section 9 - Combustion Air Tubes

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 inlets 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.



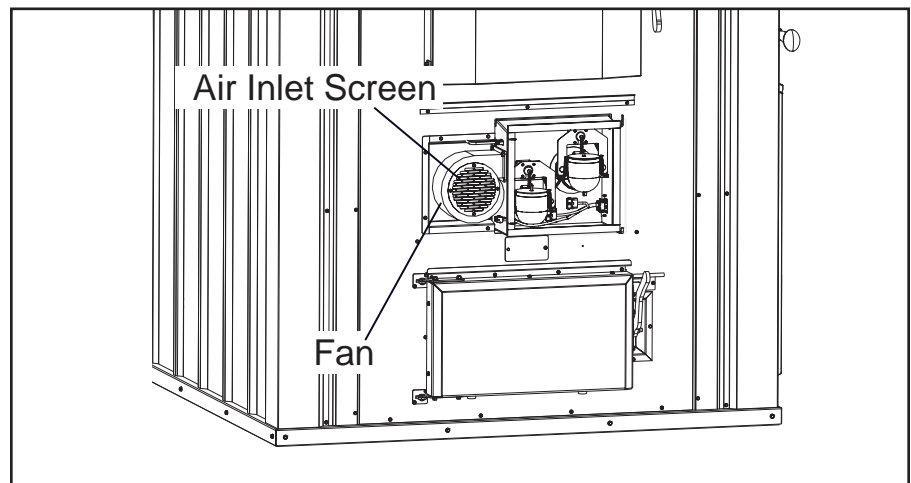
Section 10 - Combustion Air Fan

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.



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

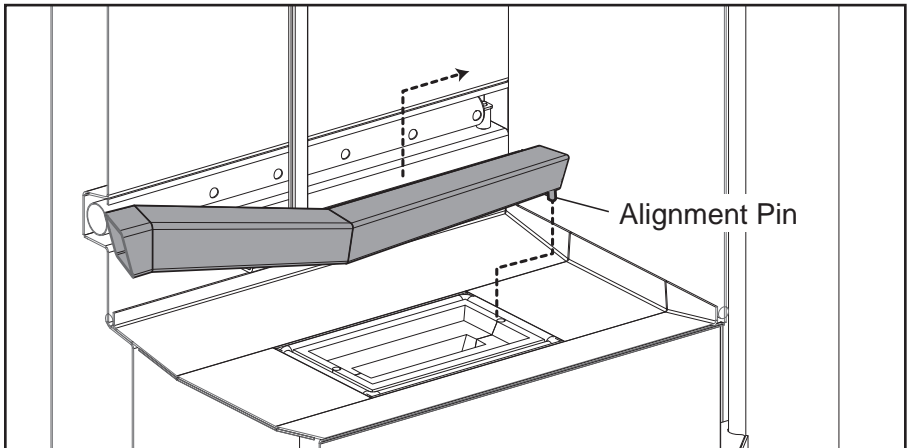
⚠ DANGER

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

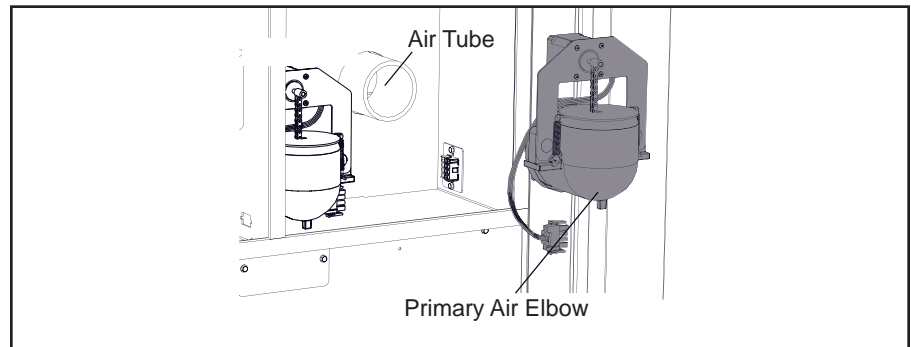
1. Disconnect the electrical power to the outdoor furnace at the main power source.

⚠ 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.

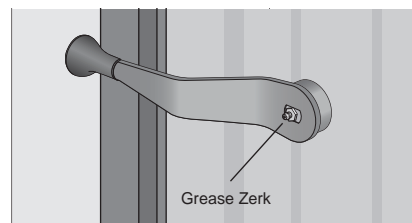
⚠ DANGER

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 (if applicable)

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

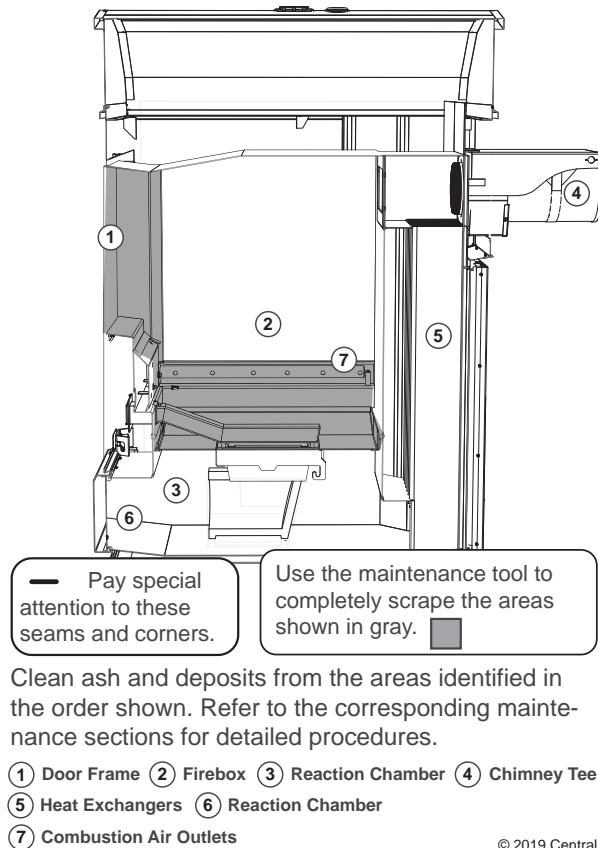
Be careful not to spill any coals or ash. Place coals and ash in a metal container with a tight-fitting metal lid.

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.



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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.

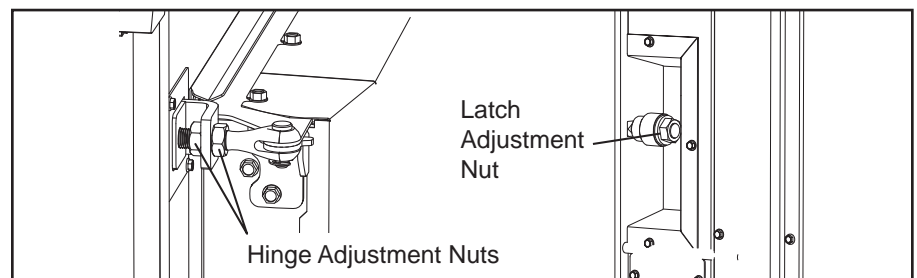
NOTE: If any of these items are under warranty, remember that the warranty covers only the cost of the replacement part. Labor is not covered.

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 outer adjustment nut and turn the inner nut counter-clockwise; then tighten the outer 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

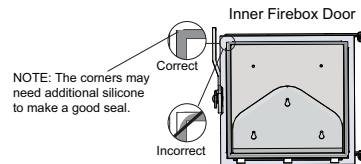
Remove all wood, coals and ash from the firebox.

1. Disconnect power to the outdoor furnace.

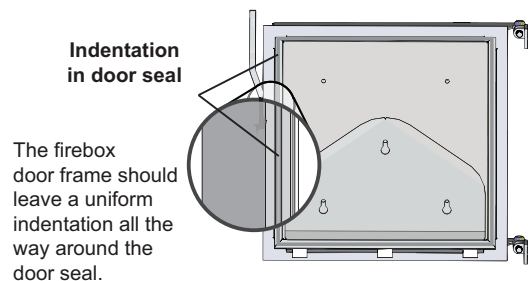
⚠ WARNING

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 door 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 door 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:

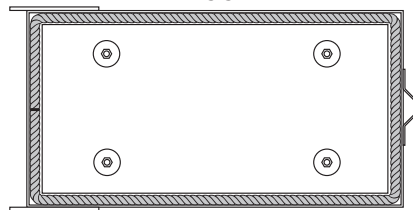
1. Disconnect power to the furnace.
2. Unlatch and open the Reaction Chamber door.
3. Use the maintenance tool to pull the ash to the front of the furnace; then use a small shovel to remove all of the ash and deposits from the Reaction Chamber. Take care not to damage the temperature sensor.

⚠ WARNING

Remove all ash from the Reaction Chamber.

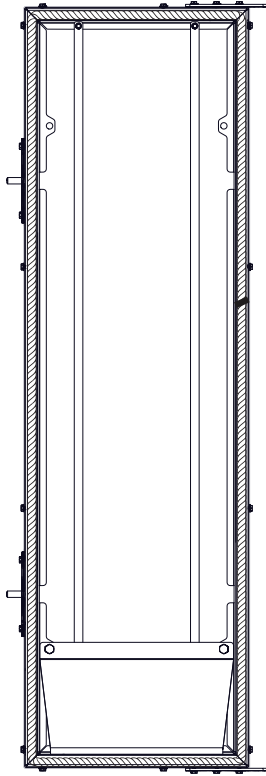
4. Using a scraper, remove the Reaction Chamber door seal rope and clean any remaining silicone adhesive from the groove. Any residue left in the groove will interfere with the new seal.
5. Apply a liberal amount of silicone sealant into the entire Reaction Chamber door seal groove.
6. Starting at the 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.

**Reaction Chamber
Door**




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 Rope



HEAT EXCHANGER DOOR SEAL

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.

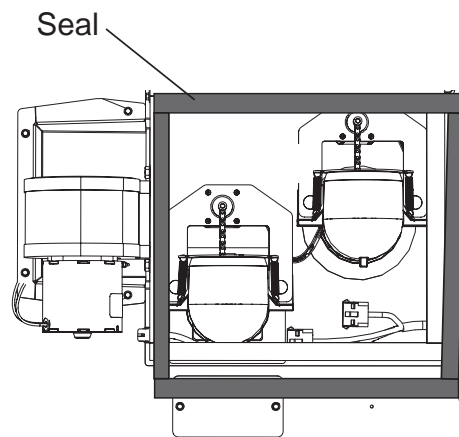
NOTE: It is best to replace the entire seal. Over time, the seal will compress, and replacing it in sections may result in the old sections not sealing completely against the airbox door.

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.

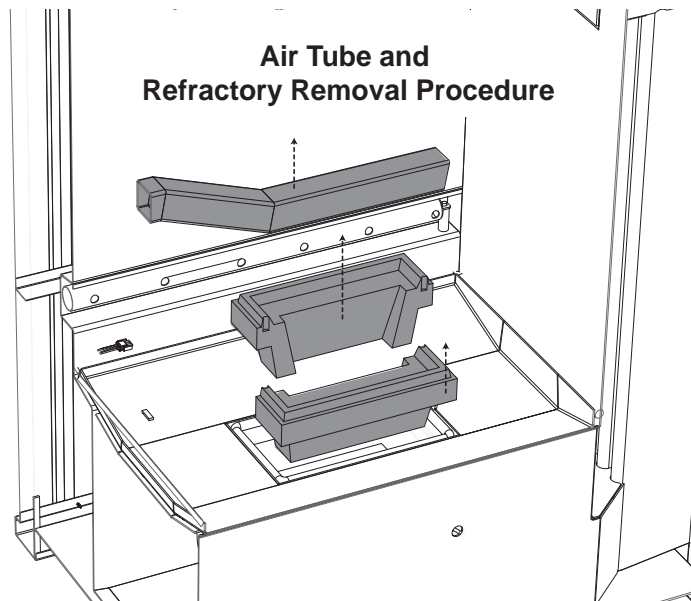


5. Remove the adhesive backing from the replacement seal and carefully apply the seal to the airbox as shown, making sure there are no gaps.
6. Close the airbox door and turn the furnace back on.
7. After the fan has started, use your hand to feel around the edges of the airbox door to check for leaks. 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.

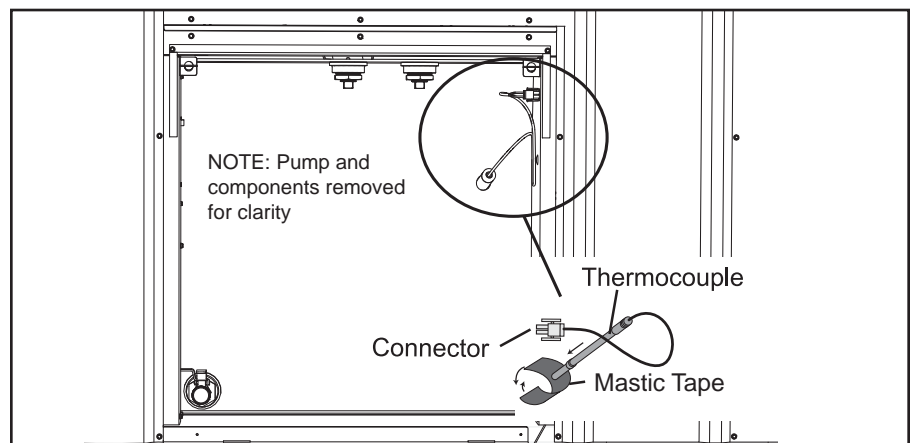
THERMOCOUPLE

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.

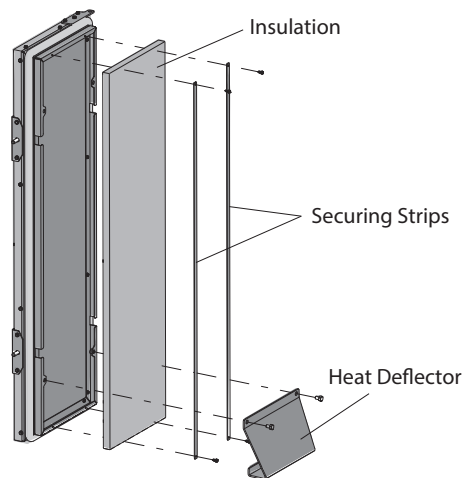
WARNING

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 to 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.

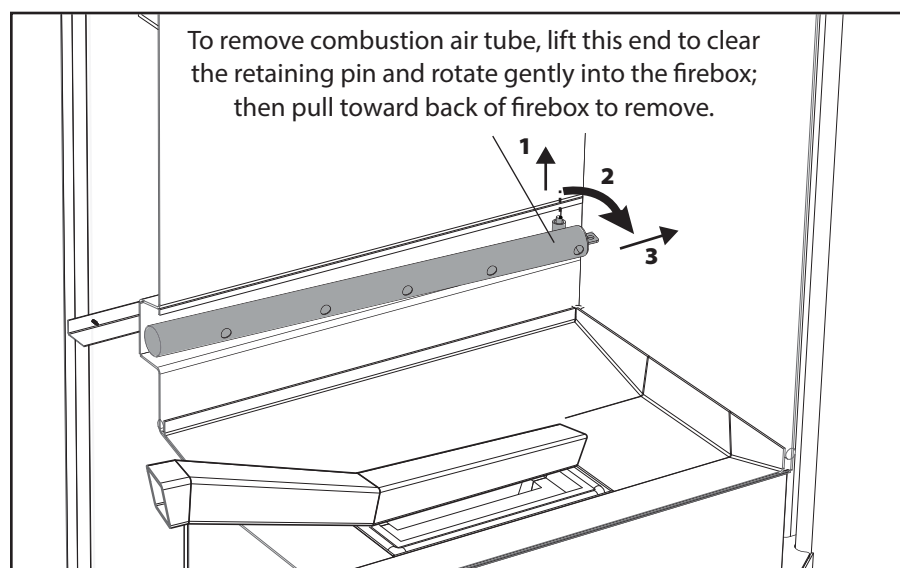
WARNING

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

Combustion Air Tube

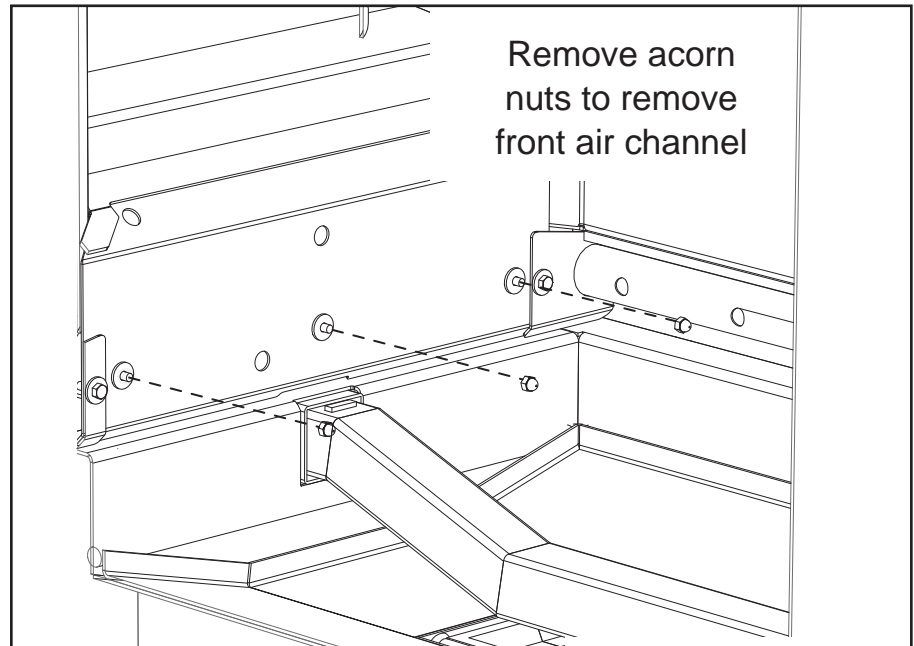
1. Lift the end of the tube closest to the back of the firebox up off of the retaining pin, then in and toward the back of the firebox. Install by reversing this procedure.

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.

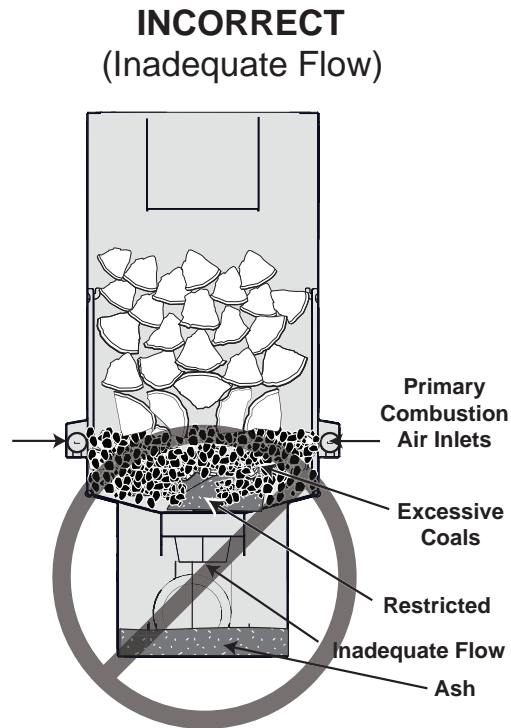


2. Install the new air channel. Apply a high-temperature, anti-seize compound to the stud threads; then secure with the acorn nuts and tighten securely.

TROUBLESHOOTING

GENERAL TROUBLESHOOTING INFORMATION

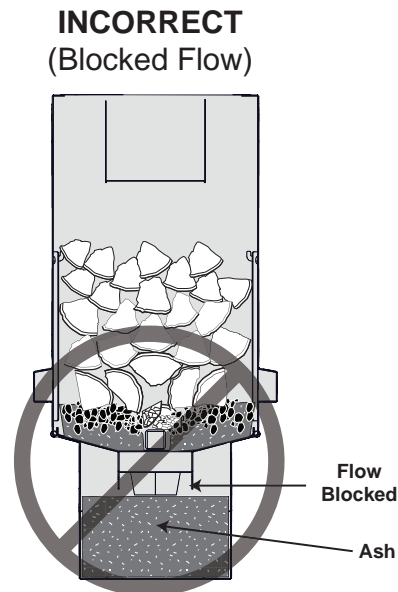
If the outdoor furnace is not operating the way it should, first review the information found in the Operation Instructions section, particularly the Adding Wood section.



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 inlets plugged?

Primary combustion air is provided through the combustion air inlets in the firebox. If the air inlets are restricted or plugged, the furnace will not operate correctly. If it appears the combustion air inlets 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 inlet, 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 inlets are covered - If the level of coals and ash in the firebox is allowed to accumulate over the combustion air inlets, normal air flow can be blocked and could force coals and ash back into the airbox. Remove enough ash so the combustion air inlets 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 inlets obstructed** - Clean as required to prevent the combustion air inlets 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.

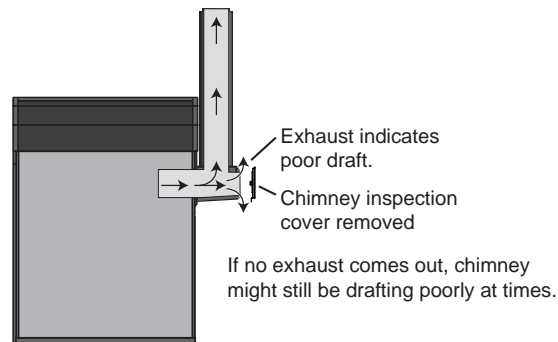
Proper draft is necessary for the Classic Edge to operate optimally. Too much draft may cause excessive temperatures in the appliance. Inadequate draft may cause backpuffing and plugging of the chimney.

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.

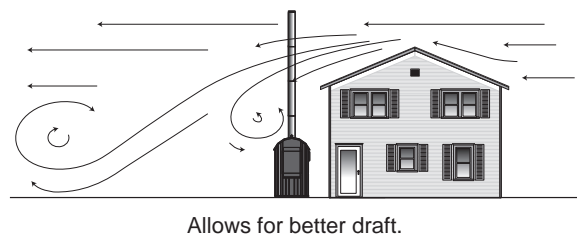
NOTE: A qualified installer may perform the following test to check for proper draft. Before performing the test, the outdoor furnace should be completely cleaned to ensure nothing obstructs exhaust flow through the system. Fire the furnace and allow it to reach normal operating temperature before performing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

Perform test with bypass closed at normal operating temperature.



- 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.

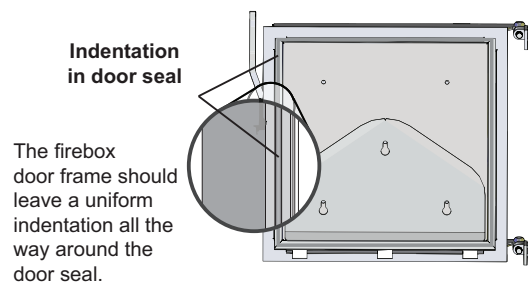
1. **Circulation valve(s) closed** - Be sure the proper valves in the system are open to allow circulation.
2. **Circuit breaker off** - If there is a circuit breaker that supplies power to the outdoor furnace, check that it is on.
3. **Circuit breaker off** - Check that the circuit breaker switch (located 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 10° 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.

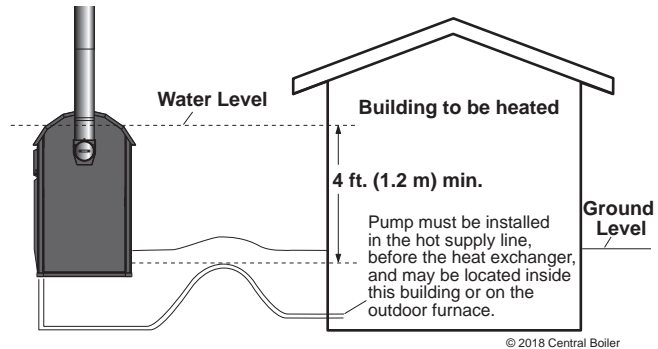
2. **Actuator motor and/or air regulating disc stuck open or obstructed** - Remove any obstructions. Lubricate the chain with a high temperature dry film lubricant rated for chains. Be careful not to get lubricant on the actuator motor or motor shaft.

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 MolyArmor 350 to the proper level. In addition, the amount of dissolved solids in the system (due to adding additional water) can cause problems.

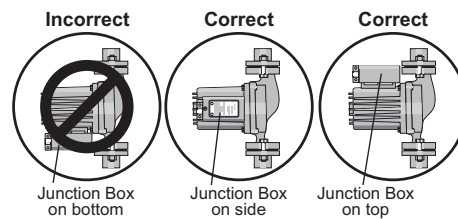
3. **Water is not circulating** - Check to make sure the pump is operating and water is circulating continuously through the supply and return lines to keep water temperature uniform in the outdoor furnace.
4. **Circulation valve(s) closed** - Be sure the proper valves in the system are open to allow 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 MolyArmor 350 Corrosion Inhibitor (p/n 2900630) 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.

CAUTION



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

ATTENTION



Prenez soin de ne pas endommager le capteur de température lorsque vous enlevez les cendres.

NOTICE

During a cold start, a considerable amount of moisture from condensation will collect inside the firebox and Reaction Chamber. This is normal and the moisture will evaporate when the outdoor furnace reaches operating temperature.

REMARQUE

Lors d'un démarrage à froid, une importante quantité d'humidité de condensation s'accumule à l'intérieur du foyer et de la chambre de réaction. Ce phénomène est normal et l'humidité s'évaporera lorsque la chaudière extérieure aura atteint sa température de service.

NOTICE

For use with aluminum or copper conductors.

REMARQUE

Pour utilisation avec des conducteurs en aluminium ou en cuivre.

NOTICE

Check door seal, chimney and vent cap. Remove ashes and clean the firebox. Inspect and clean the heat exchanger and Reaction Chamber.

WARNING

AVOID DAMAGE!

BEFORE operating this appliance read manual and watch videos for proper operation and maintenance procedures. Damage or decreased life expectancy of appliance could result if appliance is not properly operated or maintained.


WARNING

Risk of fire. Do not store fuel or other combustible materials within marked clearances to combustibles. Do not cover supply and return lines with combustible materials.

AVERTISSEMENT

Risque d'incendie. Ne stockez pas de carburant ou autres matériaux combustibles à l'intérieur du périmètre de sécurité indiqué. Ne recouvrez pas les conduites d'alimentation et de retour avec des matériaux combustibles.

NOTICE



Inspect seals for any damage or gaps. Pay close attention to corners and any location where one seal meets another, as a good seal is crucial for proper furnace operation. Refer to the Owner's Manual for instructions on how to replace a defective seal.

WARNING

Risk of fire. Do not open the Reaction Chamber door when appliance is in operation. Do not leave Reaction Chamber door open unattended.

WARNING

Turn off Furnace Power Disconnect before opening this panel. Furnace Power Disconnect located on side of furnace under the pump panel. Do not operate furnace with this panel removed.

AVERTISSEMENT

Avant d'ouvrir ce panneau, arrêtez le commutateur de coupure électrique de la chaudière. Ce commutateur est situé sur le côté de la chaudière sous le panneau de la pompe. Ne pas faire fonctionner la chaudière à bois enterrée avec ce panneau retiré.

CAUTION

Failure to perform proper care and maintenance will reduce the life and performance of your furnace. For best results, always follow these guidelines:

ATTENTION!

The Owner's Manual is located behind the airbox cover. Remove and read it before operating furnace. If you have any questions, contact your dealer.

NOTICE

Inspect and clean the heat exchanger monthly or as needed. READ OWNER'S MANUAL FOR COMPLETE INSTRUCTIONS.

MAINTENANCE SCHEDULE

DAILY
Check water level. Remove ashes as needed.

MONTHLY
Check door seal, chimney and vent cap. Remove ashes and clean the firebox. Inspect and clean the heat exchanger and Reaction Chamber.

SEMIANNUALLY
Completely remove ashes from the firebox. Inspect and scrape the firebox. Inspect and clean the heat exchanger and Reaction Chamber. This inspection should also be performed after the first and third months of operation. Use a wire brush and small scraper to clean firebox, side walls, back wall and ash pan.

NOTICE

Use the tools provided to completely scrape the face of the firebox door frame where the door seal contacts.

NOTICE

Keep the combustion air inlet and exhaust pathway open and clear of ash to allow the furnace to operate properly.

NOTICE

NE désactivez PAS l'interrupteur de porte car il sert de fonction de sécurité et de réinitialisation.

CAUTION

DO NOT start fire until water level is full.
Keep face away from door area.
Hot surfaces.
Keep children away.
DO NOT touch during operation.
DO NOT burn treated wood, plastic or rubber in the furnace.
Maximum draft marked on the manometer.
ALWAYS comply with all applicable codes and regulations.
ALWAYS take care when adding wood to the furnace to prevent hot coals from spilling out.
ALWAYS store ashes in a covered non-combustible container.

CAUTION

NE démarrez PAS le feu avant de faire le plein d'eau. Éloignez votre visage de la porte.
Surfaces brûlantes.
Éloignez les enfants.
Ne touchez PAS pendant l'utilisation.
Ne brûlez PAS de bois traité, de plastique ou de caoutchouc dans la chaudière.
Ne laissez PAS de braises s'accumuler au fond de la chaudière.
Respectez TOUJOURS l'ensemble des législations et réglementations applicables.
Procédez TOUJOURS avec précaution lorsque vous ajoutez du bois dans la chaudière pour éviter de faire tomber des braises à rediffoiler.
Stockez TOUJOURS les cendres dans un récipient non combustible et couvert.

DO NOT BURN GARBAGE




Burning garbage causes damage to components of wood burning appliances. Refer to your Owner's Manual.

BURN RESPONSIBLY

Preserve Your Right to Burn Wood


- Before installing, ALWAYS consider the direction that the chimney exhaust will travel with prevailing winds.
- BEFORE operating the furnace must be installed with adequate chimney height. If there is a residence not served by the furnace within 300 feet (91.5 meters), the chimney must be 2 feet (0.6 meters) higher than the peak of the residence it serves. If there is a residence not served by the furnace within 100 feet (30.5 meters), the chimney must be 2 feet (0.6 meters) higher than the peak of the residence served or not served, whichever is higher. Proper chimney height will aid in dispersing the chimney exhaust. Chimney height may need to be greater than the above minimum requirements. The outdoor wood furnace must be installed in accordance with the manufacturer's recommendations and/or in accordance to all applicable codes and regulations, whichever is more stringent. Refer to your Owner's Manual.
- ONLY burn the proper fuels specified.
- DO NOT create a nuisance. Be certain your chimney exhaust is not adversely affecting neighbors. Creating a nuisance may affect your right to burn wood. If any issue with chimney exhaust arises, take immediate action to solve the issue.
- Properly dispose of ashes into a metal container with a cover.
- Wood burning can be more of an art than a science. The operator may need a very technique to achieve satisfying results as installations, heat loads and fuel vary. Over time, you will become familiar with your particular installation and you will be able to identify cause and effect in a variety of circumstances.
- Protect your right to heat with wood. Careless operation may result in a loss of your rights.

NOTICE



Use the tools provided to completely scrape the face of the firebox door frame where the door seal contacts.

NOTICE



Keep the combustion air inlets and exhaust pathway open and clear of ash to allow the furnace to operate properly.

CAUTION

DO NOT disable the door switch, as it serves as a safety and reset function.

ATTENTION

NE désactivez PAS l'interrupteur de porte car il sert de fonction de sécurité et de réinitialisation.

CAUTION

ANY TIME WATER IS ADDED, the furnace MUST BE immediately heated to 185°F, circulated, and the inhibitor level tested. FAILURE TO DO SO WILL RESULT IN DAMAGE to your furnace's water jacket!

CAUTION

Carefully follow the steps in your Owner's Manual for adding water and testing inhibitor levels.

CAUTION

The Online Support Center at CentralBoiler.com allows you to access the Owner's Manual and view videos and other resources specific to your furnace.

CAUTION

Watch your head.

CAUTION

15 seconds before opening firebox door, lift and push handle toward back of furnace to open bypass door.

DANGER

Risque d'incendie ou d'explosion.

DANGER

Risque d'incendie ou d'explosion.

WARNING

Risk of fire.
DO NOT operate with fuel draft exceeding -0.050 in. water column (-12.450 Pa).
DO NOT use chemicals to start unit firing.
DO NOT burn garbage, gasoline, fuel oils, or other flammable liquids or materials.
DO NOT operate with fuel-loading or ash-removal doors open.
DO NOT allow fuel or other combustible materials, when marked installation clearances.
Inspect and clean flues and chimney regularly.
For safety, open bypass door 15 seconds before opening the firebox door and do not operate the furnace with the firebox door unsecured.
Operating the furnace with the firebox door unsecured may lead to a runaway fire. In the event of a runaway fire or immediately after sending to the fire, latch the firebox door and wait 15 seconds before closing the bypass door to purge the firebox.
DO NOT leave furnace unattended with the firebox door unsecured.
DO NOT install or operate furnace before first reading and understanding the Owner's Manual.
DO NOT allow others to install or operate furnace without first reading and understanding the Owner's Manual.

AVERTISSEMENT

Risque d'incendie.
N'utilisez PAS l'appareil si le tirage dépasse de -0,050 pouce la colonne d'eau (-12,450 Pa).
N'utilisez PAS de produits chimiques pour allumer la machine.
Ne brûlez PAS de déchets, d'essence, d'huile de vidange ni d'autres liquides ou matériaux inflammables.
Ne faites PAS fonctionner la chaudière sans surveillance quinze secondes avant d'ouvrir la porte du foyer. Ne faites pas fonctionner la chaudière avec la porte du foyer déverrouillée, un feu de cheminée risque de se déclarer. Si un feu de cheminée survient ou immédiatement après avoir éteint le feu, verrouillez la porte du foyer et attendez quinze secondes avant de fermer la porte de dérivation pour purger le foyer.
Ne laissez PAS la chaudière sans surveillance lorsque la porte du foyer est déverrouillée.
N'installez PAS et n'utilisez PAS la chaudière avant de lire et de comprendre le manuel du propriétaire.
N'autorisez PAS d'autres personnes à installer et utiliser la chaudière avant de lire et de comprendre le manuel du propriétaire.

NOTICE

Chimney pipe and all extensions must be insulated.

CAUTION

Hot Surfaces
Do NOT Touch During Operation

ATTENTION

Surfaces BRÛLANTES
NE touchez PAS pendant le fonctionnement

CAUTION

Do not plug, block or seal vent opening. Sealing can result in a dangerous buildup of pressure.

ATTENTION

Ne pas bloquer, obturer ou sceller l'ouverture du conduit de évacuation. Sceller l'ouverture pourrait entraîner une augmentation dangereuse de la pression.

CAUTION

Watch your head.

CAUTION

Quinze secondes avant d'ouvrir la porte du foyer, ouvrez la porte de dérivation en soulevant puis poussant la poignée en direction de l'arrière de la chaudière.

CAUTION

15 seconds before opening firebox door, lift and push handle toward back of furnace to open bypass door.

ATTENTION

Quinze secondes après avoir fermé la porte du foyer, fermez la porte de dérivation en tirant la poignée en direction de l'avant de la chaudière puis en la poussant vers le bas.

NOTICE

Initially inspect the heat exchanger weekly, and clean as needed, until you can determine the frequency of cleaning based on your application. Refer to the Owner's Manual for cleaning procedures.

NOTICE

Furnace Power Disconnect
Coupez l'alimentation électrique de la chaudière.

NOTICE

To reset the circuit breaker, turn the switch OFF and then ON.

AVIS

Pour réinitialiser le disjoncteur, arrêtez l'interrupteur sur (ARRÊT) puis sur (MARCHÉ).

NOTICE

Chimney pipe and all extensions must be insulated.

CAUTION

Hot Surfaces
Do NOT Touch During Operation

ATTENTION

Surfaces BRÛLANTES
NE touchez PAS pendant le fonctionnement

CAUTION

Do not plug, block or seal vent opening. Sealing can result in a dangerous buildup of pressure.

ATTENTION

Ne pas bloquer, obturer ou sceller l'ouverture du conduit de évacuation. Sceller l'ouverture pourrait entraîner une augmentation dangereuse de la pression.

CAUTION

15 seconds before opening firebox door, lift and push handle toward back of furnace to open bypass door.

ATTENTION

Quinze secondes après avoir fermé la porte du foyer, fermez la porte de dérivation en tirant la poignée en direction de l'avant de la chaudière puis en la poussant vers le bas.

NOTICE

Initially inspect the heat exchanger weekly, and clean as needed, until you can determine the frequency of cleaning based on your application. Refer to the Owner's Manual for cleaning procedures.

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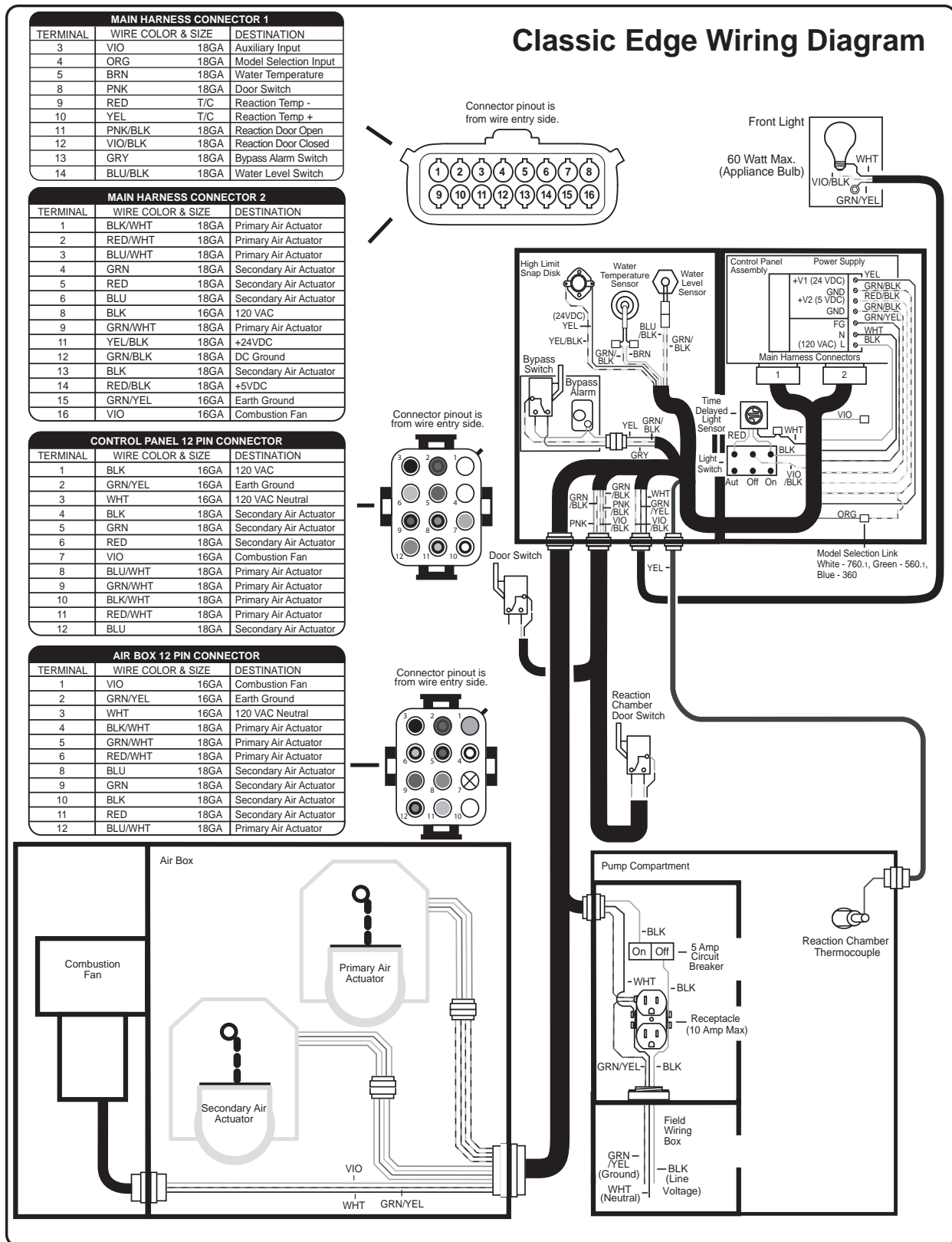
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Do not plug, block or seal vent opening. Sealing can result in a dangerous buildup of pressure.

ATTENTION

Ne pas bloquer, obturer ou sceller l'ouverture du conduit de évacuation. Sceller l'ouverture pourrait entraîner une augmentation dangereuse de la pression.

WIRING DIAGRAM



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 and Classic Edge 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 corrosion inhibitor 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 corrosion inhibitor and send a furnace water sample when the furnace is initially put into service and once each year thereafter to confirm proper maintenance and corrosion inhibitor. 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 and Classic Edge 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, air charge tube, firebox ash pan, combustors, aquastats, actuators, heat refractory, firebrick, air channels, combustion air tubes, turbulators, chimney sections, and chimney tee. 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 and Classic Edge 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 MolyArmor 350 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 (218-782-2575) 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.

WOODMASTER[®] CleanFire

OUTDOOR WOOD FURNACE

OWNER'S MANUAL



CLEANFIRE 700.1

CLEANFIRE 500.1

CLEANFIRE 300

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.



0117WB036S
0117WB044E



**SAVE THESE
INSTRUCTIONS**

(p/n 9001136) - REV. A



WoodMaster, Inc. • 20502 160th Street • Greenbush, MN 56726 • WoodMaster.com

The CleanFire outdoor hydronic heater by WoodMaster 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 CleanFire includes two 4-foot stainless steel insulated chimney sections (8" in diameter, p/n 10508 - CleanFire 700). Use only stainless steel solid fuel chimneys specified by WoodMaster. Maximum draft is marked on nameplate.

French Owner's Manual is available upon request from your dealer
(Manuel d'installation en français disponible sur demande auprès de votre revendeur)

CleanFire 700.1	Annual Efficiency Rating*: 84.4% (lower heating value), 78.3% (higher heating value) Manufacturer's Rated Heat Output Capacity: 245,000 Btu/hr Range**: 0 to 243,056 Btu/hr. Water Capacity: 330 gal. Weight: 2,186 lbs
CleanFire 500.1	Annual Efficiency Rating*: 86.4% (lower heating value), 80.6% (higher heating value) Manufacturer's Rated Heat Output Capacity: 190,000 Btu/hr Range**: 0 to 171,956 Btu/hr. Water Capacity: 205 gal. Weight: 1,668 lbs
CleanFire 300	Annual Efficiency Rating*: 88% (lower heating value), 82% (higher heating value) Manufacturer's Rated Heat Output Capacity: 150,000 Btu/hr Range**: 0 to 148,625 Btu/hr. Water Capacity: 150 gal. Weight: 1,460 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: WoodMaster.com/w25

For parts and accessories, service or repairs, call your authorized WoodMaster 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 WoodMaster dealer.

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WOODMASTER ONLINE RESOURCES

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

Detailed Furnace Installation Variations - <https://www.woodmaster.com/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://support.woodmaster.com>

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/@WMfurnaces

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

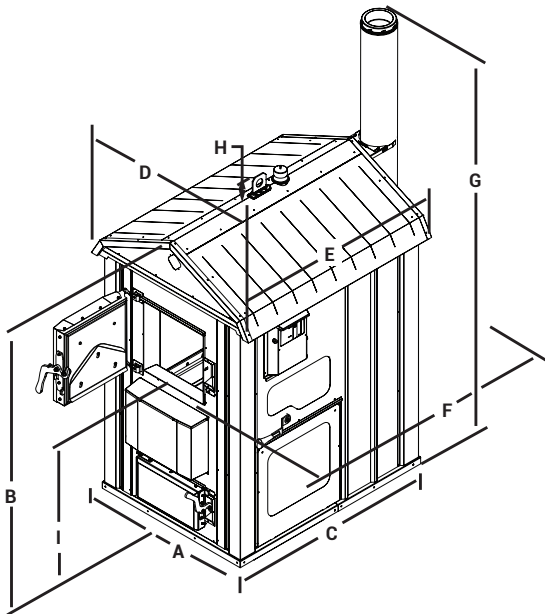
This symbol and text indicate the presence of a hazard which can cause severe personal injury or death to an operator or bystander, or substantial property damage if ignored.

⚠ 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.



CleanFire 700.1 Measurements

	A	B	C	D	E	F	G	H	I
in.	51	84.75	59.75	53.5	60.5	79	164	5	39
cm	130	215	152	136	154	201	417	13	99

CleanFire 500.1 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

CleanFire 300 Measurements

	A	B	C	D	E	F	G	H	I
in.	40.5	72	50.75	43	51.5	69	150	5	38
cm	103	183	129	109	131	175	381	13	97

- 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

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.**



Vent Cap Must Fit Loosely



⚠ 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. MolyArmor 350 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 MolyArmor 350 (p/n 2900631) 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

Maintain the following clearances from combustibles for the furnace installation:

- 44" (112 cm) from the back
- 12" (30.5 cm) from the sides
- 48" (122 cm) from the front
- 18" (46 cm) from chimney inspection cover
- The foundation must be noncombustible

⚠ 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.

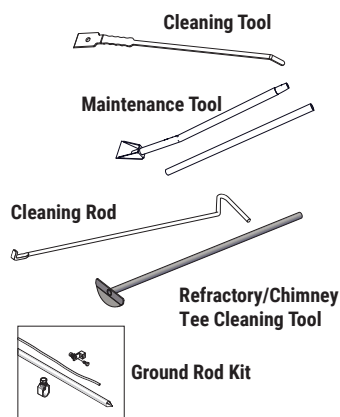
NOTE: At least one circulation pump must run continuously to ensure proper operation of the outdoor furnace.

NOTE: CO and smoke detectors are not required for this appliance, as it is designed and intended for outdoor installation only. However, always follow local codes and regulations regarding installations and safety requirements.

Tools/Ground Rod Kit

Included with each new furnace are tools that are invaluable for maintenance and cleaning and a Ground Rod Kit for electrically grounding the furnace. Use the **maintenance tool** to clean the firebox and to remove ash from the Reaction Chamber. Use the **cleaning tool** to clean the heat exchangers. The maintenance tool and cleaning tool are 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 **Refractory/Chimney Tee cleaning tool** is used to clean ash from the Reaction Chamber and to clean the chimney tee.

Refer to the Maintenance section for more information.



Foundation

The outdoor furnace may be installed using patio blocks under the perimeter of the base as an alternative to a concrete foundation. The installation surface or foundation must be noncombustible.

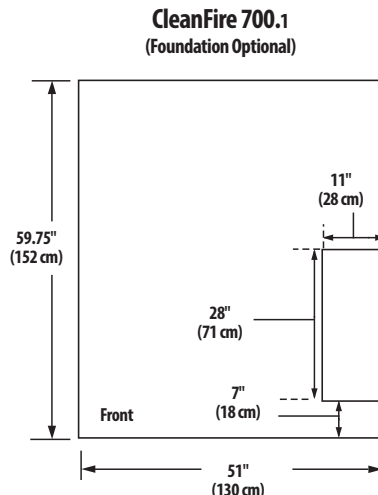
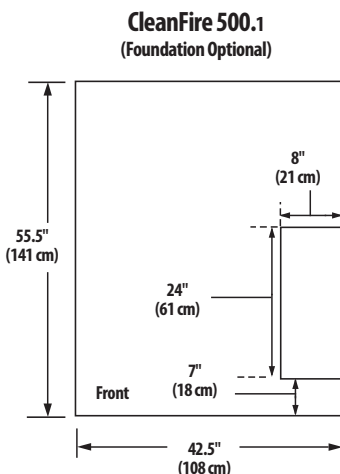
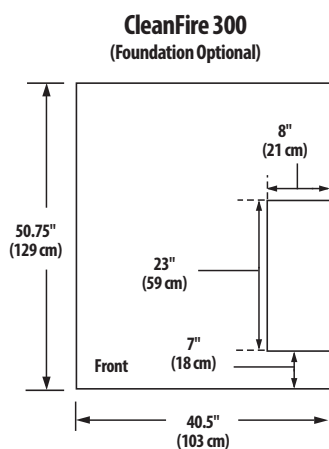
⚠ CAUTION

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.

The illustration below shows the outside dimensions of the furnace and the location of the hollowed-out area (where the supply and return lines will be connected) for each model.

CleanFire Furnace Base Dimensions



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

The installation surface must be noncombustible and incorporate 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.

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 WoodMaster dealer.

NOTE: At least one circulation pump must run continuously to ensure proper operation of the outdoor furnace.

CleanFire 700.1 Models – 3-Pump Configuration

3 - Pump Parts List*

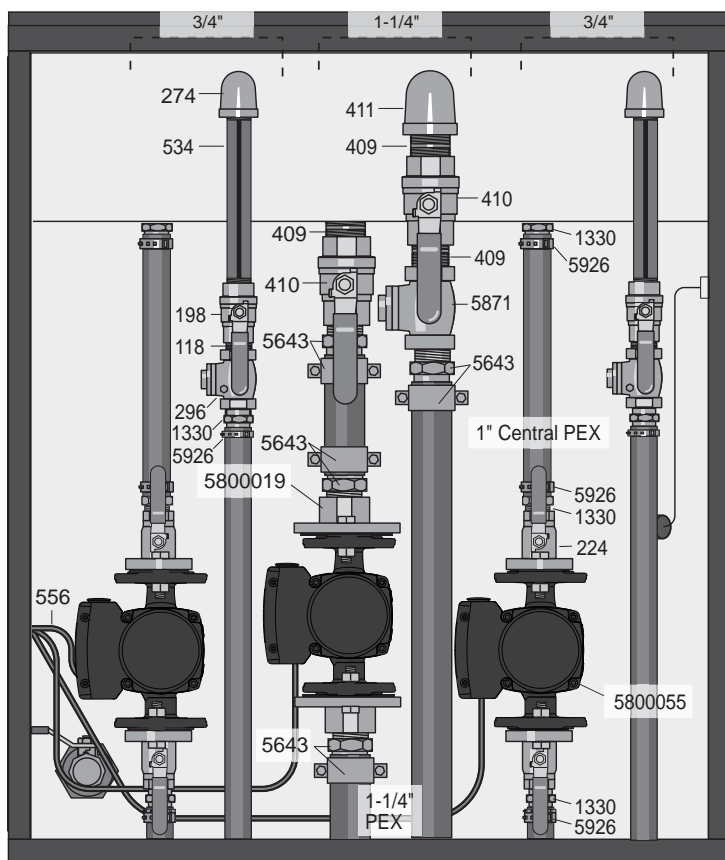
3/4" Supply		
Qty	p/n	Description
6	1330	MPT to PEX, 3/4" x 1"
6	5926	Clamp Crimp Ring, 1"
2	224	Isolation Flange Kit, 3/4"
2	5800055	Pump, UPMS 20-58 F
2	556	Power Supply Cord, 32"
		1" Central PEX

3/4" Return		
Qty	p/n	Description
2	274	90° Street Elbow, 3/4"
2	534	Nipple, 3/4" x 7"
2	198	Ball Valve, 3/4"
2	118	Close Nipple, 3/4"
2	296	Swing Check Valve, 3/4"
2	1330	MPT to PEX, 3/4" x 1"
2	5926	Clamp Crimp Ring, 1"

1-1/4" Supply & Return		
Qty	p/n	Description
3	409	Close Nipple, 1-1/4"
2	410	Ball Valve, 1-1/4"
4	5643	Brass Clamp, 1-1/4"
1	5800019	Pump Flange Kit, 1-1/4"
1	5871	Swing Check Valve, 1-1/4"
1	5800055	Pump, UPMS 20-58 F
1	556	Power Supply Cord, 32"
1	411	90° Street Elbow, 1-1/4"

*Parts and accessories sold separately.
Pump size may vary.

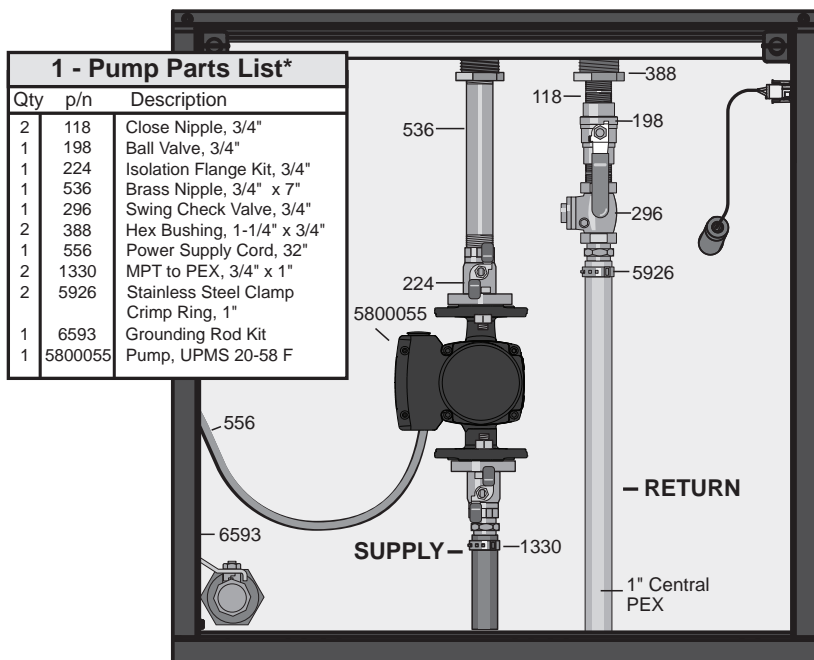
For illustration purposes only.



NOTE

The Ground Rod Kit (p/n 6593), included with the outdoor furnace, must be installed with every furnace.

CleanFire 300/500.1 Models – 1-Pump Configuration

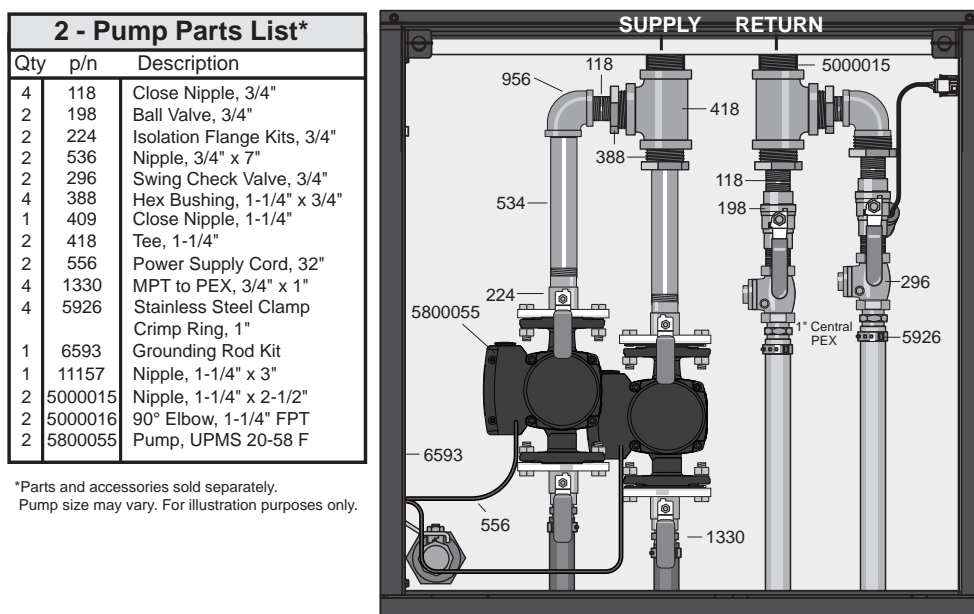


*Parts and accessories sold separately.
Pump size may vary.
For illustration purposes only.

NOTE

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

CleanFire 300/500.1 Models – 2-Pump Configuration*



*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.

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

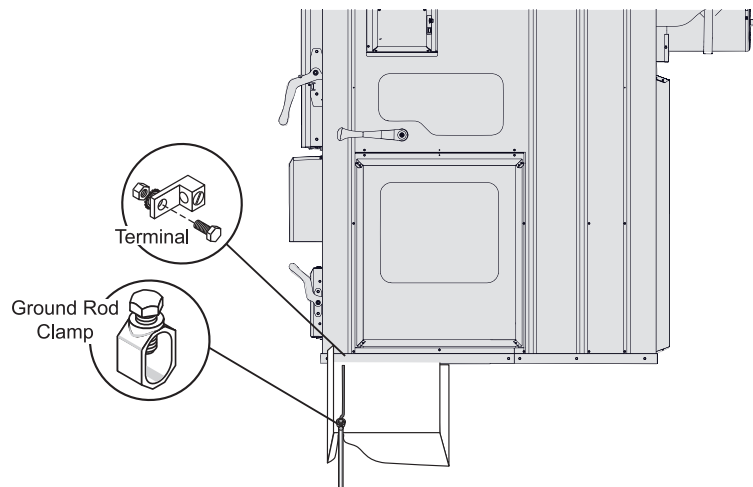
Ground Rod Kit

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 the Ground Rod Kit (p/n 6593) included with the outdoor furnace 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.



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.

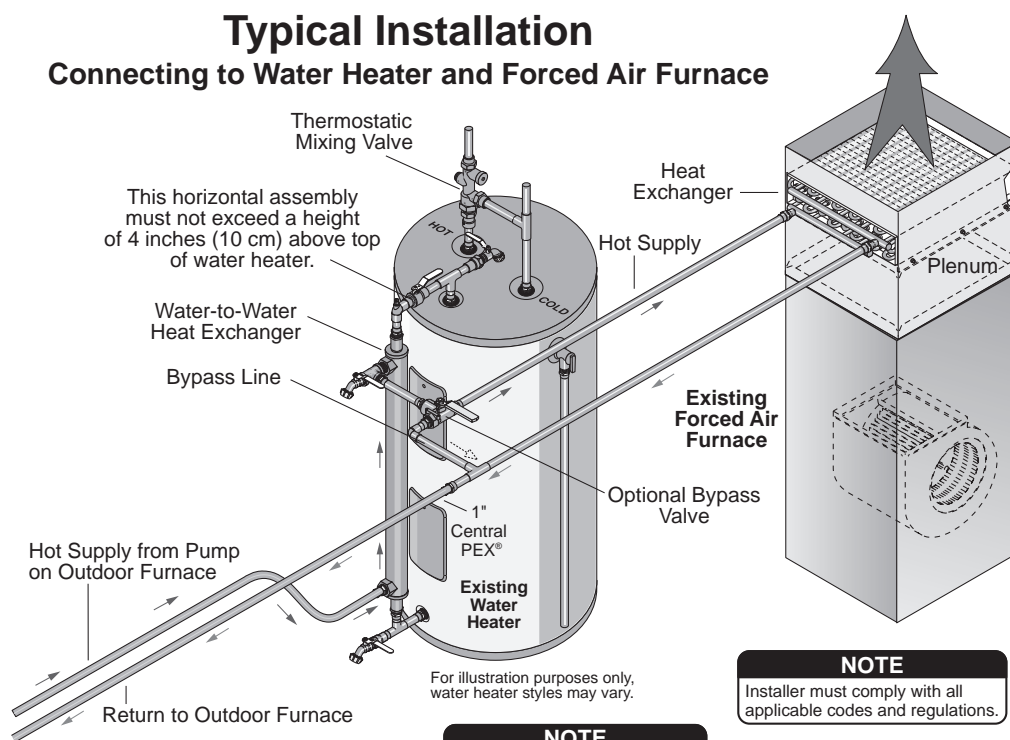
NOTE: There are numerous ways to connect to your heating system. Refer to the Outdoor Furnace Installation Guide for other installations.

Detailed Furnace Installation Variations

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

Typical Installation

Connecting to Water Heater and Forced Air Furnace



NOTE

Installer must comply with all applicable codes and regulations.

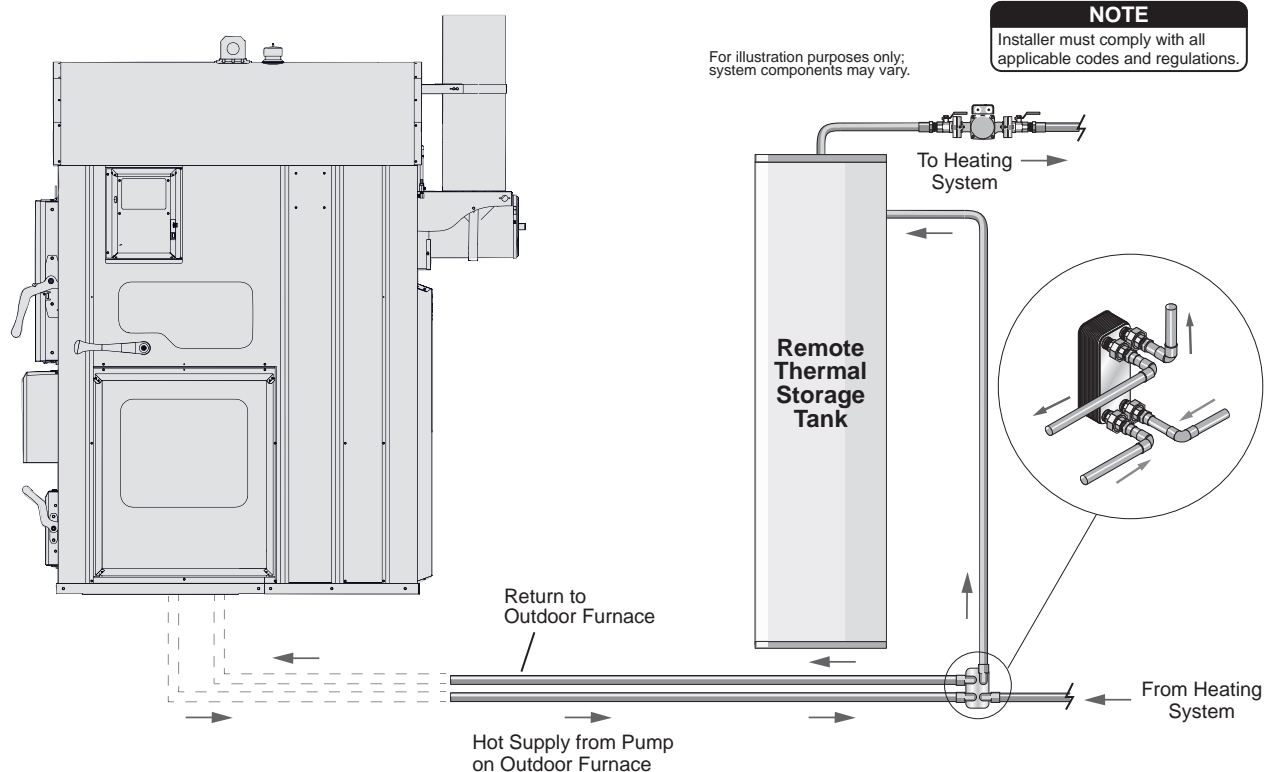
NOTE

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

NOTE: A certified electrician must do the electrical installation.

Remote Thermal Storage Installation

Connecting to Remote Thermal Storage Tank



NOTE

Installer must comply with all applicable codes and regulations.

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 WoodMaster 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.

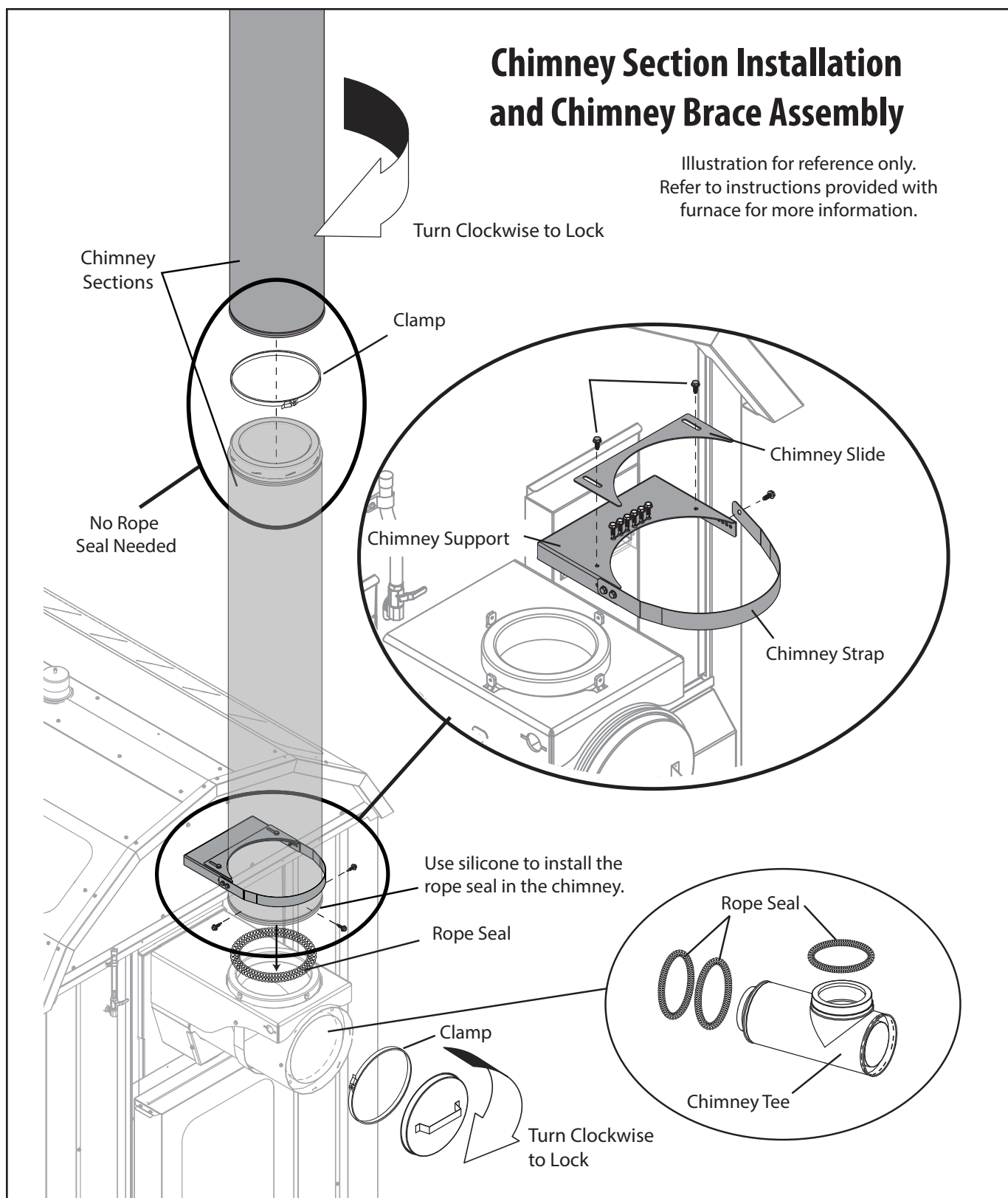
Chimney Installation

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 with three self-tapping screws.
9. Secure the joint between the first two chimney sections with the clamp.

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 WoodMaster chimney components. Parts are available from an authorized WoodMaster dealer.

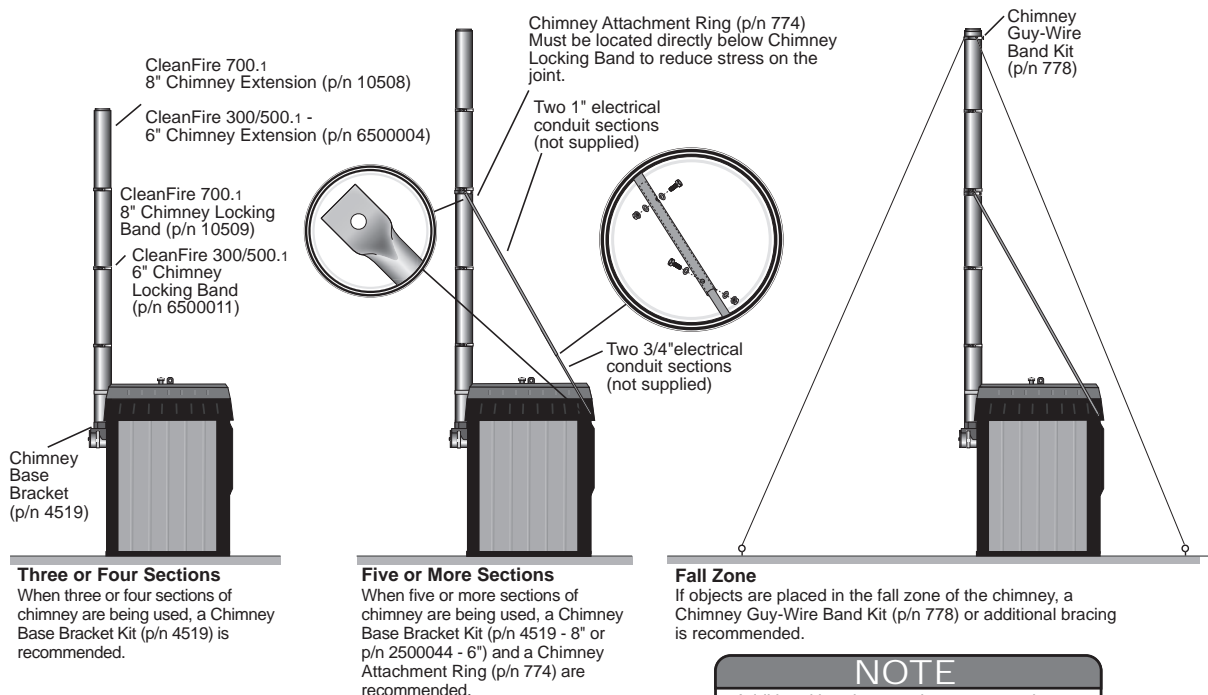
The installation of a spark arrestor is recommended, particularly where there are dry conditions or where there is combustible material near the unit, unless the installation of a spark arrestor is prohibited by local requirements.

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



WATER QUALITY AND MAINTENANCE

Follow the steps provided here to add MolyArmor 350 and to fill the outdoor furnace system for the first time, or any time the system has been completely drained and needs to be refilled.

Before you fire the outdoor furnace for the first time, it is very important to perform the following important steps in order.

1. Test Supply Water

Test a sample of the supply water (makeup water) that will be used to fill the outdoor furnace (softened water is recommended). Test strips for testing pH are included in the water test kit which is provided with the outdoor furnace.

1. Collect a small sample of the water to be used to fill the outdoor furnace in a clean container.
2. Dip a test strip from the test kit in the water sample for **1 second** and remove. Shake off excess liquid (very important to prevent water bleed from one pad to the other). Compare the pH test pad to the color chart at **30 seconds**.
3. If the pH level is between 6.5 and 8.0 and there are no other known water quality problems, then the outdoor furnace may be filled with this water.
4. Water that has a pH level of less than 6.5 or greater than 8.0, or that has other known water quality problems, should not be used to fill the furnace. Instead, water should be supplied from a different source.

2. Check the Vent Cap

If the vent cap has been secured with a wire tie-down, the wire tie-down **MUST** be removed before operating the furnace. If the vent cap is held in place by a spring retainer, the spring retainer can be left in place. The vent cap must fit loosely over the outdoor furnace vent.

3. Check Heating System for Leaks

Close the valves on the outdoor furnace before checking the heating system for leaks.

⚠ CAUTION

Do not pressurize the outdoor furnace or damage could occur. Isolate the furnace when pressure testing by closing all of the valves on the outdoor furnace.

Pressure-test the entire plumbing heating system. Apply 50 psi (3.5 kg/cm²) of air pressure for thirty minutes and closely monitor for any pressure loss. Inspect all fittings and hose ends for any signs of leakage using leak detection solution (leak soap); repair as necessary.

Release the pressure from the entire plumbing heating system and open the valves on the outdoor furnace.

4. Cover Supply and Return Lines

Backfill the trench for the supply and return lines. Enclose the area where the supply and return lines enter the outdoor furnace. Do not leave the PEX hot supply and return lines exposed to sunlight as exposure to UV rays will damage them.

5. Add MolyArmor through Vent Pipe

⚠ CAUTION

Avoid damaging your furnace and voiding your warranty. Add water treatment BEFORE adding water to the system. Water treatment in your outdoor furnace is just as important as the oil in a car's engine.

MolyArmor 350 Corrosion Inhibitor (p/n 2900630) gives optimum protection for the furnace water jacket and system parts when it is used to initially treat the water and is maintained at a minimum of 350 ppm of moly and pH level between 8.0 and 9.5.

NOTE: The recommended minimal treatment amounts are based on an average heating system with less than 50 feet of ThermoPEX, one heat exchanger in a forced-air furnace and a heat exchanger on a domestic water heater.

NOTE: If the system has a larger than normal water capacity, more MolyArmor 350 should be added at a recommended rate of 6.5 oz. (190 ml) per 10 gallons (37.8 liters) of system water. One gallon (3.78 liters) of MolyArmor 350 Corrosion Inhibitor will treat 200 gallons (757 liters) of system water.

MOLYARMOR 350 MINIMAL TREATMENT AMOUNTS	
CleanFire 700.1	2.5 gallons
CleanFire 500.1	1.5 gallons
CleanFire 300	1.5 gallons

1. Add the recommended amount of MolyArmor 350 Corrosion Inhibitor (or more depending on the water capacity of the heating system) through the vent pipe on the outdoor furnace.

NOTE: Be sure to add enough MolyArmor 350 to obtain at least 350 ppm moly. There are no negative effects from adding more than the recommended amount of MolyArmor 350.

6. Fill Outdoor Furnace with Water and Purge Air

NOTE: If adding antifreeze to the system, refer to Adding Antifreeze to Outdoor Furnace System section for important information.

⚠ CAUTION

If using antifreeze, use only a nontoxic boiler-type antifreeze. It is imperative that the entire system contain at least 30% antifreeze concentration mixed with water that is 6.5 to 8.0 pH. Softened water is recommended, if available. Do not use reverse osmosis or deionized water that has very low pH. Be sure to adhere to all warnings and precautions on the antifreeze label.

NOTE: If the outdoor furnace is being filled with water when the temperature is below freezing, circulate the water immediately after filling to prevent freezing the water lines.

NOTE: The circulation pump(s) must be installed in the hot supply line(s).

NOTE: All air must be purged from the water lines when filling the system. Be sure to purge the air from each pump circuit from the outdoor furnace.

NOTE: All valves in the outdoor furnace system should be opened before starting this procedure.

1. Connect a garden hose to the water source to be used to fill the outdoor furnace. Purge the garden hose of any impurities by running water through it until the water is clear.
2. Connect the hose to the drain valve on the outdoor furnace. Open the drain valve and fill with water to thoroughly mix the MolyArmor 350, which is heavier than water.

7. Immediately Start the Pump(s); then Heat the System Water to 185°F (85°C)

⚠ CAUTION

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.

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

1. Start the pump(s). Refer to Initial Fire Up - Start of Heating Season in the Owner's Manual to start the outdoor furnace. Bring the water temperature up to operating temperature (185°F or 85°C) for two hours with the system circulating; then add water to the full mark. Continue to run the pump and circulate the water for 24 hours. If a multi-speed pump is used, set the pump on high.

NOTE: It is important to bring the water in the system up to operating temperature (i.e., 185°F or 85°C) immediately after filling the system and to circulate for at least 24 hours to kill bacteria. This also applies any time water is added to the system.

⚠ CAUTION

The water in the system may be hot. Use caution and the appropriate personal protective equipment (PPE) when checking for leaks.

2. Check the system for leaks. Inspect all fittings and hose ends for any signs of leakage. Use several dry paper towels and wrap them around and squeeze each fitting, valve and pipe connection. The paper towels will get wet even if there is a very small leak. Immediately repair any leaks to eliminate the need for adding water. If a screw-type clamp has been used, it may be possible to stop a very slow leak at a hose clamp by tightening the clamp after the system has warmed up and the poly becomes more pliable. It might also be necessary to install a second hose clamp with the screw positioned on the opposite side.

NOTE: After a week of operating, use the procedure in step 2 to check the system for leaks again.

NOTE: If water is ever added, it is important to bring the water in the system up to operating temperature (i.e., 185°F or 85°C) immediately. Refer to Water Quality and Maintenance in the Owner's Manual for water testing procedures. If indicated by test results, add MolyArmor 350 as required. Deterioration due to improper operation and/or maintenance is not covered by warranty.

8. Test the Treated System Water

After circulating the heated water in the system for 24 hours, test the treated system water for the recommended moly (at least 350 ppm) and pH level (between 8.0 and 9.5).

⚠ CAUTION

The water in the sight gauge may be hot. Use caution when obtaining a sample.

1. To obtain a system water sample, bend the sight gauge tube away from the outdoor furnace. Before collecting the sample, open the valve and drain about a quart of water from the sight gauge tube; then carefully fill the sample container without contaminating the sample. **Be sure to properly install the sight gauge tube and close the valve when finished.** The water in the sight gauge valve and tube will drain when the valve is closed.
2. Dip a test strip from the test kit in the water sample for **1 second** and remove. Shake off excess liquid (very important to prevent water bleed from one pad to the other). Compare moly test pad to the color chart within 10 seconds. The moly level must be **350 ppm or more**.
3. Compare pH test pad to the color chart at **30 seconds**. The pH of the treated water should be **between 8.0 and 9.5**. If the pH is higher than 10.0, dilute the water in the furnace by draining approximately 1/4 of the water from the furnace. Add MolyArmor 350 and refill with water that has a pH between 6.5 and 8.0. After refilling, circulate the water with furnace at operating temperature for at least 24 hours and test to confirm the moly is **350 ppm or more and the pH is between 8.0 and 9.5**.

Send in Initial Water Sample

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.

Your owner's packet contains a Water Sample Kit for submitting an initial water test and an informational sheet entitled Submitting Water Samples for Your Titanium Series Outdoor Furnace. Follow the instructions to collect and submit your initial water sample. Additional Water Samples Kits are available from your WoodMaster dealer.

NOTE: Your water sample will be tested and must indicate acceptable levels of water treatment to qualify for the 25 year warranty.

Initial Water Sample

You are required to submit an initial water sample within 30 days of purchase of your outdoor furnace.

Deferred Installation

If your outdoor furnace is not being installed within 30 days of purchase, you must email service@woodmaster.com with your name and your furnace serial number. When the furnace installation is complete, send the water sample **within 10 days of the initial fill**.

Check Status of Water Sample

If you have provided an email address, you will receive an email with the results of your water test.

If you did not provide an email address, you will be notified by mail **ONLY** if your water sample test is **NOT ACCEPTABLE**. If your water sample test is acceptable, you will **NOT** be notified with a mailed letter. You can however check the status of your water test online.

Check the status of your water sample at:

WoodMaster.com/w25

You will need your serial number and postal code. Please allow 2-3 weeks for results to be available. For a deferred installation, your status will be available approximately 10 days after you email the deferred installation message.

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

System Maintenance

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 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. No warranty claim can be approved unless the outdoor furnace registration and the acceptable levels of water treatment are on file at WoodMaster.

Test the pH and moly levels after the first three months and every six months thereafter, and after adding water to furnace.

NOTE: If using antifreeze, test the pH and Moly levels once each month. If the bacterial issues occur, the pH will decrease.

Water Test Kits and Test Results

DATE	pH LEVEL	MOLY LEVEL

Record the results of pH and Moly 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 (including the date, pH and Moly level). The pH and Moly test strips and indicator have a shelf life of approximately two years 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.

Biological contamination can occur if the furnace is not heated up to 185°F immediately after filling it with inhibitor and water as directed.

NOTE: It should not be necessary to add water to the outdoor furnace more frequently than once every twelve months. If it is more frequent, either there is a leak in the system or the outdoor furnace is boiling because of improper operation or maintenance (see Troubleshooting Section in the Owner's Manual). Be sure to locate and repair the problem immediately. Frequently adding water can cause deterioration in the water jacket. 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 may increase the potential for corrosion in the system.

If the test indicates a significantly lower-than-recommended pH level (below 8.0), add MolyArmor to increase the pH level.

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.

Draining Treated System Water

MolyArmor 350 is composed of common materials. Molybdenum compounds characterized as nontoxic in US Public Health Bulletin 293, by the Federal Hazardous Substances Labeling Act, and by the Occupational Safety and Health Act. However, in keeping with good safety and environmental practices, dispose furnace water in accordance with federal, state and local regulation. Unless regulation prohibits, you may drain the outdoor furnace to a home 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.

Flushing the System

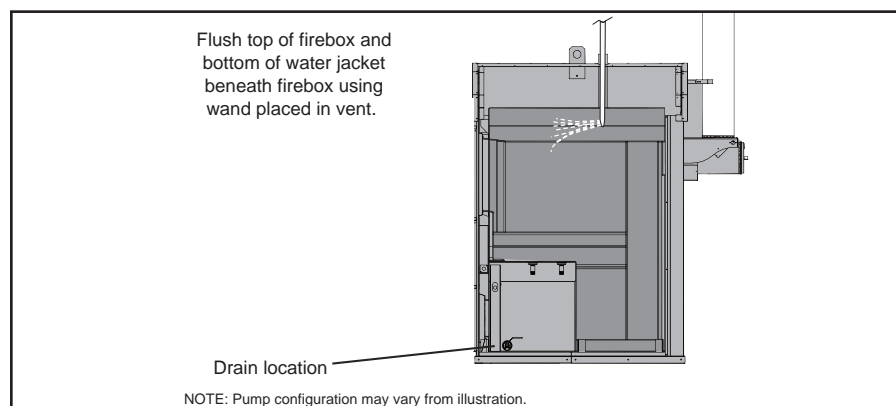
If the system water is brown or orange, it is an indication that the corrosion inhibitor level has not been maintained correctly and corrosion is present in the water jacket. Sludge Conditioner (p/n 166) can be used by circulating the recommended amount through the furnace **for one week** to help clean some of the corrosion from inside the water jacket before flushing, draining and refilling with water and the correct amount of MolyArmor 350.

NOTE: Use one unit of Sludge Conditioner per 200 gallons of system water.

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 recommended amount of MolyArmor 350.
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 24 hours with the system circulating to thoroughly mix the MolyArmor 350.

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, which may increase the potential for corrosion in the system.

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

Adding Antifreeze to Outdoor Furnace System

If using antifreeze, use ONLY uninhibited, undyed, "raw" PGI (shorthand for Propylene Glycol Industrial grade) with softened water and add the correct amount of MolyArmor 350 to achieve 350 ppm moly and 8.0 to 9.5 pH levels.

Most outdoor furnaces are installed **without** antifreeze when an existing heating system is in place and there is no anticipation of leaving the outdoor furnace unattended for extended periods of time (10 days or more). If the building being heated has an alternate heat source, system water may be kept from freezing by running the circulating pump(s) and drawing heat from the existing furnace or boiler in the home or building.

To prevent freezing if the outdoor furnace is not fired for extended time periods or if lengthy power outages are anticipated during cold weather, a nontoxic propylene glycol may be used in the system. Some types of antifreeze that contain various inhibitors have been known to create problems like coagulation and jelling. To prevent potential problems, **do not use propylene glycol that is premixed with inhibitors**. MolyArmor 350 is compatible with (raw) propylene glycol. It is important to use MolyArmor 350 with straight propylene glycol for corrosion protection. If adding antifreeze to the system, it is imperative that the entire system contain **at least 30% antifreeze concentration mixed with water that is 6.5 to 8.0 pH**. **Softened water is recommended, if available. Do not use reverse osmosis or deionized water** that has very low pH. Bacterial growth is likely to occur with low antifreeze concentrations and can cause corrosion in the furnace water jacket and/or clogging of heat exchangers. To confirm the antifreeze solution is adequate and to kill bacteria, immediately heat the system up to 185° F, allow the pumps to circulate for at least 24 hours and then obtain a sample of the system water. Using an antifreeze tester, the solution must be protected to 10°F (-12°C) or below.

NOTE: If using antifreeze, test the pH and Moly levels once each month. If the bacterial issues occur, the pH will decrease.

NOTE: Be sure to adhere to all warnings and precautions on the antifreeze label.

NOTE: Do not use automotive or RV types of antifreeze.

Wood Selection and Preparation

Before You Start Operating Your CleanFire 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.

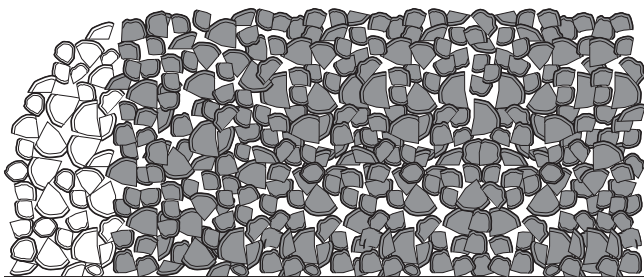
For the best results, it is best to burn seasoned split wood. However, it may be possible to burn some unsplit wood with the split wood depending on quality, size, moisture content and wood type. Properly seasoned wood has a moisture content of 20% or less. It is darker, has cracks in the end grain, 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.

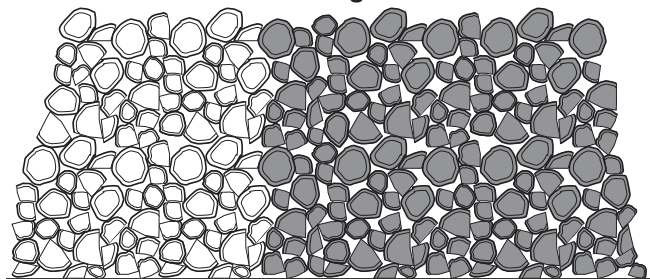
Seasoned Wood

With moisture content of 20% or less



- Wood used to heat
- Wood used to remove moisture

Wood With High Moisture



- Wood used to heat
- Wood used to remove moisture

Operating Instructions

FIRESTAR COMBUSTION CONTROLLER

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

How the CleanFire Works

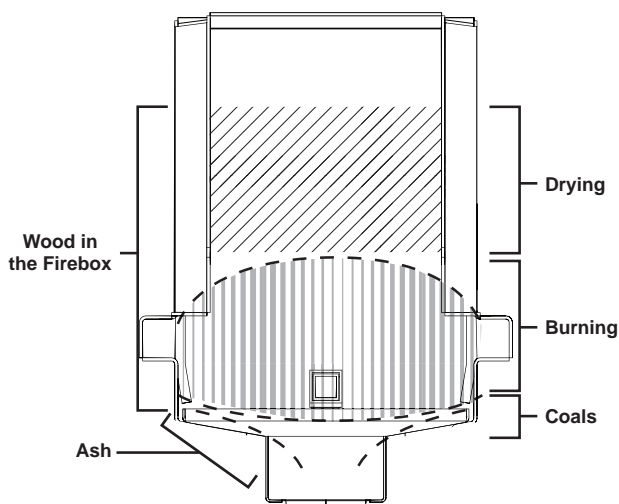
Because of its highly efficient and clean-burning design, the CleanFire operates differently than other types of wood-burning devices.

Understanding a few basic principles will help you operate the CleanFire 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).

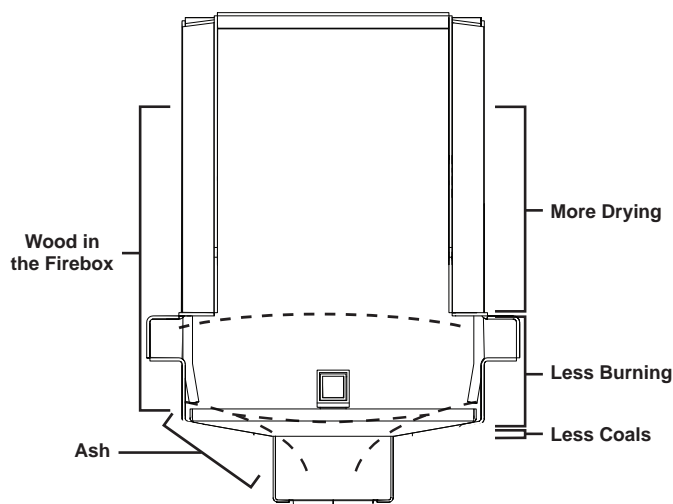
1. The combustion air fan pressurizes the airbox located at the front of the outdoor furnace. Primary air flow, regulated by an actuator motor, flows into the firebox through combustion air inlets located on the front and sides near the bottom. Secondary air is regulated by a second actuator motor that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

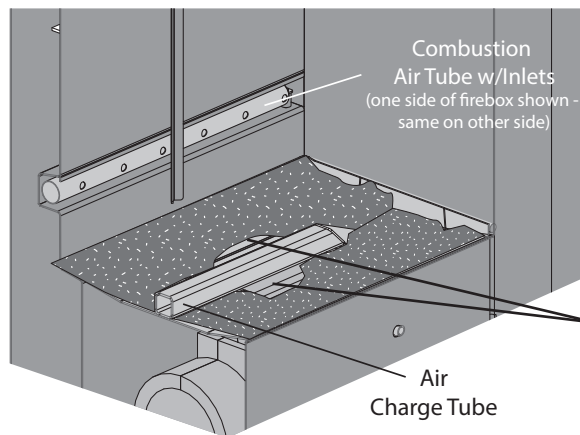
Operating with Wood with Too Much Moisture



- 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.

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



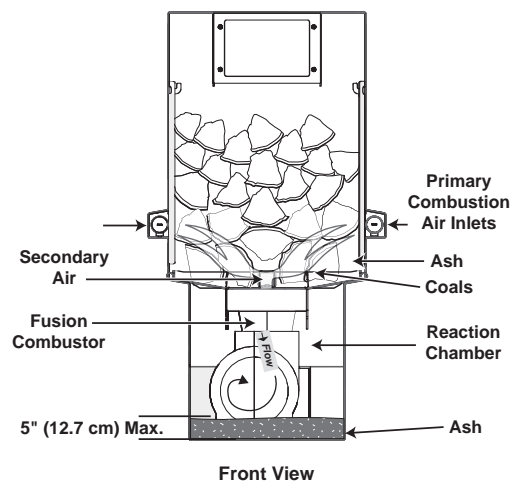
Keep the combustion air tube inlets open and clear of ash and coals to allow the furnace to operate properly.

Keep the area on BOTH sides of the air charge tube open

For illustration purposes. Your furnace may have different configuration.

2. Gasified fuel exits the bottom of the firebox alongside and under the air tube, 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)



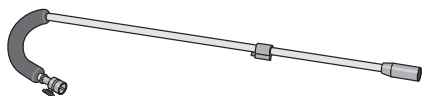
NOTE: The illustration shows the CleanFire operating correctly with proper combustion air flow and with the wood properly loaded.

NOTE: A key point to remember about the operation of the CleanFire 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.

Initial Fire Up - Start of Heating Season

NOTE: These procedures apply to initial firing at the start of the heating season.



Outdoor Torch

The optional Outdoor Torch (p/n 2900325) is an excellent tool for starting a fire. Attaches quickly to an external propane tank and can be directed at the bottom of a wood pile for quicker, easier combustion.

⚠ CAUTION

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


NOTE: Before firing the outdoor furnace for the first time, make sure the proper amount of MolyArmor 350 has been added and the water level is 1" below the full mark on the sight gauge, as the water will expand when heated.

Two options are provided for a clean, easy startup. Using lump charcoal is the easiest and fastest method. Be sure the wood (including the kindling) is dry for the best results.

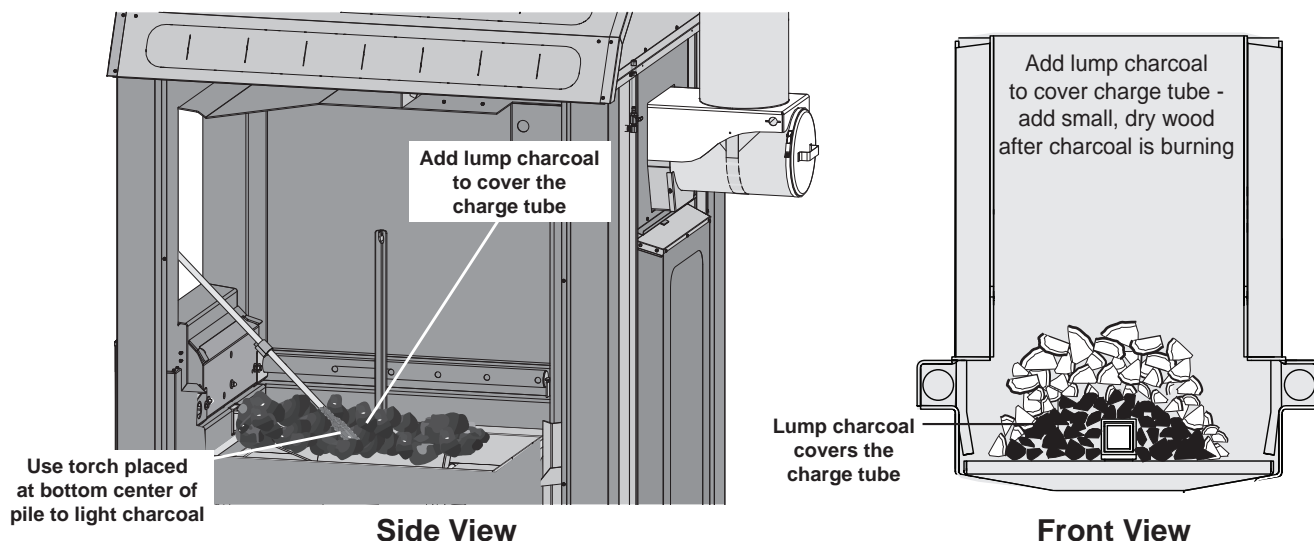
NOTE: During startup, the Reaction Chamber percentage will increase as the combustion process ramps up. Optimum burn occurs when the Reaction Chamber percentage is maintained between 70% and 100%. The drier the wood that is used during startup, the faster these percentages can be reached.

Startup Option A - Lump Charcoal

NOTE: Keep the bypass door closed for this procedure.

1. Disconnect the heat load draw by turning off the pump(s).
2. Open the firebox door and add 10 pounds of lump charcoal to cover the charge tube.
3. Turn the controller on by pressing the **Power**  button; then press the Ignition Air button to turn on the primary combustion air for the initial fire up process when the firebox door is open.

Initial Fire Up with Lump Charcoal



4. Ignite the lump charcoal making sure that the charcoal on both sides of the charge tube is burning.
5. Add small pieces of dry wood to a level just above the primary air tubes on the sides of the firebox.
6. Close and latch the firebox 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.

7. Allow the wood load to burn until the water temperature reaches 175°F (79°C). Turn on the pump(s) and let run for 24 hours to circulate the system water. If this is the initial startup of the furnace, at this point a proper water sample can be taken.

⚠ WARNING

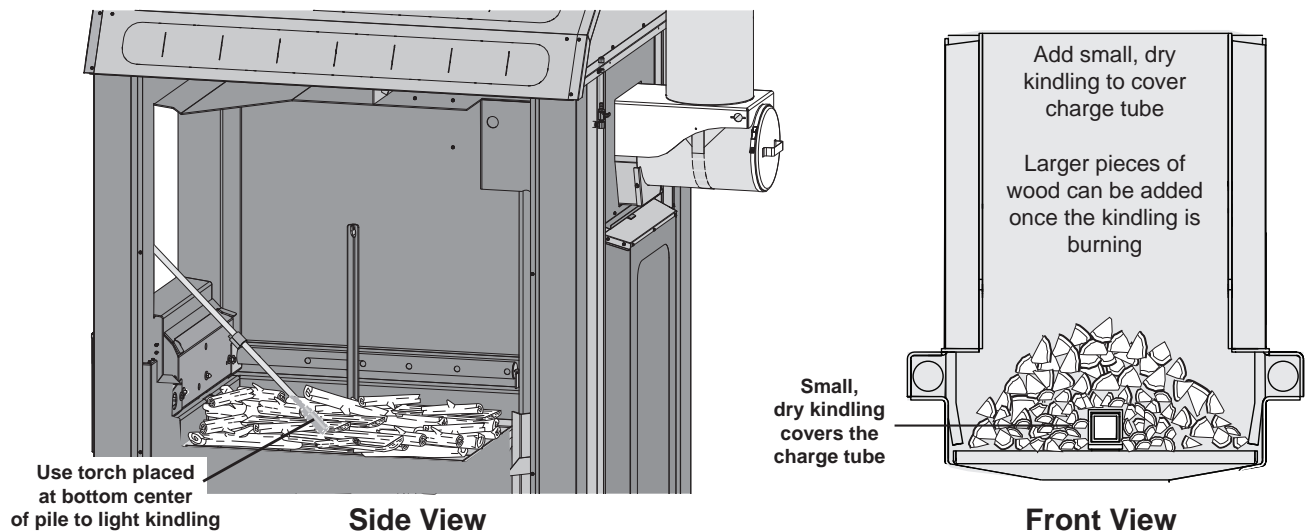
When opening the firebox door, the door switch will shut off the primary air actuator motor while the firebox door is open. Do NOT disable the door switch.


Startup Option B - Dry Kindling

NOTE: Keep the bypass door closed for this procedure.

1. Disconnect the heat load draw by turning off the pump(s).
2. Open the firebox door and add small, dry kindling to cover the charge tube. Smaller kindling is preferred. It should be staggered and able to ignite and burn quickly for the initial fire. The intent is to make sure the combustion air will be able to flow past the charge tube and into the Reaction Chamber.

Initial Fire Up with Dry Kindling



3. Turn the controller on by pressing the **Power**  button; then press the Ignition Air button to turn on the primary combustion air for the initial fire up process when the firebox door is open.
4. Ignite the bottom side of the kindling. Make sure the wood on both sides of the charge tube is burning. Once the kindling is burning, add larger pieces of dry wood to just above the primary air tubes.

NOTE: Add enough wood to bring the water temperature up to 175°F (79°C).

5. Close and latch the firebox 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.

6. Allow the wood load to burn until the water temperature reaches 175°F (79°C). Turn on the pump(s) and let run for 24 hours to circulate the system water. If this is the initial startup of the furnace, at this point a proper water sample can be taken.

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.

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).

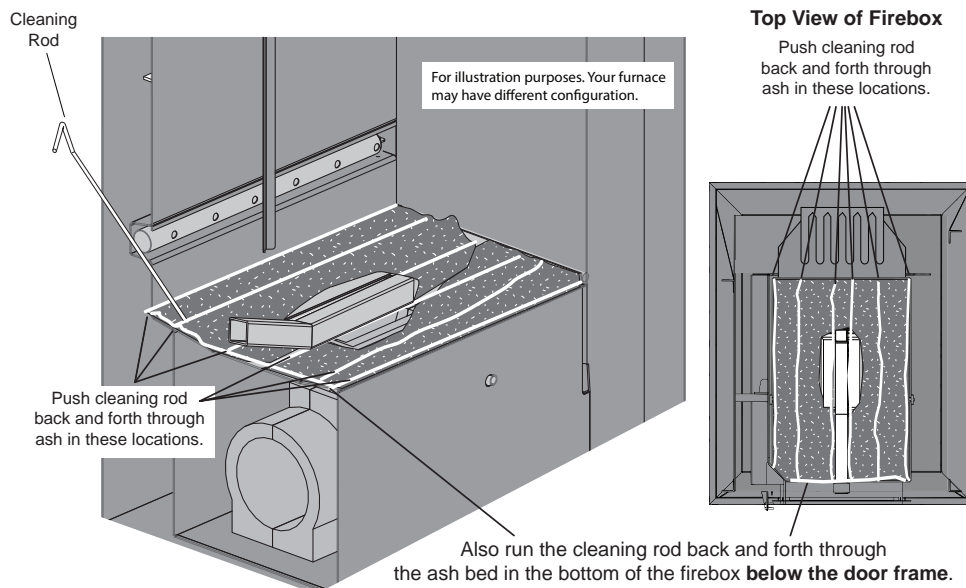
Adding Wood

1. CleanFire 700.1/500.1 only - 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 initial 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 tube. **Be sure the area on each side of the charge tube is open.** Also run the rod sideways on each side of the air charge tube 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 area alongside the air tube will create a clean, efficient burn.

5. The combustion air inlets 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 inlets 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 tube as shown on previous page to keep ash loose. **Use care near the refractory.** 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 tube. **Air flow down past the air 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. When the firebox is filled completely each loading, the FireStar's default Reserve Mode will help "reserve" a portion of the previous wood load for a quicker, more efficient fire up after reloading.
- 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 Initial Fire Up - Start of Heating Season.
- 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.

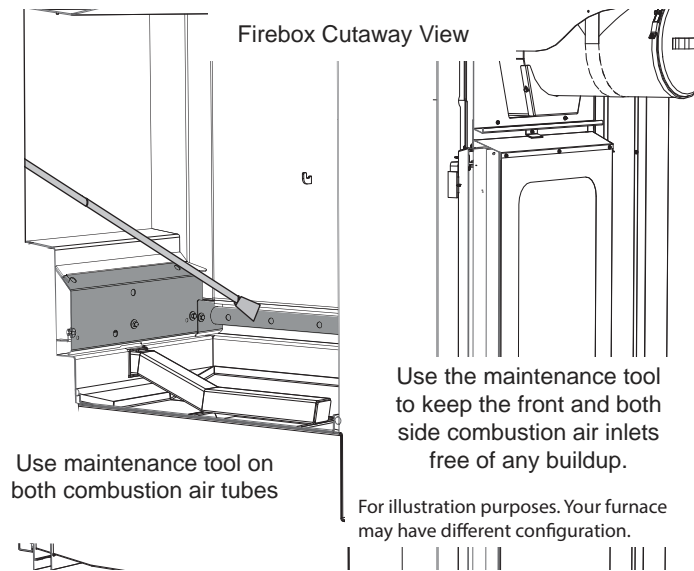
NOTE: If the furnace has been operated without adequate airflow and efficient combustion, it may be necessary to inspect and clean the primary combustion air inlets, air channels, primary air elbow, heat exchanger, and Reaction Chamber.

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 inlets, and the combustion inlets on both air tubes free of any buildup.



9. When loading, load the wood so that the combustion air inlets 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. CleanFire 700.1/500.1 only - 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

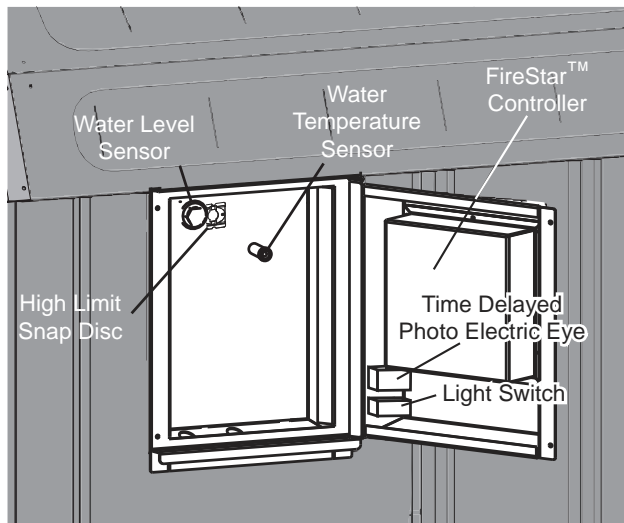
Regular maintenance and inspections can help extend the life of your outdoor furnace and prevent high-cost repairs. This table is meant to serve as a general guideline until you become acquainted with how the outdoor furnace operates with your specific application.

OPERATION	SERVICE INTERVAL							See Section Number
	Before first operation of season	Daily	Weekly	Monthly	Semi-Annually	Post Season	Other	
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.	●		C			●		7
Inspect secondary air tube and refractory.						●		11
Inspect firebox and firebox ash area.	●	A				●		8
Inspect and clean combustion air inlets.	●		C			●	B	9
Inspect and clean the combustion fan and inlet screen.					D			10
Oil the combustion fan.						●		10
Check pH and moly levels of water.	●				D	●	E	
Inspect primary and secondary combustion air elbows.						G		12
Grease bypass door handle (700/500/500.1 only).				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 WoodMaster 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.

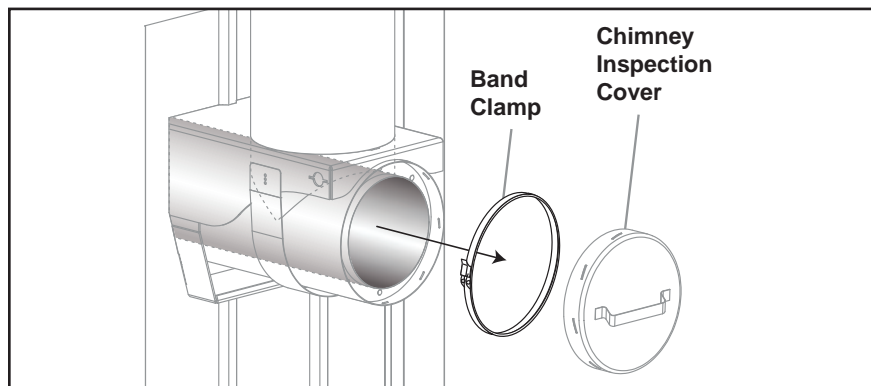
Section 4 - Firebox Door Seal and Bushings

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.

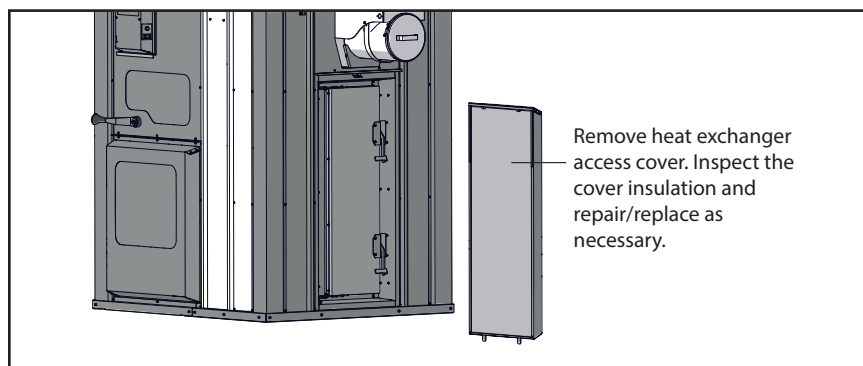
1. Press the **Power**  button on the FireStar combustion controller to turn it off.

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.

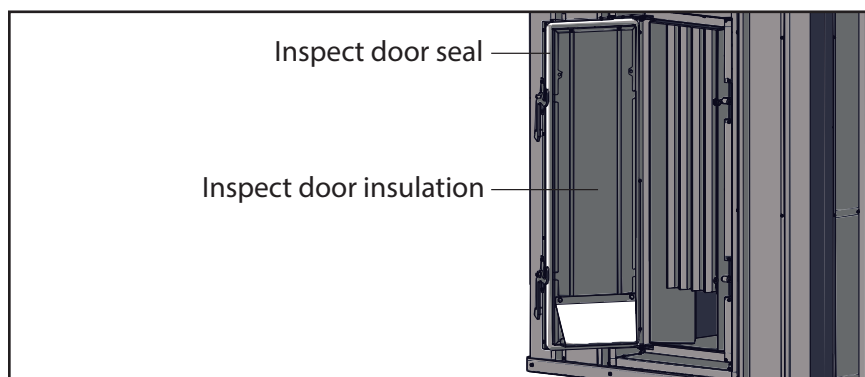
3. Remove the heat exchanger access cover from the back of the furnace. Inspect the cover insulation and repair/replace as necessary.



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.

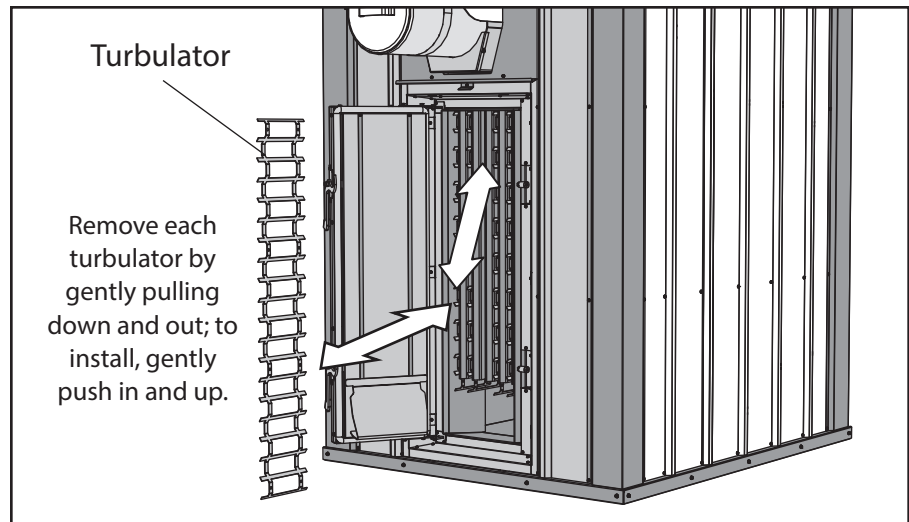


5. Inspect the door insulation and door seal. Repair/replace any defective seal or insulation.
6. Inspect the door frame edge for any buildup of creosote or ash. Use the maintenance tool to clean the door edges.

⚠ CAUTION

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

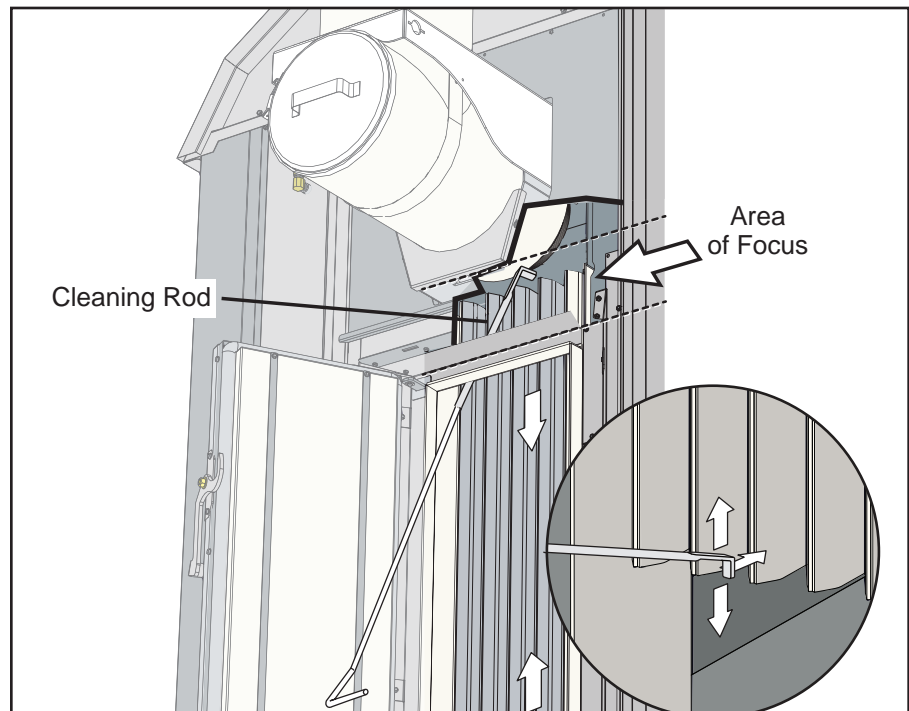
7. Remove each turbulator by gently pulling down and out. Clean each turbulator to remove any ash or buildup; then inspect for damage.




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.

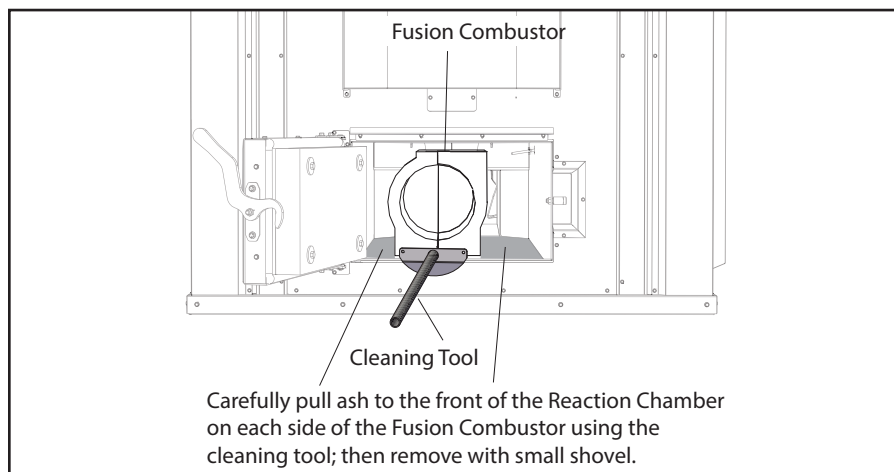
Section 7 - Reaction Chamber

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.

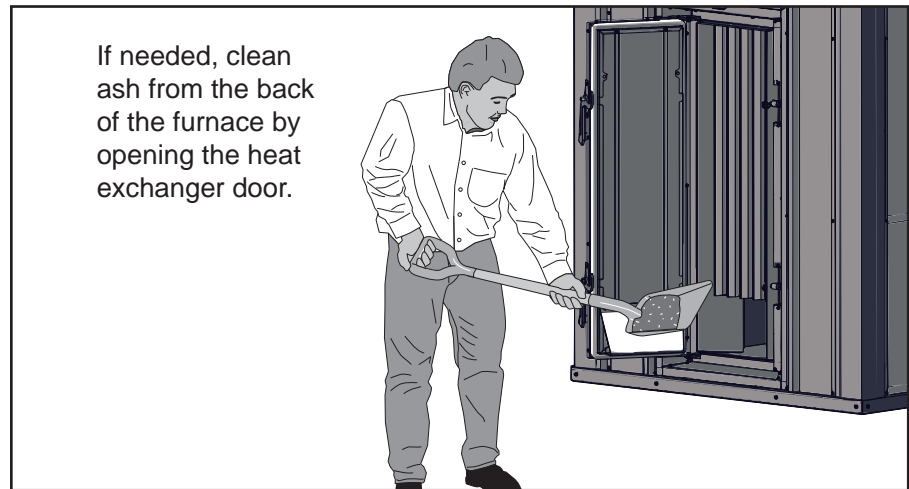
2. Unlatch and open the Reaction Chamber door.
3. Use the maintenance tool to pull the ash to the front of the furnace. Take care when pulling ash from each side of the Combustor not to move the refractory sections.
4. Use a small shovel to remove all of the ash and deposits from the Reaction Chamber. 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.




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.



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 inlets 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.

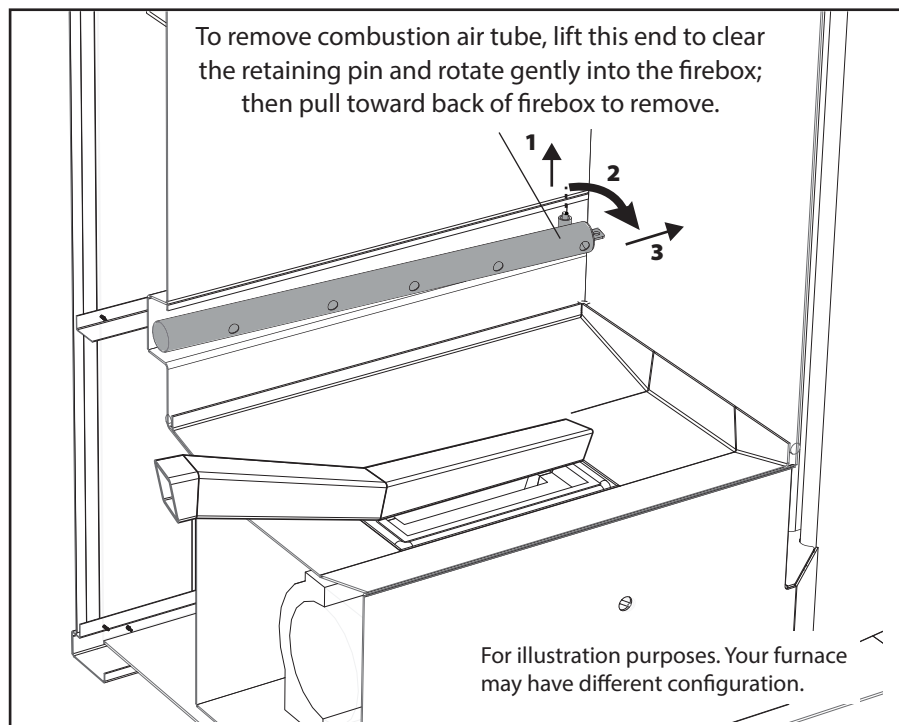
Section 9 - Combustion Air Tubes

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 inlets 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.



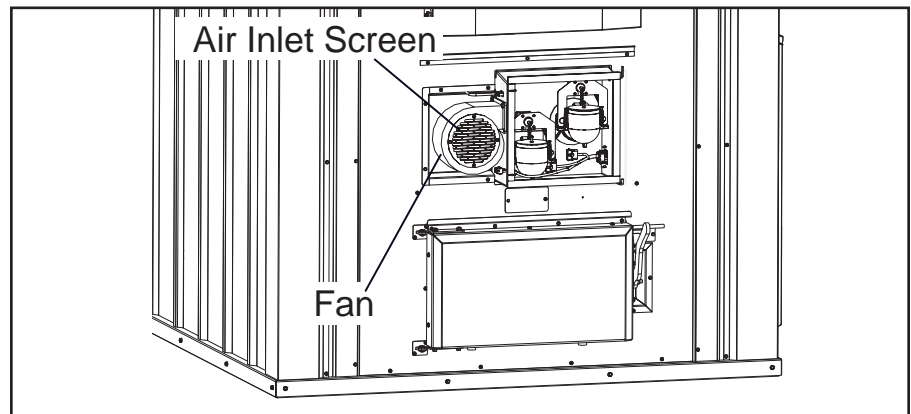
Section 10 - Combustion Air Fan

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.



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

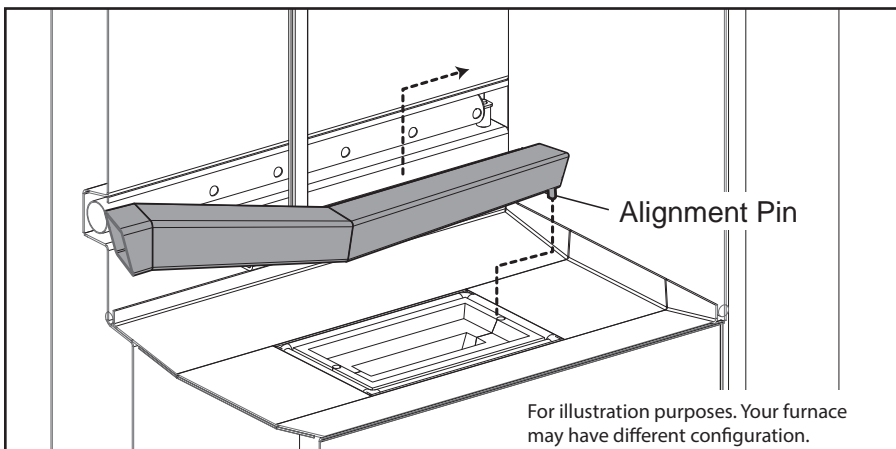
⚠ DANGER

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 Tube and Refractory

Removing and inspecting the air 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 tube and refractory are wear items.



1. Remove the air tube by lifting and then sliding it toward the rear of the outdoor furnace. Inspect the area beneath the air tube 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 WoodMaster dealer.
3. Install the air tube making sure the alignment pin is seated in the alignment hole in the refractory modules.

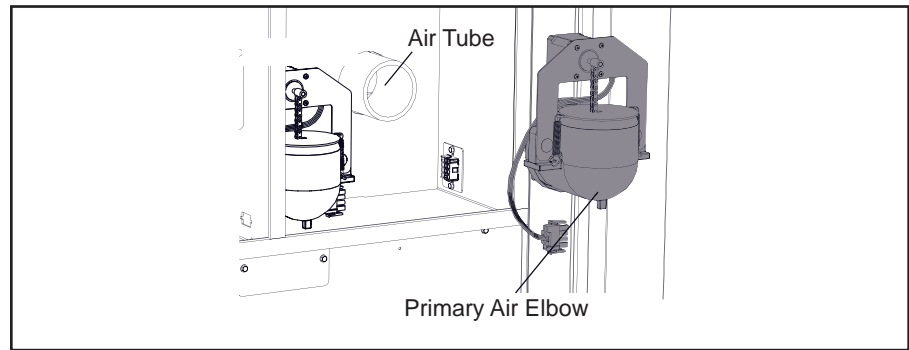
Section 12 - Primary Air Elbow

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.

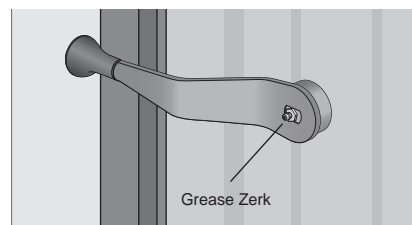
⚠ DANGER

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 (if applicable)

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

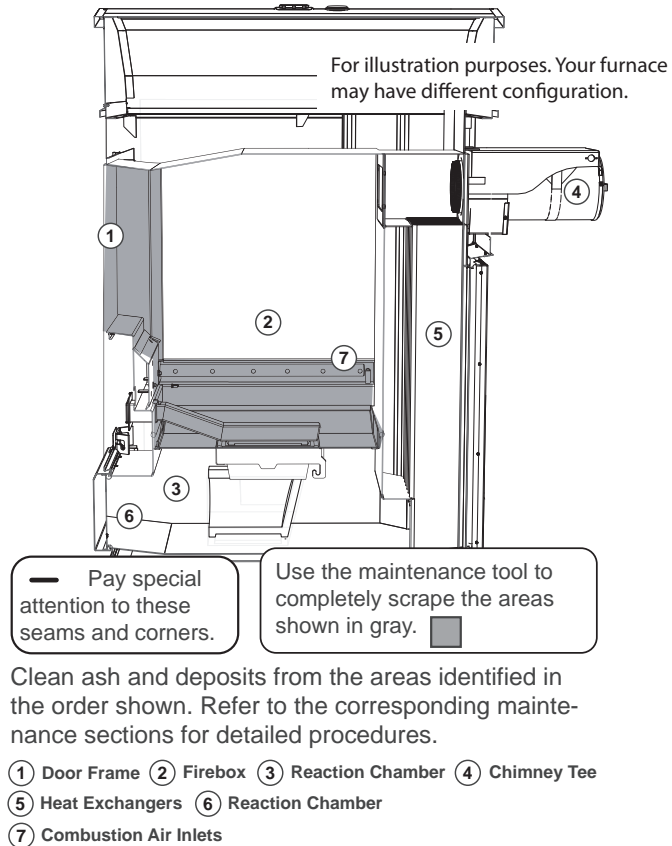
Be careful not to spill any coals or ash. Place coals and ash in a metal container with a tight-fitting metal lid.

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.



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 Tube

See Maintenance Section 9 - Combustion Air Tubes and Maintenance Section 11 - Air 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.

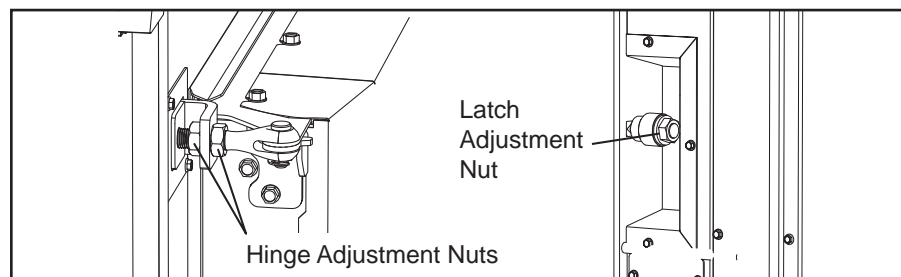
NOTE: If any of these items are under warranty, remember that the warranty covers only the cost of the replacement part. Labor is not covered.

NOTE: Use only genuine WoodMaster 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 outer adjustment nut and turn the inner nut counter-clockwise; then tighten the outer 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

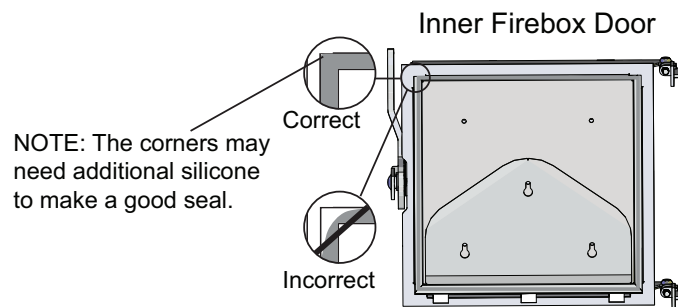
Remove all wood, coals and ash from the firebox.

1. Disconnect power to the outdoor furnace.

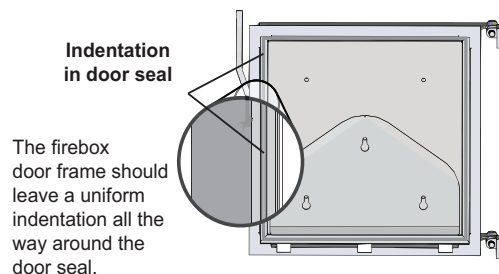
⚠ WARNING

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 door 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 door 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:

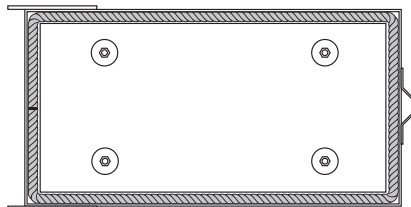
1. Disconnect power to the furnace.
2. Unlatch and open the Reaction Chamber door.
3. Use the maintenance tool to pull the ash to the front of the furnace; then use a small shovel to remove all of the ash and deposits from the Reaction Chamber. Take care not to damage the temperature sensor.

⚠ WARNING

Remove all ash from the Reaction Chamber.

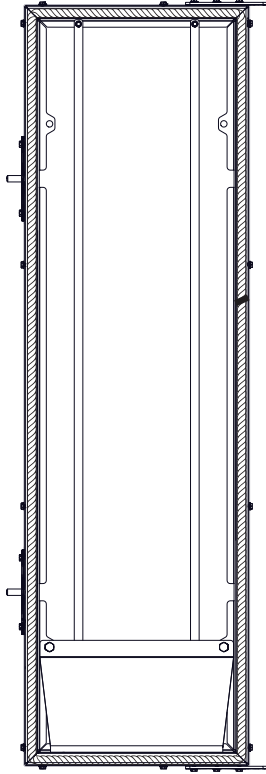
4. Using a scraper, remove the Reaction Chamber door seal rope and clean any remaining silicone adhesive from the groove. Any residue left in the groove will interfere with the new seal.
5. Apply a liberal amount of silicone sealant into the entire Reaction Chamber door seal groove.
6. Starting at the 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.

**Reaction Chamber
Door**




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 Rope



HEAT EXCHANGER DOOR SEAL

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 WoodMaster dealer for replacement seals.

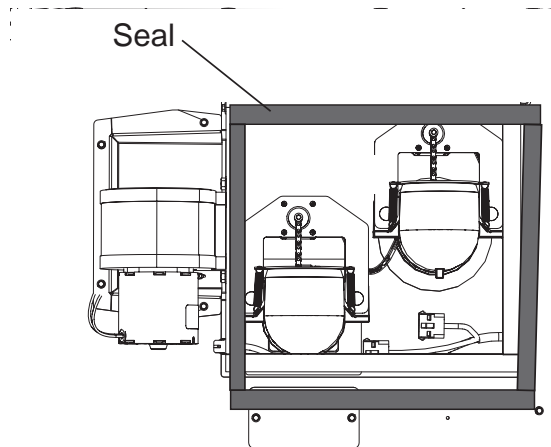
NOTE: It is best to replace the entire seal. Over time, the seal will compress, and replacing it in sections may result in the old sections not sealing completely against the airbox door.

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.

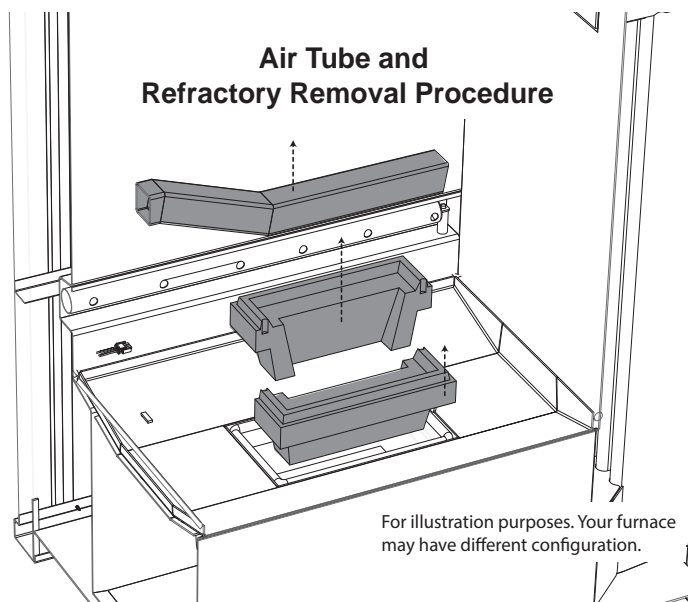


5. Remove the adhesive backing from the replacement seal and carefully apply the seal to the airbox as shown, making sure there are no gaps.
6. Close the airbox door and turn the furnace back on.
7. After the fan has started, use your hand to feel around the edges of the airbox door to check for leaks. 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 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 tube and/or refractory.



1. Remove the air 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 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.

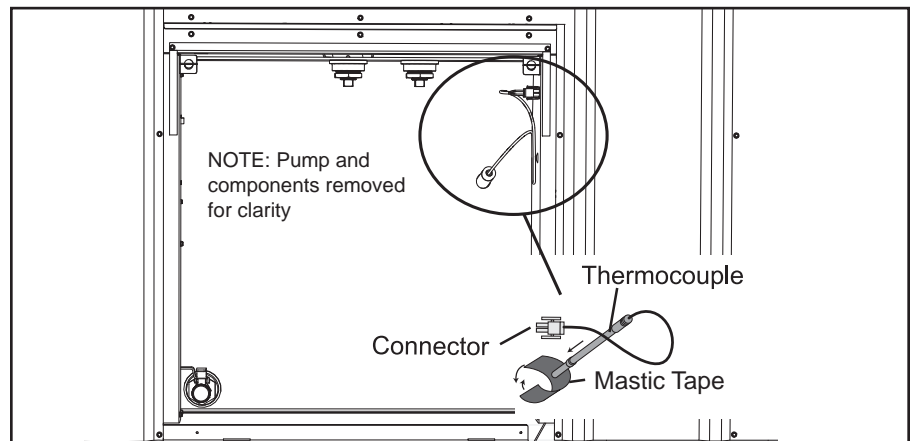
THERMOCOUPLE

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 WoodMaster 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.

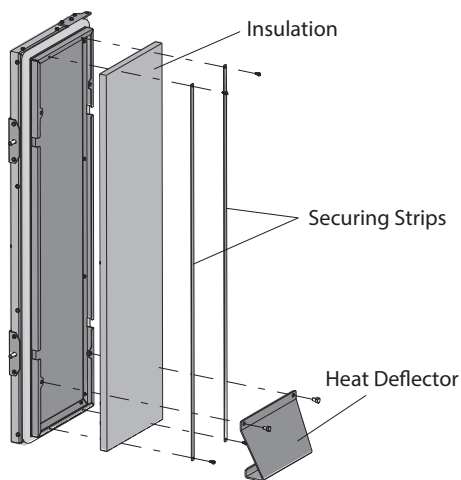
WARNING

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 to 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.

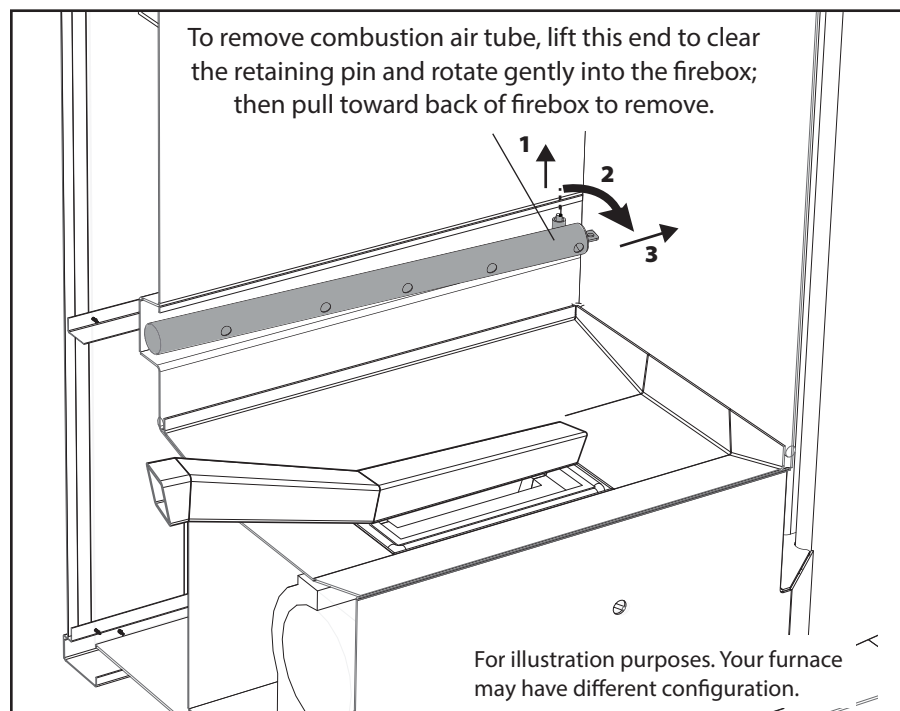
⚠ WARNING

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

Combustion Air Tube

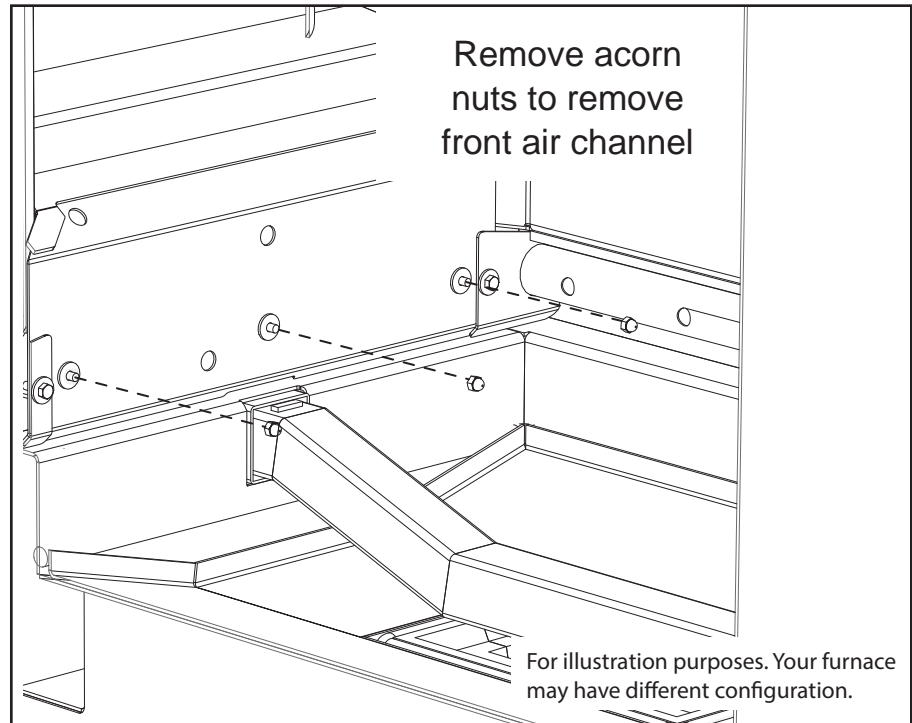
1. Lift the end of the tube closest to the back of the firebox up off of the retaining pin, then in and toward the back of the firebox. Install by reversing this procedure.

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.

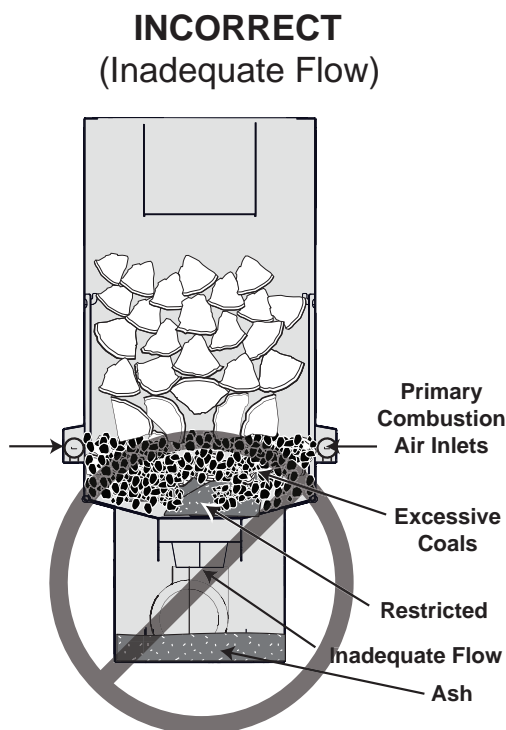


2. Install the new air channel. Apply a high-temperature, anti-seize compound to the stud threads; then secure with the acorn nuts and tighten securely.

TROUBLESHOOTING

GENERAL TROUBLESHOOTING INFORMATION

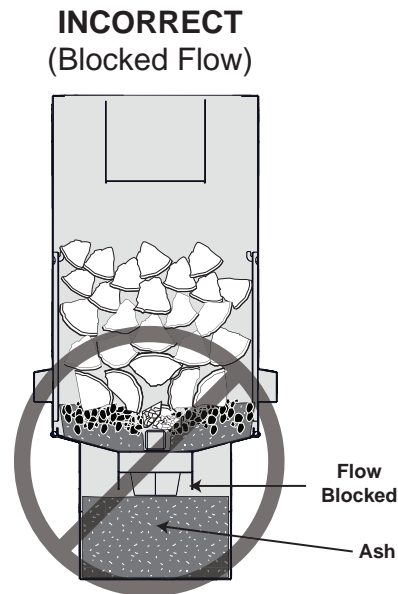
If the outdoor furnace is not operating the way it should, first review the information found in the Operation Instructions section, particularly the Adding Wood section.



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 inlets plugged?

Primary combustion air is provided through the combustion air inlets in the firebox. If the air inlets are restricted or plugged, the furnace will not operate correctly. If it appears the combustion air inlets are plugged or restricted, refer to the Maintenance Sections for the Combustion Air Tubes and Air Tube and Refractory. If after cleaning each combustion air inlet, 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 CleanFire.

One or more combustion air inlets are covered - If the level of coals and ash in the firebox is allowed to accumulate over the combustion air inlets, normal air flow can be blocked and could force coals and ash back into the airbox. Remove enough ash so the combustion air inlets 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. **Area directly below the charge tube or Combustor obstructed** - Inspect and clean as required.
3. **Combustion air inlets obstructed** - Clean as required to prevent the combustion air inlets 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 WoodMaster 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.

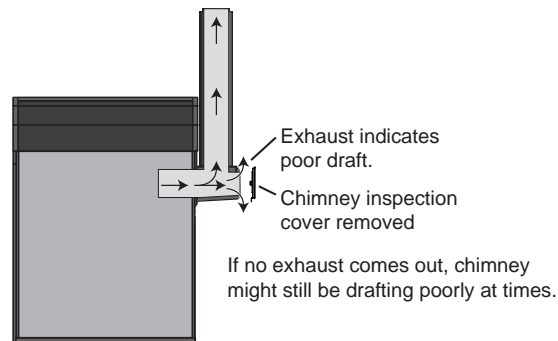
Proper draft is necessary for the CleanFire to operate optimally. Too much draft may cause excessive temperatures in the appliance. Inadequate draft may cause backpuffing and plugging of the chimney.

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.

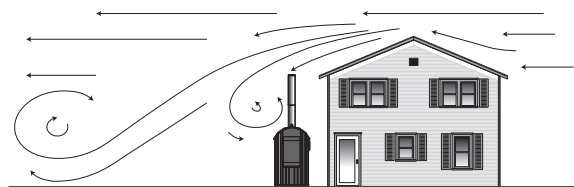
NOTE: A qualified installer may perform the following test to check for proper draft. Before performing the test, the outdoor furnace should be completely cleaned to ensure nothing obstructs exhaust flow through the system. Fire the furnace and allow it to reach normal operating temperature before performing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

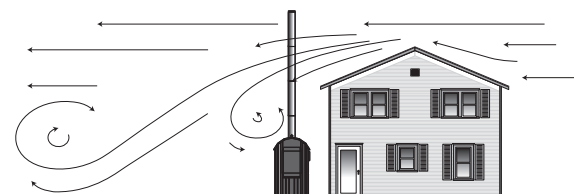
Perform test with bypass closed at normal operating temperature.



- 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.



May cause poor draft.



Allows for better draft.

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.

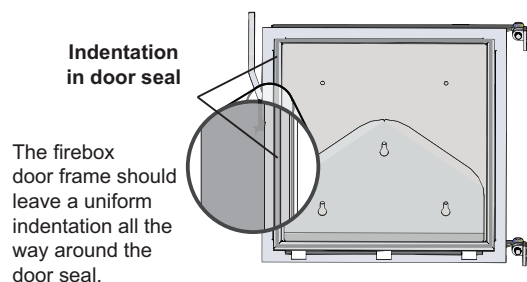
8. **Circulation pump(s) installed backwards** - Check that pump flow direction is correct. If not, shut off power to pump. If the flow is not in the correct direction, disconnect pump from water line and reverse pump mounting to correct flow direction. If the pump is not mounted on the outdoor furnace, 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 10° 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 WoodMaster 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.

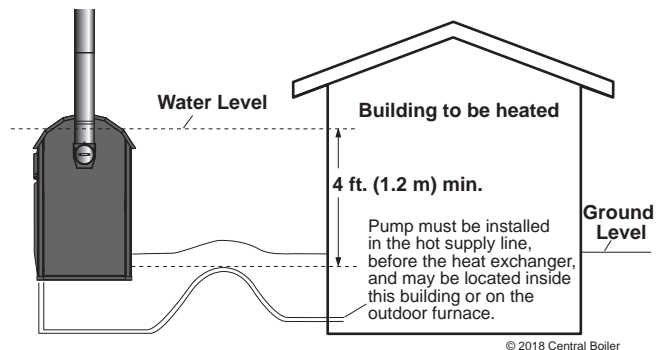
2. **Actuator motor and/or air regulating disc stuck open or obstructed** - Remove any obstructions. Lubricate the chain with a high temperature dry film lubricant rated for chains. Be careful not to get lubricant on the actuator motor or motor shaft. If replacement is necessary, refer to Air Regulating 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 MolyArmor 350. In addition, the amount of dissolved solids in the system (due to adding additional water) can cause problems.

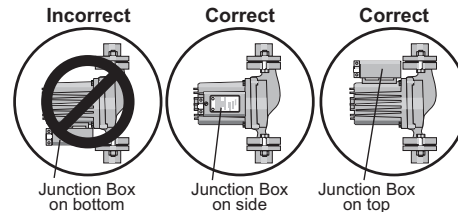
3. **Water is not circulating** - Check to make sure the pump is operating and water is circulating continuously through the supply and return lines to keep water temperature uniform in the outdoor furnace.
4. **Circulation valve(s) closed** - Be sure the proper valves in the system are open to allow 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 MolyArmor 350 (p/n 2900631) 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.

NOTICE

Refer to Owner's Manual in regards to stepper motor operation. This is essential to maintaining proper and efficient operation of the furnace.

Inspect seals for any damage or gaps. Pay close attention to corners and any location where one seal meets another, as a good seal is crucial for proper furnace operation. Refer to the Owner's Manual for instructions on how to replace a defective seal.

*Airbox illustration for reference only. Actual setup and component location may differ from your specific model. Refer to your Owner's Manual for more details.

pin 7000243

CAUTION

Temperature Sensor

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

ATTENTION

Firebox Door Frame

Prenez soin de ne pas endommager le capteur de température lorsque vous enlevez les cendres.

NOTICE

During a cold start, a considerable amount of moisture from condensation will collect inside the firebox and Reaction Chamber. This is normal and the moisture will evaporate when the outdoor furnace reaches operating temperature.

REMARQUE

Lors d'un démarrage à froid, une importante quantité d'humidité de condensation s'accumule à l'intérieur du foyer et de la chambre de réaction. Ce phénomène est normal et l'humidité s'évapore lorsque la chaudière extérieure aura atteint sa température de service.

pin 7000244

NOTICE

Chimney pipe and all extensions must be insulated.

CAUTION

HOT Surfaces

Do NOT Touch During Operation

NOTICE

Firebox Door Frame

Use the tools provided to completely scrape the face of the firebox door frame where the door seal contacts.

Keep the combustion air inlet and exhaust pathway open and clear of ash to allow the furnace to operate properly.

pin 7000245

REMARQUE

Coupez l'alimentation électrique avant d'enlever ce panneau.

ATTENTION

Surfaces BRÛLANTES

NE touchez PAS pendant le fonctionnement

pin 7000246

CAUTION

ANY TIME WATER IS ADDED, the furnace MUST BE immediately heated to 185°F, circulated, and the inhibitor level tested. FAILURE TO DO SO WILL RESULT IN DAMAGE to your furnace's water jacket!

Carefully follow the steps in your Owner's Manual for adding water and testing inhibitor levels.

pin 7000247

WARNING

Disconnect power before removing this panel.

AVERTISSEMENT

Coupez l'alimentation électrique avant d'enlever ce panneau.

pin 7000248

NOTICE

For use with aluminum or copper conductors.

REMARQUE

Pour utilisation avec des conducteurs en aluminium ou en cuivre.

pin 7000249

WARNING

AVOID DAMAGE!

BEFORE operating this appliance read manual and watch videos for proper operation and maintenance procedures.

Damage or decreased life expectancy of appliance could result if appliance is not properly operated or maintained.

pin 7000250

WARNING

Risk of fire. Do not store fuel or other combustible materials within marked clearances to combustibles. Do not cover supply and return lines with combustible materials.

AVERTISSEMENT

Risque d'incendie. Ne stockez pas de carburant ou autres matériaux combustibles à l'intérieur du périmètre de sécurité indiqué. Ne recouvrez pas les conduites d'alimentation et de retour avec des matériaux combustibles.

pin 7000251

CAUTION

Failure to perform proper care and maintenance will reduce the life and performance of your furnace. For best results, always follow these guidelines:

1. Add water treatment. Add as filling with water.
2. Burn properly seasoned wood.
3. Do not burn anything other than the recommended fuels.
4. Clean and inspect the furnace regularly.
5. Do not operate with the water temperature below 150°F (66°C).
6. Maintain the recommended water treatment levels at all times.
7. Clean the firebox thoroughly and keep it dry when not in use.
8. See Owner's Manual for more information about regularly scheduled maintenance.

CAUTION

Do not plug, block or seal vent opening. Sealing can result in a dangerous buildup of pressure.

ATTENTION

Ne pas bloquer, obstruer ou sceller l'ouverture du conduit d'évacuation. Sceller l'ouverture pourrait entraîner une augmentation dangereuse de la pression.

pin 7000252

CAUTION

Watch your head.

pin 6956

CAUTION

15 seconds before opening firebox door, lift and push handle toward back of furnace to open bypass door.

15 seconds after closing firebox door, pull handle toward front of furnace and push down to close bypass door.

ATTENTION

Quinze secondes avant d'ouvrir la porte du foyer, soulevez la poignée en direction de l'arrière de la chaudière.

Quinze secondes après avoir fermé la porte du foyer, tirez la poignée en direction de l'avant de la chaudière puis en la poussant vers le bas.

pin 7000253

CAUTION

DO NOT disable the door switch, as it serves as a safety and reset function.

ATTENTION

Ni désactiver PAS l'interrupteur de porte car il sert de fonction de sécurité et de réinitialisation.

pin 7000254

CAUTION

Failure to perform proper care and maintenance will reduce the life and performance of your furnace. For best results, always follow these guidelines:

1. Add water treatment. Add as filling with water.
2. Burn properly seasoned wood.
3. Do not burn anything other than the recommended fuels.
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pin 7000252

CAUTION

Watch your head.

pin 6956

CAUTION

15 seconds before opening firebox door, lift and push handle toward back of furnace to open bypass door.

15 seconds after closing firebox door, pull handle toward front of furnace and push down to close bypass door.

ATTENTION

Quinze secondes avant d'ouvrir la porte du foyer, soulevez la poignée en direction de l'arrière de la chaudière.

Quinze secondes après avoir fermé la porte du foyer, tirez la poignée en direction de l'avant de la chaudière puis en la poussant vers le bas.

pin 7000253

CAUTION

DO NOT disable the door switch, as it serves as a safety and reset function.

ATTENTION

Ni désactiver PAS l'interrupteur de porte car il sert de fonction de sécurité et de réinitialisation.

pin 7000254

DO NOT BURN GARBAGE

Burning garbage causes damage to components of wood burning appliances.

Refer to your Owner's Manual

WARNING

Risk of fire. Do not open the Reaction Chamber door when appliance is in operation. Do not leave Reaction Chamber door open unattended.

AVERTISSEMENT

Risque d'incendie. N'ouvrez pas la porte de la chambre de réaction lorsque l'appareil est en marche. Ne laissez pas la porte de la chambre de réaction ouverte sans surveillance.

pin 7000255

CAUTION

Do not plug, block or seal vent opening. Sealing can result in a dangerous buildup of pressure.

ATTENTION

Ne pas bloquer, obstruer ou sceller l'ouverture du conduit d'évacuation. Sceller l'ouverture pourrait entraîner une augmentation dangereuse de la pression.

pin 7000252

CAUTION

Watch your head.

pin 6956

CAUTION

15 seconds before opening firebox door, lift and push handle toward back of furnace to open bypass door.

15 seconds after closing firebox door, pull handle toward front of furnace and push down to close bypass door.

ATTENTION

Quinze secondes avant d'ouvrir la porte du foyer, soulevez la poignée en direction de l'arrière de la chaudière.

Quinze secondes après avoir fermé la porte du foyer, tirez la poignée en direction de l'avant de la chaudière puis en la poussant vers le bas.

pin 7000253

CAUTION

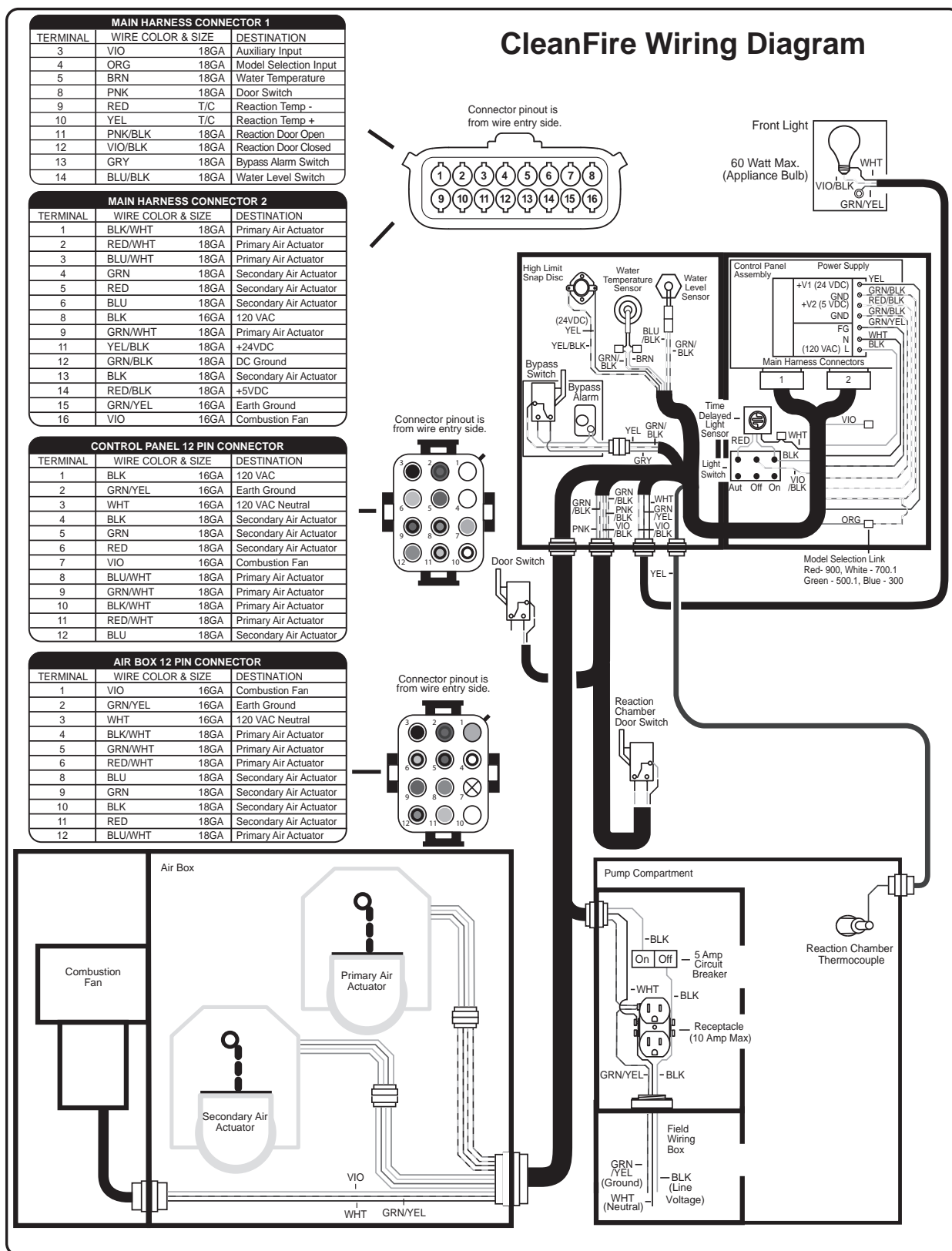
DO NOT disable the door switch, as it serves as a safety and reset function.

ATTENTION

Ni désactiver PAS l'interrupteur de porte car il sert de fonction de sécurité et de réinitialisation.

pin 7000254

WIRING DIAGRAM



WATER SAMPLE INFORMATION - CLEANFIRE 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 make a copy of the water sample label below, attach the COMPLETED label to the water sample bottle, and mail your water sample to WoodMaster.

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 WoodMaster, Attn: Water Quality Department, 20502 160th Street, Greenbush, MN 56726.

FROM _____

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

NOTES

NOTES

LIMITED WARRANTY - CLEANFIRE MODELS

WoodMaster, Inc. ("WoodMaster") 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, WoodMaster CleanFire 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 WoodMaster within seven (7) days of the original owner taking possession of the furnace and the original owner strictly complies with the instructions for maintenance and corrosion inhibitor 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, WoodMaster 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 WoodMaster 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 WoodMaster's discretion, the furnace or part may be required to be returned to WoodMaster 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 corrosion inhibitor and send a furnace water sample when the furnace is initially put into service and once each year thereafter to confirm proper maintenance and corrosion inhibitor. No warranty claim can be approved unless the furnace registration and the required water test verifications are on file at WoodMaster.

Parts Manufactured By Others. Parts that are factory-installed by WoodMaster, 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 CleanFire 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 WoodMaster within seven (7) 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, air charge tube, firebox ash pan, combustors, aquastats, actuators, heat refractory, firebrick, air channels, combustion air tubes, turbulators, chimney sections, and chimney tee. 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 WoodMaster CleanFire 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 WoodMaster unless authorized by WoodMaster in writing; (d) modifications undertaken without the written permission of WoodMaster; or (e) if any WoodMaster serial number has been removed or defaced. This limited corrosion warranty will be void if the owner fails to maintain the proper amount of MolyArmor 350 Corrosion Inhibitor in the system, fails to send water samples to WoodMaster 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.

WoodMaster is not liable for damage or repairs required as a consequence of faulty installations or applications by others or any event of force majeure. WoodMaster 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 WoodMaster 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. WOODMASTER SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF WOODMASTER 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 WoodMaster dealer or employee is authorized to make any modification, extension, or addition to this limited warranty. WOODMASTER 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 WoodMaster dealer from whom you purchased your furnace or contact WoodMaster by telephone (800-932-3629) or mail (600 Polk Ave. SW, Red Lake Falls, MN 56750). Please provide the dealer's name, original date of sale, model number and serial number in all communications. WoodMaster reserves the right to require the warranty service to be performed at a WoodMaster facility when deemed necessary by WoodMaster. All corrosion repairs will be performed at WoodMaster unless authorized by WoodMaster in writing.

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

8. Quality Assurance / Quality Control

8.1 OMNI's Quality Statement

OMNI's Testing capabilities and Evaluation credentials are covered under the requirements of ISO/IEC Standards, which are utilized by the recognized ILAC Accreditation Agencies to ensure that OMNI's services maintain quality and consistency. This includes the appliance Data/Results (associated with the Construction Evaluation and Performance Evaluation), which are summarized in this specific Report, and are maintained through diligent adherence to the accreditation standards. The Testing, Data Evaluation, Document Review, and Evaluation Report are all conducted and adhere to the system and process/procedures requirements of ISO/IEC 17025, as well as the those set forth by each agency's own program guidelines.

Along with the ISO/IEC 17025 and accreditation agency requirements, OMNI incorporates its own procedures and company policies. These are reviewed (at minimum) on an annual basis, through both internal and external audits of OMNI's Quality Management System. A short list of agencies that accredit OMNI for approval to conduct the scope of services provided, please read the list below.

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

- **International Accreditation Service, Inc. (IAS):** Approved to Test and complete an Evaluation of specified appliances (covered in OMNI's scope of testing certificate) to confirm compliance with performance standard criteria and (ID #TL-130). Also approved for Certification of United States products to the applicable U.S. safety standards (ID #PCA-156) and Inspection/Surveillance of those products (ID #AA-706).
- **Standards Council of Canada (SCC):** Approved for Certification of Canadian products to Canadian safety standards.
- **EPA Recognition and Approval:** Approved under 40 CFR 60 by the United States EPA as a Test Lab, 3rd Party Certification Body, and an Inspection agency.

If this Evaluation Report is used in an appliance's Certification, an Initial Factory Audit will need to be completed before a Certification can be issued (this may be waived after a client's first Certification has been completed and the client has maintained their Listings in good standing). If the appliance covered in this Report is Certified and Listed on OMNI's Public Listing Directory (PLD), then this Report may be used as a reference document to conduct the annual Quality Control and Product Inspections, which is required to maintain the appliance Listing. If discrepancies are found between the appliance and the information in this Report during the annual inspections, and the owner(s) of the Listing appliance fails to produce evidence or data to resolve said discrepancies, especially in cases that may jeopardize an end-user's safety, then OMNI reserves the right to revoke the appliance Listing.

8.2 - Manufacturer's Quality Assurance Plan (QAP) - CBI Report Only

8.3 Equipment and Calibrations

Equipment List

Item No.	Eq. No.	Description	Cal Date	Cal Due
1	OMNI-00692	Dry Gas Meter System A (Train A)	2/11/2025	8/11/2025
2	OMNI-00691	Dry Gas Meter System B (Train B)	2/11/2025	8/11/2025
3	OMNI-00336	Dry Gas Meter System C (First Hour)	1/8/2025	7/8/2025
4	OMNI-00335	Dry Gas Meter System D (Background)	1/8/2025	7/8/2025
5	OMNI-00753	Temperature, sampling system DAQ NI-USB 9213	2/10/2025	8/10/2025
6	OMNI-00754	Temperature, sampling system DAQ NI-USB 9210	2/10/2025	8/10/2025
7	OMNI-00742	Moisture Meter, Delmhorst model J-2000	VBU ¹	
8	OMNI-00431	Moisture Meter Reference, Delmhorst model MCS-1	10/18/2024	10/18/2025
9	OMNI-00288	Scale, 1000 lb. for fuel preparation	8/26/2024	9/7/2023
10	OMNI-00730	Tape Measure, Fuel Preparation	12/6/2023	12/6/2028
11	OMNI-00716	Barometer, Digital	11/7/2024	5/7/2025
12	OMNI-00737	Anemometer, Hot-Wire type, for room air velocity	11/7/2024	11/7/2025
13	OMNI-00211	DAQ 6-1/2 digit DMM, Keithley 2700 for RTDs and flow sensor	VBU ²	
14	OMNI - 00373	Thermocouple Calibrator / Thermometer, Omega CL24	11/7/2024	11/7/2025
15	OMNI-00494	Liquid Flow Meter, Omega model FTB 4607	VBU ³	
16	OMNI-00439	Stopwatch	3/11/2023	3/11/2028
17	OMNI-00356	Platform Scale, 5000 lb.	8/26/2024	8/25/2025
18	OMNI-00255	Class F audit weight, 10 Lb. (1 of 3)	7/6/2021	7/6/2026
19	OMNI-00274	Class F audit weight, 10 Lb. (3 of 3)	4/7/2023	4/7/2028
20	OMNI-00743	Manometer, 0-2" H2O, Dwyer model 1430 "microtector"	3/22/2024	3/22/2025
21	OMNI-00716	Humidity/Temperature Meter (for room humidity)	11/7/2024	5/7/2025
22	OMNI-00637	Analytical Balance, Mettler model MS104TS, 200g	2/17/2025	8/17/2025
23	OMNI-00283A	Class F Audit Weights, 0.2 - 100 grams	10/24/2023	10/24/2028
24	OMNI-00273	Class F Audit Weights, 0.100 grams	9/10/2024	9/10/2029
25	OMNI-00709	Hygrometer/Thermometer, desiccator	3/6/2023	3/6/2028
26	OMNI-00745	Scale, 150 kg, used for water flow checks	9/25/2024	8/1/2025
27	OMNI-00594	Flue gas analyzer, CAI model ZRE-4, CO2%, CO%, CO ppm	VBU ⁴	
28	CC738144	Span Gas, 16.88% CO2, 4.05% CO	6/20/2023	6/20/2031
29	CC506601	Span Gas, 16.88% CO2, 4.07% CO	6/20/2023	6/20/1931
30	CC242987	Span Gas, 500 ppm CO	6/6/2023	6/1/2028
31	TC-3AAM183	Nitrogen (Zero Gas)		

VBU¹ - Verified Before Use using Item No. 8

VBU² - Verified before use using boiling water and ice water and Item No. 14

VBU³ - Verified before use using Scale (item 26) and stopwatch (item 16). Also verified at beginning and ending of each test run.

VBU⁴ - Calibrated and verified before use using Items 28, 29, 30 and 31

Certificate of Calibration

Certificate Number: 749605



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: 210356

Order Date: 05/28/2021

Authorized By: N/A



0723.01
Calibration

Property #: OMNI-00255

User: N/A

Department: N/A

Make: Rice Lake

Model: 10 Lbs. (Class F)

Serial #: OMNI-00255

Description: Mass

Procedure: DCN 500901

Accuracy: Class F (± 450 mg)

Calibrated on: 07/06/2021

*Recommended Due: 07/06/2026

Environment: 20 °C 52 % RH

* As Received: Within Tolerance

* As Returned: Within Tolerance

Action Taken: Calibrated

Technician: 126

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 mass meets class F specifications.

Received/returned without accessories.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
256A	Rice Lake	W0133K	Mass Set,	09/18/2022	741788
484A	Rice Lake	1kg- 10kg (Class ASTM 1)	Mass Set,	07/02/2023	748551
550A	And (A&D) Co.	HP- 30K	Balance 30 Kg	12/31/2021	739307

Parameter

Measurement Data

Measurement Description	Range	Unit	Reference	Min	Max	*Error	UUT	Uncertainty
Before/After								Accredited = ✓
Mass								
10 Lbs.		g	4535.92400000	4535.47400000	4536.3740000	0.2288327	4536.1528327 g	3.5E-01 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to either the SI or to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by JCGM 106:2012. 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 written approval of JJ Calibrations.

Reviewer

3 Issued 07/08/2021

Rev # 15

Inspector

Certificate of Calibration

Certificate Number: 821552



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: 240499
Order Date: 09/09/2024
Authorized By: N/A



Property #: OMNI-00273
User: N/A
Department: N/A
Make: Ohaus
Model: 100 mg
Serial #: OMNI-00273
Description: Mass
Procedure: DCN 500901
Accuracy: Class F ($\pm 0.43\text{mg}$)

Calibrated on: 09/10/2024
*Recommended Due: 09/10/2029
Environment: 21 °C 57 % RH
* As Received: Within Tolerance
* As Returned: Within Tolerance
Action Taken: Calibrated
Technician: 126

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.

Received/returned with case.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
723A	Rice Lake	1mg- 200g (Class 0)	Mass Set,	12/12/2024	804865
801A	Sartorius	MSE6. 6S	Analytical Balance	01/08/2025	807470

Parameter		Measurement Data					UUT	Uncertainty
Measurement Description	Range Unit	Reference	Min	Max	*Error			
Before/After								Accredited = ✓
Mass								
Mass	mg	100.00000	99.5700	100.4300	0.0064		100.0064 mg	2.9E-02 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to the SI through an NMI such as but not limited to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NC SL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by ILAC G8:2019. A test uncertainty ratio (TUR) of 4:1, if achievable, is maintained. Where uncertainties are reported, see uncertainties to calculate TUR to determine your possible Risk. The results reported herein apply only to the calibration of the item described above. JJ Calibrations does not alter or update software of the UUT, version stays the same unless otherwise noted. This report may not be reproduced, except in full, without written approval of JJ Calibrations

Reviewer

3 Issued 09/10/2024 Rev # 15

Inspector

Certificate of Calibration

Certificate Number: 791395



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: 230427

Order Date: 03/30/2023

Authorized By: N/A



Calibrated on: 04/07/2023

*Recommended Due: 04/07/2028

Environment: 20 °C 44 % RH

* As Received: Within Tolerance

* As Returned: Within Tolerance

Action Taken: Calibrated

Technician: 175

Property #: OMNI-00274

User: N/A

Department: N/A

Make: Rice Lake

Model: 10 Lbs. (Class F)

Serial #: OMNI-00274

Description: Mass

Procedure: DCN 500901

Accuracy: Class F ($\pm 450\text{mg}$)

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.

Received and returned with no case.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
550A	And (A&D) Co.	HP- 30K	Analytical Balance, 30Kg	02/07/2024	785492
92A	Rice Lake	1oz to 10 lbs (Class F)	Mass Set,	11/18/2023	759449

Parameter

Measurement Data

Measurement Description	Range Unit	Reference	Min	Max	*Error	UUT	Uncertainty
Before/After							Accredited = ✓
Mass							
10 Lbs.	g	4535.9240	4535.474	4536.374	0.324	4535.600 g	3.6E-01 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to either the SI or to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NCCL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by JCGM 106:2012. 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 written approval of JJ Calibrations.

Reviewer

3 Issued 04/07/2023

Rev # 15

Inspector

Customer: OMNI-TEST LABORATORIES INC
13327 NE AIRPORT WAY
PORTLAND, OR 97230

PO Number: 230453

Certificate/SO Number: 19-E6W3O-20-1 Revision 0



Manufacturer: Troemner/Talboys
Model Number: 100 g - 200 mg
Description: Weight Set, 8 Pcs, Class F
Serial Number: 47883
ID: OMNI-00283A

As-Found: In Tolerance
As-Left: In Tolerance

Issue Date: Oct 24, 2023
Calibration Date: Oct 24, 2023
Due Date: Oct 24, 2028

Calibrated To: Manufacturer Specification
Calibration Procedure: 6-AC11601-3

946

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2017. Accredited calibrations performed within the Lab Scope of Accreditation are indicated by the presence of the Accrediting Body Logo and Certificate Number. Any measurements on an accredited calibration not covered by the Lab Scope of Accreditation are listed in the notes section of the certificate. SCC, NRC, CLAS or ANAB do not guarantee the accuracy of an individual calibration by accredited laboratories.

Transcat calibrations, as applicable, are performed in compliance with the requirements of the Transcat Quality Manual QAC-P01-000, the customer Purchase Order and/or Quality Agreement requirements, ISO 9001:2015, ANSI/NCSL Z540.1-1994 (R2002), and ISO 10012:2003, as applicable. When specified contractually, the requirements of ISO TS16949:2009, 10CFR21, 10CFR50 App. B, ASME NQA-1:2012, and ANSI/NCSL Z540.3-2006 (R2013) are also covered.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are listed on this certificate.

Transcat documents the traceability of measurements to the SI units through the National Institute of Standards and Technology (NIST), or the National Research Council of Canada (NRC), or other national measurement institutes (NMI) that are signatories to the CIPM Mutual Recognition Arrangement, or accepted fundamental and/or natural physical constants, or by the use of specified methods, consensus standards or ratio type measurements. Documentation supporting traceability information is available for review upon written request at a Transcat facility. The measured quantity and the measurement uncertainty are required for further dissemination of traceability.

Uncertainties are reported with a coverage factor $k=2$, providing a level of confidence of approximately 95%. All calibrations have been performed using processes having a TUR of 4:1 or better (3:1 for mass calibrations), unless otherwise noted. The Test Uncertainty Ratio (TUR) is calculated in accordance with NCSL International RP-18. For mass calibrations: Conventional mass referenced to 8.0 g/cm³.

The results in this report relate only to the item calibrated or tested. Recorded calibration data is valid at the time of calibration within the stated uncertainties at the environmental conditions noted. The determination of compliance to the specification is specific to the model/serial no./ID no. referenced above based on the tolerances shown; these tolerances are either the original equipment manufacturers (OEM's) warranted specifications or the client's requested specifications. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. Limitations on the uses of this instrument are detailed in the OEM's operating instructions. This certificate may not be reproduced except in full, without the written approval of Transcat. Additional information, if applicable may be included on separate report(s).

Customer: OMNI-TEST LABORATORIES INC
13327 NE AIRPORT WAY
PORTLAND, OR 97230

PO Number: 230453

Certificate/SO Number: 19-E6W3O-20-1 Revision 0



As Found/As Left Data

Description	Setpoints	Accuracy	Low Limit	High Limit	As Found / As Left	O O T	Cal Process Uncertainty (k=2; ±)	Measurement Uncertainty (k=2; ±)	Units	TUR
Test Environment Ambient Temperature - W1										
Ambient Temperature					20.000 °C					
Test Environment Ambient Relative Humidity - W1										
Relative Humidity					40.00 %RH					
Test Environment Barometric Pressure - W1										
Barometric Pressure					29.751 "Hg@0°C					
Mass Measurement - W1	100.0000g	±(0.02 g)	99.9800	100.0200	99.9982 g		0.00025	0.00025	g	80.0 : 1
Mass Measurement - W2	50.0000g	±(0.01 g)	49.9900	50.0100	49.9994 g		0.00015	0.00015	g	66.7 : 1
Mass Measurement - W3	20.0000g	±(0.004 g)	19.9960	20.0040	20.0010 g		0.000087	0.000087	g	46.0 : 1
Mass Measurement - W4	10.0000g	±(0.002 g)	9.9980	10.0020	9.9998 g		0.000062	0.000062	g	32.3 : 1
Mass Measurement - W5	5.000000g	±(0.001501 g)	4.998499	5.001501	4.999870 g		0.000045	0.000045	g	33.4 : 1
Mass Measurement - W6	2.000000g	±(0.001122 g)	1.998878	2.001122	2.000407 g		0.000032	0.000032	g	35.1 : 1
Mass Measurement - W7	1.000000g	±(0.0009 g)	0.99910	1.00090	1.00011 g		0.000025	0.000025	g	36.0 : 1
Mass Measurement - W8	200.0000mg	±(0.5395 mg)	199.4605	200.5395	200.0602 mg		0.0047	0.0047	mg	100.0 : 1

CALIBRATED
BY **TRANSAT**

CERTIFICATE OF CALIBRATION

Customer: OMNI-TEST LABORATORIES INC
13327 NE AIRPORT WAY
PORTLAND, OR 97230

PO Number: 230453



Certificate/SO Number: 19-E6W3O-20-1 Revision 0

Field not applicable.



Customer: OMNI-TEST LABORATORIES INC
13327 NE AIRPORT WAY
PORTLAND, OR 97230

PO Number: 230453

Certificate/SO Number: 19-E6W30-20-1 Revision 0

Traceable Standards

Asset	Manufacturer	Model Number	Description	Cal Date	Due Date	Traceability Number	Use
19-321	Fluke	2626-H	Hygro-Thermometer, Probe,	31-May-23	31-Mar-24	19-&19-321-22-1	AF/AL
19-Mass3	Transcat	Echelon III	Transfer Mass Standard Set	23-Oct-23	23-Nov-23	19-&19-Mass3-99-1	AF/AL
19-P100	Troemner	7210-1	Weight Set, 5 kg to 1 g, Class 1	4-Oct-23	31-Oct-24	19-&19-P100-19-1	AF/AL
19-P126	Druck Inc.	DPI 740 (22 to 34 inHg)	Barometer	22-Mar-23	31-Mar-24	19-&19-P126-17-1	AF/AL
19-P129	Mettler Toledo	XPE2004SC	Comparator Balance	25-Oct-22	31-Oct-23	19-&19-P129-15-1	AF/AL
19-P142	Mettler Toledo	UMX5	Micro Balance	25-Oct-22	31-Oct-23	19-&19-P142-13-1	AF/AL

The use of the standard is defined as: AF - used for as-found readings, AL - used for as-left readings.

Environmental Data

Temperature	Relative Humidity	Temp / RH Asset	Lab Area	Lab Description
68.80°F /20.44°C	40.20%	19-321	E2C	Echelon II (10 kg)

Decision Rule

When compliance statements are present, they are reported without factoring in the effects of uncertainty and comply with the guidelines as follows: The acceptance zone is defined as: less than or equal to the high limit, and/or greater than or equal to the low limit. The rejection zones are defined as greater than the high limit and/or less than the low limit. Single measurement results in the acceptance zone are identified as in-tolerance. Single measurement results in the rejection zone are identified as out-of-tolerance (OOT). When all measurement results are in the acceptance zone for repeated measurements, for the same characteristic, the test is identified as in-tolerance. For repeated characteristic measurements, a single measurement result in the rejection zone, will cause the test to be identified as out-of-tolerance (OOT). Data rejection for cause, (outliers) is permitted after the ~~acc~~ Determining and Verifying Out Of Tolerance(OOT) and/or Op Fail Readings ~~acc~~ procedure outlined in this document has been completed and the anomalous reading cannot be repeated, and the anomalous reading does not represent the system under test. Statements of conformity are binary.

Customer: OMNI-TEST LABORATORIES INC
13327 NE AIRPORT WAY
PORTLAND, OR 97230

PO Number: 230453

Certificate/SO Number: 19-E6W3O-20-1 Revision 0



Legend

Topic	Description
Accuracy	UUT specification that establishes expected tolerances and a time limit (calibration interval) over which the instrument is expected to hold these tolerances
As Found	Initial measurement results
As Left	Measurement results after adjustment and/or repair
Blank Data Field	Test is not applicable for the UUT
Cal Process Uncertainty (CPU)	The uncertainty of calibration process for the reported measurement result
Calibration Date	Indicates the date that the calibration was completed
Cover Factor (k)	A measure of uncertainty that defines an interval about the measurement result
Due Date	Indicates the end of the calibration cycle as requested by the customer
Issue Date	Indicates the date that the calibration has passed the Data Review Process and was signed by an authorized signatory or the date that a revision to the original certificate has been issued
Low / High Limits	Establishes UUT acceptable performance limits for the test measurement
Measurement Uncertainty	The dispersion of the values attributed to a measured quantity
OOA	Out of Acceptance (#)
OOT	Out of Tolerance (*)
Setpoints	Measurement target values
Traceability	Unbroken chain of comparisons relating an instrument's measurements to a known standard(s)
Traceability Number	Unique identifier(s) used to document traceability of calibration standards
TUR	Test Uncertainty Ratio, ratio of the tolerance or specification of the test measurement in relation to the uncertainty in measurement results
UUT	Unit Under test

CALIBRATED
BY **TRANSCAT**

CERTIFICATE OF CALIBRATION

Customer: OMNI-TEST LABORATORIES INC
13327 NE AIRPORT WAY
PORTLAND, OR 97230

PO Number: 230453



Certificate/SO Number: 19-E6W30-20-1 Revision 0

Calibrated At:

1503 E Orangethorpe Ave
Fullerton, CA 92831

Facility Responsible:

1503 E Orangethorpe Ave
Fullerton, CA 92831
800-828-1470

Unit Barcode:



0900B531163

Date Received: October 13, 2023
Service Level: R9

Calibrated By:

Electronically Signed By:
Vianey Manriquez

Reviewed By:

Electronically Signed By:
Cody Viers for

Vianey Manriquez
Calibration Technician

Oct 24, 2023
07:33:18 -04:00

Mathew Bundy
Lab Manager

Oct 24, 2023
10:58:21 -04:00



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



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

Report Number: OMNE03053268240826

A2LA ACCREDITED **CERTIFICATE OF CALIBRATION WITH DATA**

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Weigh-Tronix	WI-125x1000x0.1lb	053268	OMNI-00288	Lab
Units	Readability	SOP	Cal Date	Last Cal Date	Cal Due Date
lbs	0.1	QC033	8/26/24	9/7/23	8/2025

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: Tol: 250 0.4	Test Wt: Tol: HB44 HB44	Test Wt: Tol: 50 0.2	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Good Fair Poor
As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	Temperature: 22.5°C
As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	999.9	999.9	0.05
700	699.9	699.9	0.05
500	499.9	499.9	0.05
200	200.0	200.0	0.05
100	100.0	100.0	0.05
50	50.0	50.0	0.05

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Avoirdupois Cast W	Rice Lake	25 and 50lb	PWO990-CA	7/18/22	7/2024	20221688

Permanent Information Concerning this Equipment:

Code: 125 - Hold Menu to 'Set Up' - press Menu to 'Adjust' - Menu to 'Span' - Print to '5000' - enter numerical capacity - place weight amount - press Print to 'busy' - Done. Results listed apply to only items calibrated.

Comments/Information Concerning this Calibration

8/24 - RH = 52%.

Report prepared/reviewed by: 

Date: 8/26/24

Technician: D.Oudeans

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. Calibrations comply with ISO/IEC 17025 and ANSI/Z540-1-1994 quality standards.

Member, National Conference of Standards Laboratories and Weights & Measures

PT ID: OMNE03



CERTIFICATE OF CALIBRATION

CUSTOMER: OMNI-TEST LABORATORIES, INC. PORTLAND OR
PO NUMBER: 240516
INST. MANUFACTURER: APEX INSTRUMENTS
INST. DESCRIPTION: AIR SAMPLER
MODEL NUMBER: XC-60-EP
SERIAL NUMBER: N/A; ID# OMNI-00335
RATED ACCURACY: +/-1% RD.
UNCERTAINTY GIVEN: TOTAL measurement uncertainty: +/- .221 % RD. K=2
NOTES: REFERENCE CONDITIONS: 760mmHGA & 70 DEG. F QM.IM 2.0 REV. DATED 7-27-2020
DECISION RULE: SIMPLE ACCEPTANCE. MEASUREMENT UNCERTAINTIES NOT TAKEN INTO CONSIDERATION WHEN DETERMINING PASS/FAIL

CALIBRATION DATE: 01/08/25
CALIBRATION DUE: 07/08/25
PROCEDURE: NAVAIR 17-20MG-02
CALIBRATION FLUID: AIR @ 14.7 PSIA 70 F
AS RECEIVED: WITHIN SPECS.
AS RETURNED: WITHIN SPECS.
AMBIENT CONDITIONS: 765 mm HGA 45 % RH 72 F
CERTIFICATE FILE #: 552345.2025

TEST POINT	UUT	DM.STD.			
NUMBER	INDICATED	ACTUAL	CORRECTION		
	M3/HR	M3/HR	FACTOR		
	PD.METER	PD.METER			
1	0.050	0.0492	1.0163	TEMPERATURE	TEMPERATURE
2	0.100	0.0985	1.0152	F DEG.	F DEG.
3	0.250	0.2478	1.0089	69	68.98
4	0.500	0.4972	1.0056		
5	1.000	0.9955	1.0045		
6	1.500	1.4948	1.0035		
7	2.000	1.9942	1.0029		
8	2.500	2.4939	1.0024		
		AVERAGE	1.0074190		

STANDARDS USED:

A24 TEMP.STD.:HART SCIENTIFIC +/- .19 F (+/- .04 C) TRACE# 1683031933	DUE	06/24/25
A5 VOLUME PROVER +/- .049% BY VOLUME + TRACE NUMBERS. 2-1200 ACFM TRACE# 1649766843,06290041521	DUE	02/14/25

All instruments used in the performance of the shown calibration have traceability to the National Institute of Standards and Technology (NIST). The uncertainty ratio between the calibration standards (DM.STD.) and the Unit Under Test (UUT) is a minimum of 4:1, unless otherwise noted. Calibration has been performed according to the shown procedure. The use of IAS/ILAC logo indicates calibrations are in accordance to ISO/IEC 17025:2017.

Dick Munns Company • 11133 Winners Circle, Los Alamitos, CA 90720
Phone: 714-827-1215 • www.dickmunns.com

This Calibration Certificate shall not be reproduced except, in full, without approval by Dick Munns Company. The data shown applies only to the instrument being calibrated and under the stated conditions of calibration.

Issuing Date:

Approved By:

Cal. Technician:

Calibrated at: ☒ Lab
On-Site (Customer's)

Page 1 of 1

Differential Pressure Gauge Calibration/Verification



Instrument to be calibrated

Eq. No,	00335B	Date	2/10/2025
Description	Manometer, ΔH	Expires	8/10/2025
Max Range	4		
Units	Inches of Water		

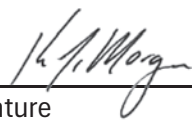
Reference Gauge

Eq. No.	OMNI-00633
Cal Due Date	10/2/2025
Units	Inches of Water
MU	0.0057
k=	2

Range of Calibration Point	Ref Value	DUT Response	Error
0-20 % of Max Range 0 - 0.8	0.392	0.394	0.002
20 - 40 % of Max Range 0.8 - 1.6	1.402	1.405	0.003
40-60 % of Max Range 1.6 - 2.4	2.125	2.126	0.001
60-80 % of Max Range 2.4 - 3.2	2.912	2.908	-0.004
80-100% of Max Range 3.2 - 4	3.876	3.87	-0.006

Measurement Uncertainty = ± 0.0098 In. H₂O, k=2

Ken Morgan
Technician


Signature

2/10/25
Date



CERTIFICATE OF CALIBRATION

CUSTOMER: OMNI-TEST LABORATORIES, INC. PORTLAND OR
PO NUMBER: 240516
INST. MANUFACTURER: APEX INSTRUMENTS
INST. DESCRIPTION: AIR SAMPLER
MODEL NUMBER: XC-60-EP
SERIAL NUMBER: N/A; ID# OMNI-00336
RATED ACCURACY: +/-1% RD.
UNCERTAINTY GIVEN: TOTAL measurement uncertainty: +/- .221 % RD. K=2
NOTES: REFERENCE CONDITIONS: 760mmHGA & 70 DEG. F QM.IM 2.0 REV. DATED 7-27-2020
DECISION RULE: SIMPLE ACCEPTANCE. MEASUREMENT UNCERTAINTIES NOT TAKEN INTO CONSIDERATION WHEN DETERMINING PASS/FAIL

CALIBRATION DATE: 01/08/25
CALIBRATION DUE: 07/08/25
PROCEDURE: NAVAIR 17-20MG-02
CALIBRATION FLUID: AIR @ 14.7 PSIA 70 F
AS RECEIVED: WITHIN SPECS.
AS RETURNED: WITHIN SPECS.
AMBIENT CONDITIONS: 765 mm HGA 45 % RH 72 F
CERTIFICATE FILE #: 552344.2025

TEST POINT NUMBER	UUT INDICATED	DM.STD. ACTUAL	CORRECTION FACTOR	TEMPERATURE F DEG.	TEMPERATURE F DEG.
	M3/HR	M3/HR			
	PD.METER	PD.METER			
1	0.050	0.0495	1.0101	70	70.03
2	0.100	0.0989	1.0111		
3	0.250	0.2482	1.0073		
4	0.500	0.4977	1.0046		
5	1.000	0.9960	1.0040		
6	1.500	1.4954	1.0031		
7	2.000	1.9948	1.0026		
8	2.500	2.4945	1.0022		
		AVERAGE	1.0056251		

STANDARDS USED:

A24 TEMP.STD.:HART SCIENTIFIC +/- .19 F (+/- .04 C) TRACE# 1683031933	DUE	06/24/25
A5 VOLUME PROVER +/- .049% BY VOLUME + TRACE NUMBERS. 2-1200 ACFM TRACE# 1649766843,06290041521	DUE	02/14/25

All instruments used in the performance of the shown calibration have traceability to the National Institute of Standards and Technology (NIST). The uncertainty ratio between the calibration standards (DM.STD.) and the Unit Under Test (UUT) is a minimum of 4:1, unless otherwise noted. Calibration has been performed according to the shown procedure. The use of IAS/ILAC logo indicates calibrations are in accordance to ISO/IEC 17025:2017.

Dick Munns Company • 11133 Winners Circle, Los Alamitos, CA 90720
Phone: 714-827-1215 • www.dickmunns.com

This Calibration Certificate shall not be reproduced except, in full, without approval by Dick Munns Company. The data shown applies only to the instrument being calibrated and under the stated conditions of calibration.

Issuing Date:

Approved By:

Cal. Technician:

Calibrated at: ☒ Lab
☐ On-Site (Customer's)

Page 1 of 1

Differential Pressure Gauge Calibration/Verification



Instrument to be calibrated

Eq. No,	00336B	Date	2/10/2025
Description	Manometer, ΔH	Expires	8/10/2025
Max Range	4		
Units	Inches of Water		

Reference Gauge

Eq. No.	OMNI-00633
Cal Due Date	10/2/2025
Units	Inches of Water
MU	0.0057
k=	2

Range of Calibration Point	Ref Value	DUT Response	Error
0-20 % of Max Range 0 - 0.8	0.418	0.419	0.001
20 - 40 % of Max Range 0.8 - 1.6	1.376	1.375	-0.001
40-60 % of Max Range 1.6 - 2.4	2.221	2.222	0.001
60-80 % of Max Range 2.4 - 3.2	2.862	2.858	-0.004
80-100% of Max Range 3.2 - 4	3.969	3.961	-0.008

Measurement Uncertainty = ± 0.0096 In. H₂O, k=2

Ken Morgan
Technician


Signature

2/10/25
Date



Established 1974

QUALITY CONTROL SERVICES

LABORATORY EQUIPMENT • SALES • SERVICE • CALIBRATION • REPAIRS

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

Report Number: OMNE03069076240826

A2LA ACCREDITED

CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Weigh-Tronix	WI-125x5000x0.5lb	069076	OMNI-00356	Lab
Units	Readability	SOP	Cal Date	Last Cal Date	Cal Due Date
lbs	0.5	QC033	8/26/24	9/7/23	8/2025

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: Tol: 1000 2.5	Test Wt: Tol: HB44 HB44	Test Wt: Tol: 1000 2.5	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Good Fair Poor
As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	Temperature: 22.5°C
As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	999.0	999.5	0.29
700	699.5	699.5	0.29
500	499.5	500.0	0.29
200	199.5	200.0	0.29
100	99.5	100.0	0.29
50	50.0	50.0	0.29

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Weight Set	Rice Lake	10 kg to 1 mg	D123	7/1/24	7/2025	20241353

Permanent Information Concerning this Equipment:

Old s/n 53719. Results listed apply to only items calibrated.

Comments/Information Concerning this Calibration

8/24 - Adjusted span. RH= 52%.

Report prepared/reviewed by:

Date: 8/26/24

Technician: D. Oudeans

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. Calibrations comply with ISO/IEC 17025 and ANSI/Z540-1-1994 quality standards.

Member: National Conference of Standards Laboratories and Weights & Measures

Certificate of Calibration

Certificate Number: 824447



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: 240507

Order Date: 10/17/2024

Authorized By: N/A

Calibrated on: 11/07/2024

*Recommended Due: 11/07/2025

Environment: 22 °C 44 % RH

* As Received: Within Tolerance

* As Returned: Within Tolerance

Action Taken: Calibrated

Technician: 175



Property #: OMNI-00373

User: N/A

Department: N/A

Make: Omega

Model: CL24

Serial #: T-210520

Description: Thermometer/Calibrator

Procedure: 400379

Accuracy: Refer to Mfg. Specs.

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.

TUR<4: 1. See Uncertainties to calculate TUR to determine your possible risk. Received and returned with probes, cord, case, and manual.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
702A	Fluke	5522A	Calibrator	08/26/2025	818893
880A	Hart Scientific	1502A	Precision Digital Thermometer	06/10/2025	816135
601A	Burns Engineering	200G05B085	INDUSTRIAL PRT	09/29/2025	802942

Parameter

Measurement Data

Measurement Description	Range Unit	Reference	Min	Max	*Error	UUT	Uncertainty
							Accredited = ✓
Before/After							
Thermocouple Type K							
Measure	-50 °C	-50.00	-50.3	-49.7	0.2	-49.8 °C	2.1E-01 ✓
Measure	0 °C	0.00	-0.3	0.3	0.1	0.1 °C	1.9E-01 ✓
Measure	100 °C	100.00	99.7	100.3	0.1	100.1 °C	1.9E-01 ✓
Measure	500 °C	500.00	499.7	500.3	0.1	500.1 °C	3E-01 ✓
Measure	1000 °C	1000.00	999.6	1000.4	0.1	1000.1 °C	3E-01 ✓
Thermocouple Type J							
Measure	0 °C	0.00	-0.3	0.3	0.3	-0.3 °C	1.7E-01 ✓
Measure	100 °C	100.00	99.7	100.3	0.3	99.7 °C	1.7E-01 ✓
Thermocouple Type T							
Measure	0 °C	0.00	-0.3	0.3	0.1	-0.1 °C	1.9E-01 ✓
Measure	100 °C	100.00	99.7	100.3	0.3	99.7 °C	1.9E-01 ✓
Thermocouple Type K							
Source	-50 °C	-49.750	-50.05	-49.45	0.25	-50.00 °C	2.1E-01 ✓
Source	0 °C	0.210	-0.09	0.51	0.21	0.00 °C	1.9E-01 ✓
Source	100 °C	100.250	99.95	100.55	0.25	100.00 °C	1.9E-01 ✓
Source	500 °C	500.290	499.99	500.59	0.29	500.00 °C	3E-01 ✓
Source	1000 °C	1000.390	999.99	1000.79	0.39	1000.00 °C	3E-01 ✓
Thermocouple Type J							
Source	0 °C	0.10	-0.2	0.4	0.1	0.0 °C	1.7E-01 ✓
Source	100 °C	100.180	99.88	100.48	0.18	100.00 °C	1.7E-01 ✓
Thermocouple Type T							
Source	0 °C	0.250	-0.05	0.55	0.25	0.00 °C	1.9E-01 ✓
Source	100 °C	100.160	99.86	100.46	0.16	100.00 °C	1.9E-01 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to the SI through an NMI such as but not limited to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by ILAC G8:2019. A test uncertainty ratio (TUR) of 4:1, if achievable, is maintained. Where uncertainties are reported, see uncertainties to calculate TUR to determine your possible Risk. The results reported herein apply only to the calibration of the item described above. JJ Calibrations does not alter or update software of the UUT, version stays the same unless otherwise noted. This report may not be reproduced, except in full, without written approval of JJ Calibrations


Reviewer

3 Issued 11/08/2024 Rev # 15


Inspector

Certificate of Calibration

Certificate Number: 788866



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: 230422

Order Date: 02/16/2023

Authorized By: N/A

Calibrated on: 03/11/2023

*Recommended Due: 03/11/2028

Environment: 22 °C 38 % RH

* As Received: Within Tolerance

* As Returned: Within Tolerance

Action Taken: Calibrated

Technician: 40



Property #: OMNI-00439

User: N/A

Department: N/A

Make: Robic

Model: SC - 606 W

Serial #: OMNI-00439

Description: Stopwatch

Procedure: 400480

Accuracy: ± 1 Sec

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
690A	Hewlett-Packard	5345A	Counter	05/25/2023	770158
738A	Ul trak	360	Stopwatch	04/06/2023	768236

Parameter

Measurement Data

Measurement Description	Range Unit	Reference	Min	Max	*Error	UUT	Uncertainty
Before/After Time							Accredited = ✓
	60 second	60.310	59.31	61.31	0.07	60.38 second	1.1E+00 ✓
	250 second	250.360	249.36	251.36	0.06	250.42 second	1.1E+00 ✓
	300 second	300.500	299.50	301.50	0.12	300.38 second	1.1E+00 ✓
	650 second	650.420	649.42	651.42	0.06	650.48 second	1.1E+00 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to either the SI or to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NC SL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by JCGM 106:2012. 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 written approval of JJ Calibrations.

Reviewer

3 Issued 03/13/2023

Rev # 15

Inspector



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

Report Number: OMNE03B729400181250217

A2LA ACCREDITED CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Balance	Mettler	MS104TS	B729400181	OMNI-00637	Lab
Units	Readability	SOP	Cal Date	Last Cal Date	Cal Due Date
g	0.0001	qcs012	2/17/25	8/26/24	8/2025

FUNCTIONAL CHECKS

ECCENTRICITY		LINEARITY		STANDARD DEVIATION			ENVIRONMENTAL CONDITIONS
Test Wt:	Tol:	Test Wt:	Tol:	Test Wt:	Tol:		
50	0.0001	20x4	0.0001	100	0.0001		
As-Found:		As-Found:		1. 99.9999	5. 100.0001	9. 100.0000	
Pass: <input checked="" type="checkbox"/>	Fail: <input type="checkbox"/>	Pass: <input checked="" type="checkbox"/>	Fail: <input type="checkbox"/>	2. 100.0000	6. 100.0000	10. 100.0001	
As-Left:		As-Left:		3. 99.9999	7. 100.0000	<u>Result</u>	
Pass: <input checked="" type="checkbox"/>	Fail: <input type="checkbox"/>	Pass: <input checked="" type="checkbox"/>	Fail: <input type="checkbox"/>	4. 99.9999	8. 99.9999	0.00007	

☐ ☒ ☐

Good Fair Poor

Temperature: 17.2°C

A2LA ACCREDITED SECTION OF REPORT

Standard	As-Found	As-Left	Expanded Uncertainty
100	100.0005	100.0001	0.00020
80	80.0008	80.0001	0.00020
50	50.0006	50.0001	0.00019
20	20.0003	20.0000	0.00019
1	1.0001	1.0000	0.00019
0.1	0.0999	0.1000	0.00019

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Weight Set	Rice Lake	10 kg to 1 mg	D123	7/1/24	7/2025	20241353

Permanent Information Concerning this Equipment:

6 month cycle

Comments/Info Concerning this Calibration:

2/25 - Cleaned, leveled, & adjusted span. RH = 34%

Report prepared/reviewed by: [Signature]

Date: 2/17/25

Technician: D. Oudeans

Signature: [Signature]

THIS CERTIFICATE SHALL NOT BE REPRODUCED 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 and readability 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. Calibrations comply with ISO/IEC 17025 and ANSI/Z540-1-1994 quality standards. Results relate only to the item(s) tested. Unless otherwise noted, statements of conformity do not include measurement

Member: National Conference of Standards Laboratories and Weights & Measures

Quality Control Services

Report of Service and Calibration

2340 S.E. 11TH AVENUE
PORTLAND, OR 97214
PHONE 503-236-2712

78658

Sold To OMNI-Test Laboratories, Inc. PT ID: OMNE03 P.O. No: INVOICE
Address PO Box 301367 Contact: Michael Castillo
City Portland, OR 97294 Phone: 503-643-3788
Ship To 13327 NE Airport Way Portland, OR 97230 Email: mcastillo@omni-test.com

No	Item	Make	Model	Serial Number	Location	Contact	Rate	Date Svc'd	Tech	Cust ID
1	Balance	Mettler	MS104TS	B729400181	Lab	Michael Castillo	\$195.00	2/17/2025	MC	OMNI-00637

Service / Calibration

Documentation Requirements

- ☐ Certificate of Calibration
☐ Calibration with Data
☒ A2LA Certificate

Received By: _____ Date: _____

Comments: _____



Dry Gas Meter Calibration Verification

Calibration/Verification Date: 2/11/2025

Expiry Date: 8/11/2025

D.U.T Model: Apex, model XC-50-NK

D.U.T OMNI Eq. No.: OMNI-00691

Equipment Used	Manufacturer/Model	OMNI Eq. No.	Cal Expiration Date	Average y-factor	y-factor Slope	y-factor intercept	Value	Value or %
Reference DGM:	Sensus S-275	OMNI-00330	5/1/2025	1.00179	0.0002145	1.0013147	0.42	%
Barometer:	Traceable	OMNI-00715	7/5/2025				0.18	Value
Manometer:	Dwyer	OMNI-00633	10/2/2025				0.0058	Value
Thermometer:	NI/USB-9213	OMNI-00753	2/10/2025				0.999	Value

D.U.T Previous y-factor: 1.020

Using Reference Meter Average, or Linear Trend y-Factor? Average

Calibration Verification Parameters

	Run 1	Run 2	Run 3
Pbar - Barometric Pressure, In. Hg	30.34	30.33	30.31
Pref - Reference Meter Pressure, In. H ₂ O (ΔH)	-0.302	-0.284	-0.356
Tref,b - Beginning Reference Meter Temperature, °F	49.6	49.6	49.8
Tref, e - Ending Reference Meter Temperature, °F	49.6	49.7	49.7
Vref,b - Beginning Reference Meter Reading, ft ³	478.100	484.500	492.300
Vref,e - Ending Reference Meter Reading, ft ³	484.322	492.050	497.557
Pmeter- Meter DUT Pressure, In. H ₂ O (ΔH)	1.20	0.94	1.53
Tmeter,b - Meter DUT Temperature, Beginning	57.1	67.5	74.1
Tmeter, e - Meter DUT Temperature, Ending	66.9	73.8	75.3
Vmeter,b - Beginning Meter DUT Reading	0.000	0.000	0.000
Vmeter,e - Ending Meter DUT Reading	6.206	7.663	5.373
θ - Time for Run, min	39.00	56.00	29.00
YR - Reference Meter y-factor (Average)	1.002	1.002	1.002
VR - Indicated Total volume of Reference Meter, ft ³ (Vref,e-Vref,b)	6.222	7.550	5.257
VM - Indicated Total Volume of Meter DUT, ft ³ (Vmeter,e - Vmeter,b)	6.206	7.663	5.373
TR - Average Temperature of Reference Meter, °R	509.6	509.65	509.75
PR - Pressure of Reference Meter (Pb + Pref), In. Hg	30.318	30.309	30.284
TM - Average Temperature of Meter DUT, °R	522.0	530.7	534.7
PM - Pressure of Meter DUT (Pb + Pmeter), In. Hg	30.428	30.399	30.423
CFM - Meter DUT Flow-rate, cfm (VM / θ)	0.159	0.137	0.185
Meter DUT calculated y factor $y = (VR \times YR \times PR \times TM) / (VM \times PM \times TR)$	1.0251	1.0246	1.0234
Uncertainty ± % RD (k=1)	0.488%	0.488%	0.488%
Average Meter DUT y-factor	1.0244		
Meter DUT y-factor deviation from average	0.0007	0.0003	0.0009
Acceptability (< 0.020)	Good	Good	Good
Comparison with previous calibration (%)	0.508	0.464	0.345
Acceptability (<5%)	Good	Good	Good

Measurement Uncertainty = ± 0.977 % RD, k=2

Conducted as specified in EPA Method 5, sections 10.3 and 16.1.

Ken Morgan
Technician

Signature

2/11/25
Date



Dry Gas Meter Calibration Verification

Calibration/Verification Date: 2/11/2025

Expiry Date: 8/11/2025

D.U.T Model: Apex, model XC-50-NK

D.U.T OMNI Eq. No.: OMNI-00692

Equipment Used	Manufacturer/Model	OMNI Eq. No.	Cal Expiration Date	Average y-factor	y-factor Slope	y-factor intercept	Value	Value or %
Reference DGM:	Sensus S-275	OMNI-00330	5/1/2025	1.00179	0.0002145	1.0013147	0.42	%
Barometer:	Traceable	OMNI-00715	7/5/2025				0.18	Value
Manometer:	Dwyer	OMNI-00633	10/2/2025				0.0058	Value
Thermometer:	NI/USB-9213	OMNI-00753	2/10/2025				0.999	Value

D.U.T Previous y-factor: 1.020
Using Reference Meter Average, or Linear Trend y-Factor? Average

Calibration Verification Parameters

	Run 1	Run 2	Run 3
Pbar - Barometric Pressure, In. Hg	30.36	30.36	30.36
Pref - Reference Meter Pressure, In. H ₂ O (ΔH)	-0.334	-0.282	-0.364
Tref,b - Beginning Reference Meter Temperature, °F	52.9	53.1	53.1
Tref, e - Ending Reference Meter Temperature, °F	53.0	53.2	53.1
Vref,b - Beginning Reference Meter Reading, ft ³	458.500	463.800	469.015
Vref,e - Ending Reference Meter Reading, ft ³	463.601	468.764	474.247
Pmeter- Meter DUT Pressure, In. H ₂ O (ΔH)	1.24	0.91	1.54
Tmeter,b - Meter DUT Temperature, Beginning	60.5	69.1	74.9
Tmeter, e - Meter DUT Temperature, Ending	68.9	74.9	78.0
Vmeter,b - Beginning Meter DUT Reading	0.000	0.000	0.000
Vmeter,e - Ending Meter DUT Reading	5.168	5.097	5.345
θ - Time for Run, min	33.05	39.00	29.97
YR - Reference Meter y-factor (Average)	1.002	1.002	1.002
VR - Indicated Total volume of Reference Meter, ft ³ (Vref,e-Vref,b)	5.101	4.964	5.232
VM - Indicated Total Volume of Meter DUT, ft ³ (Vmeter,e - Vmeter,b)	5.168	5.097	5.345
TR - Average Temperature of Reference Meter, °R	512.95	513.15	513.1
PR - Pressure of Reference Meter (Pb + Pref), In. Hg	30.335	30.339	30.333
TM - Average Temperature of Meter DUT, °R	524.7	532.0	536.5
PM - Pressure of Meter DUT (Pb + Pmeter), In. Hg	30.451	30.427	30.473
CFM - Meter DUT Flow-rate, cfm (VM / θ)	0.156	0.131	0.178
Meter DUT calculated y factor $y = (VR \times YR \times PR \times TM) / (VM \times PM \times TR)$	1.0076	1.0086	1.0205
Uncertainty ± % RD (k=1)	0.488%	0.488%	0.487%
Average Meter DUT y-factor	1.0122		
Meter DUT y-factor deviation from average	0.0046	0.0037	0.0083
Acceptability (< 0.020)	Good	Good	Good
Comparison with previous calibration (%)	1.239	1.142	0.053
Acceptability (<5%)	Good	Good	Good

Measurement Uncertainty = ± 0.975 % RD, k=2

Conducted as specified in EPA Method 5, sections 10.3 and 16.1.

Ken Morgan
Technician

Signature

2/11/25
Date

Certificate of Calibration

Certificate Number: 788485



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: 230420

Order Date: 02/16/2023

Authorized By: N/A

Calibrated on: 03/06/2023

*Recommended Due: 03/06/2028

Environment: 23 °C 35 % RH

* As Received: Within Tolerance

* As Returned: Within Tolerance

Action Taken: Calibrated

Technician: 173



Property #: OMNI-00709

User: N/A

Department: N/A

Make: Omega

Model: RH81

Serial #: 10361019

Description: Thermohygrometer

Procedure: DCN 401013/403410

Accuracy: RH $\pm 3\%$, TEMP $\pm 1^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$)

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
925A	RH Systems	CGS- 240	Humidity Generator	02/22/2024	789080

Parameter		Measurement Data					UUT	Uncertainty
Measurement Description	Range Unit	Reference	Min	Max	*Error			Accredited = ✓
Before/After								
Relative Humidity								
	RH	25.00	22.0	28.0	0.3		25.3 RH	6.3E-01 ✓
	RH	50.00	47.0	53.0	1.3		48.7 RH	6.3E-01 ✓
	RH	75.00	72.0	78.0	0.7		74.3 RH	6.3E-01 ✓
Temperature								
	°C	20.0	19	21	0		20 °C	2.8E-01 ✓
	°C	30.00	29.0	31.0	0.6		29.4 °C	2.8E-01 ✓
	°C	40.60	39.6	41.6	0.4		40.2 °C	2.8E-01 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to either the SI or to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by JCGM 106:2012. 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 written approval of JJ Calibrations.

Reviewer

3 Issued 03/08/2023

Rev # 15

Inspector

Certificate of Calibration

Certificate Number: 824767



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: 240508
Order Date: 10/24/2024
Authorized By: N/A



Property #: OMNI-00716
User: N/A
Department: N/A
Make: Control Company
Model: 6530
Serial #: 221461635
Description: Thermohygrometer / Barometer
Procedure: 403406
Accuracy: $\pm 3\%RH, \pm 4^{\circ}C(0.8^{\circ}F), \pm 4mbar$

Calibrated on: 11/07/2024
*Recommended Due: 05/07/2025
Environment: 23 °C 40 % RH
* As Received: Within Tolerance
* As Returned: Within Tolerance
Action Taken: Calibrated
Technician: 128

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.

TUR<4: 1. See Uncertainties to calculate TUR to determine your possible Risk.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
925A	RH Systems	CGS- 240	Humidity Generator	04/04/2025	811937

Parameter		Measurement Data				UUT	Uncertainty
Measurement Description	Range Unit	Reference	Min	Max	*Error		Accredited = ✓
Before/After Humidity							
	100 %	20.2030	17.203	23.203	2.797	23.000 %	6E-01 ✓
	100 %	49.6850	46.685	52.685	2.685	47.000 %	6E-01 ✓
	100 %	80.0420	77.042	83.042	0.042	80.000 %	6E-01 ✓
Temperature							
	60 °C	9.9440	9.544	10.344	0.056	10.000 °C	7.5E-02 ✓
	60 °C	25.0220	24.622	25.422	0.022	25.000 °C	7.5E-02 ✓
	60 °C	55.3940	54.994	55.794	0.394	55.000 °C	7.5E-02 ✓
Barometer							
	inHg	29.980	29.87	30.09	0.08	29.90 inHg	1.8E-01 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to the SI through an NMI such as but not limited to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NC SL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by ILAC G8:2019. A test uncertainty ratio (TUR) of 4:1, if achievable, is maintained. Where uncertainties are reported, see uncertainties to calculate TUR to determine your possible Risk. The results reported herein apply only to the calibration of the item described above. JJ Calibrations does not alter or update software of the UUT, version stays the same unless otherwise noted. This report may not be reproduced, except in full, without written approval of JJ Calibrations

Reviewer

3 Issued 11/08/2024 Rev # 15

Inspector

Certificate of Calibration

Certificate Number: 806340



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: 230462

Order Date: 11/30/2023

Authorized By: N/A

Calibrated on: 12/06/2023

*Recommended Due: 12/06/2028

Environment: 20 °C 48 % RH

* As Received: Within Tolerance

* As Returned: Within Tolerance

Action Taken: Calibrated

Technician: 175



Property #: OMNI-00730

User: N/A

Department: N/A

Make: Starrett

Model: TX34-16ME

Serial #: 23275596

Description: Tape Measure, 16'/5m

Procedure: 500614

Accuracy: ± 1 Division

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
591A	Mitutoyo	PH- 3500	Optical Comparator	09/19/2024	801238

Parameter

Measurement Data

Measurement Description	Range Unit	Reference	Min	Max	*Error	UUT	Uncertainty
Before/After							Accredited = ✓
Length							
1-2" (16ths)	Inch	1.00000	0.9375	1.0625	0.0005	1.0005 Inch	3.6E-02 ✓
191-192" (16ths)	Inch	1.00000	0.9375	1.0625	0.0005	1.0005 Inch	3.6E-02 ✓
1-2" (32nds)	Inch	1.000000	0.96875	1.03125	0.00050	0.99950 Inch	1.8E-02 ✓
191-192" (32nds)	Inch	1.000000	0.96875	1.03125	0.00000	1.00000 Inch	1.8E-02 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to the SI through an NMI such as but not limited to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NCCL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by ILAC G8:2019. Unless otherwise stated, a test uncertainty ratio (TUR) 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 written approval of JJ Calibrations.

Reviewer

3 Issued 12/07/2023

Rev # 15

Inspector

NIST Traceable Calibration Report

Omni-Test Laboratories, Inc.
13327 NE Airport Way
Portland, OR 97230 United States

REPORT NUMBER
1769963

Reference Number: 175228700
PO Number: 240506



Manufacturer: Digi-Sense
Model Number: 20250-16
Description: Air Velocity, Hot Wire Anemometer
Asset Number: OMNI-00737
Serial Number: 230544726
Procedure: DS Digi-Sense 20250-16

Calibration Date 11/07/2024
Calibration Due Date 11/07/2025
Condition As Found: Out of Tolerance
Condition As Left: In Tolerance After Adjustment

Remarks:

NIST-traceable calibration performed on the unit referenced above in accordance with customer requirements, published specifications and the lab's standard operating procedures. Unit was received out-of-tolerance as indicated in the as-found data; adjustments were successful in bringing unit within specifications. As-left data reflects measurements taken after adjustments.

Standards Used

Standard ID	Manufacturer	Model Number	Description	Cal Date	Due Date
CP105979	Kanomax	X5602	Air Velocity, Wind Tunnel, Open Jet	7/01/2024	7/31/2025
CP144552	Fluke Corporation	1551A EX	Temperature, Stik Thermometer	7/10/2024	7/31/2025

Calibration Data

Function Tested	Nominal / Reference Value	Measured Value	OOT	Calibration Tolerance <i>g: = Guard Banding Applied</i>	TUR	EMU
Air Velocity Accuracy	5.00 m/s					
As Found	5.00	4.89		4.74 to 5.26 m/s	6.2:1	± 0.042 m/s
As Left	5.00	5.02		4.74 to 5.26 m/s	6.2:1	± 0.042 m/s
	10.00 m/s					
As Found	10.00	9.70		9.49 to 10.51 m/s	11:1	± 0.045 m/s
As Left	10.00	9.96		9.49 to 10.51 m/s	11:1	± 0.045 m/s
	15.00 m/s					
As Found	15.00	14.26		14.24 to 15.76 m/s	8.1:1	± 0.094 m/s
As Left	15.00	15.01		14.24 to 15.76 m/s	8.1:1	± 0.094 m/s
	20.00 m/s					
As Found	20.00	18.45	X	18.99 to 21.01 m/s	8.1:1	± 0.12 m/s
As Left	20.00	20.04		18.99 to 21.01 m/s	8.1:1	± 0.12 m/s
	25.00 m/s					
As Found	25.00	22.18	X	23.74 to 26.26 m/s	8.1:1	± 0.16 m/s
As Left	25.00	25.06		23.74 to 26.26 m/s	8.1:1	± 0.16 m/s
Temperature Accuracy	25.0 °C					
As Found	25.0	25.0		24.0 to 26.0 °C	13:1	± 0.077 °C
As Left	25.0	25.0		24.0 to 26.0 °C	13:1	± 0.077 °C

Temperature: 23 °C
Humidity: 36 %RH
Rpt. No.: 1769963

Calibration Performed By:		Quality Reviewer:	
Chris Lu	Technician, Metrology	James Alexander	11/7/2024
Name	Title	Name	Date

This report may not be reproduced except in full without written permission of Innocal. The results stated in this report relate only to the items tested or calibrated. Measurements reported herein are traceable to SI units via national standards maintained by NIST and were performed in compliance with MIL-STD-45662A, ANSI/MCSL 2541-1-1994, 16CFR50, Appendix B, ISO 9002-34 and ISO 17025:2017. Conformity based on Simple Acceptance as defined in ILAC G8 with a < 50% PFA. The estimated measurement uncertainty (EMU) reported on this certificate is being reported at a confidence level of 95% (K=2) unless otherwise noted in the remarks section.

Certificate of Calibration

Certificate Number: 824107



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: 240504
Order Date: 10/10/2024
Authorized By: N/A



Property #: OMNI 00431
User: N/A
Department: N/A
Make: Delmhorst
Model: MCS-1
Serial #: OMNI 00431
Description: Moisture Calibrator
Procedure: Raw Data
Accuracy: Raw Data

Calibrated on: 10/18/2024
*Recommended Due: 10/18/2025
Environment: 22 °C 43 % RH
* As Received: Other - See Remarks
* As Returned: Other - See Remarks
Action Taken: Calibrated
Technician: 128

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.

Data is provided for your determination of acceptability.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
582A	F l u k e	8508A	8 1/2 Reference Mtr	10/07/2025	819058

Parameter		Measurement Data				UUT	Uncertainty
Measurement Description	Range Unit	Reference	Min	Max	*Error		Accredited = ✓
Before/After Resistance							
12 %	MOhm	120.000	0.00	0.00	0.91	120.91 MOhm	5.7E-01 ✓
22 %	MOhm	1.100000	0.00000	0.00000	0.00105	1.10105 MOhm	5.7E-01 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to the SI through an NMI such as but not limited to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NC SL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by ILAC G8:2019. A test uncertainty ratio (TUR) of 4:1, if achievable, is maintained. Where uncertainties are reported, see uncertainties to calculate TUR to determine your possible Risk. The results reported herein apply only to the calibration of the item described above. JJ Calibrations does not alter or update software of the UUT, version stays the same unless otherwise noted. This report may not be reproduced, except in full, without written approval of JJ Calibrations

Reviewer

3 Issued 10/19/2024 Rev # 15

Inspector

Certificate of Calibration

Certificate Number: 810896

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



JJ Calibrations, Inc.

7724 SE Aspen Summit Drive
Portland, OR 97266-9217
Phone 503.786.3005
FAX 503.786.2994

PO: 1670/240474

Order Date: 02/29/2024

Authorized By: N/A

Calibrated on: 03/22/2024

*Recommended Due: 03/22/2025

Environment: 20 °C 47 % RH

* As Received: Other - See Remarks

* As Returned: Limited

Action Taken: Calibrated

Technician: 111



Property #: OMNI-00743

User: N/A

Department: N/A

Make: Dwyer

Model: 1430

Serial #: 113004-00

Description: Microtector

Procedure: 500908

Accuracy: ± 0.00025 " WC

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.

Unit was received and returned in a case. Limited calibration: Micrometer head calibrated only, from 0-1" per customer request.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
837A	IMGages	B7806	Gage Block Set, 81 Pieces	01/25/2025	807579

Parameter		Measurement Data				UUT	Uncertainty
Measurement Description	Range Unit	Reference	Min	Max	*Error		Accredited = ✓
Before/After Length							
	Inch	0.1300	0.129	0.131	0.000	0.130 Inch	2.5E-05 ✓
	Inch	0.3850	0.384	0.386	0.000	0.385 Inch	2.5E-05 ✓
	Inch	0.6150	0.614	0.616	0.000	0.615 Inch	2.5E-05 ✓
	Inch	0.8700	0.869	0.871	0.000	0.870 Inch	2.5E-05 ✓
	Inch	1.0000	0.999	1.001	0.000	1.000 Inch	2.5E-05 ✓

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to the SI through an NMI such as but not limited to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NCCL Z540-1-1994, ISO/IEC 17025-2017, 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 stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by ILAC G8:2019. Unless otherwise stated, a test uncertainty ratio (TUR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above.

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Reviewer

3 Issued 03/25/2024

Rev # 15

Inspector



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



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

Report Number: OMNE03AE83723924240925

A2LA ACCREDITED **CERTIFICATE OF CALIBRATION WITH DATA**

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Adam	GFK165aH	AE83723924	N/A	Lab
Units	Readability	SOP	Cal Date	Last Cal Date	Cal Due Date
lbs	0.01	QC033	9/25/24	N/A	8/2025

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: Tol: 50 0.10 As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/> As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	Test Wt: Tol: HB44 HB44 As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/> As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	Test Wt: Tol: 50 0.10 As-Found: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/> As-Left: Pass: <input checked="" type="checkbox"/> Fail: <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Good Fair Poor Temperature: 23.7°C

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
150	150.20	150.20	0.005
100	100.13	99.99	0.005
75	75.06	79.99	0.005
50	50.04	49.99	0.005
25	25.02	24.99	0.005
10	10.02	10.00	0.005

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Avoirdupois Cast W	Rice Lake	25 and 50lb	PWO990-CA	7/26/24	7/2026	20221688
Avoirdupois Weight	Rice Lake	10lb to 0.001lb	95473	2/25/24	2/2026	20240410

Permanent Information Concerning this Equipment:

Comments/Information Concerning this Calibration

9/24 - Adjusted span. RH = 59%

Report prepared/reviewed by: 

Date: 9-25-24

Technician: D. Oudeans

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. Calibrations comply with ISO/IEC 17025 and ANSI/Z540-1-1994 quality standards.

Member: National Conference of Standards Laboratories and Weights & Measures

PT ID: OMNE03

Central Boiler 760.1 Water Flow Verifications

Project Number: 0117WB044E

2/24/25 - 3/01/25

Run	Date	Bucket Measurement							Logged Data		
		Time	Weight	T, min	lb/min	Water, °F	lb/gal	GPM	Data Rows	GPM	± %
1	2/24/2025	16:26	47.62	1.000	47.620	46.8	8.3439	5.707	429-430	5.730	-0.40
1	2/24/2025	22:02	57.19	1.502	38.089	46.4	8.3442	4.565	765-766	4.580	-0.34
2	2/25/2025	11:39	16.54	1.000	16.540	47.7	8.3432	1.982	107-108	1.990	-0.38
2	2/25/2025	22:10	16.72	1.000	16.720	47.9	8.3430	2.004	738-739	2.020	-0.79
3	2/26/2025	10:40	8.40	1.000	8.400	49.1	8.3420	1.007	328-329	1.000	0.69
3	2/27/2025	1:03	8.48	1.000	8.480	51.2	8.3401	1.017	1191-1192	1.010	0.67
3	2/27/2025	13:27	7.90	1.000	7.900	50.8	8.3405	0.947	1935-1936	0.945	0.23
4	2/27/2025	19:29	5.05	1.000	5.050	53.0	8.3385	0.606	363-364	0.600	0.88
4	2/28/2025	5:30	4.61	1.000000	4.610	53.3	8.3382	0.553	964-965	0.557	-0.67
4	3/1/2025	12:38	4.52	1.000000	4.520	53.9	8.3376	0.542	2832-2833	0.545	-0.55

16:26 Bucket Check 60 sec → 47.62 lb

18:35 Bucket test 60 sec = 47.62 lb

90.21 seconds: 66.61 lbs

22:02 Bucket test

90.09 sec : 57.19

BL 11:39 16.54 lb. 1.00 min

BL 22:10 16.72 1.00 min

10:40 Bucket test 8.40 lb/min

0103 Bucket test 8.48 lb/min

13:27 " " 7.90 lb/min

19:29 Bucket test 5.05 lb/min

2/28 0530 Bucket 4.61 lb/min

3/1 12:38 Bucket test 4.52 lb in 1 min



Temperature Calibration/Verification
EPA Method 28R, ASTM E2515

Booth	Temperature Monitor Type	Equipment No.
E1	National Instruments Data Logger - NI-USB 9213	OMNI-00753

Reference Meter Eq. No.	Reference Meter Calibration Due Date	Reference Meter MU
OMNI-00373	11/7/2025	± 0.54 °F

Calibration/Verification Performed By	Date	Ambient Temperature, °F	Barometric Pressure, In. Hg
Ken Morgan	2/10/2025	53	30.36

Channels		Input Temperature, °F							
No.	Designation	0	100	300	500	700	1000	1500	2000
1	Dry Gas Meter A	-0.6	99.5	299.5	499.5	699.5	999.6	1499.6	1999.6
2	Dilution Tunnel	-0.8	99.3	299.3	499.2	699.3	999.3	1499.2	1999.2
3	Fire Box Top	-0.9	99.2	299.2	499.2	699.2	999.2	1499.2	1999.2
4	Fire Box Bottom	-0.9	99.2	299.2	499.2	699.2	999.2	1499.2	1999.0
5	Fire Box Back	-1.0	99.1	299.1	499.1	699.1	999.1	1499.0	1999.0
6	Fire Box Left	-1.0	99.1	299.1	499.1	699.1	999.1	1499.1	1999.1
7	Fire Box Right	-1.0	99.1	299.1	499.1	699.1	999.1	1499.1	1999.0
8	Flue	-0.9	99.1	299.1	499.1	699.1	999.1	1499.1	1999.1
9	Train A Filter	-1.2	99.0	299.0	499.0	699.0	999.0	1499.0	1999.1
10	Train A Dryer	-1.1	99.1	299.1	499.1	699.0	999.0	1499.0	1999.1
11	Ambient	-1.2	99.0	299.0	499.0	699.0	999.0	1499.0	1999.0
12	Catalyst Exit	-0.9	99.2	299.2	499.2	699.2	999.2	1499.2	1999.2
13	Dry Gas Meter B	-1.1	99.0	299.0	499.0	699.0	999.0	1499.0	1999.1
14	Train B Filter	-1.1	99.0	299.0	499.0	699.0	999.0	1499.0	1999.0
15	Train B Dryer	-1.1	99.0	299.0	499.0	699.0	999.0	1499.0	1999.1
16	Dry Gas Meter C	-1.2	99.0	299.0	499.0	699.0	999.1	1499.0	1999.0

Measurement Uncertainty = ± 0.9992 °F, k=2

Ken Morgan
Technician


Signature

2/10/25
Date



Temperature Calibration/Verification
EPA Method 28R, ASTM E2515

Date 2/10/2025
Expires 8/10/2025

Booth	Temperature Monitor Type	Equipment No.
E1	National Instruments Data Logger - NI-USB 9210	OMNI-00754

Reference Meter Eq. No.	Reference Meter Calibration Due Date	Reference Meter MU
OMNI-00373	11/7/2025	± 0.54 °F

Calibration/Verification Performed By	Date	Ambient Temperature, °F	Barometric Pressure, In. Hg
Ken Morgan	2/10/2025	53	30.36

Channels		Input Temperature, °F							
No.	Designation	0	100	300	500	700	1000	1500	2000
1	Dryer C	0.2	100.2	300.2	500.2	700.2	1000.2	1500.2	2000.1
2	Filter C	0.2	100.2	300.2	500.2	700.1	1000.3	1500.2	2000.1
3	Gas Meter D	0.2	100.2	300.2	500.2	700.2	1000.3	1500.2	2000.2

Measurement Uncertainty = ± 0.5873 °F, k=2

Ken Morgan
Technician


Signature

2/10/25
Date



Making our world
more productive

DocNumber: 551951

Reviewed
09-15-24



Linde Gas & Equipment Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22023

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

LGEPKG TUALATIN OR H
10450 SW TUALATIN SHERWOOD ROAD
TUALATIN OR 97062-9547

Certificate Issuance Date: 06/20/2023

Linde Order Number: 72440820

Part Number: NI CD17CO8E-AS

Customer PO Number: 80449472

Fill Date: 06/16/2023

Lot Number: 70086316711

Cylinder Style & Outlet: AS

CGA 590

Cylinder Pressure and Volume: 1290 psig 99 ft³

Certified Concentration

Expiration Date:	06/20/2031	NIST Traceable
Cylinder Number:	CC738144	Expanded Uncertainty
16.88 %	Carbon dioxide	± 0.15 %
4.05 %	Carbon monoxide	± 0.03 %
17.01 %	Oxygen	± 0.04 %
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 06/20/2023

Term: 96 Months

Expiration Date: 06/20/2031

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Uncertainty above is expressed as absolute expanded uncertainty at a level of confidence of approximately 95% with a coverage factor k = 2. Do Not Use this Standard if Pressure is less than 100 PSIG.

CO2 responses have been corrected for Oxygen IR Broadening effect.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component:

Carbon dioxide

Requested Concentration: 17 %
Certified Concentration: 16.88 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 05/30/2023

First Analysis Data:		Date	
Z:	0	R:	19.34
R:	19.35	Z:	0
Z:	0	C:	16.88
UOM:	%	Mean Test Assay:	16.88 %

Reference Standard:

Type / Cylinder #: NTRM / CC725981

Concentration / Uncertainty: 19.34 % ± 0.18 %

Expiration Date: 01/12/2027

Traceable to:

SRM # / Sample # / Cylinder #: NTRM / 190701 / CC725973

SRM Concentration / Uncertainty: 19.34 % ± 0.16 %

SRM Expiration Date: 01/12/2027

Second Analysis Data:		Date	
Z:	0	R:	0
R:	0	Z:	0
Z:	0	C:	0
UOM:	%	Mean Test Assay:	%

2. Component:

Carbon monoxide

Requested Concentration: 4.25 %
Certified Concentration: 4.05 %
Instrument Used: Horiba VIA-510 S/N UB9UCSYX
Analytical Method: NDIR
Last Multipoint Calibration: 05/30/2023

First Analysis Data:		Date	
Z:	0	R:	7.81
R:	7.85	Z:	0
Z:	0	C:	4.06
UOM:	%	Mean Test Assay:	4.05 %

Reference Standard:

Type / Cylinder #: GMIS / CC187322

Concentration / Uncertainty: 7.81 % ± 0.04 %

Expiration Date: 04/03/2025

Traceable to:

SRM # / Sample # / Cylinder #: SRM 2642a / 51-D-23 / FF23106

SRM Concentration / Uncertainty: 7.859 % ± 0.039 %

SRM Expiration Date: 07/15/2019

Second Analysis Data:		Date	
Z:	0	R:	0
R:	0	Z:	0
Z:	0	C:	0
UOM:	%	Mean Test Assay:	%

3. Component:

Oxygen

Requested Concentration: 17 %
Certified Concentration: 17.01 %
Instrument Used: Siemens Oxymat 6E S/N 7MB20211AA000CA1
Analytical Method: Paramagnetic
Last Multipoint Calibration: 05/30/2023

First Analysis Data:		Date	
Z:	0	R:	24.96
R:	24.97	Z:	0
Z:	0	C:	17.02
UOM:	%	Mean Test Assay:	17.01 %

Reference Standard:

Type / Cylinder #: GMIS / DT0025134

Concentration / Uncertainty: 24.96 % ± 0.04 %

Expiration Date: 12/14/2026

Traceable to:

SRM # / Sample # / Cylinder #: SRM 2659a / 71-E-19 / FF22331

SRM Concentration / Uncertainty: 20.863 % ± 0.021 %

SRM Expiration Date: 02/27/2026

Second Analysis Data:		Date	
Z:	0	R:	0
R:	0	Z:	0
Z:	0	C:	0
UOM:	%	Mean Test Assay:	%

Analyzed By

Courtney Zlotka

Certified By

Nelson Ma

Information contained herein has been prepared at your request by qualified experts within Linde Gas & Equipment Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Linde Gas & Equipment Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.

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DocNumber: 551950

Received: 09/23/24



Linde Gas & Equipment Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22023

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

LGPKG TUALATIN OR H
10450 SW TUALATIN SHERWOOD ROAD
TUALATIN OR 97062-9547

Certificate Issuance Date: 06/20/2023

Linde Order Number: 72440820

Part Number: NI CD17CO8E-AS

Customer PO Number: 80449472

Fill Date: 06/16/2023

Lot Number: 70086316710

Cylinder Style & Outlet: AS CGA 590

Cylinder Pressure and Volume: 1290 psig 99 ft3

Certified Concentration

Expiration Date:	06/20/2031	NIST Traceable
Cylinder Number:	CC506601	Expanded Uncertainty
16.88 %	Carbon dioxide	± 0.15 %
4.07 %	Carbon monoxide	± 0.03 %
17.14 %	Oxygen	± 0.04 %
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 06/20/2023

Term: 96 Months

Expiration Date: 06/20/2031

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Uncertainty above is expressed as absolute expanded uncertainty at a level of confidence of approximately 95% with a coverage factor k = 2. Do Not Use this Standard if Pressure is less than 100 PSIG.

CO2 responses have been corrected for Oxygen IR Broadening effect.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component:

Carbon dioxide

Requested Concentration: 17 %
Certified Concentration: 16.88 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 05/30/2023

First Analysis Data:				Date	06/20/2023
Z:	0	R:	19.34	C:	16.89
R:	19.35	Z:	0	C:	16.89
Z:	0	C:	16.88	R:	19.36
UOM:	%	Mean Test Assay:	16.88	%	

Reference Standard:

Type / Cylinder #: NTRM / CC725981

Concentration / Uncertainty: 19.34 % ± 0.16 %

Expiration Date: 01/12/2027

Traceable to: SRM # / Sample # / Cylinder #: NTRM / 190701 / CC725973

SRM Concentration / Uncertainty: 19.34 % ± 0.16 %

SRM Expiration Date: 01/12/2027

Second Analysis Data:				Date	
Z:	0	R:	0	C:	0
R:	0	Z:	0	C:	0
Z:	0	C:	0	R:	0
UOM:	%	Mean Test Assay:		%	

2. Component:

Carbon monoxide

Requested Concentration: 4.25 %
Certified Concentration: 4.07 %
Instrument Used: Horiba VIA-510 S/N UB9UCSYX
Analytical Method: NDIR
Last Multipoint Calibration: 05/30/2023

First Analysis Data:				Date	06/20/2023
Z:	0	R:	7.81	C:	4.09
R:	7.85	Z:	0	C:	4.07
Z:	0	C:	4.08	R:	7.8
UOM:	%	Mean Test Assay:	4.07	%	

Reference Standard:

Type / Cylinder #: GMIS / CC187322

Concentration / Uncertainty: 7.81 % ± 0.04 %

Expiration Date: 04/03/2025

Traceable to: SRM # / Sample # / Cylinder #: SRM 2642a / 51-D-23 / FF23106

SRM Concentration / Uncertainty: 7.859 % ± 0.039 %

SRM Expiration Date: 07/15/2019

Second Analysis Data:				Date	
Z:	0	R:	0	C:	0
R:	0	Z:	0	C:	0
Z:	0	C:	0	R:	0
UOM:	%	Mean Test Assay:		%	

3. Component:

Oxygen

Requested Concentration: 17 %
Certified Concentration: 17.14 %
Instrument Used: Siemens Oxymat 6E S/N 7MB20211AA000CA1
Analytical Method: Paramagnetic
Last Multipoint Calibration: 05/30/2023

First Analysis Data:				Date	06/20/2023
Z:	0	R:	24.96	C:	17.16
R:	24.97	Z:	0	C:	17.1
Z:	0	C:	17.14	R:	24.94
UOM:	%	Mean Test Assay:	17.14	%	

Reference Standard:

Type / Cylinder #: GMIS / DT0025134

Concentration / Uncertainty: 24.96 % ± 0.04 %

Expiration Date: 12/14/2026

Traceable to: SRM # / Sample # / Cylinder #: SRM 2659a / 71-E-19 / FF22331

SRM Concentration / Uncertainty: 20.863 % ± 0.021 %

SRM Expiration Date: 02/27/2026

Second Analysis Data:				Date	
Z:	0	R:	0	C:	0
R:	0	Z:	0	C:	0
Z:	0	C:	0	R:	0
UOM:	%	Mean Test Assay:		%	

Analyzed By

Courtney Zielke

Certified By

Nelson Ma

Information contained herein has been prepared at your request by qualified experts within Linde Gas & Equipment Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Linde Gas & Equipment Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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Received
06-05-24



Linde Gas & Equipment Inc.
5700 S. Alameda Street
Los Angeles, CA 90058
Tel: 323-585-2154
Fax: 714-542-6689

Customer & Order Information:

LGEPKG TUALATIN OR H
10450 SW TUALATIN SHERWOOD ROAD,
TUALATIN, OR 97062-9547

Linde Order Number: **72440818**

Customer PO Number: **80449468**

Certificate Issuance Date: **6/6/2023**

Certification Date: **6/6/2023**

Lot Number: **70086313903**

Part Number: **NI CD15C5P-AS**

DocNumber: **683270**

Expiration Date: **6/1/2028**

CERTIFICATE OF ANALYSIS
Primary Standard

Component	Requested Concentration (Molar)	Certified Concentration (Molar)	Analytical Reference	Analytical Uncertainty
Carbon dioxide	15 %	15.00 %	1	± 0.02% Abs.
Carbon monoxide	500 ppm	500 ppm	1	± 1%
Nitrogen	Balance	Balance		

Cylinder Style: **AS**
Cylinder Pressure @ 70 F: **2000 psig**
Cylinder Volume: **150 ft³**
Valve Outlet Connection: **CGA 350**
Cylinder Number(s): **CC242987**

Fill Date: **5/19/2023**
Analysis Date: **6/1/2023**

Filling Method: **Gravimetric**

Analyst: **Ying Yu**

Approved Signer: **Amalia Real**

Key to Analytical Techniques

Reference	Analytical Instrument - Analytical Principle
1	Mettler ID5 - Gravimetric Method

The gas calibration cylinder standard prepared by Linde Gas & Equipment Inc. is considered a certified standard. It is prepared by gravimetric, volumetric, or partial pressure techniques. The calibration standard provided is certified against Linde Gas & Equipment Inc. Reference Materials which are traceable to the International System of Units (SI) through either weights traceable to the National Institute of Standards and Technology (NIST) or Measurement Canada, or through NIST Standard Reference Materials or equivalent where available.

Note: All expressions for concentration (e.g., % or ppm) are for gas phase, by mole unless otherwise noted. Analytical uncertainty is expressed as a Relative % unless otherwise noted.

IMPORTANT

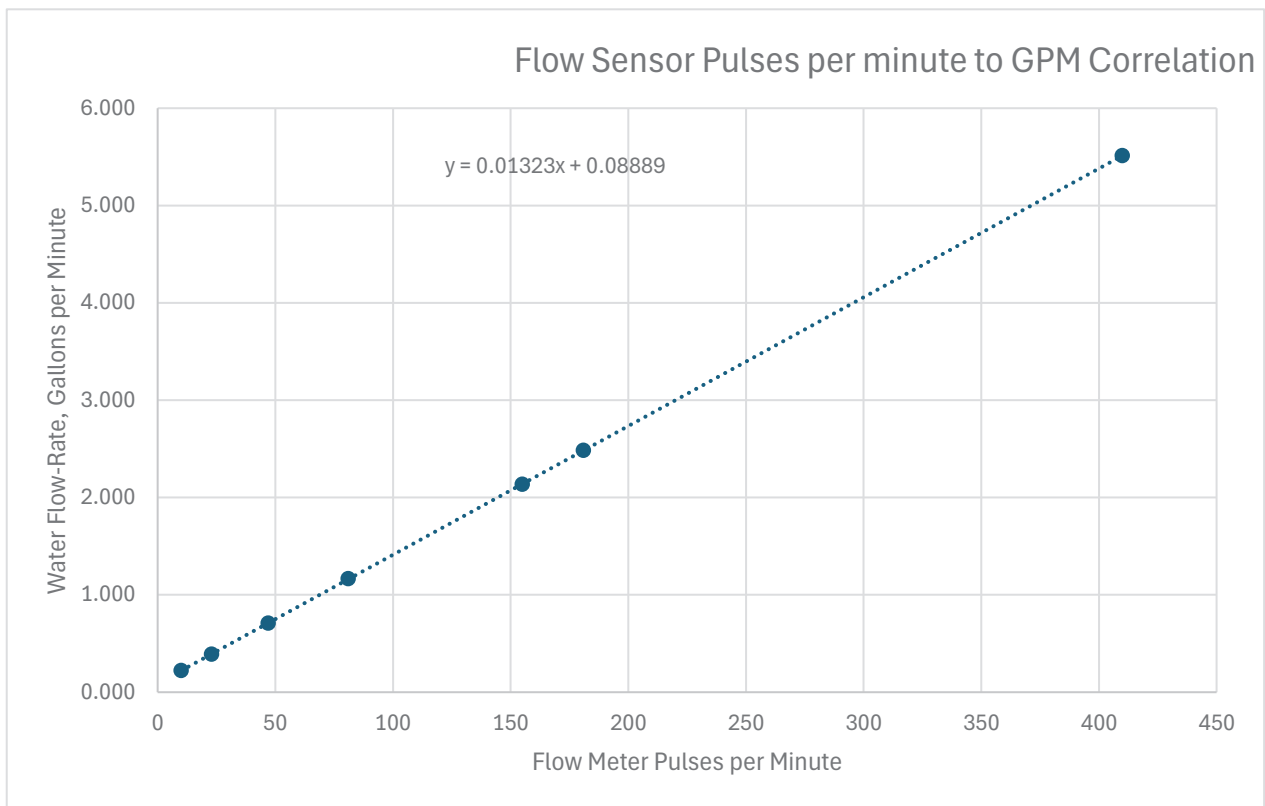
The information contained herein has been prepared at your request by personnel within Linde Gas & Equipment Inc. While we believe the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall liability of Linde Gas & Equipment Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.

Water flow sensor calibration

Technician: Ken Morgan

Date: 4/25/2024

Duration of Measurement minutes	Accumulated Mass, lb Lb.	Flow Sensor Water Temp °F	Water Density Lb. / Gallon σ	Measured Flow Rate GPM	DAQ Resultant Counts/min
2	3.7	66.3	8.3276	0.222	10
2	6.5	66.0	8.3280	0.390	23
2	11.8	66.1	8.3279	0.708	47
2	19.4	66.2	8.3278	1.165	81
1	17.8	66.2	8.3277	2.137	155
1	20.7	66.2	8.3277	2.486	181
1	45.9	66.3	8.3277	5.512	410



Heat exchanger RTD calibrations

Technician: Ken Morgan

Date: 4/25/2024

The instrument reading the 4-wire resistances of the RTD sensors is a Keithley 2700 6-1/2 digit multimeter. No calibration is necessary as the resulting resistances are being compared to a reference standard thermocouple readout. The Reference Thermocouple readout is OMNI 00373. Distilled water was used for both the boiling water and ice water initial references. The resulting linear regressions were used to translate resistances of the RTDs into Fahrenheit temperatures during the testing.

Boiling Water Reference Data

Designated RTDs, OHMs				Reference Thermocouple °F	
Boiler In	Boiler Out	Load In	Load Out		
138.505798	138.6721	138.64626	138.74672	210.4	
138.50531	138.6833	138.64122	138.75002	210.7	
138.5047	138.73294	138.64461	138.73227	210.8	
138.50322	138.70377	138.64685	138.71944	210.8	
138.504837	138.72443	138.64708	138.71297	210.7	
138.502045	138.69493	138.65321	138.7234	210.5	
138.502441	138.65286	138.63858	138.74484	210.4	
138.505722	138.64952	138.63034	138.73923	210.6	
138.504135	138.71016	138.64227	138.70955	210.7	
138.501617	138.73509	138.64871	138.70635	210.7	
138.504227	138.707	138.64935	138.70845	210.6	
138.500504	138.69733	138.64897	138.71957	210.6	
138.500839	138.6702	138.63675	138.72614	210.5	
138.497131	138.67348	138.6376	138.7195	210.6	
138.499878	138.72078	138.64388	138.72366	210.8	
138.501907	138.71867	138.64992	138.71184	210.7	
138.5009	138.74303	138.64716	138.70892	210.7	
138.500183	138.78226	138.64078	138.74046	210.8	
138.505295	138.75584	138.6541	138.72119	210.8	
138.50502	138.74243	138.64847	138.69417	210.7	
Averages	138.5027855	138.70851	138.64481	138.72293	210.655

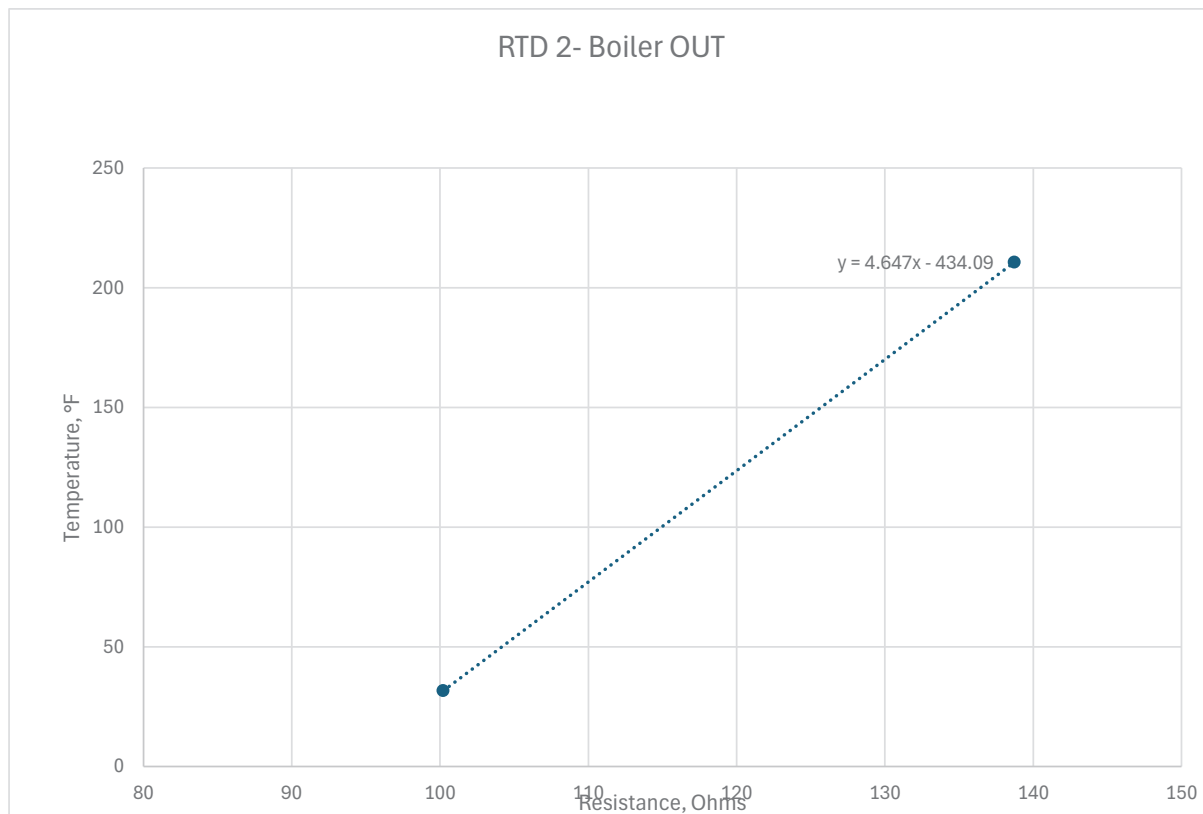
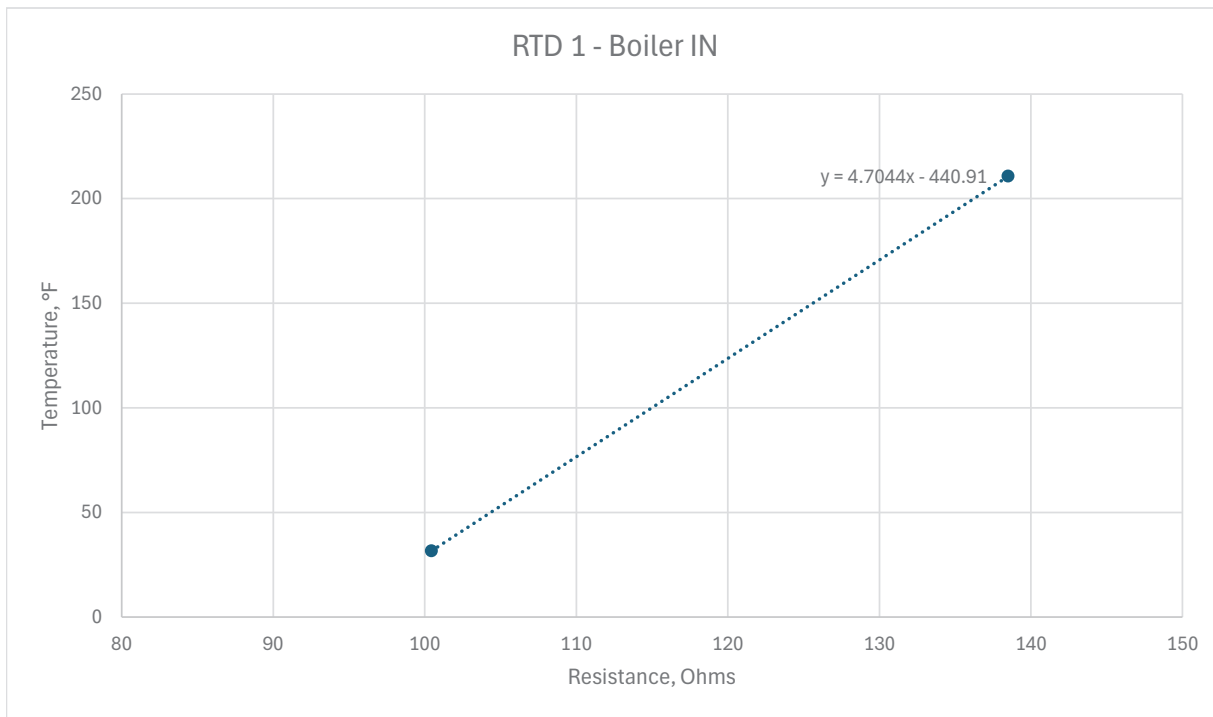
Ice Bath Reference Data

Ice Bath Reference Data				Reference	
Designated RTDs, OHMs				Thermocouple	
Boiler In	Boiler Out	Load In	Load Out	°F	
100.519234	100.21561	100.46163	100.00758	31.6	
100.53373	100.24763	100.47977	99.989555	31.6	
100.571114	100.26929	100.4844	99.978226	31.6	
100.611748	100.28853	100.49554	99.970673	31.6	
100.648499	100.30692	100.51506	99.965813	31.6	
100.679565	100.32351	100.53265	99.962601	31.6	
100.704758	100.34099	100.55042	99.959435	31.6	
100.726326	100.35695	100.5664	99.957138	31.6	
100.744888	100.37065	100.58221	99.955505	31.6	
100.76049	100.38452	100.59493	99.954651	31.6	
100.773132	100.39619	100.60403	99.95443	31.6	
100.365639	100.19226	100.3837	100.12698	31.7	
100.307487	100.15981	100.46301	100.28541	31.7	
100.337906	100.17579	100.51604	100.33394	31.6	
100.378395	100.18952	100.55317	100.34621	31.6	
100.413071	100.19695	100.57889	100.34561	31.6	
100.247704	100.14554	100.27516	100.13431	31.6	
100.081856	100.05402	100.0872	100.05199	31.6	
100.094574	100.05257	100.08449	100.06707	31.6	
100.126152	100.05726	100.09917	100.09045	31.6	
100.159866	100.06043	100.11237	100.11076	31.6	
100.19278	100.06336	100.12444	100.13054	31.6	
100.224098	100.06852	100.13522	100.14767	31.6	
Averages	100.4436092	100.2138	100.4035	100.0794	31.61052632

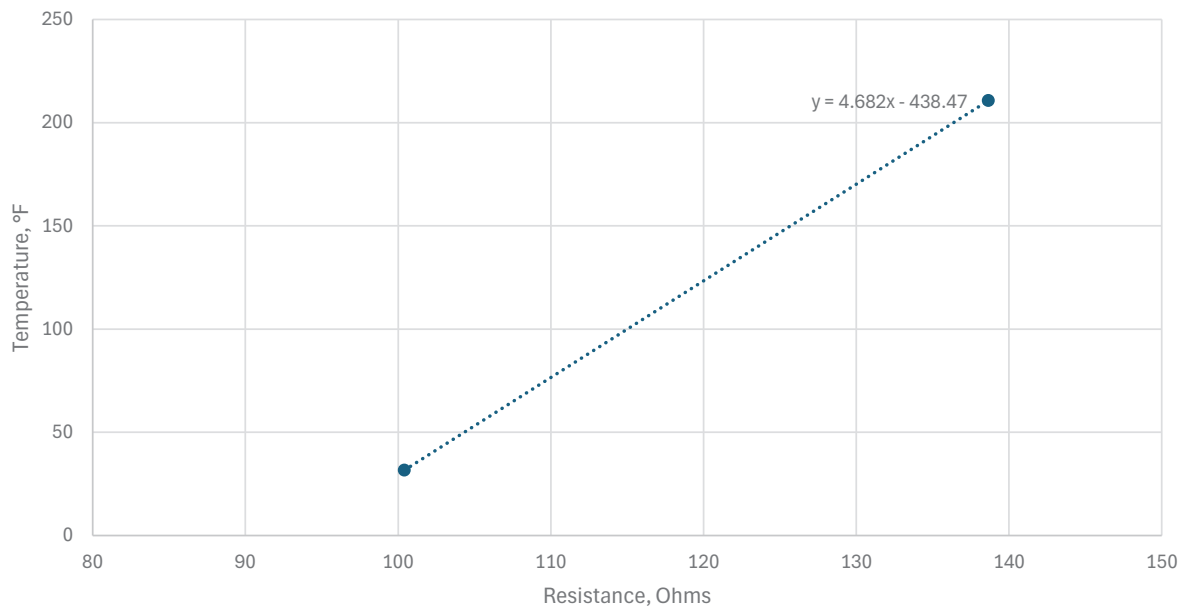
X and Y values for each RTD,
where X = resistance and Y =
corresponding Temperature

	x	y
RTD 1	100.4436	31.61053
	138.5028	210.655
RTD 2	100.2138	31.61053
	138.7424	210.655
RTD 3	100.4035	31.61053
	138.6448	210.655
RTD 4	100.0794	31.61053
	138.7229	210.655

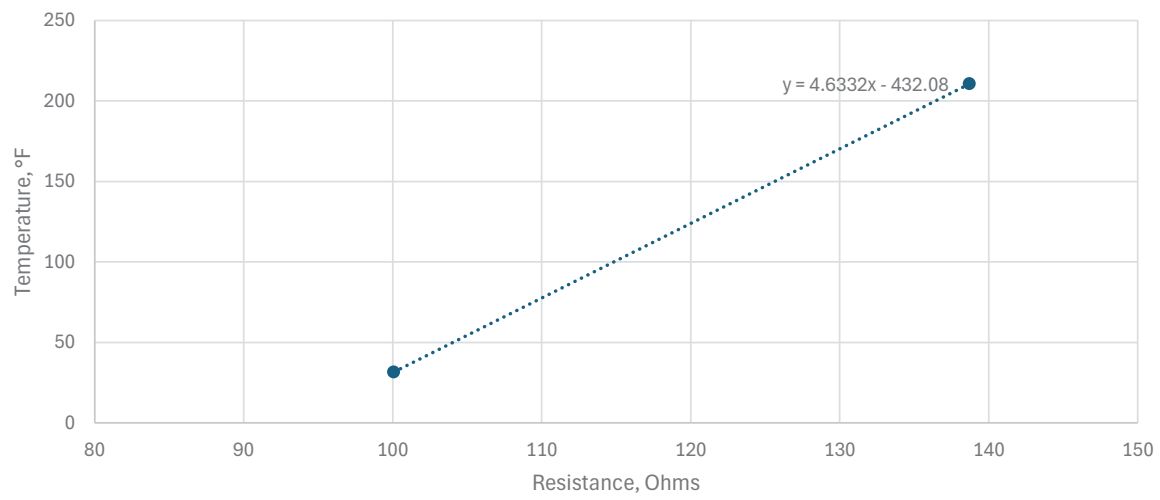
Linear regressions (slope and Y intercepts) derived from charting of X and Y data



RTD 3 - Load IN



RTD 4 - Load OUT



The linear regressions determined above were entered into the ExceLinx workbook template to be used with the Keithley 2700 DMM for this test series and a comparison of the temperatures (°F) resulting from the linear transformations of the RTDs within ExceLinx were compared with a Type K thermocouple attached to OMNI 00373 reference meter while all sensors of both instruments were simultaneously immersed in boiling distilled water. Upon boiling establishing a constant rolling boil, the Type K thermocouple of the reference instrument was noted as holding steady at 211.2 °F. Twelve sets of readings were taken by the RTD channels of the datalogger in 15 second increments. This data was used to establish an estimated uncertainty of the temperature measurements.

LOAD Side Heat Exchanger			
In	Error	Out	Error
211.277	-0.077	211.311	-0.111
211.275	-0.075	211.291	-0.091
211.280	-0.080	211.250	-0.050
211.287	-0.087	211.274	-0.074
211.286	-0.086	211.318	-0.118
211.300	-0.100	211.252	-0.052
211.294	-0.094	211.298	-0.098
211.285	-0.085	211.315	-0.115
211.286	-0.086	211.288	-0.088
211.282	-0.082	211.324	-0.124
211.269	-0.069	211.298	-0.098
211.280	-0.080	211.304	-0.104
Std Dev	0.008387		0.024245
Average	-0.084		-0.094

Load IN

Contributor	Magnitude	Type	Dist	Divisor	Std U	Variance
Repeatability	0.008387	A	Normal	1	0.008387215	7.03454E-05
Bias	-0.084	B	Normal	1	-0.083521083	0.006975771
Reference	0.342	B	Expanded	2	0.171	0.029241
Resolution	0.000001	B	Rect	1.732051	5.7735E-07	3.33333E-13
						0.036
						Over-all STD U
						0.190
						Estimated Uncertainty
						U, k=2
						0.381

Load OUT

Contributor	Magnitude	Type	Dist	Divisor	Std U	Variance
Repeatability	0.024245	A	Normal	1	0.024244664	0.001
Bias	-0.094	B	Normal	1	-0.093616083	0.009
Reference	0.342	B	Expanded	2	0.171	0.029
Resolution	0.000001	B	Rect	1.732051	5.7735E-07	0.000
						0.039
						Over-all STD U
						0.196
						Estimated Uncertainty
						U, k=2
						0.393

8.4 - Archival of Appliance Specimen

The tested unit was sealed by OMNI-Test Laboratories after the completion of certification testing. This unit will be stored at the manufacturer's premises in the sealed state until 5 years after the certification testing at the following address:

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



Classic Edge 760.1 Sealed Unit - Front/Left 3/4 View



Central Boiler Classic Edge 760.1 - Rear / Right 3/4 View

9. References

U.S. EPA 40 CFR Part 60, Subpart AAA – "Standards of Performance for New Residential Wood Heaters"

ASTM E2515-11, "Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel", ASTM International, West Conshohocken, PA, 2011, www.astm.org

ASTM E2618-13 "Standard Test Method for Measurement of Particulate Emissions and Heating Efficiency of Solid Fuel-Fired Hydronic Heating Appliances", ASTM International, West Conshohocken, PA, 2011, www.astm.org

Mark's Standard Handbook for Mechanical Engineers, 9th edition (1986)

CSA B415.1:22 "Performance testing of solid-biofuel-burning heating appliance"

EPA Method 1 - Sample and Velocity Traverses for Stationary Sources

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

EPA Method 5G - Particulate Matter Wood Heaters from a Dilution Tunnel

EPA Method 28R - Certification and Auditing of Wood Heaters

EPA Source Classification Codes (SCCs) - <https://sor-scc-api.epa.gov/sccwebservices/sccsearch/>

EPA Method 7E—Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

10. Appendices

Appendix A - Appliance Conditioning Data

Appendix B - EPA 30 - Day Notice

Appendix C - ALT-154

Appendix D - Test Fuel Analysis

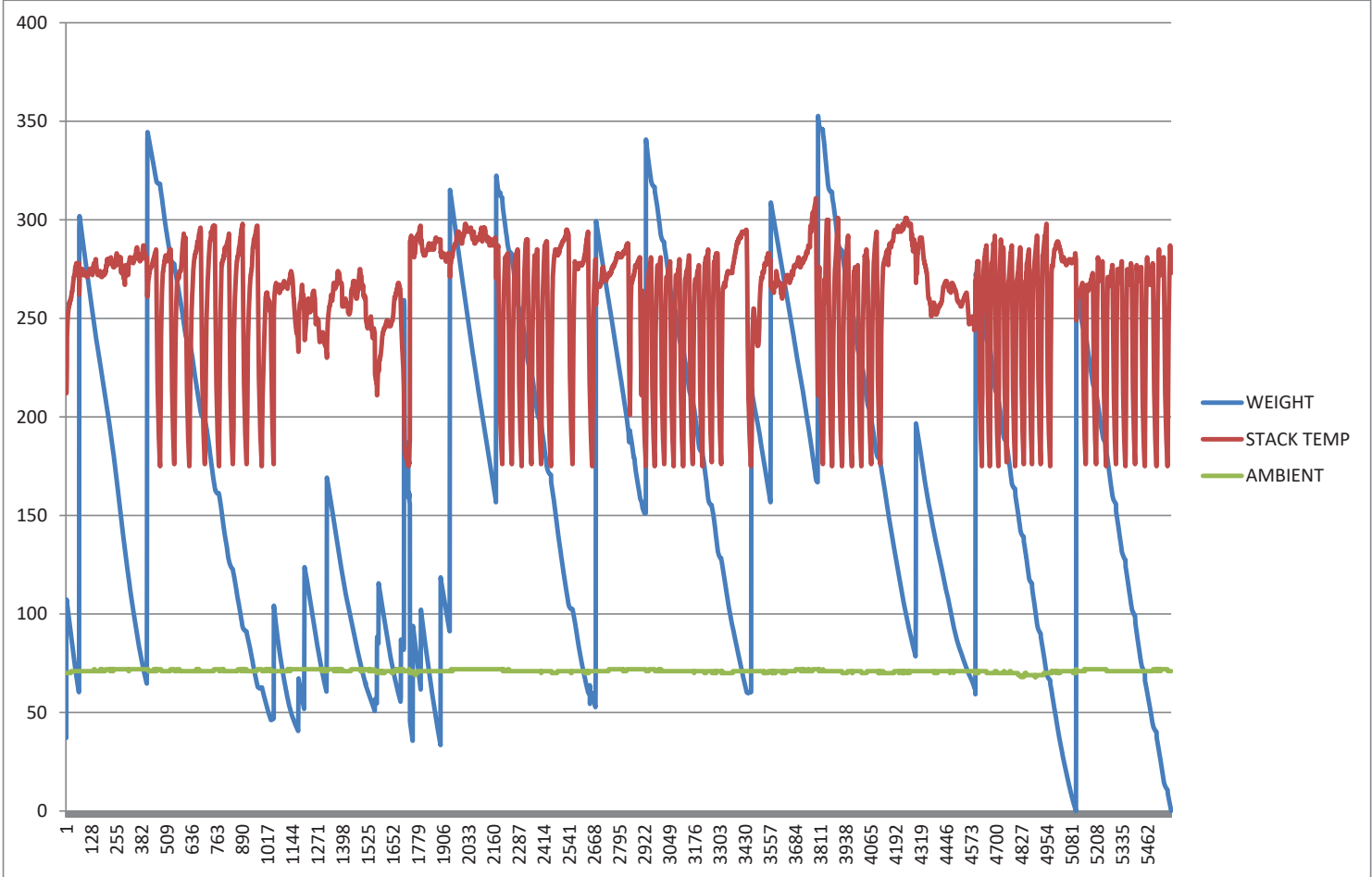
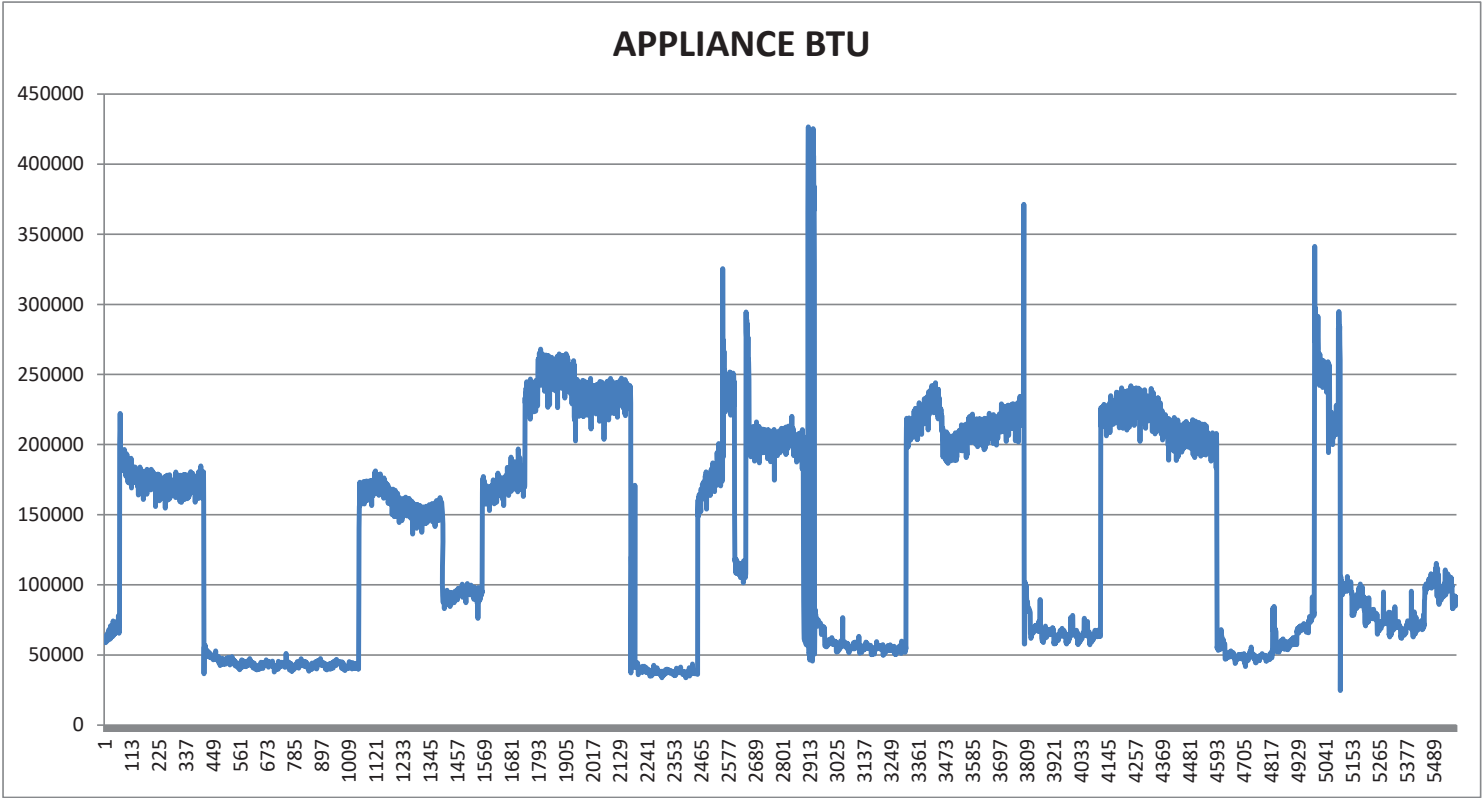
Appendix A

Appliance Conditioning Data

Conditioning of the Classic Edge 760.1 was performed by Central Boiler staff at Central Boiler's Greenbush Minnesota facility from January 21, 2025 through February 5, 2025. The data was recorded in one-minute intervals with a cumulative total of 93.07 hrs. at a medium load averaging 132,422 Btu/hour (54% of manufacturer's rated maximum output of 245,000 Btu/hr.). The fuel used was Maple with moisture content within 19 - 25 percent (dry-basis).

Conditioning Data
Central Boiler Classic Edge 760.1

Operated at a medium heat load for 93.07 hrs from January 21,2025 -February 5, 2025 using Maple cordwood wirh average moisture of 19 - 25% dry basis. Tis conditioning was performed by Central Boiler technicians at Central Boiler's Greenbush Minnesota facility.



Central Boiler model Classic Edge 760.1 conditioning interval data.

Total/Avg	DATE	Min elapsed	WEIGHT	STACK TEMP	AMBIENT	APPLIANCE BTU	Hrs. elapsed
		5584		259.0	71.1	132421.5	93.07
	1/23/2025	1	37.4	217	70	61327.13	0.02
	1/23/2025	2	37.1	218	70	60619.22	0.03
	1/23/2025	3	97.3	212	70	59525.32	0.05
	1/23/2025	4	107.3	217	70	63638.69	0.07
	1/23/2025	5	106.5	227	70	60458.52	0.08
	1/23/2025	6	105.6	236	70	61837.15	0.10
	1/23/2025	7	104.8	242	70	58748.3	0.12
	1/23/2025	8	103.9	247	70	62789.78	0.13
	1/23/2025	9	103.1	249	70	62128.22	0.15
	1/23/2025	10	102.3	251	70	62071.07	0.17
	1/23/2025	11	101.6	252	70	61994.49	0.18
	1/23/2025	12	100.8	253	70	59694.67	0.20
	1/23/2025	13	99.9	254	70	62319.8	0.22
	1/23/2025	14	99.1	255	70	63813.95	0.23
	1/23/2025	15	98.3	256	70	65623.35	0.25
	1/23/2025	16	97.5	256	70	64636.68	0.27
	1/23/2025	17	96.6	258	70	63967.35	0.28
	1/23/2025	18	95.9	257	70	61182.06	0.30
	1/23/2025	19	95.1	257	70	60623.53	0.32
	1/23/2025	20	94.2	259	70	63163.64	0.33
	1/23/2025	21	93.4	259	70	68241.07	0.35
	1/23/2025	22	92.6	259	70	63876.82	0.37
	1/23/2025	23	91.8	259	70	65398.42	0.38
	1/23/2025	24	91	259	70	64176.64	0.40
	1/23/2025	25	90.1	260	70	63964.13	0.42
	1/23/2025	26	89.3	260	71	61314.39	0.43
	1/23/2025	27	88.6	261	71	70847.57	0.45
	1/23/2025	28	87.8	261	71	65757.51	0.47
	1/23/2025	29	87	262	71	63800.05	0.48
	1/23/2025	30	86.2	263	71	62471.18	0.50
	1/23/2025	31	85.4	263	71	66608.37	0.52
	1/23/2025	32	84.7	264	71	63989.32	0.53
	1/23/2025	33	83.9	264	71	68731.68	0.55
	1/23/2025	34	83.1	265	71	66435.87	0.57
	1/23/2025	35	82.3	266	71	66936.76	0.58
	1/23/2025	36	81.5	267	71	66051.01	0.60
	1/23/2025	37	80.7	268	71	63342.7	0.62
	1/23/2025	38	79.9	269	71	74235.86	0.63
	1/23/2025	39	79.1	270	71	67958.47	0.65
	1/23/2025	40	78.3	271	71	65148.36	0.67
	1/23/2025	41	77.6	271	71	64535.42	0.68
	1/23/2025	42	76.8	271	71	67642.82	0.70
	1/23/2025	43	76.1	272	71	66900.85	0.72
	1/23/2025	44	75.3	272	71	68370.24	0.73
	1/23/2025	45	74.5	273	71	65047.72	0.75
	1/23/2025	46	73.8	274	71	65912.62	0.77
	1/23/2025	47	73	275	71	65939.98	0.78
	1/23/2025	48	72.2	276	71	68308.78	0.80
	1/23/2025	49	71.5	276	71	69448.53	0.82
	1/23/2025	50	70.7	276	71	65662.7	0.83
	1/23/2025	51	69.9	277	71	73647.69	0.85
	1/23/2025	52	69.3	277	71	68829.55	0.87
	1/23/2025	53	68.5	278	71	69752.36	0.88
	1/23/2025	54	67.8	278	71	67639.74	0.90
	1/23/2025	55	67	278	71	67364.42	0.92
	1/23/2025	56	66.3	278	71	70795.83	0.93
	1/23/2025	57	65.8	278	71	68946.75	0.95
	1/23/2025	58	65.2	278	71	69412.15	0.97
	1/23/2025	59	64.5	278	71	68617.3	0.98
	1/23/2025	60	63.9	990 278	71	77985.31	1.00

1/23/2025	61	63.2	278	71	71745.47	1.02
1/23/2025	62	62.6	277	71	65488.45	1.03
1/23/2025	63	62	278	71	69207.35	1.05
1/23/2025	64	61.3	278	71	70611.77	1.07
1/23/2025	65	60.8	278	71	201198.98	1.08
1/23/2025	66	60.3	278	71	209832.24	1.10
1/23/2025	67	62	277	71	222206.25	1.12
1/23/2025	68	295.5	262	71	200271.26	1.13
1/23/2025	69	301.9	266	71	185251.37	1.15
1/23/2025	70	301	270	71	193592.32	1.17
1/23/2025	71	300.4	272	71	187412.39	1.18
1/23/2025	72	299.8	273	71	193954.76	1.20
1/23/2025	73	299.1	274	71	194851.43	1.22
1/23/2025	74	298.5	274	71	190540.87	1.23
1/23/2025	75	297.7	274	71	190359.32	1.25
1/23/2025	76	296.9	273	71	194786.65	1.27
1/23/2025	77	296.2	273	71	195650.56	1.28
1/23/2025	78	295.4	273	71	181499.94	1.30
1/23/2025	79	294.6	274	71	192806.28	1.32
1/23/2025	80	293.8	274	71	189708.96	1.33
1/23/2025	81	293	275	71	190204.4	1.35
1/23/2025	82	292.3	275	71	190518.6	1.37
1/23/2025	83	291.4	274	71	182732.89	1.38
1/23/2025	84	290.6	275	71	196493.48	1.40
1/23/2025	85	289.9	274	71	189825.36	1.42
1/23/2025	86	289.2	274	71	180912.78	1.43
1/23/2025	87	288.5	272	71	194696.34	1.45
1/23/2025	88	287.8	272	71	190758.78	1.47
1/23/2025	89	287	272	71	180163.47	1.48
1/23/2025	90	286.3	272	71	193578.36	1.50
1/23/2025	91	285.5	272	71	177375.18	1.52
1/23/2025	92	284.7	272	71	189974.65	1.53
1/23/2025	93	284	272	71	189826.54	1.55
1/23/2025	94	283.2	272	71	184036.47	1.57
1/23/2025	95	282.4	272	71	193110.11	1.58
1/23/2025	96	281.7	272	71	184341.52	1.60
1/23/2025	97	280.9	273	71	185158.58	1.62
1/23/2025	98	280.1	273	71	182950.45	1.63
1/23/2025	99	279.4	272	71	172981.89	1.65
1/23/2025	100	278.7	273	71	189441.46	1.67
1/23/2025	101	277.8	273	71	186107.06	1.68
1/23/2025	102	277	272	71	176592.5	1.70
1/23/2025	103	276.2	272	71	186535.89	1.72
1/23/2025	104	275.4	272	71	172559.06	1.73
1/23/2025	105	274.6	272	71	187669.53	1.75
1/23/2025	106	273.9	272	71	186334.55	1.77
1/23/2025	107	273.2	271	71	178726.56	1.78
1/23/2025	108	272.5	271	71	188368.42	1.80
1/23/2025	109	271.7	271	71	180365.44	1.82
1/23/2025	110	270.9	271	71	184800.6	1.83
1/23/2025	111	270.3	272	71	179759.05	1.85
1/23/2025	112	269.6	272	71	190201.37	1.87
1/23/2025	113	268.9	272	71	184925.47	1.88
1/23/2025	114	268.1	273	71	169004.97	1.90
1/23/2025	115	267.5	273	71	182751.26	1.92
1/23/2025	116	266.7	274	71	176376.72	1.93
1/23/2025	117	265.9	274	71	180421.92	1.95
1/23/2025	118	265.2	274	71	183411.88	1.97
1/23/2025	119	264.4	275	71	181114.34	1.98
1/23/2025	120	263.6	275	71	173798.48	2.00
1/23/2025	121	263	274	71	184193.04	2.02
1/23/2025	122	262.1	274	71	175513.33	2.03
1/23/2025	123	261.4	275	71	181981.6	2.05
1/23/2025	124	260.7	275	71	182209.12	2.07

1/23/2025	125	260	275	71	172949.41	2.08
1/23/2025	126	259.3	275	71	177226.89	2.10
1/23/2025	127	258.6	275	71	172919.04	2.12
1/23/2025	128	257.9	275	71	181604.12	2.13
1/23/2025	129	257.2	274	71	183971.45	2.15
1/23/2025	130	256.5	274	71	176350.15	2.17
1/23/2025	131	255.8	274	71	180243.9	2.18
1/23/2025	132	255.1	273	71	177390.06	2.20
1/23/2025	133	254.4	273	71	174406.67	2.22
1/23/2025	134	253.8	272	71	177136.12	2.23
1/23/2025	135	253	274	71	173921.78	2.25
1/23/2025	136	252.2	275	71	172086.46	2.27
1/23/2025	137	251.4	275	71	178993.62	2.28
1/23/2025	138	250.6	276	71	181624.12	2.30
1/23/2025	139	250	276	71	170001.02	2.32
1/23/2025	140	249.4	277	71	174479.75	2.33
1/23/2025	141	248.7	277	71	176283.92	2.35
1/23/2025	142	247.9	278	72	164026.69	2.37
1/23/2025	143	247.2	278	72	177347.99	2.38
1/23/2025	144	246.5	277	72	172816.9	2.40
1/23/2025	145	245.7	277	72	164776.96	2.42
1/23/2025	146	245	277	72	178682.82	2.43
1/23/2025	147	244.2	277	71	176389.33	2.45
1/23/2025	148	243.5	278	71	174306.02	2.47
1/23/2025	149	242.7	279	71	184014.11	2.48
1/23/2025	150	242	280	71	179347.13	2.50
1/23/2025	151	241.3	280	71	170722.83	2.52
1/23/2025	152	240.6	280	71	175781.63	2.53
1/23/2025	153	239.9	278	71	174522.79	2.55
1/23/2025	154	239.2	277	71	168125.36	2.57
1/23/2025	155	238.5	276	71	175808.57	2.58
1/23/2025	156	238	275	71	173968.21	2.60
1/23/2025	157	237.3	274	71	165987.4	2.62
1/23/2025	158	236.7	273	71	175991.08	2.63
1/23/2025	159	236.1	273	71	176373.89	2.65
1/23/2025	160	235.4	273	71	168952.55	2.67
1/23/2025	161	234.7	272	71	180309.34	2.68
1/23/2025	162	234	272	71	175961.41	2.70
1/23/2025	163	233.3	272	71	160838.42	2.72
1/23/2025	164	232.7	272	71	180948.75	2.73
1/23/2025	165	232	272	71	177060.31	2.75
1/23/2025	166	231.3	272	71	172923.77	2.77
1/23/2025	167	230.6	272	71	172475.54	2.78
1/23/2025	168	229.9	272	71	174435.7	2.80
1/23/2025	169	229.2	273	71	176575.03	2.82
1/23/2025	170	228.5	273	71	176714.33	2.83
1/23/2025	171	228	274	71	173341.44	2.85
1/23/2025	172	227.4	274	71	169653.64	2.87
1/23/2025	173	226.8	274	72	180497.52	2.88
1/23/2025	174	226.2	274	71	167580.68	2.90
1/23/2025	175	225.7	273	71	178144.96	2.92
1/23/2025	176	225.1	273	71	173296.92	2.93
1/23/2025	177	224.5	272	71	164551.89	2.95
1/23/2025	178	223.9	272	71	182417.39	2.97
1/23/2025	179	223.3	271	71	172922.34	2.98
1/23/2025	180	222.7	271	71	171327.38	3.00
1/23/2025	181	222.2	271	72	175859.57	3.02
1/23/2025	182	221.5	271	71	174747.94	3.03
1/23/2025	183	220.9	271	72	181348.73	3.05
1/23/2025	184	220.4	272	72	173905.31	3.07
1/23/2025	185	219.8	272	71	168341.95	3.08
1/23/2025	186	219.3	272	71	178363.6	3.10
1/23/2025	187	218.7	272	71	180211.68	3.12
1/23/2025	188	217.9	273	71	170998.12	3.13

1/23/2025	189	217.2	273	71	174751.43	3.15
1/23/2025	190	216.6	273	71	169737.66	3.17
1/23/2025	191	215.9	273	71	176975.72	3.18
1/23/2025	192	215.3	273	71	169173.15	3.20
1/23/2025	193	214.7	273	71	167712.6	3.22
1/23/2025	194	214	273	71	171561.19	3.23
1/23/2025	195	213.4	272	71	182393.83	3.25
1/23/2025	196	212.6	274	71	174284.77	3.27
1/23/2025	197	211.9	274	71	169335.55	3.28
1/23/2025	198	211.2	274	71	179574.61	3.30
1/23/2025	199	210.6	274	71	169141.69	3.32
1/23/2025	200	210.1	273	72	181278.02	3.33
1/23/2025	201	209.4	275	72	177022.04	3.35
1/23/2025	202	208.8	274	72	168712.29	3.37
1/23/2025	203	208.1	275	72	175304.17	3.38
1/23/2025	204	207.4	277	72	169965.73	3.40
1/23/2025	205	206.7	276	72	170413.39	3.42
1/23/2025	206	206	276	72	179763.5	3.43
1/23/2025	207	205.2	278	72	167946.71	3.45
1/23/2025	208	204.6	279	72	171758.87	3.47
1/23/2025	209	203.9	280	72	175609.18	3.48
1/23/2025	210	203.2	279	72	172751.08	3.50
1/23/2025	211	202.5	280	72	177731.93	3.52
1/23/2025	212	201.8	279	72	174221.07	3.53
1/23/2025	213	201.2	279	72	155849.32	3.55
1/23/2025	214	200.4	279	72	175709.83	3.57
1/23/2025	215	199.6	280	72	160680.54	3.58
1/23/2025	216	198.9	280	72	173641.22	3.60
1/23/2025	217	198.1	280	72	175150.53	3.62
1/23/2025	218	197.4	278	72	167897.63	3.63
1/23/2025	219	196.8	279	72	169620.15	3.65
1/23/2025	220	196	278	72	176743.12	3.67
1/23/2025	221	195.3	278	72	175058.06	3.68
1/23/2025	222	194.6	278	72	174410.92	3.70
1/23/2025	223	193.9	279	71	178978.91	3.72
1/23/2025	224	193.2	278	71	173097.15	3.73
1/23/2025	225	192.5	279	72	176833.62	3.75
1/23/2025	226	191.8	280	72	162323.27	3.77
1/23/2025	227	191.1	280	72	172607.04	3.78
1/23/2025	228	190.4	281	72	171518.1	3.80
1/23/2025	229	189.8	279	72	159918.27	3.82
1/23/2025	230	189.1	279	72	178266.99	3.83
1/23/2025	231	188.4	279	72	170415.68	3.85
1/23/2025	232	187.7	279	72	176404.86	3.87
1/23/2025	233	186.9	279	72	171872.23	3.88
1/23/2025	234	186.2	279	71	171562.52	3.90
1/23/2025	235	185.4	278	71	161138.99	3.92
1/23/2025	236	184.8	277	72	175918.8	3.93
1/23/2025	237	184	277	72	169726.54	3.95
1/23/2025	238	183.2	277	71	167222.74	3.97
1/23/2025	239	182.5	276	71	171613.9	3.98
1/23/2025	240	181.7	276	71	167179.18	4.00
1/23/2025	241	180.9	276	72	162001.13	4.02
1/23/2025	242	180	277	72	172838.97	4.03
1/23/2025	243	179.2	277	72	167243.28	4.05
1/23/2025	244	178.4	276	72	166287.38	4.07
1/23/2025	245	177.6	276	72	171684.77	4.08
1/23/2025	246	176.8	277	72	167754.12	4.10
1/23/2025	247	176	278	72	162965.5	4.12
1/23/2025	248	175.3	278	72	172613.07	4.13
1/23/2025	249	174.5	278	72	169520.01	4.15
1/23/2025	250	173.7	279	72	162421.79	4.17
1/23/2025	251	172.9	279	72	177131.72	4.18
1/23/2025	252	172.1	280	72	174069.45	4.20

1/23/2025	253	171.4	280	72	154635.44	4.22
1/23/2025	254	170.7	280	72	172085.43	4.23
1/23/2025	255	169.9	281	72	176748.66	4.25
1/23/2025	256	169	282	72	171832.19	4.27
1/23/2025	257	168	283	72	165642.69	4.28
1/23/2025	258	167.1	281	72	177533.41	4.30
1/23/2025	259	166.2	278	72	170459.05	4.32
1/23/2025	260	165.4	278	72	161541.8	4.33
1/23/2025	261	164.5	277	72	178147.31	4.35
1/23/2025	262	163.7	279	72	160281.04	4.37
1/23/2025	263	162.7	280	72	173217.78	4.38
1/23/2025	264	161.9	279	72	166503.03	4.40
1/23/2025	265	161	280	72	167882.01	4.42
1/23/2025	266	160.2	281	72	171069.09	4.43
1/23/2025	267	159.2	280	72	171819.41	4.45
1/23/2025	268	158.2	281	72	177895.31	4.47
1/23/2025	269	157.3	281	72	176495.82	4.48
1/23/2025	270	156.4	281	72	161003.32	4.50
1/23/2025	271	155.6	280	72	178472.15	4.52
1/23/2025	272	154.7	280	72	176154.38	4.53
1/23/2025	273	153.8	281	72	172367.05	4.55
1/23/2025	274	153	280	72	162393.07	4.57
1/23/2025	275	152.1	281	72	172770.07	4.58
1/23/2025	276	151.3	281	72	173435.7	4.60
1/23/2025	277	150.4	281	72	167447.41	4.62
1/23/2025	278	149.5	279	72	174544.13	4.63
1/23/2025	279	148.8	275	72	171624.95	4.65
1/23/2025	280	148.1	273	72	168201.93	4.67
1/23/2025	281	147.2	275	72	170034.77	4.68
1/23/2025	282	146.3	275	72	174734.28	4.70
1/23/2025	283	145.4	275	72	166992.29	4.72
1/23/2025	284	144.6	275	72	169881.18	4.73
1/23/2025	285	143.7	277	72	173409.19	4.75
1/23/2025	286	142.9	276	72	166797.75	4.77
1/23/2025	287	142.1	274	72	165594.12	4.78
1/23/2025	288	141.3	274	72	173563.48	4.80
1/23/2025	289	140.6	273	72	165829.97	4.82
1/23/2025	290	139.8	272	72	163407.8	4.83
1/23/2025	291	139	272	72	173001.47	4.85
1/23/2025	292	138.1	271	72	168467.8	4.87
1/23/2025	293	137.2	270	72	170214.77	4.88
1/23/2025	294	136.4	270	72	171363.21	4.90
1/23/2025	295	135.6	271	72	170563.85	4.92
1/23/2025	296	134.7	270	72	162195.45	4.93
1/23/2025	297	133.9	269	72	180414.82	4.95
1/23/2025	298	133.1	267	72	167020.33	4.97
1/23/2025	299	132.3	270	72	163720.32	4.98
1/23/2025	300	131.4	273	72	177962.01	5.00
1/23/2025	301	130.6	275	72	169564.47	5.02
1/23/2025	302	129.9	277	72	164115.76	5.03
1/23/2025	303	129	276	72	178125.43	5.05
1/23/2025	304	128.2	274	72	173386.65	5.07
1/23/2025	305	127.5	274	72	162616.76	5.08
1/23/2025	306	126.8	273	72	173487.63	5.10
1/23/2025	307	126.1	272	72	172659.56	5.12
1/23/2025	308	125.3	274	72	166142	5.13
1/23/2025	309	124.6	275	72	173637.18	5.15
1/23/2025	310	123.8	275	72	174783.29	5.17
1/23/2025	311	123	275	72	165363.7	5.18
1/23/2025	312	122.3	275	72	177930.41	5.20
1/23/2025	313	121.5	274	72	170497.57	5.22
1/23/2025	314	120.8	272	72	159245.66	5.23
1/23/2025	315	120	272	72	173963.15	5.25
1/23/2025	316	119.3	274	72	178146.83	5.27

1/23/2025	317	118.6	276	71	162191.23	5.28
1/23/2025	318	117.9	278	71	175768.42	5.30
1/23/2025	319	117.1	278	71	167409.8	5.32
1/23/2025	320	116.4	278	72	158788.98	5.33
1/23/2025	321	115.6	279	72	169964.11	5.35
1/23/2025	322	114.7	280	72	163226.85	5.37
1/23/2025	323	113.9	280	72	169540.37	5.38
1/23/2025	324	113.1	281	72	165846.28	5.40
1/23/2025	325	112.4	281	72	172195.18	5.42
1/23/2025	326	111.6	281	72	168050.74	5.43
1/23/2025	327	111	281	72	174671.57	5.45
1/23/2025	328	110.2	280	72	173134.62	5.47
1/23/2025	329	109.5	280	72	166095.61	5.48
1/23/2025	330	108.8	280	72	178747.73	5.50
1/23/2025	331	108.1	280	72	169282.82	5.52
1/23/2025	332	107.5	279	72	160736.17	5.53
1/23/2025	333	106.8	279	72	178385.22	5.55
1/23/2025	334	106	279	72	171389.07	5.57
1/23/2025	335	105.3	279	72	170175.11	5.58
1/23/2025	336	104.6	279	72	166987.05	5.60
1/23/2025	337	104	279	72	173726.67	5.62
1/23/2025	338	103.4	279	72	167658.4	5.63
1/23/2025	339	102.7	279	72	167870.76	5.65
1/23/2025	340	102.1	279	72	166622.66	5.67
1/23/2025	341	101.5	278	72	178440.07	5.68
1/23/2025	342	100.8	280	72	170899.56	5.70
1/23/2025	343	100.2	280	72	168897.67	5.72
1/23/2025	344	99.6	279	72	161398.68	5.73
1/23/2025	345	98.9	279	72	174709.5	5.75
1/23/2025	346	98.3	280	72	175284.71	5.77
1/23/2025	347	97.7	281	72	162214.36	5.78
1/23/2025	348	97.1	280	72	168452.67	5.80
1/23/2025	349	96.4	281	72	165169.88	5.82
1/23/2025	350	95.8	282	72	162445.81	5.83
1/23/2025	351	95.1	281	72	177128.43	5.85
1/23/2025	352	94.5	281	72	173204.06	5.87
1/23/2025	353	93.9	281	72	170400.98	5.88
1/23/2025	354	93.2	283	72	164295.31	5.90
1/23/2025	355	92.6	284	72	175008.54	5.92
1/23/2025	356	92	285	72	174783.39	5.93
1/23/2025	357	91.3	284	72	169897.45	5.95
1/23/2025	358	90.7	285	72	180705.36	5.97
1/23/2025	359	90.1	286	72	173705.16	5.98
1/23/2025	360	89.4	286	72	171672.6	6.00
1/23/2025	361	88.8	284	72	172064.85	6.02
1/23/2025	362	88.1	283	72	166148.12	6.03
1/23/2025	363	87.5	283	72	177386.21	6.05
1/23/2025	364	86.9	283	72	174797.24	6.07
1/23/2025	365	86.3	283	72	170210.57	6.08
1/23/2025	366	85.7	283	72	179520.59	6.10
1/23/2025	367	85.2	282	72	175214.2	6.12
1/23/2025	368	84.5	282	72	172451.37	6.13
1/23/2025	369	83.9	281	72	172267.69	6.15
1/23/2025	370	83.4	280	72	178043.19	6.17
1/23/2025	371	82.9	280	72	168535.99	6.18
1/23/2025	372	82.3	281	72	171069.78	6.20
1/23/2025	373	81.8	280	72	172435.17	6.22
1/23/2025	374	81.3	279	72	167197.32	6.23
1/23/2025	375	80.8	279	72	171891.27	6.25
1/23/2025	376	80.2	280	72	174329.84	6.27
1/23/2025	377	79.6	281	72	158848.9	6.28
1/23/2025	378	79	282	72	177398.1	6.30
1/23/2025	379	78.5	281	72	170690.61	6.32
1/23/2025	380	78	280	72	167583.22	6.33

1/23/2025	381	77.5	281	72	174763.42	6.35
1/23/2025	382	76.9	280	72	171734.09	6.37
1/23/2025	383	76.4	281	72	177387.47	6.38
1/23/2025	384	75.9	281	72	173895.41	6.40
1/23/2025	385	75.3	281	72	169096.52	6.42
1/23/2025	386	74.8	281	72	177293.41	6.43
1/23/2025	387	74.3	282	72	168827.85	6.45
1/23/2025	388	73.8	285	72	178099.34	6.47
1/23/2025	389	73.1	285	72	178279.44	6.48
1/23/2025	390	72.6	286	72	161517.74	6.50
1/23/2025	391	72.2	287	72	180669.93	6.52
1/23/2025	392	71.7	287	72	170539.4	6.53
1/23/2025	393	71.3	287	72	176281.76	6.55
1/23/2025	394	70.8	287	72	180748.45	6.57
1/23/2025	395	70.4	287	72	178754.04	6.58
1/23/2025	396	69.8	286	72	164209.27	6.60
1/23/2025	397	69.3	283	72	177914.5	6.62
1/23/2025	398	69	283	72	179055.65	6.63
1/23/2025	399	68.6	283	72	166158.8	6.65
1/23/2025	400	68.1	282	72	184732.04	6.67
1/23/2025	401	67.8	282	72	172870.88	6.68
1/23/2025	402	67.4	281	72	161939.83	6.70
1/23/2025	403	67.1	281	72	179770.51	6.72
1/23/2025	404	66.7	280	72	176243.09	6.73
1/23/2025	405	66.3	280	72	171214.65	6.75
1/23/2025	406	65.9	280	72	176012.78	6.77
1/23/2025	407	65.4	280	72	168696.04	6.78
1/23/2025	408	65	280	72	175800.23	6.80
1/23/2025	409	64.7	281	72	179208.74	6.82
1/23/2025	410	104.5	273	72	166917.62	6.83
1/23/2025	411	278.2	262	72	180501.83	6.85
1/23/2025	412	339.8	261	72	160800.16	6.87
1/23/2025	413	344.5	264	72	36655.5	6.88
1/23/2025	414	344	263	72	55265.75	6.90
1/23/2025	415	343.5	265	72	56110.45	6.92
1/23/2025	416	342.9	268	72	53418.84	6.93
1/23/2025	417	342.4	269	72	52267.92	6.95
1/23/2025	418	341.8	271	71	56793.35	6.97
1/23/2025	419	341.2	271	71	52931.47	6.98
1/23/2025	420	340.6	271	71	52771.35	7.00
1/23/2025	421	340.1	273	71	49025.69	7.02
1/23/2025	422	339.5	274	71	52793.07	7.03
1/23/2025	423	339	273	71	51621.19	7.05
1/23/2025	424	338.5	274	71	51536.17	7.07
1/23/2025	425	338	275	71	53452.3	7.08
1/23/2025	426	337.4	275	71	50339.8	7.10
1/23/2025	427	336.8	276	71	51873.69	7.12
1/23/2025	428	336.3	276	71	50151.01	7.13
1/23/2025	429	335.8	276	71	48882.41	7.15
1/23/2025	430	335.2	276	71	49029.87	7.17
1/23/2025	431	334.7	276	71	51018.16	7.18
1/23/2025	432	334.1	276	71	52248.63	7.20
1/23/2025	433	333.5	276	71	51199.82	7.22
1/23/2025	434	333	276	71	49658.6	7.23
1/23/2025	435	332.5	277	71	48491.35	7.25
1/23/2025	436	331.9	277	71	49870.69	7.27
1/23/2025	437	331.4	277	71	49183.15	7.28
1/23/2025	438	330.8	278	71	50197.41	7.30
1/23/2025	439	330.2	278	71	51073.25	7.32
1/23/2025	440	329.7	279	71	48292.98	7.33
1/23/2025	441	329.2	279	71	49881.77	7.35
1/23/2025	442	328.5	279	71	49302.12	7.37
1/23/2025	443	328	280	72	48473.02	7.38
1/23/2025	444	327.4	280	72	49536.46	7.40

1/23/2025	445	326.7	281	71	48264.09	7.42
1/23/2025	446	326.2	281	71	47676.35	7.43
1/23/2025	447	325.7	281	71	49798.09	7.45
1/23/2025	448	325.2	282	71	48775.87	7.47
1/23/2025	449	324.7	282	71	48693.11	7.48
1/23/2025	450	324.1	283	72	47496.69	7.50
1/23/2025	451	323.5	283	71	46488.46	7.52
1/23/2025	452	322.9	283	71	48251.85	7.53
1/23/2025	453	322.3	284	71	47735.63	7.55
1/23/2025	454	321.7	284	72	48807.66	7.57
1/23/2025	455	321.3	284	72	49656.96	7.58
1/23/2025	456	320.6	285	72	49757.68	7.60
1/23/2025	457	320	284	72	48149.42	7.62
1/23/2025	458	319.6	270	72	48014.42	7.63
1/23/2025	459	319.3	257	71	48317.83	7.65
1/23/2025	460	319	245	71	47220.38	7.67
1/23/2025	461	318.9	235	72	52866.84	7.68
1/23/2025	462	318.8	228	72	48341.63	7.70
1/23/2025	463	318.7	221	72	48364.26	7.72
1/23/2025	464	318.6	215	72	46854.67	7.73
1/23/2025	465	318.5	210	72	47417.08	7.75
1/23/2025	466	318.5	205	72	46400.91	7.77
1/23/2025	467	318.4	200	72	48034.34	7.78
1/23/2025	468	318.4	196	72	48093.86	7.80
1/23/2025	469	318.3	193	72	48068.24	7.82
1/23/2025	470	318.2	189	72	46128.66	7.83
1/23/2025	471	318.1	186	72	48284.88	7.85
1/23/2025	472	318.1	184	72	48363.6	7.87
1/23/2025	473	318.2	181	72	48870.57	7.88
1/23/2025	474	318.2	179	72	44469.16	7.90
1/23/2025	475	318.2	177	72	45644.31	7.92
1/23/2025	476	318.2	175	72	46408.84	7.93
1/23/2025	477	316.8	189	72	43825.62	7.95
1/23/2025	478	316.2	201	72	43977.8	7.97
1/23/2025	479	315.6	212	72	45477.96	7.98
1/23/2025	480	315	224	72	42379.41	8.00
1/23/2025	481	314.3	235	72	42874.9	8.02
1/23/2025	482	313.7	244	71	43429.36	8.03
1/23/2025	483	312.9	251	71	43758.8	8.05
1/23/2025	484	312.2	257	71	43660.44	8.07
1/23/2025	485	311.4	262	71	44617.88	8.08
1/23/2025	486	310.6	266	71	46044.67	8.10
1/23/2025	487	309.7	269	71	46309.94	8.12
1/23/2025	488	308.9	271	71	43652.21	8.13
1/23/2025	489	307.9	272	71	47706.95	8.15
1/23/2025	490	307.2	273	71	44562.76	8.17
1/23/2025	491	306.4	274	71	44279.29	8.18
1/23/2025	492	305.7	274	71	44741.26	8.20
1/23/2025	493	304.9	275	71	43169.89	8.22
1/23/2025	494	304.1	276	71	44766.4	8.23
1/23/2025	495	303.4	277	71	44621.99	8.25
1/23/2025	496	302.7	277	71	45598.01	8.27
1/23/2025	497	301.9	278	71	45859.71	8.28
1/23/2025	498	301.2	279	71	43849.5	8.30
1/23/2025	499	300.5	279	71	44221.77	8.32
1/23/2025	500	299.7	280	71	45578.63	8.33
1/23/2025	501	299.1	281	71	43470.1	8.35
1/23/2025	502	298.4	281	71	43479.58	8.37
1/23/2025	503	297.7	281	71	45700.99	8.38
1/23/2025	504	296.9	282	71	45740.89	8.40
1/23/2025	505	296.2	282	71	45680.66	8.42
1/23/2025	506	295.5	282	71	46057.37	8.43
1/23/2025	507	294.9	280	71	47922.95	8.45
1/23/2025	508	294.2	280	71	45917.8	8.47

1/23/2025	509	293.6	279	71	47434.52	8.48
1/23/2025	510	293.1	279	71	45694.93	8.50
1/23/2025	511	292.4	279	71	47102.96	8.52
1/23/2025	512	291.7	279	71	47124.8	8.53
1/23/2025	513	291	280	71	45214.19	8.55
1/23/2025	514	290.4	280	71	45679.44	8.57
1/23/2025	515	289.8	281	71	48216.92	8.58
1/23/2025	516	289.1	281	71	45675.9	8.60
1/23/2025	517	288.4	281	71	47499.3	8.62
1/23/2025	518	287.9	282	71	45364.7	8.63
1/23/2025	519	287.3	282	71	45983.07	8.65
1/23/2025	520	286.7	282	71	42913.11	8.67
1/23/2025	521	286.1	283	71	45316.95	8.68
1/23/2025	522	285.5	283	71	43817.67	8.70
1/23/2025	523	284.8	284	71	45793.41	8.72
1/23/2025	524	284.2	284	71	45138.15	8.73
1/23/2025	525	283.6	284	71	47583.5	8.75
1/23/2025	526	283	285	71	44946.05	8.77
1/23/2025	527	282.3	285	71	48458.59	8.78
1/23/2025	528	281.6	285	71	44314.05	8.80
1/23/2025	529	281	285	72	48673.89	8.82
1/23/2025	530	280.3	285	72	47141.3	8.83
1/23/2025	531	279.9	273	72	45574.78	8.85
1/23/2025	532	279.6	260	72	44452.89	8.87
1/23/2025	533	279.3	248	72	44883.68	8.88
1/23/2025	534	279	237	72	44505.69	8.90
1/23/2025	535	278.9	230	72	46596.65	8.92
1/23/2025	536	278.6	222	72	43400.82	8.93
1/23/2025	537	278.4	215	72	46436.71	8.95
1/23/2025	538	278.2	210	72	46010.12	8.97
1/23/2025	539	278.1	204	72	44934.71	8.98
1/23/2025	540	277.9	199	72	43559.85	9.00
1/23/2025	541	277.8	195	72	45666.99	9.02
1/23/2025	542	277.8	192	72	42167.47	9.03
1/23/2025	543	277.8	189	72	44887.17	9.05
1/23/2025	544	277.7	186	72	43375.35	9.07
1/23/2025	545	277.7	183	72	43505.61	9.08
1/23/2025	546	277.7	181	72	43145.19	9.10
1/23/2025	547	277.7	178	72	44068.97	9.12
1/23/2025	548	277.6	176	72	44232.4	9.13
1/23/2025	549	276.4	184	71	42977.45	9.15
1/23/2025	550	275.8	197	71	41842.3	9.17
1/23/2025	551	275.3	207	71	41433.75	9.18
1/23/2025	552	274.8	216	71	41332.7	9.20
1/23/2025	553	274.2	226	71	42856.61	9.22
1/23/2025	554	273.6	235	71	41794.25	9.23
1/23/2025	555	273	243	71	40718.94	9.25
1/23/2025	556	272.4	250	71	41260.16	9.27
1/23/2025	557	271.8	254	71	41266.03	9.28
1/23/2025	558	271.3	257	71	42233.59	9.30
1/23/2025	559	270.7	260	71	39995.25	9.32
1/23/2025	560	270.1	262	71	39425.35	9.33
1/23/2025	561	269.5	265	72	41484.3	9.35
1/23/2025	562	268.9	268	72	43467.16	9.37
1/23/2025	563	268.3	270	72	40302.18	9.38
1/23/2025	564	267.7	270	72	41769.89	9.40
1/23/2025	565	267.1	272	72	45197.27	9.42
1/23/2025	566	266.5	271	72	41955.64	9.43
1/23/2025	567	265.9	270	72	43499.39	9.45
1/23/2025	568	265.3	270	72	45607.28	9.47
1/23/2025	569	264.7	270	72	46498.85	9.48
1/23/2025	570	264.1	271	72	42722.18	9.50
1/23/2025	571	263.4	271	72	41280.73	9.52
1/23/2025	572	262.7	271	72	42633.96	9.53

1/23/2025	573	262.1	272	72	43550.83	9.55
1/23/2025	574	261.5	273	72	44498.01	9.57
1/23/2025	575	260.9	274	71	45933.68	9.58
1/23/2025	576	260.3	274	71	42717.65	9.60
1/23/2025	577	259.7	274	71	43055.32	9.62
1/23/2025	578	259.2	274	71	42945.67	9.63
1/23/2025	579	258.5	274	71	42371.73	9.65
1/23/2025	580	257.9	274	71	42307.43	9.67
1/23/2025	581	257.4	274	71	42147.9	9.68
1/23/2025	582	256.7	275	71	44131.61	9.70
1/23/2025	583	256.1	276	71	45026.79	9.72
1/23/2025	584	255.4	277	71	45380.09	9.73
1/23/2025	585	254.9	279	71	41797.14	9.75
1/23/2025	586	254.3	281	71	42183.26	9.77
1/23/2025	587	253.6	283	71	41565.47	9.78
1/23/2025	588	253	285	71	43102.63	9.80
1/23/2025	589	252.3	286	71	44507.35	9.82
1/23/2025	590	251.6	287	71	44479.44	9.83
1/23/2025	591	250.9	288	71	42397.68	9.85
1/23/2025	592	250.2	289	71	42788.87	9.87
1/23/2025	593	249.6	290	71	44266.72	9.88
1/23/2025	594	249	291	71	42579.58	9.90
1/23/2025	595	248.3	292	71	45647.03	9.92
1/23/2025	596	247.5	293	71	46136.73	9.93
1/23/2025	597	246.8	291	71	43954.62	9.95
1/23/2025	598	246.2	290	71	42859.54	9.97
1/23/2025	599	245.4	289	71	45208.87	9.98
1/23/2025	600	244.8	289	71	44460.66	10.00
1/23/2025	601	244.1	288	71	42951.07	10.02
1/23/2025	602	243.5	289	71	47446.87	10.03
1/23/2025	603	242.8	289	71	45668.4	10.05
1/23/2025	604	242.2	291	71	45645.68	10.07
1/23/2025	605	241.5	291	71	45578.1	10.08
1/23/2025	606	241.1	275	71	45974.3	10.10
1/23/2025	607	240.6	261	71	42911.5	10.12
1/23/2025	608	240.3	248	71	43474.84	10.13
1/23/2025	609	240.1	238	71	44046.01	10.15
1/23/2025	610	240	231	71	43559.89	10.17
1/23/2025	611	239.8	223	71	42057.77	10.18
1/23/2025	612	239.7	217	71	41960.34	10.20
1/23/2025	613	239.6	211	71	44180.27	10.22
1/23/2025	614	239.4	205	71	44158.86	10.23
1/23/2025	615	239.3	201	71	44661.94	10.25
1/23/2025	616	239.3	197	71	40738.44	10.27
1/23/2025	617	239.2	193	71	43884.14	10.28
1/23/2025	618	239.2	190	71	41836.06	10.30
1/23/2025	619	239.2	187	71	40850.72	10.32
1/23/2025	620	239.1	184	71	41528.29	10.33
1/23/2025	621	239	181	71	44071.33	10.35
1/23/2025	622	238.9	179	71	42641.94	10.37
1/23/2025	623	238.8	177	71	42617.15	10.38
1/23/2025	624	238.8	175	71	40645.11	10.40
1/23/2025	625	238.1	180	71	40594.38	10.42
1/23/2025	626	237.8	192	71	40759.83	10.43
1/23/2025	627	237.3	203	71	39646.21	10.45
1/23/2025	628	236.8	212	71	40391.87	10.47
1/23/2025	629	236.3	219	71	40920.87	10.48
1/23/2025	630	235.8	225	71	39788.17	10.50
1/23/2025	631	235.2	231	71	39384.68	10.52
1/23/2025	632	234.7	237	71	40331.42	10.53
1/23/2025	633	234.2	243	71	39820.23	10.55
1/23/2025	634	233.6	247	71	39732.79	10.57
1/23/2025	635	233.1	251	71	42367.58	10.58
1/23/2025	636	232.4	255	71	41283.69	10.60

1/23/2025	637	231.7	258	71	40755.41	10.62
1/23/2025	638	231	261	71	40713.23	10.63
1/23/2025	639	230.4	263	71	41498.22	10.65
1/23/2025	640	229.6	265	71	42440.2	10.67
1/23/2025	641	228.9	267	71	39748.21	10.68
1/23/2025	642	228.3	270	71	41242.55	10.70
1/23/2025	643	227.5	272	71	40107.96	10.72
1/23/2025	644	226.8	274	71	42539.53	10.73
1/23/2025	645	226.1	276	71	41288.22	10.75
1/23/2025	646	225.5	277	71	42316.15	10.77
1/23/2025	647	224.7	278	71	42752.2	10.78
1/23/2025	648	224	279	71	44781.68	10.80
1/23/2025	649	223.3	280	71	43037.46	10.82
1/23/2025	650	222.6	281	71	42930.58	10.83
1/23/2025	651	221.9	281	71	43949.03	10.85
1/23/2025	652	221.2	282	71	42163.05	10.87
1/23/2025	653	220.5	282	71	41617.6	10.88
1/23/2025	654	219.9	283	71	42047.15	10.90
1/23/2025	655	219.2	283	71	41939.22	10.92
1/23/2025	656	218.5	283	71	40320.69	10.93
1/23/2025	657	217.9	284	71	42279.41	10.95
1/23/2025	658	217.3	284	71	44346.08	10.97
1/23/2025	659	216.6	284	72	44231.13	10.98
1/23/2025	660	216	285	71	44618.57	11.00
1/23/2025	661	215.4	286	72	43557.45	11.02
1/23/2025	662	214.7	286	71	43217.77	11.03
1/23/2025	663	214.1	287	71	42593.24	11.05
1/23/2025	664	213.5	288	72	43941.85	11.07
1/23/2025	665	212.7	289	71	42938.08	11.08
1/23/2025	666	212.2	288	71	44312.45	11.10
1/23/2025	667	211.5	289	72	43177.1	11.12
1/23/2025	668	210.9	288	72	43534.76	11.13
1/23/2025	669	210.2	289	72	43489.81	11.15
1/23/2025	670	209.6	290	71	46476.05	11.17
1/23/2025	671	208.9	291	71	43717.36	11.18
1/23/2025	672	208.2	292	71	44569.49	11.20
1/23/2025	673	207.5	293	72	43965.44	11.22
1/23/2025	674	207	293	71	42882.64	11.23
1/23/2025	675	206.5	293	71	43307.29	11.25
1/23/2025	676	205.9	294	71	43271.01	11.27
1/23/2025	677	205.2	295	71	43189.58	11.28
1/23/2025	678	204.6	295	71	43406.6	11.30
1/23/2025	679	204	295	71	41275.98	11.32
1/23/2025	680	203.4	296	71	45221.28	11.33
1/23/2025	681	202.7	296	71	44760.54	11.35
1/23/2025	682	202.2	294	71	44614.66	11.37
1/23/2025	683	201.7	286	71	45115.06	11.38
1/23/2025	684	201.4	271	71	45095.13	11.40
1/23/2025	685	201.1	258	71	44014.13	11.42
1/23/2025	686	200.7	247	71	43031.13	11.43
1/23/2025	687	200.5	238	71	43457.12	11.45
1/23/2025	688	200.3	231	71	42979.95	11.47
1/23/2025	689	200.1	224	71	42956.14	11.48
1/23/2025	690	199.9	217	71	42441.63	11.50
1/23/2025	691	199.8	211	71	43373.78	11.52
1/23/2025	692	199.7	206	71	42256.35	11.53
1/23/2025	693	199.6	201	71	42814.18	11.55
1/23/2025	694	199.5	197	71	41938.95	11.57
1/23/2025	695	199.4	194	71	43389.68	11.58
1/23/2025	696	199.3	190	71	45568.15	11.60
1/23/2025	697	199.2	188	71	42968.38	11.62
1/23/2025	698	199.1	185	71	42103.23	11.63
1/23/2025	699	199.1	182	71	43091.74	11.65
1/23/2025	700	199.1	180	71	41745.06	11.67

1/23/2025	701	199.1	178	71	42908.88	11.68
1/23/2025	702	199.1	176	71	42929.77	11.70
1/23/2025	703	198.4	180	71	37884.56	11.72
1/23/2025	704	198	193	71	38424.13	11.73
1/23/2025	705	197.5	203	71	39539.03	11.75
1/23/2025	706	197	213	71	40076.23	11.77
1/23/2025	707	196.4	222	71	40145.35	11.78
1/23/2025	708	195.8	231	71	39610.81	11.80
1/23/2025	709	195.3	238	71	40930.07	11.82
1/23/2025	710	194.6	245	71	42089.59	11.83
1/23/2025	711	194	250	71	40816.83	11.85
1/23/2025	712	193.3	255	71	40354.22	11.87
1/23/2025	713	192.7	259	71	40144.27	11.88
1/23/2025	714	192.1	262	71	40759.11	11.90
1/23/2025	715	191.5	264	71	40057.7	11.92
1/23/2025	716	190.9	267	71	40707.41	11.93
1/23/2025	717	190.2	270	71	41505.44	11.95
1/23/2025	718	189.5	272	71	40986.49	11.97
1/23/2025	719	188.8	274	71	39851.58	11.98
1/23/2025	720	188.1	276	71	45502	12.00
1/23/2025	721	187.4	278	71	41321.9	12.02
1/23/2025	722	186.6	280	71	40996.58	12.03
1/23/2025	723	185.9	282	71	43154.53	12.05
1/23/2025	724	185.1	284	71	41999.14	12.07
1/23/2025	725	184.3	285	71	44018.49	12.08
1/23/2025	726	183.5	287	71	42270.3	12.10
1/23/2025	727	182.8	288	71	44128.59	12.12
1/23/2025	728	182	289	71	42603.52	12.13
1/23/2025	729	181.1	289	71	43469.19	12.15
1/23/2025	730	180.3	290	71	42295.01	12.17
1/23/2025	731	179.5	290	71	41577.54	12.18
1/23/2025	732	178.8	291	71	42919.34	12.20
1/23/2025	733	178	292	71	42988.76	12.22
1/23/2025	734	177.2	294	71	44827.27	12.23
1/23/2025	735	176.5	293	71	44703.15	12.25
1/23/2025	736	175.7	293	71	42997.71	12.27
1/23/2025	737	174.9	293	71	42857.01	12.28
1/23/2025	738	174.1	294	71	43680.79	12.30
1/23/2025	739	173.4	293	71	43553.89	12.32
1/23/2025	740	172.5	294	71	43455.74	12.33
1/23/2025	741	171.9	296	71	43845.99	12.35
1/23/2025	742	171.1	296	71	44171.16	12.37
1/23/2025	743	170.5	296	71	44175.32	12.38
1/23/2025	744	169.8	297	71	42635.04	12.40
1/23/2025	745	169	297	71	43020.8	12.42
1/23/2025	746	168.4	296	71	44455.43	12.43
1/23/2025	747	167.6	296	71	41167.81	12.45
1/23/2025	748	167	296	71	45208.72	12.47
1/23/2025	749	166.4	296	72	42149.22	12.48
1/23/2025	750	165.8	297	72	44985.27	12.50
1/23/2025	751	165.1	297	72	42479.83	12.52
1/23/2025	752	164.5	297	72	51074	12.53
1/23/2025	753	163.8	297	72	44227.19	12.55
1/23/2025	754	163.3	281	72	46310.24	12.57
1/23/2025	755	162.9	267	72	42681.28	12.58
1/23/2025	756	162.7	254	72	42769.68	12.60
1/23/2025	757	162.4	245	72	42489.38	12.62
1/23/2025	758	162.3	237	72	43254.09	12.63
1/23/2025	759	162.1	229	72	45020.26	12.65
1/23/2025	760	161.9	222	72	41212.33	12.67
1/23/2025	761	161.8	216	72	44373.36	12.68
1/23/2025	762	161.6	210	72	43263.06	12.70
1/23/2025	763	161.4	205	72	43408.5	12.72
1/23/2025	764	161.4	201	72	44978.74	12.73

1/23/2025	765	161.3	197	72	42049.88	12.75
1/23/2025	766	161.4	194	72	39390.97	12.77
1/23/2025	767	161.3	191	72	42161.15	12.78
1/23/2025	768	161.3	188	72	42216.78	12.80
1/23/2025	769	161.3	185	72	41861.03	12.82
1/23/2025	770	161.2	183	72	43520.12	12.83
1/23/2025	771	161.2	181	72	42634.14	12.85
1/23/2025	772	161.2	178	72	43864.72	12.87
1/23/2025	773	161.3	176	72	41868.51	12.88
1/23/2025	774	160.5	175	71	38537.43	12.90
1/23/2025	775	160.1	189	71	40262.96	12.92
1/23/2025	776	159.8	201	71	38269.11	12.93
1/23/2025	777	159.3	211	71	40132.32	12.95
1/23/2025	778	158.7	220	71	39545.37	12.97
1/23/2025	779	158	228	71	41132.93	12.98
1/23/2025	780	157.4	237	71	40125.06	13.00
1/23/2025	781	156.6	247	71	39962.55	13.02
1/23/2025	782	156	254	71	42584.85	13.03
1/23/2025	783	155.2	260	71	40483.52	13.05
1/23/2025	784	154.4	266	72	40314.55	13.07
1/23/2025	785	153.7	270	72	39691.19	13.08
1/23/2025	786	152.9	274	72	41142.64	13.10
1/23/2025	787	152	278	72	41985.8	13.12
1/23/2025	788	151.1	277	72	42389.15	13.13
1/23/2025	789	150.4	277	72	42150.2	13.15
1/23/2025	790	149.7	278	72	43215.05	13.17
1/23/2025	791	148.8	279	72	41049.21	13.18
1/23/2025	792	148.1	279	72	43281.8	13.20
1/23/2025	793	147.4	280	72	42181.7	13.22
1/23/2025	794	146.6	280	72	41506.28	13.23
1/23/2025	795	145.9	280	71	41968.39	13.25
1/23/2025	796	145.1	280	72	41832.62	13.27
1/23/2025	797	144.4	280	72	42166.77	13.28
1/23/2025	798	143.6	282	71	45231.62	13.30
1/23/2025	799	143	281	71	43004.8	13.32
1/23/2025	800	142.4	283	71	41919.43	13.33
1/23/2025	801	141.7	283	71	43899.54	13.35
1/23/2025	802	141	285	71	42236.52	13.37
1/23/2025	803	140.4	285	71	42169.84	13.38
1/23/2025	804	139.7	286	71	40544.48	13.40
1/23/2025	805	139	285	71	43067.43	13.42
1/23/2025	806	138.4	285	71	42464.47	13.43
1/23/2025	807	137.7	285	71	45516.85	13.45
1/23/2025	808	137.2	286	71	43934.57	13.47
1/23/2025	809	136.6	285	71	42377.74	13.48
1/23/2025	810	135.9	286	71	43245.32	13.50
1/23/2025	811	135.2	285	71	43031.17	13.52
1/23/2025	812	134.5	287	71	42882.12	13.53
1/23/2025	813	133.9	287	71	44365.57	13.55
1/23/2025	814	133.3	288	71	47352.99	13.57
1/23/2025	815	132.5	288	71	42954.51	13.58
1/23/2025	816	131.9	288	71	42443	13.60
1/23/2025	817	131.3	289	71	42318.15	13.62
1/23/2025	818	130.5	289	71	45311.52	13.63
1/23/2025	819	130	290	71	44595.88	13.65
1/23/2025	820	129.3	290	71	44385.71	13.67
1/23/2025	821	128.7	289	71	44931.41	13.68
1/23/2025	822	128	291	71	43234.05	13.70
1/23/2025	823	127.5	292	71	42618.47	13.72
1/23/2025	824	126.8	293	71	45003.82	13.73
1/23/2025	825	126.5	284	71	45472.71	13.75
1/23/2025	826	126	269	71	42184.98	13.77
1/23/2025	827	125.7	257	71	43823.38	13.78
1/23/2025	828	125.4	247	71	42341.52	13.80

1/23/2025	829	125.2	238	71	41885.45	13.82
1/23/2025	830	124.9	230	71	44434.92	13.83
1/23/2025	831	124.7	222	71	45411.81	13.85
1/23/2025	832	124.5	215	71	43494.65	13.87
1/23/2025	833	124.3	208	71	41918.53	13.88
1/23/2025	834	124.1	203	71	44631.7	13.90
1/23/2025	835	123.9	199	71	43119.58	13.92
1/23/2025	836	123.6	195	71	43123.9	13.93
1/23/2025	837	123.5	191	71	41114.65	13.95
1/23/2025	838	123.3	188	71	44314.17	13.97
1/23/2025	839	123.2	186	71	43777.4	13.98
1/23/2025	840	123	183	71	43363.32	14.00
1/23/2025	841	122.9	181	71	42707.27	14.02
1/23/2025	842	122.8	179	71	42880.17	14.03
1/23/2025	843	122.7	177	71	41339.25	14.05
1/23/2025	844	122.6	176	71	42416.67	14.07
1/23/2025	845	121.5	182	71	38735.78	14.08
1/23/2025	846	121.1	194	71	38376.88	14.10
1/23/2025	847	120.7	205	71	38986.2	14.12
1/23/2025	848	120.2	215	71	41162.82	14.13
1/23/2025	849	119.6	225	71	40674.63	14.15
1/23/2025	850	119.1	234	71	42209.3	14.17
1/23/2025	851	118.6	243	71	40125.85	14.18
1/23/2025	852	118	250	71	40118.68	14.20
1/23/2025	853	117.5	257	71	40027.26	14.22
1/23/2025	854	116.8	261	71	40930.44	14.23
1/23/2025	855	116.1	264	71	41498.79	14.25
1/23/2025	856	115.5	266	71	41800.94	14.27
1/23/2025	857	114.9	269	71	39598.99	14.28
1/23/2025	858	114.3	271	71	42592.85	14.30
1/23/2025	859	113.7	273	71	44194.91	14.32
1/23/2025	860	113.1	274	71	41383.1	14.33
1/23/2025	861	112.5	276	71	43352.06	14.35
1/23/2025	862	112	277	71	42599.87	14.37
1/23/2025	863	111.3	278	71	42011.58	14.38
1/23/2025	864	110.7	279	71	43003.82	14.40
1/23/2025	865	110.1	279	71	42736.54	14.42
1/23/2025	866	109.3	280	71	43199.45	14.43
1/23/2025	867	108.7	281	71	42926.53	14.45
1/23/2025	868	108.1	281	71	42931.2	14.47
1/23/2025	869	107.6	282	72	40753.84	14.48
1/23/2025	870	107.1	282	72	44322.18	14.50
1/23/2025	871	106.5	282	72	43083.81	14.52
1/23/2025	872	106	283	72	44847.21	14.53
1/23/2025	873	105.4	284	72	44899.61	14.55
1/23/2025	874	104.9	285	72	45312.92	14.57
1/23/2025	875	104.3	286	72	43720.69	14.58
1/23/2025	876	103.7	286	72	44185.13	14.60
1/23/2025	877	103.2	286	72	43682.29	14.62
1/23/2025	878	102.7	287	72	40007.33	14.63
1/23/2025	879	102.1	288	72	40921.42	14.65
1/23/2025	880	101.5	289	72	42845.93	14.67
1/23/2025	881	100.8	290	72	43242.84	14.68
1/23/2025	882	100.2	291	72	45788.05	14.70
1/23/2025	883	99.6	291	72	45074.55	14.72
1/23/2025	884	98.9	292	72	45981.19	14.73
1/23/2025	885	98.3	293	72	45371.11	14.75
1/23/2025	886	97.8	294	71	44691.52	14.77
1/23/2025	887	97.1	295	71	44105.53	14.78
1/23/2025	888	96.5	295	71	44973.76	14.80
1/23/2025	889	95.9	296	71	43190.59	14.82
1/23/2025	890	95.4	296	71	44703.9	14.83
1/23/2025	891	94.7	296	72	43604.54	14.85
1/23/2025	892	93.9	297	72	44390.34	14.87

1/23/2025	893	93.4	298	72	43368.43	14.88
1/23/2025	894	93.2	282	72	47383.09	14.90
1/23/2025	895	92.9	268	72	42741.1	14.92
1/23/2025	896	92.7	255	72	44365.02	14.93
1/23/2025	897	92.5	244	72	44372.2	14.95
1/23/2025	898	92.4	236	72	42851.44	14.97
1/23/2025	899	92.2	229	72	45063.74	14.98
1/23/2025	900	92.1	222	72	44033.1	15.00
1/23/2025	901	92	215	71	45182.67	15.02
1/23/2025	902	91.9	210	71	44305.17	15.03
1/23/2025	903	91.9	205	71	42636.42	15.05
1/23/2025	904	91.7	200	72	42302.53	15.07
1/23/2025	905	91.6	196	72	43880.19	15.08
1/23/2025	906	91.5	193	72	44332.19	15.10
1/23/2025	907	91.4	190	72	43323.44	15.12
1/23/2025	908	91.3	187	72	43547.55	15.13
1/23/2025	909	91.2	184	72	42601.98	15.15
1/23/2025	910	91.2	182	72	44099.32	15.17
1/23/2025	911	91.2	180	72	42734.57	15.18
1/23/2025	912	91.1	178	72	43744.41	15.20
1/23/2025	913	91.1	176	72	43412.36	15.22
1/23/2025	914	90.2	181	71	39912.72	15.23
1/23/2025	915	89.8	192	71	40461.63	15.25
1/23/2025	916	89.4	202	71	40024.36	15.27
1/23/2025	917	89	209	71	39996.84	15.28
1/23/2025	918	88.6	216	71	40058.45	15.30
1/23/2025	919	88	225	71	40044.78	15.32
1/23/2025	920	87.5	234	71	39368.56	15.33
1/23/2025	921	86.9	241	71	41503.07	15.35
1/23/2025	922	86.5	245	71	42481.16	15.37
1/23/2025	923	86.1	250	71	41862.63	15.38
1/23/2025	924	85.6	253	71	40678.96	15.40
1/23/2025	925	85	256	71	41627.65	15.42
1/23/2025	926	84.6	259	71	43268.71	15.43
1/23/2025	927	84.2	262	71	42033.35	15.45
1/23/2025	928	83.6	264	71	42892.3	15.47
1/23/2025	929	83.1	266	71	40723.92	15.48
1/23/2025	930	82.7	267	71	42224.93	15.50
1/23/2025	931	82.2	268	71	43798.77	15.52
1/23/2025	932	81.8	270	71	43647.59	15.53
1/23/2025	933	81.3	271	71	41383.16	15.55
1/23/2025	934	80.8	272	71	39798.52	15.57
1/23/2025	935	80.3	272	71	43274.19	15.58
1/23/2025	936	79.9	273	71	42841.38	15.60
1/23/2025	937	79.3	274	71	42655.71	15.62
1/23/2025	938	78.8	275	71	40493.95	15.63
1/23/2025	939	78.3	275	71	44090.01	15.65
1/23/2025	940	77.9	276	71	44018.59	15.67
1/23/2025	941	77.3	278	71	42899.73	15.68
1/23/2025	942	76.7	281	71	43309.86	15.70
1/23/2025	943	76.2	283	71	44337.93	15.72
1/23/2025	944	75.6	285	71	44754.99	15.73
1/23/2025	945	74.9	286	71	44036.12	15.75
1/23/2025	946	74.3	286	71	40560.19	15.77
1/23/2025	947	73.9	287	71	44833.68	15.78
1/23/2025	948	73.3	288	71	44686.87	15.80
1/23/2025	949	72.8	289	71	43532.12	15.82
1/23/2025	950	72.2	290	71	45563.71	15.83
1/23/2025	951	71.7	290	71	44878.5	15.85
1/23/2025	952	71.2	290	71	43618.7	15.87
1/23/2025	953	70.7	291	71	44062.37	15.88
1/23/2025	954	70.2	291	71	44425.37	15.90
1/23/2025	955	69.6	291	71	43792.58	15.92
1/23/2025	956	69.1	292	71	43577.75	15.93

1/23/2025	957	68.7	292	71	43585.24	15.95
1/23/2025	958	68.3	292	71	42387.62	15.97
1/23/2025	959	67.8	293	71	45028.48	15.98
1/23/2025	960	67.4	294	71	46861.69	16.00
1/23/2025	961	66.9	294	71	44795.3	16.02
1/23/2025	962	66.4	295	71	44183.26	16.03
1/23/2025	963	65.9	296	71	44581.19	16.05
1/23/2025	964	65.4	296	71	44906.38	16.07
1/23/2025	965	65	297	71	43820.68	16.08
1/23/2025	966	64.6	297	72	43688.35	16.10
1/23/2025	967	64.1	297	72	44069.63	16.12
1/23/2025	968	63.6	297	72	45551.12	16.13
1/23/2025	969	63.2	292	72	43976.05	16.15
1/23/2025	970	62.9	275	72	44317.85	16.17
1/23/2025	971	62.8	261	72	44325.37	16.18
1/23/2025	972	62.7	249	72	45262.74	16.20
1/23/2025	973	62.7	240	72	43756.97	16.22
1/23/2025	974	62.7	232	72	44753.87	16.23
1/23/2025	975	62.6	226	72	43314.55	16.25
1/23/2025	976	62.5	220	72	43369.04	16.27
1/23/2025	977	62.5	214	72	43330.19	16.28
1/23/2025	978	62.4	209	72	44378.54	16.30
1/23/2025	979	62.4	205	72	43987.2	16.32
1/23/2025	980	62.3	201	72	45081.08	16.33
1/23/2025	981	62.4	197	72	40492.27	16.35
1/23/2025	982	62.5	194	72	42606.25	16.37
1/23/2025	983	62.5	190	72	41210.74	16.38
1/23/2025	984	62.5	188	72	44963.85	16.40
1/23/2025	985	62.5	185	72	42547.84	16.42
1/23/2025	986	62.5	183	72	43727.95	16.43
1/23/2025	987	62.5	181	72	41781.67	16.45
1/23/2025	988	62.5	179	72	40393.87	16.47
1/23/2025	989	62.6	177	72	43926.86	16.48
1/23/2025	990	62.7	175	72	39550.13	16.50
1/23/2025	991	62.7	181	71	41449.78	16.52
1/23/2025	992	62.3	193	71	41579.51	16.53
1/23/2025	993	61.8	202	71	42143.61	16.55
1/23/2025	994	61.4	209	71	40472.78	16.57
1/23/2025	995	61	214	71	38843.26	16.58
1/23/2025	996	60.6	218	71	40455.54	16.60
1/23/2025	997	60.2	221	71	41085.71	16.62
1/23/2025	998	59.8	224	71	39916.3	16.63
1/23/2025	999	59.3	227	71	40425.55	16.65
1/23/2025	1000	59	231	71	40770.42	16.67
1/23/2025	1001	58.6	235	71	40360.2	16.68
1/23/2025	1002	58.1	238	71	41798.6	16.70
1/23/2025	1003	57.7	241	71	41607.2	16.72
1/23/2025	1004	57.3	243	71	41071.15	16.73
1/23/2025	1005	57	246	71	42100.37	16.75
1/23/2025	1006	56.6	251	72	40935.65	16.77
1/23/2025	1007	56.2	255	72	40870.85	16.78
1/23/2025	1008	55.8	258	72	42486.12	16.80
1/23/2025	1009	55.4	260	72	40215.94	16.82
1/23/2025	1010	55.1	261	72	41088.6	16.83
1/23/2025	1011	54.7	261	72	41109.11	16.85
1/23/2025	1012	54.3	262	72	42624.24	16.87
1/23/2025	1013	53.9	263	72	45216.76	16.88
1/23/2025	1014	53.5	263	72	42440.76	16.90
1/23/2025	1015	53.1	263	71	42355.09	16.92
1/23/2025	1016	52.7	262	72	42655.66	16.93
1/23/2025	1017	52.4	263	72	42676.37	16.95
1/23/2025	1018	52	263	72	42106.14	16.97
1/23/2025	1019	51.8	261	72	43576.39	16.98
1/23/2025	1020	51.4	260	72	41466.56	17.00

1/23/2025	1021	51.1	260	72	43479.78	17.02
1/23/2025	1022	50.7	260	72	43344.76	17.03
1/23/2025	1023	50.3	259	72	42777.05	17.05
1/23/2025	1024	49.9	258	72	39996.21	17.07
1/23/2025	1025	49.6	258	72	42424.39	17.08
1/23/2025	1026	49.2	258	72	44570.24	17.10
1/23/2025	1027	48.9	259	72	42326.37	17.12
1/23/2025	1028	48.6	259	72	43970.15	17.13
1/23/2025	1029	48.3	258	72	42721.53	17.15
1/23/2025	1030	48	256	71	43253.19	17.17
1/23/2025	1031	47.7	254	71	42626.75	17.18
1/23/2025	1032	47.2	254	71	42502.21	17.20
1/23/2025	1033	46.9	253	72	40419.07	17.22
1/23/2025	1034	46.7	253	72	43421.84	17.23
1/23/2025	1035	46.4	252	72	43945.06	17.25
1/23/2025	1036	46.2	250	72	42888.38	17.27
1/23/2025	1037	46.3	239	71	42321.2	17.28
1/23/2025	1038	46.3	229	71	40807.71	17.30
1/23/2025	1039	46.4	221	71	40533.27	17.32
1/23/2025	1040	46.5	214	71	41575.69	17.33
1/23/2025	1041	46.5	209	71	42154.07	17.35
1/23/2025	1042	46.6	204	71	42267.78	17.37
1/23/2025	1043	46.6	199	71	40428.72	17.38
1/23/2025	1044	46.7	195	71	44053.38	17.40
1/23/2025	1045	46.7	191	71	43182.31	17.42
1/23/2025	1046	46.8	188	71	41741.08	17.43
1/23/2025	1047	46.8	184	71	40261.58	17.45
1/23/2025	1048	46.8	181	71	40406.12	17.47
1/23/2025	1049	46.9	178	71	40020.95	17.48
1/23/2025	1050	47	176	71	42588.12	17.50
1/24/2025	1051	104.2	252	71	39910.7	17.52
1/24/2025	1052	103.4	256	71	98297.33	17.53
1/24/2025	1053	102.5	259	71	140212.52	17.55
1/24/2025	1054	101.6	261	71	156128.08	17.57
1/24/2025	1055	100.7	263	71	156623.81	17.58
1/24/2025	1056	99.8	264	71	173105.87	17.60
1/24/2025	1057	98.9	265	71	164136.74	17.62
1/24/2025	1058	98	266	71	156827.97	17.63
1/24/2025	1059	97.1	266	71	167700.87	17.65
1/24/2025	1060	96.2	266	71	163495.74	17.67
1/24/2025	1061	95.4	267	71	160469.23	17.68
1/24/2025	1062	94.5	268	71	164713.47	17.70
1/24/2025	1063	93.6	267	71	165626.77	17.72
1/24/2025	1064	92.7	266	71	158881.82	17.73
1/24/2025	1065	91.9	266	71	167138.99	17.75
1/24/2025	1066	91.1	267	71	160172.31	17.77
1/24/2025	1067	90.2	267	71	158180.79	17.78
1/24/2025	1068	89.4	267	71	166816.06	17.80
1/24/2025	1069	88.6	267	71	164630.24	17.82
1/24/2025	1070	87.8	267	71	170126.41	17.83
1/24/2025	1071	87	267	71	165918.37	17.85
1/24/2025	1072	86.2	267	71	163913.84	17.87
1/24/2025	1073	85.5	267	71	173673.64	17.88
1/24/2025	1074	84.7	267	71	168682.7	17.90
1/24/2025	1075	83.9	267	71	157660.51	17.92
1/24/2025	1076	83.2	266	71	169618.45	17.93
1/24/2025	1077	82.5	265	71	163979.85	17.95
1/24/2025	1078	81.8	263	71	172760.61	17.97
1/24/2025	1079	81.2	264	71	168669.57	17.98
1/24/2025	1080	80.5	263	71	171887.65	18.00
1/24/2025	1081	79.9	263	71	169914.71	18.02
1/24/2025	1082	79.2	264	71	168908.84	18.03
1/24/2025	1083	78.5	265	71	166373.27	18.05
1/24/2025	1084	77.9	265	71	174044.45	18.07

1/24/2025	1085	77.3	265	71	166244.11	18.08
1/24/2025	1086	76.6	267	71	160053.35	18.10
1/24/2025	1087	76	266	71	171248.08	18.12
1/24/2025	1088	75.4	266	71	169752.73	18.13
1/24/2025	1089	74.7	266	71	165525.82	18.15
1/24/2025	1090	74.1	266	71	171976.24	18.17
1/24/2025	1091	73.5	266	71	168726.19	18.18
1/24/2025	1092	73	265	71	161563.44	18.20
1/24/2025	1093	72.3	266	71	170748.66	18.22
1/24/2025	1094	71.8	266	71	165537.29	18.23
1/24/2025	1095	71.2	266	71	169771.55	18.25
1/24/2025	1096	70.7	266	71	170778.54	18.27
1/24/2025	1097	70.1	266	71	165419.19	18.28
1/24/2025	1098	69.5	267	71	174260.61	18.30
1/24/2025	1099	68.9	267	71	169192.72	18.32
1/24/2025	1100	68.3	267	71	163385.15	18.33
1/24/2025	1101	67.7	268	71	173657.98	18.35
1/24/2025	1102	67.1	268	71	166954.3	18.37
1/24/2025	1103	66.6	269	71	161706.7	18.38
1/24/2025	1104	66	268	71	172278.07	18.40
1/24/2025	1105	65.4	267	71	156505.26	18.42
1/24/2025	1106	64.9	266	71	174297.02	18.43
1/24/2025	1107	64.3	266	71	172345.61	18.45
1/24/2025	1108	63.7	267	71	165658.12	18.47
1/24/2025	1109	63.2	266	71	174632.02	18.48
1/24/2025	1110	62.6	266	71	172420.02	18.50
1/24/2025	1111	62.1	267	71	163435.62	18.52
1/24/2025	1112	61.5	268	71	174180.64	18.53
1/24/2025	1113	61.1	267	71	170418.9	18.55
1/24/2025	1114	60.5	266	71	169186.93	18.57
1/24/2025	1115	60	266	71	173877.99	18.58
1/24/2025	1116	59.5	266	71	169540.39	18.60
1/24/2025	1117	58.9	266	71	165220.58	18.62
1/24/2025	1118	58.4	266	71	180366.27	18.63
1/24/2025	1119	57.9	266	72	173981.48	18.65
1/24/2025	1120	57.3	265	71	168518.3	18.67
1/24/2025	1121	56.9	266	71	181182.04	18.68
1/24/2025	1122	56.4	267	71	169188.65	18.70
1/24/2025	1123	56	268	71	178907.29	18.72
1/24/2025	1124	55.5	268	72	176163.74	18.73
1/24/2025	1125	55.1	268	72	171667.24	18.75
1/24/2025	1126	54.7	268	72	175718.41	18.77
1/24/2025	1127	54.3	268	72	172529.55	18.78
1/24/2025	1128	53.9	269	72	170912.19	18.80
1/24/2025	1129	53.4	269	72	167774.28	18.82
1/24/2025	1130	53	270	72	178102.48	18.83
1/24/2025	1131	52.6	270	72	173508.9	18.85
1/24/2025	1132	52.2	270	72	164907.25	18.87
1/24/2025	1133	51.8	272	72	178566.14	18.88
1/24/2025	1134	51.4	272	71	172167.67	18.90
1/24/2025	1135	51.1	273	72	163763.34	18.92
1/24/2025	1136	50.7	273	72	175889.04	18.93
1/24/2025	1137	50.4	272	72	168635.71	18.95
1/24/2025	1138	49.9	274	72	174459.48	18.97
1/24/2025	1139	49.6	273	72	173389.76	18.98
1/24/2025	1140	49.2	273	72	167813.95	19.00
1/24/2025	1141	48.9	273	72	179027.61	19.02
1/24/2025	1142	48.5	272	72	176185.67	19.03
1/24/2025	1143	48.2	271	72	170256.66	19.05
1/24/2025	1144	47.9	271	72	172786.3	19.07
1/24/2025	1145	47.6	270	72	169204.8	19.08
1/24/2025	1146	47.3	269	72	166730.21	19.10
1/24/2025	1147	47	268	72	175250.25	19.12
1/24/2025	1148	46.8	265	72	172999.19	19.13

1/24/2025	1149	46.5	263	72	166156.7	19.15
1/24/2025	1150	46.3	262	72	164395.44	19.17
1/24/2025	1151	46	260	72	175047.89	19.18
1/24/2025	1152	45.8	260	72	174170.48	19.20
1/24/2025	1153	45.5	258	72	167639.2	19.22
1/24/2025	1154	45.3	257	72	174530.09	19.23
1/24/2025	1155	45	255	72	161784.26	19.25
1/24/2025	1156	44.8	253	72	176256.73	19.27
1/24/2025	1157	44.6	251	72	172359.75	19.28
1/24/2025	1158	44.3	250	72	166690.71	19.30
1/24/2025	1159	44.1	249	72	172804.92	19.32
1/24/2025	1160	43.9	248	72	167464.42	19.33
1/24/2025	1161	43.6	247	72	166185.08	19.35
1/24/2025	1162	43.4	246	72	173132.97	19.37
1/24/2025	1163	43.2	245	72	166938.09	19.38
1/24/2025	1164	43	244	72	165175.48	19.40
1/24/2025	1165	42.8	243	72	169406.8	19.42
1/24/2025	1166	42.5	243	72	172213.18	19.43
1/24/2025	1167	42.4	243	72	162942.71	19.45
1/24/2025	1168	42.2	242	72	163281.29	19.47
1/24/2025	1169	41.9	242	72	167741.17	19.48
1/24/2025	1170	41.7	242	72	164249.82	19.50
1/24/2025	1171	41.5	241	72	163589.28	19.52
1/24/2025	1172	41.1	240	72	171351.84	19.53
1/24/2025	1173	40.9	237	72	158090.68	19.55
1/24/2025	1174	40.6	236	72	159874.49	19.57
1/24/2025	1175	59.1	233	72	161373.3	19.58
1/24/2025	1176	67.3	236	72	159041.57	19.60
1/24/2025	1177	66.7	245	72	158870.94	19.62
1/24/2025	1178	66.1	251	72	168971.87	19.63
1/24/2025	1179	65.5	253	72	164045.33	19.65
1/24/2025	1180	64.9	255	72	157862.73	19.67
1/24/2025	1181	64.3	256	72	165317.64	19.68
1/24/2025	1182	63.7	257	72	163497.86	19.70
1/24/2025	1183	63.1	257	72	159376.44	19.72
1/24/2025	1184	62.6	258	72	162766.28	19.73
1/24/2025	1185	62	257	72	163394.34	19.75
1/24/2025	1186	61.5	257	72	161596.99	19.77
1/24/2025	1187	60.9	259	72	156962.63	19.78
1/24/2025	1188	60.3	260	72	167307.25	19.80
1/24/2025	1189	59.7	262	72	163993.46	19.82
1/24/2025	1190	59.1	262	72	149945.58	19.83
1/24/2025	1191	58.5	264	72	163740.36	19.85
1/24/2025	1192	57.9	266	72	155059.87	19.87
1/24/2025	1193	57.3	267	72	168253.58	19.88
1/24/2025	1194	56.7	267	72	168028.97	19.90
1/24/2025	1195	56.2	265	72	160073.71	19.92
1/24/2025	1196	55.7	263	72	162370.61	19.93
1/24/2025	1197	55.2	262	72	161264	19.95
1/24/2025	1198	54.7	262	72	148606.8	19.97
1/24/2025	1199	54.2	262	72	162271.37	19.98
1/24/2025	1200	53.6	262	72	160170.31	20.00
1/24/2025	1201	53.2	261	72	157430.26	20.02
1/24/2025	1202	52.7	259	72	167444.25	20.03
1/24/2025	1203	52.2	256	72	159742.29	20.05
1/24/2025	1204	51.8	255	72	154559.29	20.07
1/24/2025	1205	94.7	248	72	163937.35	20.08
1/24/2025	1206	123.8	241	72	160199.14	20.10
1/24/2025	1207	123.3	239	72	148732.85	20.12
1/24/2025	1208	122.9	240	72	162198.46	20.13
1/24/2025	1209	122.4	241	72	154156.47	20.15
1/24/2025	1210	121.9	242	72	154631.57	20.17
1/24/2025	1211	121.3	244	72	156498.75	20.18
1/24/2025	1212	120.8	245	72	165207.85	20.20

1/24/2025	1213	120.2	247	72	155055.07	20.22
1/24/2025	1214	119.7	248	72	154920.88	20.23
1/24/2025	1215	119.1	250	72	161438.18	20.25
1/24/2025	1216	118.5	250	72	155205.46	20.27
1/24/2025	1217	117.9	252	72	157356.27	20.28
1/24/2025	1218	117.3	254	72	158913.85	20.30
1/24/2025	1219	116.6	256	72	144383.08	20.32
1/24/2025	1220	116	256	72	162217.73	20.33
1/24/2025	1221	115.4	256	72	158964.99	20.35
1/24/2025	1222	114.8	256	72	149952.51	20.37
1/24/2025	1223	114.1	259	72	161129.98	20.38
1/24/2025	1224	113.5	260	72	156859.05	20.40
1/24/2025	1225	112.8	260	72	148781.87	20.42
1/24/2025	1226	112.2	260	72	157140.58	20.43
1/24/2025	1227	111.6	260	72	149398.51	20.45
1/24/2025	1228	111	259	72	159926.73	20.47
1/24/2025	1229	110.4	256	72	155229.8	20.48
1/24/2025	1230	109.7	254	72	145750.17	20.50
1/24/2025	1231	109.1	256	72	159533.54	20.52
1/24/2025	1232	108.5	256	72	150123.73	20.53
1/24/2025	1233	107.8	254	72	156851.26	20.55
1/24/2025	1234	107.2	253	72	155648.25	20.57
1/24/2025	1235	106.5	254	72	148745.74	20.58
1/24/2025	1236	105.9	256	72	161593.67	20.60
1/24/2025	1237	105.2	258	72	157128.41	20.62
1/24/2025	1238	104.6	258	72	153796.57	20.63
1/24/2025	1239	103.9	256	72	158830.39	20.65
1/24/2025	1240	103.3	254	72	159422.76	20.67
1/24/2025	1241	102.6	255	72	154900.24	20.68
1/24/2025	1242	102	256	72	153485.64	20.70
1/24/2025	1243	101.4	257	72	156823.48	20.72
1/24/2025	1244	100.7	259	72	153078.86	20.73
1/24/2025	1245	100.1	260	72	162473.63	20.75
1/24/2025	1246	99.4	262	72	153132.93	20.77
1/24/2025	1247	98.8	263	72	151668.79	20.78
1/24/2025	1248	98.1	263	72	161838.14	20.80
1/24/2025	1249	97.5	263	72	157388.57	20.82
1/24/2025	1250	96.8	263	72	152568.03	20.83
1/24/2025	1251	96.2	264	72	159054.37	20.85
1/24/2025	1252	95.5	264	72	149075.95	20.87
1/24/2025	1253	94.8	264	72	158243.04	20.88
1/24/2025	1254	94.2	264	72	156368.73	20.90
1/24/2025	1255	93.6	261	72	155269.72	20.92
1/24/2025	1256	92.9	261	72	156666.62	20.93
1/24/2025	1257	92.3	261	72	158631.33	20.95
1/24/2025	1258	91.7	260	72	157116.87	20.97
1/24/2025	1259	91.1	258	72	151710.06	20.98
1/24/2025	1260	90.4	254	72	161634.82	21.00
1/24/2025	1261	89.9	251	72	159416.27	21.02
1/24/2025	1262	89.2	248	72	153848.31	21.03
1/24/2025	1263	88.7	247	72	157649.97	21.05
1/24/2025	1264	88.1	248	72	156521.97	21.07
1/24/2025	1265	87.5	248	72	154747.2	21.08
1/24/2025	1266	86.8	248	72	147619.35	21.10
1/24/2025	1267	86.2	248	72	156226.55	21.12
1/24/2025	1268	85.6	249	72	147332.43	21.13
1/24/2025	1269	85	249	72	155865.29	21.15
1/24/2025	1270	84.4	250	72	159658.76	21.17
1/24/2025	1271	83.8	249	72	154495.53	21.18
1/24/2025	1272	83.1	249	72	148579.87	21.20
1/24/2025	1273	82.6	248	72	158914.58	21.22
1/24/2025	1274	82	248	72	136212.62	21.23
1/24/2025	1275	81.5	249	72	157409.7	21.25
1/24/2025	1276	80.9	249	72	158436.17	21.27

1/24/2025	1277	80.3	247	72	155308.04	21.28
1/24/2025	1278	79.8	245	72	150106.95	21.30
1/24/2025	1279	79.2	243	72	157619.18	21.32
1/24/2025	1280	78.7	241	72	140771.82	21.33
1/24/2025	1281	78.2	240	72	155221.24	21.35
1/24/2025	1282	77.7	238	72	153005.94	21.37
1/24/2025	1283	77.1	238	72	151614.32	21.38
1/24/2025	1284	76.6	239	72	156787.93	21.40
1/24/2025	1285	76.1	240	72	150099.15	21.42
1/24/2025	1286	75.5	241	72	154784.64	21.43
1/24/2025	1287	75	240	72	154623.51	21.45
1/24/2025	1288	74.4	240	72	148488.73	21.47
1/24/2025	1289	73.9	240	72	157084.58	21.48
1/24/2025	1290	73.3	240	72	154773.32	21.50
1/24/2025	1291	72.8	240	72	140338.49	21.52
1/24/2025	1292	72.3	240	71	155567.54	21.53
1/24/2025	1293	71.8	241	72	151475.86	21.55
1/24/2025	1294	71.2	241	72	148500.99	21.57
1/24/2025	1295	70.7	242	72	157220.3	21.58
1/24/2025	1296	70.1	242	72	146893.53	21.60
1/24/2025	1297	69.6	242	72	156783.48	21.62
1/24/2025	1298	69.1	243	72	154957.82	21.63
1/24/2025	1299	68.5	242	71	148565.6	21.65
1/24/2025	1300	68	241	71	156343.49	21.67
1/24/2025	1301	67.5	239	71	154700.09	21.68
1/24/2025	1302	67	238	71	146338.03	21.70
1/24/2025	1303	66.5	240	71	154513.08	21.72
1/24/2025	1304	66	241	72	156622.37	21.73
1/24/2025	1305	65.5	241	72	145044	21.75
1/24/2025	1306	65.1	240	71	155244.7	21.77
1/24/2025	1307	64.6	239	71	151513.83	21.78
1/24/2025	1308	64.2	237	72	154133.92	21.80
1/24/2025	1309	63.8	237	71	146399.72	21.82
1/24/2025	1310	63.3	236	71	154600.54	21.83
1/24/2025	1311	62.9	236	71	150222.59	21.85
1/24/2025	1312	62.5	236	71	137402.98	21.87
1/24/2025	1313	62	236	71	144391.13	21.88
1/24/2025	1314	61.6	236	71	154589.73	21.90
1/24/2025	1315	61.3	235	71	153404.36	21.92
1/24/2025	1316	60.9	234	71	148164.74	21.93
1/24/2025	1317	60.6	233	71	155568.06	21.95
1/24/2025	1318	81.4	232	71	148172.35	21.97
1/24/2025	1319	169.2	230	71	151849.22	21.98
1/24/2025	1320	168.6	236	71	147883.97	22.00
1/24/2025	1321	167.9	242	71	144259.17	22.02
1/24/2025	1322	167.3	245	72	152690.92	22.03
1/24/2025	1323	166.7	248	72	149470.03	22.05
1/24/2025	1324	166.1	249	72	143883.28	22.07
1/24/2025	1325	165.5	250	72	150567.71	22.08
1/24/2025	1326	165	251	72	147926.6	22.10
1/24/2025	1327	164.3	252	72	144037.69	22.12
1/24/2025	1328	163.8	253	72	147095.16	22.13
1/24/2025	1329	163.2	254	72	143673.98	22.15
1/24/2025	1330	162.6	255	72	156023.96	22.17
1/24/2025	1331	161.9	256	72	150585.96	22.18
1/24/2025	1332	161.4	256	72	144996.05	22.20
1/24/2025	1333	160.8	256	72	152745.09	22.22
1/24/2025	1334	160.2	257	72	148883.25	22.23
1/24/2025	1335	159.5	257	72	144519.35	22.25
1/24/2025	1336	158.9	258	72	154747.73	22.27
1/24/2025	1337	158.4	259	72	149668.35	22.28
1/24/2025	1338	157.7	259	72	148143.61	22.30
1/24/2025	1339	157.1	260	72	150989.77	22.32
1/24/2025	1340	156.4	261	72	150801.48	22.33

1/24/2025	1341	155.8	262	72	154739.4	22.35
1/24/2025	1342	155.1	262	72	150979.24	22.37
1/24/2025	1343	154.5	261	72	157182	22.38
1/24/2025	1344	153.9	260	72	146313.86	22.40
1/24/2025	1345	153.3	259	72	156399.53	22.42
1/24/2025	1346	152.7	259	72	149124.18	22.43
1/24/2025	1347	152.1	260	72	155351.68	22.45
1/24/2025	1348	151.4	261	72	150783.13	22.47
1/24/2025	1349	150.7	262	72	156450.88	22.48
1/24/2025	1350	150	263	72	154303.53	22.50
1/24/2025	1351	149.2	265	72	147313.34	22.52
1/24/2025	1352	148.4	267	72	156885.78	22.53
1/24/2025	1353	147.6	268	72	152870.64	22.55
1/24/2025	1354	146.9	268	71	151908.74	22.57
1/24/2025	1355	146.2	268	71	157939	22.58
1/24/2025	1356	145.6	267	71	144966.17	22.60
1/24/2025	1357	144.9	266	71	157039.7	22.62
1/24/2025	1358	144.3	265	71	154479.48	22.63
1/24/2025	1359	143.7	265	71	157443.49	22.65
1/24/2025	1360	143.1	265	71	154968.63	22.67
1/24/2025	1361	142.5	265	72	147315.47	22.68
1/24/2025	1362	141.8	266	72	153337.02	22.70
1/24/2025	1363	141.3	266	72	153215.45	22.72
1/24/2025	1364	140.6	266	72	149731.04	22.73
1/24/2025	1365	140	266	72	155954.95	22.75
1/24/2025	1366	139.4	267	71	153297.78	22.77
1/24/2025	1367	138.8	267	71	141584.94	22.78
1/24/2025	1368	138.2	267	71	154844.94	22.80
1/24/2025	1369	137.5	268	71	150612.17	22.82
1/24/2025	1370	136.9	269	72	159101.06	22.83
1/24/2025	1371	136.3	270	72	156608.24	22.85
1/24/2025	1372	135.7	272	72	149693.91	22.87
1/24/2025	1373	135	273	72	160088.13	22.88
1/24/2025	1374	134.3	274	72	156235.64	22.90
1/24/2025	1375	133.7	274	72	151378.71	22.92
1/24/2025	1376	133.1	273	71	159565.6	22.93
1/24/2025	1377	132.5	272	71	155753.79	22.95
1/24/2025	1378	131.9	272	72	150992.16	22.97
1/24/2025	1379	131.2	272	72	159651	22.98
1/24/2025	1380	130.6	273	72	156314.65	23.00
1/24/2025	1381	129.9	273	72	145791.28	23.02
1/24/2025	1382	129.3	272	72	158174.8	23.03
1/24/2025	1383	128.7	271	72	151354.25	23.05
1/24/2025	1384	128.2	270	72	160085.28	23.07
1/24/2025	1385	127.6	269	72	158404.58	23.08
1/24/2025	1386	127	268	72	153349.42	23.10
1/24/2025	1387	126.4	268	72	162191.64	23.12
1/24/2025	1388	125.8	268	72	154849.18	23.13
1/24/2025	1389	125.2	268	71	151126.3	23.15
1/24/2025	1390	124.6	268	71	159105.1	23.17
1/24/2025	1391	124.1	268	71	147539.6	23.18
1/24/2025	1392	123.5	268	71	158053.78	23.20
1/24/2025	1393	122.8	268	71	151970.55	23.22
1/24/2025	1394	122.2	267	72	159045.3	23.23
1/24/2025	1395	121.7	266	72	156102.01	23.25
1/24/2025	1396	120.5	257	72	155686.28	23.27
1/24/2025	1397	120	256	72	151483.71	23.28
1/24/2025	1398	119.3	256	71	94371.94	23.30
1/24/2025	1399	118.7	256	71	90290.57	23.32
1/24/2025	1400	118.1	256	71	87779.18	23.33
1/24/2025	1401	117.4	257	71	87228.64	23.35
1/24/2025	1402	116.9	257	71	92694.89	23.37
1/24/2025	1403	116.3	257	71	88803.55	23.38
1/24/2025	1404	115.7	257	71	89634.71	23.40

1/24/2025	1405	115.2	257	71	82991.2	23.42
1/24/2025	1406	114.7	257	71	89542.53	23.43
1/24/2025	1407	114.1	256	71	93440.81	23.45
1/24/2025	1408	113.5	257	71	90592.32	23.47
1/24/2025	1409	113	257	71	94698.04	23.48
1/24/2025	1410	112.5	258	71	92429.68	23.50
1/24/2025	1411	111.9	259	71	95086.21	23.52
1/24/2025	1412	111.4	260	71	90186.34	23.53
1/24/2025	1413	110.8	260	71	87357.16	23.55
1/24/2025	1414	110.3	259	71	95591.5	23.57
1/24/2025	1415	109.7	259	71	85953.02	23.58
1/24/2025	1416	109.2	258	71	96148.67	23.60
1/24/2025	1417	108.7	258	71	94087.45	23.62
1/24/2025	1418	108.2	258	71	92291.72	23.63
1/24/2025	1419	107.7	258	71	93948.99	23.65
1/24/2025	1420	107.2	257	71	87995.27	23.67
1/24/2025	1421	106.7	257	71	91756.74	23.68
1/24/2025	1422	106.2	257	71	92398.89	23.70
1/24/2025	1423	105.7	256	71	86985.03	23.72
1/24/2025	1424	105.2	256	71	94226.97	23.73
1/24/2025	1425	104.7	255	71	85465.84	23.75
1/24/2025	1426	104.4	253	71	89247.75	23.77
1/24/2025	1427	103.9	253	71	90888.75	23.78
1/24/2025	1428	103.5	253	71	90351.21	23.80
1/24/2025	1429	102.9	253	71	84519.35	23.82
1/24/2025	1430	102.5	253	71	94679.28	23.83
1/24/2025	1431	102	252	71	91376.9	23.85
1/24/2025	1432	101.6	253	71	90752.36	23.87
1/24/2025	1433	101.1	253	71	90100.14	23.88
1/24/2025	1434	100.7	253	71	91029.07	23.90
1/24/2025	1435	100.3	253	71	92311.75	23.92
1/24/2025	1436	99.8	253	71	91898.52	23.93
1/24/2025	1437	99.3	255	71	87678.99	23.95
1/24/2025	1438	98.9	255	71	94261.41	23.97
1/24/2025	1439	98.4	256	71	90676.75	23.98
1/24/2025	1440	97.9	258	71	92600.38	24.00
1/24/2025	1441	97.3	261	72	93071.64	24.02
1/24/2025	1442	96.8	263	72	87107.5	24.03
1/24/2025	1443	96.2	264	72	92492.08	24.05
1/24/2025	1444	95.7	264	72	92892.35	24.07
1/24/2025	1445	95.2	265	72	91129.74	24.08
1/24/2025	1446	94.7	265	72	87413.35	24.10
1/24/2025	1447	94.2	265	72	92306.66	24.12
1/24/2025	1448	93.7	265	72	90663.51	24.13
1/24/2025	1449	93.2	266	72	95437.51	24.15
1/24/2025	1450	92.7	267	72	91135.13	24.17
1/24/2025	1451	92.2	268	72	92130.09	24.18
1/24/2025	1452	91.7	269	72	90996.27	24.20
1/24/2025	1453	91.2	269	72	95692.11	24.22
1/24/2025	1454	90.7	269	72	94979.86	24.23
1/24/2025	1455	90.3	268	72	94231.79	24.25
1/24/2025	1456	89.8	268	72	92777.93	24.27
1/24/2025	1457	89.3	268	72	92890.63	24.28
1/24/2025	1458	88.9	268	72	90406.5	24.30
1/24/2025	1459	88.4	269	72	89342.08	24.32
1/24/2025	1460	87.6	263	72	94955.5	24.33
1/24/2025	1461	87.1	263	72	91237.78	24.35
1/24/2025	1462	86.6	263	72	97498.08	24.37
1/24/2025	1463	86.1	263	72	92205.54	24.38
1/24/2025	1464	85.7	262	72	92067.25	24.40
1/24/2025	1465	85.3	261	72	96800.64	24.42
1/24/2025	1466	85	261	72	97605.66	24.43
1/24/2025	1467	84.5	260	72	93551.62	24.45
1/24/2025	1468	84.1	260	72	92697.22	24.47

1/24/2025	1469	83.7	260	72	96276.61	24.48
1/24/2025	1470	83.2	260	72	92940.32	24.50
1/24/2025	1471	82.8	261	72	97662.84	24.52
1/24/2025	1472	82.4	261	72	93719.62	24.53
1/24/2025	1473	81.9	262	72	95413.38	24.55
1/24/2025	1474	81.4	263	72	93271.54	24.57
1/24/2025	1475	81	264	72	92356.67	24.58
1/24/2025	1476	80.6	264	72	97411.17	24.60
1/24/2025	1477	80	265	72	92823.15	24.62
1/24/2025	1478	79.6	266	72	94338.6	24.63
1/24/2025	1479	79.2	268	72	100425.64	24.65
1/24/2025	1480	78.8	269	72	91072.22	24.67
1/24/2025	1481	78.3	270	72	96457.86	24.68
1/24/2025	1482	77.8	272	72	97039.59	24.70
1/24/2025	1483	77.3	273	72	95853.69	24.72
1/24/2025	1484	76.8	274	72	95077.91	24.73
1/24/2025	1485	76.3	275	72	92551.05	24.75
1/24/2025	1486	75.8	275	72	95784.74	24.77
1/24/2025	1487	75.3	275	72	98154.52	24.78
1/24/2025	1488	74.9	274	71	93454.57	24.80
1/24/2025	1489	74.4	273	71	95998.91	24.82
1/24/2025	1490	73.9	272	71	92907.24	24.83
1/24/2025	1491	73.6	272	71	98246.72	24.85
1/24/2025	1492	73.2	271	71	97256.46	24.87
1/24/2025	1493	72.8	271	71	94647.33	24.88
1/24/2025	1494	72.4	269	71	87237.49	24.90
1/24/2025	1495	72.1	268	71	97379.94	24.92
1/24/2025	1496	71.7	266	72	94867.06	24.93
1/24/2025	1497	71.1	265	72	96580.08	24.95
1/24/2025	1498	70.7	265	72	94009.89	24.97
1/24/2025	1499	70.2	265	72	100296.03	24.98
1/24/2025	1500	69.8	266	72	100919.46	25.00
1/24/2025	1501	69.4	267	72	96847.54	25.02
1/24/2025	1502	69	265	72	96930.37	25.03
1/24/2025	1503	68.6	263	71	93226.63	25.05
1/24/2025	1504	68.3	262	71	97730.03	25.07
1/24/2025	1505	67.9	261	71	93459.66	25.08
1/24/2025	1506	67.6	262	71	94897.79	25.10
1/24/2025	1507	67.1	262	72	96215.65	25.12
1/24/2025	1508	66.7	262	72	96420.64	25.13
1/24/2025	1509	66.3	261	72	95194.67	25.15
1/24/2025	1510	65.9	260	72	96766.44	25.17
1/24/2025	1511	65.6	260	72	94623.83	25.18
1/24/2025	1512	65.3	261	72	92831.99	25.20
1/24/2025	1513	65	261	72	94062.71	25.22
1/24/2025	1514	64.6	260	72	99504.48	25.23
1/24/2025	1515	65	256	72	99829.03	25.25
1/24/2025	1516	63.7	251	72	96879.21	25.27
1/24/2025	1517	63.3	249	72	96311.14	25.28
1/24/2025	1518	63.1	249	72	98005.21	25.30
1/24/2025	1519	62.7	248	72	96605.55	25.32
1/24/2025	1520	62.4	247	72	93731.44	25.33
1/24/2025	1521	62.2	247	72	96286.57	25.35
1/24/2025	1522	61.9	246	72	94762.14	25.37
1/24/2025	1523	61.7	246	72	98031.62	25.38
1/24/2025	1524	61.4	245	72	93387.85	25.40
1/24/2025	1525	61.2	245	72	93956.29	25.42
1/24/2025	1526	60.8	245	72	95330.33	25.43
1/24/2025	1527	60.5	245	72	89591	25.45
1/24/2025	1528	60.2	246	72	98352.31	25.47
1/24/2025	1529	59.9	246	72	92713.54	25.48
1/24/2025	1530	59.6	246	71	93711.87	25.50
1/24/2025	1531	59.3	247	71	94080.15	25.52
1/24/2025	1532	59	247	71	97779.39	25.53

1/24/2025	1533	58.8	247	71	93777.25	25.55
1/24/2025	1534	58.5	247	71	93791.29	25.57
1/24/2025	1535	58.2	246	71	93500.66	25.58
1/24/2025	1536	57.9	246	71	93088.79	25.60
1/24/2025	1537	57.6	246	72	97195.2	25.62
1/24/2025	1538	57.2	247	71	91562.54	25.63
1/24/2025	1539	56.9	249	71	93062.38	25.65
1/24/2025	1540	56.7	250	72	92971.37	25.67
1/24/2025	1541	56.4	251	72	86632.79	25.68
1/24/2025	1542	56.1	250	71	90076.82	25.70
1/24/2025	1543	55.9	249	71	91612.8	25.72
1/24/2025	1544	55.5	247	71	76014.85	25.73
1/24/2025	1545	55.3	245	71	98090.37	25.75
1/24/2025	1546	55	244	71	90860.83	25.77
1/24/2025	1547	54.7	244	71	92415.77	25.78
1/24/2025	1548	54.4	244	71	94686.19	25.80
1/24/2025	1549	54.1	241	71	88378.46	25.82
1/24/2025	1550	53.8	240	71	91368.56	25.83
1/24/2025	1551	53.5	241	71	93138.37	25.85
1/24/2025	1552	53.3	242	71	91667.31	25.87
1/24/2025	1553	53	243	71	89527.82	25.88
1/24/2025	1554	52.8	244	71	94246.37	25.90
1/24/2025	1555	52.5	244	71	91640.21	25.92
1/24/2025	1556	52.2	245	72	96620.99	25.93
1/24/2025	1557	51.9	244	72	93865.44	25.95
1/24/2025	1558	51.6	243	72	92645.55	25.97
1/24/2025	1559	51.3	243	72	93235.44	25.98
1/24/2025	1560	51	243	72	95968.84	26.00
1/24/2025	1561	50.8	242	72	94204.54	26.02
1/27/2025	1562	56.8	222	71	165405.86	26.03
1/27/2025	1563	56.5	221	71	175266.55	26.05
1/27/2025	1564	56.2	221	71	164583.09	26.07
1/27/2025	1565	56	220	71	163305.49	26.08
1/27/2025	1566	55.8	219	71	177234.12	26.10
1/27/2025	1567	55.6	219	71	171595.74	26.12
1/27/2025	1568	55.3	218	71	167839.57	26.13
1/27/2025	1569	55	217	71	174671.77	26.15
1/27/2025	1570	54.8	217	71	170041.64	26.17
1/27/2025	1571	54.6	217	70	163375.61	26.18
1/27/2025	1572	82.7	211	71	169071.94	26.20
1/27/2025	1573	88.4	211	71	168227.59	26.22
1/27/2025	1574	87.8	214	71	162376.23	26.23
1/27/2025	1575	87.2	217	71	167618.8	26.25
1/27/2025	1576	87.1	221	71	170063.31	26.27
1/27/2025	1577	85.9	224	71	157530.16	26.28
1/27/2025	1578	85.6	226	71	169721.59	26.30
1/27/2025	1579	85.1	226	71	160393.47	26.32
1/27/2025	1580	115.6	223	71	170621.38	26.33
1/27/2025	1581	115.1	224	71	168930.19	26.35
1/27/2025	1582	114.5	225	70	164955.87	26.37
1/27/2025	1583	113.9	227	70	168924.86	26.38
1/27/2025	1584	113.4	228	71	167101.44	26.40
1/27/2025	1585	112.7	229	71	162350.02	26.42
1/27/2025	1586	112.2	229	71	169116.31	26.43
1/27/2025	1587	111.6	230	71	159234.39	26.45
1/27/2025	1588	111	230	71	158795.41	26.47
1/27/2025	1589	110.4	231	71	166518.31	26.48
1/27/2025	1590	109.8	231	71	164863.15	26.50
1/27/2025	1591	109.1	232	71	152922.21	26.52
1/27/2025	1592	108.5	233	71	167974.44	26.53
1/27/2025	1593	107.9	234	71	169908.68	26.55
1/27/2025	1594	107.2	235	70	158962.64	26.57
1/27/2025	1595	106.6	236	70	165747.19	26.58
1/27/2025	1596	105.9	237	71	165392.88	26.60

1/27/2025	1597	105.3	238	70	162216.61	26.62
1/27/2025	1598	104.6	240	71	165741.9	26.63
1/27/2025	1599	103.9	241	71	169120.9	26.65
1/27/2025	1600	103.2	242	71	160091.39	26.67
1/27/2025	1601	102.6	242	71	170946.46	26.68
1/27/2025	1602	101.9	243	71	168987.14	26.70
1/27/2025	1603	101.2	243	70	160850.14	26.72
1/27/2025	1604	100.5	243	70	169744.85	26.73
1/27/2025	1605	99.8	244	70	162045.8	26.75
1/27/2025	1606	99.1	244	70	165405.11	26.77
1/27/2025	1607	98.4	245	70	174900.6	26.78
1/27/2025	1608	97.7	245	70	166291.83	26.80
1/27/2025	1609	97	245	70	162821.18	26.82
1/27/2025	1610	96.4	245	70	171494.54	26.83
1/27/2025	1611	95.7	245	70	157766.28	26.85
1/27/2025	1612	95	245	71	167059.47	26.87
1/27/2025	1613	94.3	246	71	168060.7	26.88
1/27/2025	1614	93.7	246	71	167038.04	26.90
1/27/2025	1615	93.1	246	71	163038.35	26.92
1/27/2025	1616	92.4	247	71	171910.28	26.93
1/27/2025	1617	91.8	247	71	172583.29	26.95
1/27/2025	1618	91.1	247	71	163125.52	26.97
1/27/2025	1619	90.5	248	71	169850.81	26.98
1/27/2025	1620	89.8	248	71	165286.14	27.00
1/27/2025	1621	89.1	249	71	158885.28	27.02
1/27/2025	1622	88.5	249	71	171801.19	27.03
1/27/2025	1623	87.9	249	71	168411.77	27.05
1/27/2025	1624	87.3	249	71	165283.32	27.07
1/27/2025	1625	86.6	249	71	164334.56	27.08
1/27/2025	1626	86.1	249	71	179608.66	27.10
1/27/2025	1627	85.5	248	71	168694.8	27.12
1/27/2025	1628	84.9	248	71	169006.27	27.13
1/27/2025	1629	84.4	247	71	174318.78	27.15
1/27/2025	1630	83.8	246	71	164391.63	27.17
1/27/2025	1631	83.3	246	71	163511.55	27.18
1/27/2025	1632	82.7	246	71	177283.02	27.20
1/27/2025	1633	82.2	246	71	172400.55	27.22
1/27/2025	1634	81.6	246	71	165130.66	27.23
1/27/2025	1635	81.1	246	71	168844.79	27.25
1/27/2025	1636	80.6	246	71	171341.36	27.27
1/27/2025	1637	80	246	71	173588.54	27.28
1/27/2025	1638	79.5	246	71	173680.31	27.30
1/27/2025	1639	79.1	246	71	166349.35	27.32
1/27/2025	1640	78.5	246	71	166877.79	27.33
1/27/2025	1641	78.1	246	71	172727.87	27.35
1/27/2025	1642	77.5	247	71	168020.05	27.37
1/27/2025	1643	77	247	71	172627.12	27.38
1/27/2025	1644	76.5	248	71	165471.6	27.40
1/27/2025	1645	76	248	71	161191.98	27.42
1/27/2025	1646	75.6	248	71	176326.64	27.43
1/27/2025	1647	75.1	248	70	165640.56	27.45
1/27/2025	1648	74.6	249	70	169939.65	27.47
1/27/2025	1649	74.1	249	70	175271.23	27.48
1/27/2025	1650	73.6	249	70	156522.61	27.50
1/27/2025	1651	73.1	249	70	172916.93	27.52
1/27/2025	1652	72.7	250	70	175361.58	27.53
1/27/2025	1653	72.1	251	70	165886.15	27.55
1/27/2025	1654	71.6	252	71	171122.69	27.57
1/27/2025	1655	71.1	253	71	169522.98	27.58
1/27/2025	1656	70.5	254	71	170736.57	27.60
1/27/2025	1657	70	256	71	173905.63	27.62
1/27/2025	1658	69.5	258	71	165636.19	27.63
1/27/2025	1659	69	259	71	175910.35	27.65
1/27/2025	1660	68.5	260	71	178025.01	27.67

1/27/2025	1661	68	261	71	172628.54	27.68
1/27/2025	1662	67.5	261	71	166287.33	27.70
1/27/2025	1663	67.1	260	71	176599.9	27.72
1/27/2025	1664	66.6	261	71	173802.42	27.73
1/27/2025	1665	66.1	261	71	171384.51	27.75
1/27/2025	1666	65.7	262	71	183738.88	27.77
1/27/2025	1667	65.3	262	72	170942.69	27.78
1/27/2025	1668	64.8	263	71	166287.12	27.80
1/27/2025	1669	64.4	262	71	182532.91	27.82
1/27/2025	1670	63.9	263	72	177295.56	27.83
1/27/2025	1671	63.5	264	72	163710.37	27.85
1/27/2025	1672	63.1	265	72	181115.59	27.87
1/27/2025	1673	62.6	265	72	177425.96	27.88
1/27/2025	1674	62.2	265	72	170292.32	27.90
1/27/2025	1675	61.7	266	72	177146.05	27.92
1/27/2025	1676	61.3	266	71	177134.49	27.93
1/27/2025	1677	60.8	267	72	176148.36	27.95
1/27/2025	1678	60.4	267	72	181733.17	27.97
1/27/2025	1679	60	268	71	173186.72	27.98
1/27/2025	1680	59.6	268	72	174969.3	28.00
1/27/2025	1681	59.2	268	72	191004.25	28.02
1/27/2025	1682	58.8	268	72	166681.92	28.03
1/27/2025	1683	58.4	267	72	187961.79	28.05
1/27/2025	1684	58	267	72	184681.32	28.07
1/27/2025	1685	57.6	266	72	178426.55	28.08
1/27/2025	1686	57.3	266	72	187395.85	28.10
1/27/2025	1687	56.9	265	72	176452.92	28.12
1/27/2025	1688	56.5	265	72	184408.25	28.13
1/27/2025	1689	56.2	265	72	177868.37	28.15
1/27/2025	1690	55.9	263	72	184804.81	28.17
1/27/2025	1691	55.5	262	72	179148.17	28.18
1/27/2025	1692	57.7	261	72	180856.02	28.20
1/27/2025	1693	87	252	71	183098.7	28.22
1/27/2025	1694	86.5	249	72	170178.87	28.23
1/27/2025	1695	86.2	246	72	187704.94	28.25
1/27/2025	1696	85.8	244	71	186076.41	28.27
1/27/2025	1697	85.4	241	71	168254.91	28.28
1/27/2025	1698	85.1	239	71	187421.63	28.30
1/27/2025	1699	84.7	237	71	178494.94	28.32
1/27/2025	1700	84.3	234	71	179889.93	28.33
1/27/2025	1701	84	232	71	180536.76	28.35
1/27/2025	1702	83.6	230	71	176983.87	28.37
1/27/2025	1703	83.3	228	71	186737.87	28.38
1/27/2025	1704	83	226	71	180981.8	28.40
1/27/2025	1705	82.6	223	71	173158.34	28.42
1/27/2025	1706	82.2	221	71	181807.75	28.43
1/27/2025	1707	81.9	219	72	179469.96	28.45
1/27/2025	1708	84.6	214	71	171295.54	28.47
1/27/2025	1709	259.3	207	71	166335.12	28.48
1/27/2025	1710	254.6	187	71	179758.46	28.50
1/27/2025	1711	240.8	186	71	196907.87	28.52
1/27/2025	1712	187.9	183	71	189041.34	28.53
1/27/2025	1713	168	181	71	178814.59	28.55
1/27/2025	1714	167.7	183	71	189489.52	28.57
1/27/2025	1715	167.4	184	71	186505.24	28.58
1/27/2025	1716	167.1	184	71	176782	28.60
1/27/2025	1717	167	183	71	190781.06	28.62
1/27/2025	1718	166.7	182	71	181455.47	28.63
1/27/2025	1719	166	179	71	172081.67	28.65
1/27/2025	1720	165.6	180	71	185057.78	28.67
1/27/2025	1721	165.3	180	71	180715.16	28.68
1/27/2025	1722	164.9	181	71	180100.78	28.70
1/27/2025	1723	164.5	181	71	179754.03	28.72
1/27/2025	1724	164.2	181	71	180378.42	28.73

1/27/2025	1725	169.2	178	71	172932.49	28.75
1/27/2025	1726	162.3	176	71	167853.76	28.77
1/27/2025	1727	161.8	177	71	174955.19	28.78
1/27/2025	1728	161.4	178	71	177564.99	28.80
1/27/2025	1729	187.1	177	71	175606.01	28.82
1/27/2025	1730	159.7	176	71	172507.67	28.83
1/27/2025	1731	159.3	175	71	179518.34	28.85
1/27/2025	1732	158.9	177	71	162943.75	28.87
1/27/2025	1733	161.7	177	72	175648.41	28.88
1/27/2025	1734	159.2	177	72	170891.03	28.90
1/27/2025	1735	161.1	176	72	169359.12	28.92
1/27/2025	1736	157	182	72	172282.46	28.93
1/27/2025	1737	156.5	187	71	169815	28.95
1/27/2025	1738	156	188	71	171205.21	28.97
1/28/2025	1739	45.3	289	70	233511.52	28.98
1/28/2025	1740	44.5	289	70	229429.19	29.00
1/28/2025	1741	43.7	290	70	236517.92	29.02
1/28/2025	1742	43	290	70	229043.92	29.03
1/28/2025	1743	42.3	291	70	240310.74	29.05
1/28/2025	1744	41.4	291	70	230859.84	29.07
1/28/2025	1745	40.7	292	70	222347.69	29.08
1/28/2025	1746	40	291	70	244809.84	29.10
1/28/2025	1747	39.3	291	70	233260.33	29.12
1/28/2025	1748	38.5	291	70	235535.31	29.13
1/28/2025	1749	37.9	291	70	235064.54	29.15
1/28/2025	1750	37.1	291	70	226211.71	29.17
1/28/2025	1751	36.5	291	70	239468.11	29.18
1/28/2025	1752	35.7	291	70	228769.74	29.20
1/28/2025	1753	69.8	285	70	242450.23	29.22
1/28/2025	1754	93.9	282	71	235717.75	29.23
1/28/2025	1755	92.9	284	70	234953.37	29.25
1/28/2025	1756	92	283	70	234478.24	29.27
1/28/2025	1757	91.2	283	70	226000.48	29.28
1/28/2025	1758	90.4	282	70	243973.28	29.30
1/28/2025	1759	89.7	281	70	242984.6	29.32
1/28/2025	1760	88.8	281	70	218095.53	29.33
1/28/2025	1761	88	282	70	246724.03	29.35
1/28/2025	1762	87.2	283	70	234888.04	29.37
1/28/2025	1763	86.6	283	70	227250.1	29.38
1/28/2025	1764	86	283	69	240613.32	29.40
1/28/2025	1765	85.1	284	69	239844.51	29.42
1/28/2025	1766	84.3	286	69	230527.37	29.43
1/28/2025	1767	83.4	287	69	231922.15	29.45
1/28/2025	1768	82.6	288	69	242137.47	29.47
1/28/2025	1769	81.6	289	70	224447.92	29.48
1/28/2025	1770	80.8	290	70	240406.19	29.50
1/28/2025	1771	79.9	290	70	234240.74	29.52
1/28/2025	1772	78.9	291	70	227243.61	29.53
1/28/2025	1773	78.1	291	70	240277.07	29.55
1/28/2025	1774	77.3	292	70	223304.14	29.57
1/28/2025	1775	76.5	292	70	244386.84	29.58
1/28/2025	1776	75.7	292	70	238695.86	29.60
1/28/2025	1777	74.9	292	70	225550.1	29.62
1/28/2025	1778	74.1	292	71	243925.23	29.63
1/28/2025	1779	73.2	292	71	235532.28	29.65
1/28/2025	1780	72.4	293	71	231948.39	29.67
1/28/2025	1781	71.5	293	71	239435.99	29.68
1/28/2025	1782	70.8	293	71	235448.25	29.70
1/28/2025	1783	69.9	293	71	223821.11	29.72
1/28/2025	1784	69.1	293	71	245764.98	29.73
1/28/2025	1785	68.3	293	71	231807.29	29.75
1/28/2025	1786	67.4	294	71	229907.9	29.77
1/28/2025	1787	66.6	295	71	232796.83	29.78
1/28/2025	1788	65.7	296	71	231070.02	29.80

1/28/2025	1789	64.8	296	71	241095.1	29.82
1/28/2025	1790	64.1	296	71	240284.78	29.83
1/28/2025	1791	63.2	297	71	227590.94	29.85
1/28/2025	1792	62.4	297	71	249972.4	29.87
1/28/2025	1793	61.7	297	71	261043.42	29.88
1/28/2025	1794	102.2	288	71	250682.21	29.90
1/28/2025	1795	101.2	290	71	261120.04	29.92
1/28/2025	1796	100.2	290	71	258865.37	29.93
1/28/2025	1797	99.4	289	71	242042.62	29.95
1/28/2025	1798	98.6	288	71	265318.92	29.97
1/28/2025	1799	97.8	287	71	253242.7	29.98
1/28/2025	1800	97	286	71	253895.09	30.00
1/28/2025	1801	96.3	285	71	259868.28	30.02
1/28/2025	1802	95.5	284	71	250550.52	30.03
1/28/2025	1803	94.7	284	71	268151.44	30.05
1/28/2025	1804	93.9	284	71	255762.51	30.07
1/28/2025	1805	93	283	71	242845.76	30.08
1/28/2025	1806	92.2	283	71	258270.74	30.10
1/28/2025	1807	91.4	283	71	243885.98	30.12
1/28/2025	1808	90.6	282	71	257527.29	30.13
1/28/2025	1809	89.9	282	71	257346.6	30.15
1/28/2025	1810	89	283	71	244132.28	30.17
1/28/2025	1811	88.3	282	71	264572.38	30.18
1/28/2025	1812	87.5	283	71	244416.76	30.20
1/28/2025	1813	86.7	282	71	261780.57	30.22
1/28/2025	1814	86	283	71	256157	30.23
1/28/2025	1815	85.2	282	71	241342.32	30.25
1/28/2025	1816	84.8	283	71	256803.07	30.27
1/28/2025	1817	84	283	71	246056.71	30.28
1/28/2025	1818	83.2	284	71	259667.62	30.30
1/28/2025	1819	82.4	284	71	252871.83	30.32
1/28/2025	1820	81.6	284	71	237873.51	30.33
1/28/2025	1821	80.9	284	71	261609.95	30.35
1/28/2025	1822	80.1	284	71	240968.67	30.37
1/28/2025	1823	79.3	285	71	255902.46	30.38
1/28/2025	1824	78.5	285	71	241096.54	30.40
1/28/2025	1825	77.8	285	71	263786.97	30.42
1/28/2025	1826	77	285	71	248963.76	30.43
1/28/2025	1827	76.3	285	71	256761.26	30.45
1/28/2025	1828	75.5	285	71	244830.78	30.47
1/28/2025	1829	74.8	286	71	256448.05	30.48
1/28/2025	1830	74.1	286	71	247012.84	30.50
1/28/2025	1831	73.4	286	71	248988.43	30.52
1/28/2025	1832	72.7	287	71	257995.1	30.53
1/28/2025	1833	72	287	71	226481.93	30.55
1/28/2025	1834	71.3	288	71	263432.07	30.57
1/28/2025	1835	70.6	287	71	253347.06	30.58
1/28/2025	1836	69.9	288	71	263048.94	30.60
1/28/2025	1837	69.2	287	71	252543.35	30.62
1/28/2025	1838	68.6	285	71	242305.55	30.63
1/28/2025	1839	67.9	286	71	255491.13	30.65
1/28/2025	1840	67.2	286	71	228387.74	30.67
1/28/2025	1841	66.5	287	71	254123.26	30.68
1/28/2025	1842	65.8	285	71	249603.99	30.70
1/28/2025	1843	65.1	287	71	244051.71	30.72
1/28/2025	1844	64.4	286	71	255379.08	30.73
1/28/2025	1845	63.8	286	71	241978.78	30.75
1/28/2025	1846	63.1	286	71	258201.66	30.77
1/28/2025	1847	62.5	286	71	257990.8	30.78
1/28/2025	1848	61.7	287	71	243894.98	30.80
1/28/2025	1849	61.1	288	71	262165.19	30.82
1/28/2025	1850	60.5	287	71	250064.21	30.83
1/28/2025	1851	59.7	287	71	239297.36	30.85
1/28/2025	1852	59.1	286	71	260344.88	30.87

1/28/2025	1853	58.4	285	71	247311.69	30.88
1/28/2025	1854	57.7	285	71	257905.93	30.90
1/28/2025	1855	57.1	285	71	256096.44	30.92
1/28/2025	1856	56.3	286	71	240580.19	30.93
1/28/2025	1857	55.6	286	71	255266.01	30.95
1/28/2025	1858	55.1	286	71	253852.96	30.97
1/28/2025	1859	54.3	286	71	251072.2	30.98
1/28/2025	1860	53.6	285	71	242021.44	31.00
1/28/2025	1861	53	286	71	259873.24	31.02
1/28/2025	1862	52.3	288	71	244427.21	31.03
1/28/2025	1863	51.6	288	71	246305.73	31.05
1/28/2025	1864	50.9	288	71	238222	31.07
1/28/2025	1865	50.3	289	71	256294.39	31.08
1/28/2025	1866	49.6	290	71	243851.25	31.10
1/28/2025	1867	48.9	290	71	258508.74	31.12
1/28/2025	1868	48.3	290	71	241983.6	31.13
1/28/2025	1869	47.6	291	71	261734.46	31.15
1/28/2025	1870	47	291	71	256403.12	31.17
1/28/2025	1871	46.3	291	71	240115.84	31.18
1/28/2025	1872	45.7	290	71	262869.56	31.20
1/28/2025	1873	45	290	71	226232.3	31.22
1/28/2025	1874	44.5	290	71	261173.47	31.23
1/28/2025	1875	43.8	290	71	255986.41	31.25
1/28/2025	1876	43.2	290	71	240509.68	31.27
1/28/2025	1877	42.6	289	71	260404.92	31.28
1/28/2025	1878	41.9	289	71	254837.3	31.30
1/28/2025	1879	41.3	290	71	242193.13	31.32
1/28/2025	1880	40.7	289	71	264556.34	31.33
1/28/2025	1881	40.1	290	71	255395.59	31.35
1/28/2025	1882	39.5	290	71	242271.99	31.37
1/28/2025	1883	39	290	71	256977.53	31.38
1/28/2025	1884	38.4	289	71	251111.28	31.40
1/28/2025	1885	37.8	290	71	258716.55	31.42
1/28/2025	1886	37.3	289	71	244124.76	31.43
1/28/2025	1887	36.7	289	71	251976.85	31.45
1/28/2025	1888	36.2	289	71	254146.08	31.47
1/28/2025	1889	35.6	289	71	240233.75	31.48
1/28/2025	1890	35.1	289	71	263600.05	31.50
1/28/2025	1891	34.6	289	71	259377.56	31.52
1/28/2025	1892	34	290	71	252659.36	31.53
1/28/2025	1893	33.5	290	71	257633.08	31.55
1/28/2025	1894	118.6	283	71	257096.85	31.57
1/28/2025	1895	117.2	284	71	243845.79	31.58
1/28/2025	1896	116.6	283	71	263215.67	31.60
1/28/2025	1897	116	282	71	239854.98	31.62
1/28/2025	1898	115.4	281	71	256665.4	31.63
1/28/2025	1899	114.8	282	71	257610.57	31.65
1/28/2025	1900	114.2	283	71	242125.87	31.67
1/28/2025	1901	113.6	283	71	260036.1	31.68
1/28/2025	1902	113.1	283	71	248816.81	31.70
1/28/2025	1903	112.4	283	71	233102.49	31.72
1/28/2025	1904	111.8	283	71	242802.28	31.73
1/28/2025	1905	111.2	283	71	243606.84	31.75
1/28/2025	1906	110.7	283	71	262265.57	31.77
1/28/2025	1907	110	283	71	245501.18	31.78
1/28/2025	1908	109.4	283	71	264728.62	31.80
1/28/2025	1909	108.8	283	71	248340.14	31.82
1/28/2025	1910	108.1	282	71	254752.26	31.83
1/28/2025	1911	107.5	282	71	247936.06	31.85
1/28/2025	1912	107	282	71	263219.94	31.87
1/28/2025	1913	106.3	281	71	257231.06	31.88
1/28/2025	1914	105.7	282	71	238330.45	31.90
1/28/2025	1915	105.3	282	71	260933.65	31.92
1/28/2025	1916	104.8	282	71	260549.71	31.93

1/28/2025	1917	104.3	280	71	238107.9	31.95
1/28/2025	1918	103.7	280	71	257342.73	31.97
1/28/2025	1919	103.1	280	71	251399.19	31.98
1/28/2025	1920	102.5	279	71	246429.32	32.00
1/28/2025	1921	101.8	280	71	256815.13	32.02
1/28/2025	1922	101.2	279	71	241828.23	32.03
1/28/2025	1923	100.6	280	71	249604.22	32.05
1/28/2025	1924	100	281	71	254551.48	32.07
1/28/2025	1925	99.4	281	71	247391.24	32.08
1/28/2025	1926	98.8	282	71	236345.93	32.10
1/28/2025	1927	98.2	282	71	250651.28	32.12
1/28/2025	1928	97.7	282	71	244021.6	32.13
1/28/2025	1929	97	282	71	256536.65	32.15
1/28/2025	1930	96.4	282	71	245689.39	32.17
1/28/2025	1931	95.8	283	71	252767.64	32.18
1/28/2025	1932	95.2	283	71	256171.45	32.20
1/28/2025	1933	94.6	283	71	229059.5	32.22
1/28/2025	1934	94.1	283	71	253101.43	32.23
1/28/2025	1935	93.5	281	71	245012.72	32.25
1/28/2025	1936	92.9	281	71	237246.95	32.27
1/28/2025	1937	92.3	281	71	251996.31	32.28
1/28/2025	1938	91.7	281	71	235866.79	32.30
1/28/2025	1939	91.2	281	71	259809.12	32.32
1/28/2025	1940	223.7	274	71	241934.07	32.33
1/28/2025	1941	315.2	271	71	257287.07	32.35
1/28/2025	1942	314.5	276	71	219765.8	32.37
1/28/2025	1943	313.8	277	71	217336.99	32.38
1/28/2025	1944	313.2	278	71	247766.26	32.40
1/28/2025	1945	312.5	278	72	222295.29	32.42
1/28/2025	1946	311.9	278	71	241571.25	32.43
1/28/2025	1947	311.1	279	71	202515.6	32.45
1/28/2025	1948	310.4	280	71	240446.28	32.47
1/28/2025	1949	309.7	281	71	235826.95	32.48
1/28/2025	1950	309	281	71	227045.61	32.50
1/28/2025	1951	308.3	281	71	244125.97	32.52
1/28/2025	1952	307.6	281	71	234983.64	32.53
1/28/2025	1953	306.8	282	71	231338.13	32.55
1/28/2025	1954	306	282	71	246468.54	32.57
1/28/2025	1955	305.3	283	72	238001.01	32.58
1/28/2025	1956	304.6	284	72	220575.87	32.60
1/28/2025	1957	303.9	285	72	241357.04	32.62
1/28/2025	1958	303	285	72	242242.23	32.63
1/28/2025	1959	302.2	286	72	232871.15	32.65
1/28/2025	1960	301.4	286	72	238579.11	32.67
1/28/2025	1961	300.7	286	72	240089.58	32.68
1/28/2025	1962	300	286	72	220163.06	32.70
1/28/2025	1963	299.3	287	72	244132.31	32.72
1/28/2025	1964	298.4	287	72	228946.28	32.73
1/28/2025	1965	297.7	287	72	221018.17	32.75
1/28/2025	1966	297	288	72	242692.36	32.77
1/28/2025	1967	296.2	288	72	233507.96	32.78
1/28/2025	1968	295.5	288	72	237033.86	32.80
1/28/2025	1969	294.7	287	72	239239.54	32.82
1/28/2025	1970	294	288	72	229168.08	32.83
1/28/2025	1971	293.2	288	72	236243.29	32.85
1/28/2025	1972	292.5	289	72	241824.64	32.87
1/28/2025	1973	291.7	290	72	221162.17	32.88
1/28/2025	1974	290.9	291	72	241417.96	32.90
1/28/2025	1975	290.1	292	72	230319.07	32.92
1/28/2025	1976	289.3	292	72	229164.43	32.93
1/28/2025	1977	288.6	292	72	245755.03	32.95
1/28/2025	1978	287.8	293	72	220129.96	32.97
1/28/2025	1979	287.1	294	72	244316.82	32.98
1/28/2025	1980	286.3	294	72	220031.91	33.00

1/28/2025	1981	285.6	294	72	242988.01	33.02
1/28/2025	1982	284.9	294	72	238583.98	33.03
1/28/2025	1983	284.2	294	72	226397.2	33.05
1/28/2025	1984	283.4	294	72	245211.63	33.07
1/28/2025	1985	282.7	294	72	236684.54	33.08
1/28/2025	1986	282	293	72	226982.6	33.10
1/28/2025	1987	281.3	293	72	238343.65	33.12
1/28/2025	1988	280.5	293	72	226074.39	33.13
1/28/2025	1989	279.9	293	72	240433.07	33.15
1/28/2025	1990	279.2	293	72	233897.38	33.17
1/28/2025	1991	278.4	293	72	232374.78	33.18
1/28/2025	1992	277.7	293	72	237706.22	33.20
1/28/2025	1993	277	292	72	241567.3	33.22
1/28/2025	1994	276.3	292	72	224611.58	33.23
1/28/2025	1995	275.6	291	72	244383.88	33.25
1/28/2025	1996	275	290	72	220945.98	33.27
1/28/2025	1997	274.3	289	72	241239.44	33.28
1/28/2025	1998	273.6	288	72	234145.52	33.30
1/28/2025	1999	272.9	288	72	235853.78	33.32
1/28/2025	2000	272.2	288	72	238629.61	33.33
1/28/2025	2001	271.5	288	72	233605.33	33.35
1/28/2025	2002	270.8	288	72	223837.4	33.37
1/28/2025	2003	270.1	289	72	234389.53	33.38
1/28/2025	2004	269.5	290	72	232557.06	33.40
1/28/2025	2005	268.8	291	72	231877.83	33.42
1/28/2025	2006	268	291	72	237717.81	33.43
1/28/2025	2007	267.3	292	72	241149.25	33.45
1/28/2025	2008	266.6	292	72	223537.83	33.47
1/28/2025	2009	265.9	292	72	247202.88	33.48
1/28/2025	2010	265.1	292	72	240118.27	33.50
1/28/2025	2011	264.4	292	72	211165.95	33.52
1/28/2025	2012	263.7	293	72	241937.22	33.53
1/28/2025	2013	262.8	294	72	235583.76	33.55
1/28/2025	2014	261.9	295	72	226070.3	33.57
1/28/2025	2015	261.2	296	72	242317.18	33.58
1/28/2025	2016	260.4	297	72	232513.34	33.60
1/28/2025	2017	259.6	298	72	229828.14	33.62
1/28/2025	2018	258.9	298	72	233495.2	33.63
1/28/2025	2019	258.1	298	72	237352.04	33.65
1/28/2025	2020	257.5	298	72	227572.55	33.67
1/28/2025	2021	256.8	297	72	239077.71	33.68
1/28/2025	2022	256.1	297	72	241761.21	33.70
1/28/2025	2023	255.3	296	72	225669.2	33.72
1/28/2025	2024	254.7	296	72	237393.06	33.73
1/28/2025	2025	253.9	295	72	223280.04	33.75
1/28/2025	2026	253.3	295	72	241894.72	33.77
1/28/2025	2027	252.7	294	72	240669.93	33.78
1/28/2025	2028	252	294	72	231800.42	33.80
1/28/2025	2029	251.3	294	72	236571.32	33.82
1/28/2025	2030	250.6	294	72	224024.78	33.83
1/28/2025	2031	249.8	294	72	238456.16	33.85
1/28/2025	2032	249.2	294	72	221804.61	33.87
1/28/2025	2033	248.5	294	72	236161.62	33.88
1/28/2025	2034	247.8	294	72	238505	33.90
1/28/2025	2035	247.1	294	72	222398.74	33.92
1/28/2025	2036	246.4	295	72	242932.75	33.93
1/28/2025	2037	245.7	295	72	231195.41	33.95
1/28/2025	2038	244.9	295	72	233567.25	33.97
1/28/2025	2039	244.3	295	72	240539.15	33.98
1/28/2025	2040	243.5	295	72	222448.82	34.00
1/28/2025	2041	242.8	295	72	236068.36	34.02
1/28/2025	2042	241.9	296	72	221745.9	34.03
1/28/2025	2043	241.2	296	72	242208.48	34.05
1/28/2025	2044	240.6	296	72	228974.61	34.07

1/28/2025	2045	239.8	296	72	243085.85	34.08
1/28/2025	2046	239.1	296	72	216544.2	34.10
1/28/2025	2047	238.4	296	72	240070.47	34.12
1/28/2025	2048	237.7	294	72	245032.71	34.13
1/28/2025	2049	237	293	72	233369.65	34.15
1/28/2025	2050	236.3	293	72	234156.16	34.17
1/28/2025	2051	235.6	293	72	238210.54	34.18
1/28/2025	2052	235	292	72	231741.1	34.20
1/28/2025	2053	234.3	291	72	236991.78	34.22
1/28/2025	2054	233.6	291	72	221782.33	34.23
1/28/2025	2055	232.9	290	72	232727.34	34.25
1/28/2025	2056	232.2	292	72	244556.72	34.27
1/28/2025	2057	231.6	292	72	230072.73	34.28
1/28/2025	2058	230.9	293	72	242346.24	34.30
1/28/2025	2059	230.2	294	72	239773.39	34.32
1/28/2025	2060	229.5	294	72	220646	34.33
1/28/2025	2061	228.9	294	72	242801.81	34.35
1/28/2025	2062	228.2	292	72	237867.89	34.37
1/28/2025	2063	227.4	290	72	225049.71	34.38
1/28/2025	2064	226.8	288	72	232787.48	34.40
1/28/2025	2065	226.1	288	72	203736.22	34.42
1/28/2025	2066	225.5	288	72	242870.48	34.43
1/28/2025	2067	224.8	288	72	214928.76	34.45
1/28/2025	2068	224.2	288	72	242837.42	34.47
1/28/2025	2069	223.6	289	72	235557.95	34.48
1/28/2025	2070	222.9	289	72	225811.89	34.50
1/28/2025	2071	222.3	289	72	236112.3	34.52
1/28/2025	2072	221.6	289	72	236658.48	34.53
1/28/2025	2073	220.9	289	72	232077.89	34.55
1/28/2025	2074	220.3	289	72	237215.27	34.57
1/28/2025	2075	219.7	289	72	236608.2	34.58
1/28/2025	2076	219	290	72	223805.63	34.60
1/28/2025	2077	218.4	291	72	244963.61	34.62
1/28/2025	2078	217.7	291	72	234225.92	34.63
1/28/2025	2079	217	291	72	219704.91	34.65
1/28/2025	2080	216.4	291	72	241380.65	34.67
1/28/2025	2081	215.7	291	72	226147.02	34.68
1/28/2025	2082	215.1	291	72	245324.62	34.70
1/28/2025	2083	214.5	290	72	227203.44	34.72
1/28/2025	2084	213.7	291	72	217516.64	34.73
1/28/2025	2085	213.1	291	72	243025.44	34.75
1/28/2025	2086	212.5	290	72	228288.22	34.77
1/28/2025	2087	211.9	290	72	237916.65	34.78
1/28/2025	2088	211.2	290	72	232527.49	34.80
1/28/2025	2089	210.5	291	72	221900.64	34.82
1/28/2025	2090	209.9	291	72	245436.37	34.83
1/28/2025	2091	209.2	292	72	228518.67	34.85
1/28/2025	2092	208.6	293	72	247131.67	34.87
1/28/2025	2093	208	293	72	227958.63	34.88
1/28/2025	2094	207.3	293	72	243340.83	34.90
1/28/2025	2095	206.7	293	72	236193.65	34.92
1/28/2025	2096	206	293	72	226105.4	34.93
1/28/2025	2097	205.4	294	72	237311.91	34.95
1/28/2025	2098	204.7	295	72	234646.81	34.97
1/28/2025	2099	204	296	72	232163	34.98
1/28/2025	2100	203.3	295	72	244988.74	35.00
1/28/2025	2101	202.7	293	72	224491.61	35.02
1/28/2025	2102	202	291	72	242257.05	35.03
1/28/2025	2103	201.4	289	72	229902.86	35.05
1/28/2025	2104	200.7	289	72	237793.51	35.07
1/28/2025	2105	200.2	291	72	239697.57	35.08
1/28/2025	2106	199.4	293	72	222089.23	35.10
1/28/2025	2107	198.8	294	72	239572.96	35.12
1/28/2025	2108	198.1	295	72	237328.4	35.13

1/28/2025	2109	197.4	296	72	228226.5	35.15
1/28/2025	2110	196.8	296	72	243558.29	35.17
1/28/2025	2111	196.1	296	72	233963.77	35.18
1/28/2025	2112	195.5	295	72	225461.76	35.20
1/28/2025	2113	194.9	296	72	241640.87	35.22
1/28/2025	2114	194.3	294	72	232746.15	35.23
1/28/2025	2115	193.6	294	72	226761.04	35.25
1/28/2025	2116	193	295	72	244082.57	35.27
1/28/2025	2117	192.4	296	72	232825.43	35.28
1/28/2025	2118	191.8	295	72	244156.62	35.30
1/28/2025	2119	191.1	294	72	236318.61	35.32
1/28/2025	2120	190.5	294	72	219477.41	35.33
1/28/2025	2121	189.9	292	72	239861.15	35.35
1/28/2025	2122	189.2	292	72	226616.54	35.37
1/28/2025	2123	188.5	291	72	239646.81	35.38
1/28/2025	2124	188	291	72	237415.26	35.40
1/28/2025	2125	187.3	292	72	232215.72	35.42
1/28/2025	2126	186.6	291	72	239607.12	35.43
1/28/2025	2127	186.1	291	72	242265.06	35.45
1/28/2025	2128	185.4	290	72	230372.88	35.47
1/28/2025	2129	184.8	289	72	241570.12	35.48
1/28/2025	2130	184.1	289	72	232395.25	35.50
1/28/2025	2131	183.5	289	72	245791.91	35.52
1/28/2025	2132	182.8	290	72	231190.13	35.53
1/28/2025	2133	182.1	290	72	233437.68	35.55
1/28/2025	2134	181.6	290	72	243869.57	35.57
1/28/2025	2135	180.8	290	72	232279.91	35.58
1/28/2025	2136	180.2	291	72	237750.49	35.60
1/28/2025	2137	179.6	290	72	247435.93	35.62
1/28/2025	2138	179	289	72	230747.08	35.63
1/28/2025	2139	178.4	289	72	233139.6	35.65
1/28/2025	2140	177.8	287	72	237184.44	35.67
1/28/2025	2141	177.3	287	72	234223.5	35.68
1/28/2025	2142	176.6	287	72	232431.3	35.70
1/28/2025	2143	176	287	72	234365.18	35.72
1/28/2025	2144	175.4	287	72	226112.51	35.73
1/28/2025	2145	174.9	287	72	240615.25	35.75
1/28/2025	2146	174.2	287	72	237643.4	35.77
1/28/2025	2147	173.6	288	72	238078.13	35.78
1/28/2025	2148	173	288	72	235498.69	35.80
1/28/2025	2149	172.4	289	72	227004.78	35.82
1/28/2025	2150	171.8	290	72	222059.79	35.83
1/28/2025	2151	171.2	289	72	230830.07	35.85
1/28/2025	2152	170.6	288	72	246377.52	35.87
1/28/2025	2153	170	289	72	220550.17	35.88
1/28/2025	2154	169.4	288	72	242496.86	35.90
1/28/2025	2155	168.8	287	72	229514.96	35.92
1/28/2025	2156	168.2	287	72	228407.2	35.93
1/28/2025	2157	167.5	288	72	243618.25	35.95
1/28/2025	2158	166.9	289	72	227491.93	35.97
1/28/2025	2159	166.2	289	72	238108.56	35.98
1/28/2025	2160	165.7	289	72	243707.97	36.00
1/28/2025	2161	165	289	72	235197.08	36.02
1/28/2025	2162	164.3	289	72	237438.5	36.03
1/28/2025	2163	163.7	290	72	240654.89	36.05
1/28/2025	2164	163	290	72	230735.57	36.07
1/28/2025	2165	162.3	290	72	241745.71	36.08
1/28/2025	2166	161.6	290	72	241910.38	36.10
1/28/2025	2167	161	290	72	228771.24	36.12
1/28/2025	2168	160.3	290	72	240066.18	36.13
1/28/2025	2169	159.7	291	72	239086.84	36.15
1/28/2025	2170	159	289	72	230801.18	36.17
1/28/2025	2171	158.3	290	72	242123.27	36.18
1/28/2025	2172	157.6	290	72	235158.88	36.20

1/28/2025	2173	156.7	285	72	225099.83	36.22
1/28/2025	2174	318.4	271	72	241077.89	36.23
1/28/2025	2175	322.4	270	72	229550.86	36.25
1/28/2025	2176	321.2	277	72	37207.06	36.27
1/28/2025	2177	320.4	280	72	94596.49	36.28
1/28/2025	2178	319.6	281	72	120259.02	36.30
1/28/2025	2179	318.9	283	72	99000.69	36.32
1/28/2025	2180	318.2	284	72	86338.17	36.33
1/28/2025	2181	317.4	285	72	103576.71	36.35
1/28/2025	2182	316.7	286	72	94100.71	36.37
1/28/2025	2183	316	286	72	98330.06	36.38
1/28/2025	2184	315.2	287	72	55074.42	36.40
1/28/2025	2185	314.6	281	72	58227.54	36.42
1/28/2025	2186	314.2	269	72	60165.05	36.43
1/28/2025	2187	313.9	257	72	55403.42	36.45
1/28/2025	2188	313.7	247	72	55447.04	36.47
1/28/2025	2189	313.5	238	72	53755.87	36.48
1/28/2025	2190	313.3	230	72	52751.19	36.50
1/28/2025	2191	313	223	72	53796.46	36.52
1/28/2025	2192	313	217	72	170995.88	36.53
1/28/2025	2193	312.7	211	72	41094.53	36.55
1/28/2025	2194	312.6	201	72	43779.81	36.57
1/28/2025	2195	313.8	197	72	43206.28	36.58
1/28/2025	2196	312.2	194	72	43343.74	36.60
1/28/2025	2197	312.1	191	72	42759.12	36.62
1/28/2025	2198	311.9	189	72	42192.56	36.63
1/28/2025	2199	311.8	187	72	42209.65	36.65
1/28/2025	2200	311.7	184	72	41197.57	36.67
1/28/2025	2201	311.6	182	72	43894.66	36.68
1/28/2025	2202	311.5	181	72	43261.54	36.70
1/28/2025	2203	311.4	179	72	44422.4	36.72
1/28/2025	2204	311.4	177	72	42981.1	36.73
1/28/2025	2205	311.3	176	72	43078.78	36.75
1/28/2025	2206	307.4	187	72	35896.81	36.77
1/28/2025	2207	306.8	203	71	36469.07	36.78
1/28/2025	2208	306.1	218	72	38018.36	36.80
1/28/2025	2209	305.4	230	72	37464.87	36.82
1/28/2025	2210	304.6	241	72	38364.01	36.83
1/28/2025	2211	303.9	250	72	37742.24	36.85
1/28/2025	2212	303.1	256	72	38159.6	36.87
1/28/2025	2213	302.3	262	72	39000.3	36.88
1/28/2025	2214	301.5	266	71	38312.64	36.90
1/28/2025	2215	300.7	269	71	38688.74	36.92
1/28/2025	2216	299.9	272	71	38952.44	36.93
1/28/2025	2217	299.1	275	71	39403.39	36.95
1/28/2025	2218	298.3	277	71	39804.47	36.97
1/28/2025	2219	297.5	280	71	39088.09	36.98
1/28/2025	2220	296.8	281	71	39400.36	37.00
1/28/2025	2221	296	280	71	39861.92	37.02
1/28/2025	2222	295.2	281	71	37527.38	37.03
1/28/2025	2223	294.4	281	71	38382.99	37.05
1/28/2025	2224	293.8	281	71	41916.08	37.07
1/28/2025	2225	293	281	71	37970.95	37.08
1/28/2025	2226	292.3	282	71	39991.7	37.10
1/28/2025	2227	291.6	282	71	41449.69	37.12
1/28/2025	2228	290.8	282	71	40279.41	37.13
1/28/2025	2229	290	282	71	39659.9	37.15
1/28/2025	2230	289.4	282	71	39937.04	37.17
1/28/2025	2231	288.6	282	71	41962.18	37.18
1/28/2025	2232	287.9	283	72	40160.37	37.20
1/28/2025	2233	287.1	283	72	39505.34	37.22
1/28/2025	2234	286.4	283	72	40840.94	37.23
1/28/2025	2235	285.8	279	72	40856.74	37.25
1/28/2025	2236	285.3	266	72	38512.67	37.27

1/28/2025	2237	284.9	255	72	37969.45	37.28
1/28/2025	2238	284.7	244	72	37853.16	37.30
1/28/2025	2239	284.4	235	72	37365.24	37.32
1/28/2025	2240	284.1	227	71	40942.35	37.33
1/28/2025	2241	283.9	220	71	39394.2	37.35
1/28/2025	2242	283.7	213	71	39938.16	37.37
1/28/2025	2243	283.5	207	71	38380.71	37.38
1/28/2025	2244	283.5	202	71	38374.22	37.40
1/28/2025	2245	283.3	198	71	37898.87	37.42
1/28/2025	2246	283.2	194	71	37919.16	37.43
1/28/2025	2247	283.2	190	71	37895.23	37.45
1/28/2025	2248	283	187	71	38416.16	37.47
1/28/2025	2249	282.9	184	71	39561.94	37.48
1/28/2025	2250	282.9	182	71	38539.82	37.50
1/28/2025	2251	282.8	180	71	39066.63	37.52
1/28/2025	2252	282.7	178	71	38582.02	37.53
1/28/2025	2253	282.7	176	71	39132.52	37.55
1/28/2025	2254	279.5	181	71	34886.91	37.57
1/28/2025	2255	279	192	71	35416.5	37.58
1/28/2025	2256	278.4	204	71	38586.79	37.60
1/28/2025	2257	277.8	215	71	38009.94	37.62
1/28/2025	2258	277.2	226	71	36374.86	37.63
1/28/2025	2259	276.6	235	71	36677.28	37.65
1/28/2025	2260	275.9	243	71	36580.11	37.67
1/28/2025	2261	275.2	250	71	35028.89	37.68
1/28/2025	2262	274.5	256	71	37507.45	37.70
1/28/2025	2263	273.8	261	71	38478.83	37.72
1/28/2025	2264	272.9	266	71	36108.16	37.73
1/28/2025	2265	272.1	270	71	37576.3	37.75
1/28/2025	2266	271.4	273	71	37397.87	37.77
1/28/2025	2267	270.6	276	71	37776.69	37.78
1/28/2025	2268	269.8	279	71	38714.99	37.80
1/28/2025	2269	269	280	71	36339.16	37.82
1/28/2025	2270	268.3	280	71	42638.43	37.83
1/28/2025	2271	267.4	281	71	39225.03	37.85
1/28/2025	2272	266.6	281	71	37924.38	37.87
1/28/2025	2273	265.9	282	71	37327.04	37.88
1/28/2025	2274	265	281	71	39271.98	37.90
1/28/2025	2275	264.3	282	71	38581.86	37.92
1/28/2025	2276	263.4	283	71	38514.8	37.93
1/28/2025	2277	262.7	283	71	40322.11	37.95
1/28/2025	2278	261.8	283	71	37061.48	37.97
1/28/2025	2279	261	284	71	36983.65	37.98
1/28/2025	2280	260.3	284	71	36728.78	38.00
1/28/2025	2281	259.5	284	71	38080.25	38.02
1/28/2025	2282	258.6	285	71	39032.09	38.03
1/28/2025	2283	257.8	285	71	39440.1	38.05
1/28/2025	2284	257.1	283	71	40826.95	38.07
1/28/2025	2285	256.6	270	71	37522.23	38.08
1/28/2025	2286	256.2	258	71	38563.73	38.10
1/28/2025	2287	255.9	247	71	38989.25	38.12
1/28/2025	2288	255.6	238	71	36874.98	38.13
1/28/2025	2289	255.3	230	71	36717.56	38.15
1/28/2025	2290	255.1	222	71	37299.58	38.17
1/28/2025	2291	254.8	215	71	38436.67	38.18
1/28/2025	2292	254.7	209	71	38337.52	38.20
1/28/2025	2293	254.5	204	71	37272.06	38.22
1/28/2025	2294	254.4	199	71	37305.81	38.23
1/28/2025	2295	254.2	195	71	36857.49	38.25
1/28/2025	2296	254.1	192	71	35796.36	38.27
1/28/2025	2297	254	189	71	35801.53	38.28
1/28/2025	2298	253.8	186	71	36805.86	38.30
1/28/2025	2299	253.7	183	71	37880.57	38.32
1/28/2025	2300	253.7	181	71	38478.86	38.33

1/28/2025	2301	253.6	179	71	36966.08	38.35
1/28/2025	2302	253.5	177	71	37983.4	38.37
1/28/2025	2303	253.5	175	71	38081.19	38.38
1/28/2025	2304	250.2	183	71	33786.7	38.40
1/28/2025	2305	249.7	194	71	35955.09	38.42
1/28/2025	2306	249.1	206	71	36447.7	38.43
1/28/2025	2307	248.6	217	71	38457.19	38.45
1/28/2025	2308	248	227	71	35224.27	38.47
1/28/2025	2309	247.4	235	71	36278.7	38.48
1/28/2025	2310	246.7	242	71	36534.25	38.50
1/28/2025	2311	246	248	71	37025.55	38.52
1/28/2025	2312	245.4	254	71	36381.5	38.53
1/28/2025	2313	244.6	259	71	35674.06	38.55
1/28/2025	2314	243.9	263	71	37189.51	38.57
1/28/2025	2315	243.1	267	71	37515.56	38.58
1/28/2025	2316	242.3	271	71	36892.65	38.60
1/28/2025	2317	241.6	274	71	36687.6	38.62
1/28/2025	2318	240.8	277	71	36499.02	38.63
1/28/2025	2319	240	280	71	39614.8	38.65
1/28/2025	2320	239.2	283	71	38871.55	38.67
1/28/2025	2321	238.4	284	71	38753.11	38.68
1/28/2025	2322	237.6	286	71	36955.06	38.70
1/28/2025	2323	236.8	288	71	39486.38	38.72
1/28/2025	2324	236	288	71	39860.47	38.73
1/28/2025	2325	235.2	289	71	38621.67	38.75
1/28/2025	2326	234.4	290	71	37929.69	38.77
1/28/2025	2327	233.6	290	71	38170.41	38.78
1/28/2025	2328	232.8	290	71	38549.29	38.80
1/28/2025	2329	232	289	71	38395.42	38.82
1/28/2025	2330	231.4	289	71	37659.99	38.83
1/28/2025	2331	230.6	289	71	39126.09	38.85
1/28/2025	2332	229.7	290	71	39503.09	38.87
1/28/2025	2333	229	290	71	37734.93	38.88
1/28/2025	2334	228.4	279	71	39167.45	38.90
1/28/2025	2335	227.9	266	71	38657.12	38.92
1/28/2025	2336	227.6	254	71	37496.75	38.93
1/28/2025	2337	227.1	244	71	38555.94	38.95
1/28/2025	2338	226.9	235	71	36947.59	38.97
1/28/2025	2339	226.6	227	71	37396.47	38.98
1/28/2025	2340	226.5	219	71	38416.16	39.00
1/28/2025	2341	226.2	212	71	38904.9	39.02
1/28/2025	2342	226.1	207	71	38421.83	39.03
1/28/2025	2343	225.9	202	71	38468.52	39.05
1/28/2025	2344	225.8	197	71	37343.23	39.07
1/28/2025	2345	225.6	194	71	37940.7	39.08
1/28/2025	2346	225.6	190	71	36900.23	39.10
1/28/2025	2347	225.5	187	71	37924.24	39.12
1/28/2025	2348	225.3	185	71	37483.64	39.13
1/28/2025	2349	225.3	182	71	37997.81	39.15
1/28/2025	2350	225.2	180	71	35968.97	39.17
1/28/2025	2351	225.1	178	71	36967.07	39.18
1/28/2025	2352	225.1	176	71	36440.6	39.20
1/28/2025	2353	222	183	71	36950.71	39.22
1/28/2025	2354	221.6	197	71	36996.68	39.23
1/28/2025	2355	221	212	71	36296.55	39.25
1/28/2025	2356	220.4	225	71	35183.18	39.27
1/28/2025	2357	219.8	235	71	37744.32	39.28
1/28/2025	2358	219.1	244	71	35554.67	39.30
1/28/2025	2359	218.5	251	71	35355.41	39.32
1/28/2025	2360	217.9	257	71	36896.16	39.33
1/28/2025	2361	217.3	261	71	36163.51	39.35
1/28/2025	2362	216.6	264	71	36709.85	39.37
1/28/2025	2363	215.9	268	71	39540.33	39.38
1/28/2025	2364	215.3	271	71	40565.93	39.40

1/28/2025	2365	214.5	275	71	37673.32	39.42
1/28/2025	2366	213.7	278	71	38583.01	39.43
1/28/2025	2367	212.9	280	71	38428.95	39.45
1/28/2025	2368	212.2	282	71	37627.65	39.47
1/28/2025	2369	211.5	282	71	38003.51	39.48
1/28/2025	2370	210.8	281	71	39485.55	39.50
1/28/2025	2371	210	280	71	37653.11	39.52
1/28/2025	2372	209.2	280	71	38544.17	39.53
1/28/2025	2373	208.4	281	71	38956.25	39.55
1/28/2025	2374	207.7	281	71	37314.27	39.57
1/28/2025	2375	206.9	281	71	39135.38	39.58
1/28/2025	2376	206.2	282	71	38991.98	39.60
1/28/2025	2377	205.5	282	71	39357.56	39.62
1/28/2025	2378	204.8	283	71	39206.3	39.63
1/28/2025	2379	203.9	284	71	37975.01	39.65
1/28/2025	2380	203.3	285	71	37388.25	39.67
1/28/2025	2381	202.5	285	71	41361.09	39.68
1/28/2025	2382	201.9	285	71	38042.08	39.70
1/28/2025	2383	201.3	272	71	39023.91	39.72
1/28/2025	2384	200.8	260	71	37891.31	39.73
1/28/2025	2385	200.3	249	71	37727.4	39.75
1/28/2025	2386	200.2	240	71	37760.71	39.77
1/28/2025	2387	199.8	231	71	38243.78	39.78
1/28/2025	2388	199.6	223	71	37641.46	39.80
1/28/2025	2389	199.4	216	71	37552.64	39.82
1/28/2025	2390	199.2	210	71	36003.77	39.83
1/28/2025	2391	199	204	71	36041.86	39.85
1/28/2025	2392	198.8	199	71	36605.38	39.87
1/28/2025	2393	198.7	196	71	36715.26	39.88
1/28/2025	2394	198.6	192	71	37768.48	39.90
1/28/2025	2395	198.4	189	71	37681.31	39.92
1/28/2025	2396	198.3	186	71	38258.23	39.93
1/28/2025	2397	198.2	184	71	37711.82	39.95
1/28/2025	2398	198.2	181	71	36784.25	39.97
1/28/2025	2399	198	179	71	37311.04	39.98
1/28/2025	2400	198	178	71	37294.06	40.00
1/28/2025	2401	197.9	176	71	37320.52	40.02
1/28/2025	2402	195.2	177	70	33715.77	40.03
1/28/2025	2403	194.7	194	71	35335.78	40.05
1/28/2025	2404	194.1	210	71	34213.55	40.07
1/28/2025	2405	193.5	224	71	36822.35	40.08
1/28/2025	2406	192.8	235	71	36236.63	40.10
1/28/2025	2407	192.2	244	71	35600.48	40.12
1/28/2025	2408	191.5	252	71	35949.23	40.13
1/28/2025	2409	190.8	258	71	36892.58	40.15
1/28/2025	2410	190.1	263	71	36245.74	40.17
1/28/2025	2411	189.3	267	71	36113.64	40.18
1/28/2025	2412	188.6	270	71	35983.09	40.20
1/28/2025	2413	187.8	273	71	37509.18	40.22
1/28/2025	2414	187.1	275	71	38828.05	40.23
1/28/2025	2415	186.4	278	71	35501.17	40.25
1/28/2025	2416	185.6	281	71	38508.16	40.27
1/28/2025	2417	184.8	283	71	40973.07	40.28
1/28/2025	2418	184.1	285	71	35000.4	40.30
1/28/2025	2419	183.3	287	71	40027.48	40.32
1/28/2025	2420	182.5	287	71	38862.65	40.33
1/28/2025	2421	181.8	287	71	37628.14	40.35
1/28/2025	2422	181.1	287	71	37898.16	40.37
1/28/2025	2423	180.4	287	71	38741.43	40.38
1/28/2025	2424	179.6	288	71	39212.11	40.40
1/28/2025	2425	178.9	288	71	36767.07	40.42
1/28/2025	2426	178.1	288	71	37219.69	40.43
1/28/2025	2427	177.2	289	71	37590.29	40.45
1/28/2025	2428	176.6	288	71	37344.79	40.47

1/28/2025	2429	175.7	288	71	36618.76	40.48
1/28/2025	2430	175	289	71	43513.96	40.50
1/28/2025	2431	174.2	287	71	37975.29	40.52
1/28/2025	2432	173.7	274	71	37260.66	40.53
1/28/2025	2433	173.4	262	71	38854.52	40.55
1/28/2025	2434	173	250	71	38143.33	40.57
1/28/2025	2435	172.8	240	71	38647.72	40.58
1/28/2025	2436	172.5	232	71	37638.52	40.60
1/28/2025	2437	172.3	224	71	37507.92	40.62
1/28/2025	2438	172.1	216	71	37081.53	40.63
1/28/2025	2439	171.9	210	71	38105.6	40.65
1/28/2025	2440	171.8	205	71	36546.39	40.67
1/28/2025	2441	171.6	200	71	38189.61	40.68
1/28/2025	2442	171.4	196	71	37094.01	40.70
1/28/2025	2443	171.3	192	71	36654.9	40.72
1/28/2025	2444	171.3	189	71	37694.64	40.73
1/28/2025	2445	171.1	187	71	37216.6	40.75
1/28/2025	2446	171	184	71	37681.99	40.77
1/28/2025	2447	170.9	182	71	38180.63	40.78
1/28/2025	2448	170.8	180	71	37842	40.80
1/28/2025	2449	170.7	178	71	37263.12	40.82
1/28/2025	2450	170.6	176	71	37331.19	40.83
1/28/2025	2451	170.6	175	71	36182.22	40.85
1/28/2025	2452	166.9	182	71	150181.74	40.87
1/28/2025	2453	166.3	201	71	160568.4	40.88
1/28/2025	2454	165.7	218	71	148749.44	40.90
1/28/2025	2455	165.1	232	70	162251.26	40.92
1/28/2025	2456	164.4	243	70	154475.65	40.93
1/28/2025	2457	163.8	251	70	151241.06	40.95
1/28/2025	2458	163.2	258	70	164465.08	40.97
1/28/2025	2459	162.6	263	70	160092.28	40.98
1/28/2025	2460	161.9	268	70	158193.63	41.00
1/28/2025	2461	161	272	70	153946.23	41.02
1/28/2025	2462	160.2	274	70	162834.19	41.03
1/28/2025	2463	159.5	275	70	155901.62	41.05
1/28/2025	2464	158.7	277	70	152186.1	41.07
1/28/2025	2465	158	279	70	168187.69	41.08
1/28/2025	2466	157.2	280	70	167482.6	41.10
1/28/2025	2467	156.4	281	70	162103.24	41.12
1/28/2025	2468	155.7	282	70	160692	41.13
1/28/2025	2469	154.9	282	70	163742.24	41.15
1/28/2025	2470	154.1	283	70	164657.97	41.17
1/28/2025	2471	153.4	284	70	171854.44	41.18
1/28/2025	2472	152.6	285	70	165477.64	41.20
1/28/2025	2473	151.8	285	70	166776.52	41.22
1/29/2025	2474	150.4	285	70	167516.45	41.23
1/29/2025	2475	149.7	285	70	170372.98	41.25
1/29/2025	2476	148.9	285	70	162742.19	41.27
1/29/2025	2477	148.2	285	70	173569.06	41.28
1/29/2025	2478	147.4	285	70	165506.35	41.30
1/29/2025	2479	146.7	285	70	167964.04	41.32
1/29/2025	2480	145.9	284	70	171924.86	41.33
1/29/2025	2481	145.2	283	70	163010.44	41.35
1/29/2025	2482	144.4	283	70	168117.66	41.37
1/29/2025	2483	143.7	282	71	177672.09	41.38
1/29/2025	2484	143	283	71	169749.1	41.40
1/29/2025	2485	142.2	283	71	170341.6	41.42
1/29/2025	2486	141.5	282	71	180503.66	41.43
1/29/2025	2487	140.8	283	71	169411.56	41.45
1/29/2025	2488	140	283	71	153952.76	41.47
1/29/2025	2489	139.3	283	71	171688.95	41.48
1/29/2025	2490	138.6	283	71	167122.48	41.50
1/29/2025	2491	137.8	283	71	177339.44	41.52
1/29/2025	2492	137.1	283	71	173089.74	41.53

1/29/2025	2493	136.3	284	71	171418.92	41.55
1/29/2025	2494	135.6	284	71	179190.6	41.57
1/29/2025	2495	134.8	285	71	168330.53	41.58
1/29/2025	2496	134.2	285	71	169929.89	41.60
1/29/2025	2497	133.4	286	71	171811.37	41.62
1/29/2025	2498	132.7	286	71	172137.25	41.63
1/29/2025	2499	131.9	286	71	171343.66	41.65
1/29/2025	2500	131.1	287	71	173927.43	41.67
1/29/2025	2501	130.4	287	71	176238.62	41.68
1/29/2025	2502	129.8	287	71	173114.08	41.70
1/29/2025	2503	128.9	287	71	163693.45	41.72
1/29/2025	2504	128.2	287	71	180095.41	41.73
1/29/2025	2505	127.6	288	71	168159.03	41.75
1/29/2025	2506	126.9	288	71	171465.14	41.77
1/29/2025	2507	126.2	288	71	182241.78	41.78
1/29/2025	2508	125.5	289	71	167536.32	41.80
1/29/2025	2509	124.8	289	71	182701.46	41.82
1/29/2025	2510	124.1	289	71	171608.75	41.83
1/29/2025	2511	123.4	289	71	177730.59	41.85
1/29/2025	2512	122.8	289	71	169507.64	41.87
1/29/2025	2513	122.1	289	71	177628.96	41.88
1/29/2025	2514	121.3	289	71	186931.15	41.90
1/29/2025	2515	120.7	290	71	178092.04	41.92
1/29/2025	2516	120.1	290	71	170868.74	41.93
1/29/2025	2517	119.3	290	71	180886.65	41.95
1/29/2025	2518	118.7	290	71	179560.75	41.97
1/29/2025	2519	118.1	290	71	177056.42	41.98
1/29/2025	2520	117.4	290	71	181818.9	42.00
1/29/2025	2521	116.7	291	71	166432.05	42.02
1/29/2025	2522	116.2	291	71	186380.22	42.03
1/29/2025	2523	115.5	291	71	180886.21	42.05
1/29/2025	2524	114.8	291	71	170881.42	42.07
1/29/2025	2525	114.2	292	71	178890.58	42.08
1/29/2025	2526	113.5	291	71	178158.89	42.10
1/29/2025	2527	112.9	293	71	174339.19	42.12
1/29/2025	2528	112.2	294	71	179453.1	42.13
1/29/2025	2529	111.6	295	71	183016.7	42.15
1/29/2025	2530	110.9	294	71	181243.4	42.17
1/29/2025	2531	110.4	293	71	171011.5	42.18
1/29/2025	2532	109.8	294	71	194391.36	42.20
1/29/2025	2533	109.2	295	71	185119.56	42.22
1/29/2025	2534	108.5	294	71	176029.71	42.23
1/29/2025	2535	107.9	294	71	190074.19	42.25
1/29/2025	2536	107.2	293	71	177517.79	42.27
1/29/2025	2537	106.7	293	71	176834.35	42.28
1/29/2025	2538	106	293	71	200697.93	42.30
1/29/2025	2539	105.4	293	71	180634.66	42.32
1/29/2025	2540	104.9	292	71	187304.34	42.33
1/29/2025	2541	104.5	283	71	187567.21	42.35
1/29/2025	2542	104.1	270	71	173458.34	42.37
1/29/2025	2543	103.8	258	71	194699.02	42.38
1/29/2025	2544	103.6	247	71	183730.16	42.40
1/29/2025	2545	103.5	239	71	177386.1	42.42
1/29/2025	2546	103.3	231	71	170502.56	42.43
1/29/2025	2547	103.1	223	71	189664.41	42.45
1/29/2025	2548	103	217	71	174915.44	42.47
1/29/2025	2549	102.9	211	71	182293.67	42.48
1/29/2025	2550	102.9	206	71	179209.15	42.50
1/29/2025	2551	102.8	201	71	185761.77	42.52
1/29/2025	2552	102.7	197	70	173705.77	42.53
1/29/2025	2553	102.5	194	70	178530.68	42.55
1/29/2025	2554	102.5	191	70	175739.88	42.57
1/29/2025	2555	102.5	188	70	325551.89	42.58
1/29/2025	2556	102.4	185	71	190779.08	42.60

1/29/2025	2557	102.4	183	71	247758.01	42.62
1/29/2025	2558	102.5	180	71	274448.15	42.63
1/29/2025	2559	102.4	178	71	247272.16	42.65
1/29/2025	2560	102.4	176	71	266628.31	42.67
1/29/2025	2561	101.9	184	71	244362.8	42.68
1/29/2025	2562	101.4	205	71	253295.59	42.70
1/29/2025	2563	100.9	221	71	245542.36	42.72
1/29/2025	2564	100.4	234	71	243373.74	42.73
1/29/2025	2565	99.9	244	71	241814.72	42.75
1/29/2025	2566	99.4	252	71	223264.72	42.77
1/29/2025	2567	98.9	258	71	243192.23	42.78
1/29/2025	2568	98.3	263	71	235436.88	42.80
1/29/2025	2569	97.7	268	71	248848.91	42.82
1/29/2025	2570	97.1	273	71	238450.01	42.83
1/29/2025	2571	96.4	276	71	232276.75	42.85
1/29/2025	2572	95.8	279	71	247631.08	42.87
1/29/2025	2573	95.1	278	71	235599.64	42.88
1/29/2025	2574	94.5	277	71	245754.63	42.90
1/29/2025	2575	93.9	276	71	238079.38	42.92
1/29/2025	2576	93.2	276	71	244330.93	42.93
1/29/2025	2577	92.6	276	71	243044.06	42.95
1/29/2025	2578	91.9	276	71	231571.29	42.97
1/29/2025	2579	91.3	277	71	250076.29	42.98
1/29/2025	2580	90.6	277	71	236665.16	43.00
1/29/2025	2581	89.9	277	71	241879.4	43.02
1/29/2025	2582	89.3	277	71	247203.3	43.03
1/29/2025	2583	88.6	277	71	231344.11	43.05
1/29/2025	2584	88	277	71	251721.08	43.07
1/29/2025	2585	87.4	277	71	236247.23	43.08
1/29/2025	2586	86.8	276	71	231925.23	43.10
1/29/2025	2587	86.1	276	71	249209.87	43.12
1/29/2025	2588	85.5	275	71	220903.24	43.13
1/29/2025	2589	84.9	276	71	251013.38	43.15
1/29/2025	2590	84.3	277	71	237704.49	43.17
1/29/2025	2591	83.7	277	71	234928.31	43.18
1/29/2025	2592	83.1	278	71	242623.02	43.20
1/29/2025	2593	82.6	278	71	245230.6	43.22
1/29/2025	2594	82	278	71	234251.49	43.23
1/29/2025	2595	81.4	278	71	248042.5	43.25
1/29/2025	2596	80.8	278	71	238469.41	43.27
1/29/2025	2597	80.2	278	71	229358.51	43.28
1/29/2025	2598	79.7	278	71	250890.06	43.30
1/29/2025	2599	79.1	278	71	222342.11	43.32
1/29/2025	2600	78.6	278	71	249526.89	43.33
1/29/2025	2601	78.1	278	71	241568.82	43.35
1/29/2025	2602	77.5	278	71	227714.09	43.37
1/29/2025	2603	77	278	71	244700.68	43.38
1/29/2025	2604	76.4	278	71	151056.68	43.40
1/29/2025	2605	75.8	277	71	116666.43	43.42
1/29/2025	2606	75.2	277	71	118797.7	43.43
1/29/2025	2607	74.7	278	71	117826.48	43.45
1/29/2025	2608	74.2	277	71	108558.48	43.47
1/29/2025	2609	73.7	278	71	114525.87	43.48
1/29/2025	2610	73.2	278	71	118067.96	43.50
1/29/2025	2611	72.7	278	71	113998.3	43.52
1/29/2025	2612	72.2	278	71	108019.72	43.53
1/29/2025	2613	71.8	278	71	117415.17	43.55
1/29/2025	2614	71.3	279	71	115587.41	43.57
1/29/2025	2615	70.8	279	71	109081.24	43.58
1/29/2025	2616	70.3	279	71	110194.71	43.60
1/29/2025	2617	69.9	280	71	111983.77	43.62
1/29/2025	2618	69.5	281	71	108168.6	43.63
1/29/2025	2619	69	281	71	113420.86	43.65
1/29/2025	2620	68.5	281	71	110921.54	43.67

1/29/2025	2621	68.1	282	71	110170.29	43.68
1/29/2025	2622	67.6	282	70	111220.12	43.70
1/29/2025	2623	67.2	283	71	106893.11	43.72
1/29/2025	2624	66.8	283	71	107404.02	43.73
1/29/2025	2625	66.3	285	70	112839.31	43.75
1/29/2025	2626	65.8	286	70	112973.08	43.77
1/29/2025	2627	65.3	287	71	112535.76	43.78
1/29/2025	2628	64.8	287	71	105139.11	43.80
1/29/2025	2629	64.3	288	71	115343.07	43.82
1/29/2025	2630	63.9	289	71	113063.33	43.83
1/29/2025	2631	63.5	290	71	109442.63	43.85
1/29/2025	2632	63	290	70	114103.35	43.87
1/29/2025	2633	62.6	291	70	114064.97	43.88
1/29/2025	2634	62.2	292	70	111983.68	43.90
1/29/2025	2635	61.8	292	70	109552.96	43.92
1/29/2025	2636	61.3	292	70	115259.98	43.93
1/29/2025	2637	60.9	293	71	112777.62	43.95
1/29/2025	2638	60.4	294	71	113993.1	43.97
1/29/2025	2639	60.1	287	70	111588.13	43.98
1/29/2025	2640	60	273	70	101394.41	44.00
1/29/2025	2641	59.8	261	70	117126.66	44.02
1/29/2025	2642	59.7	249	70	112099.58	44.03
1/29/2025	2643	59.7	240	71	107382.07	44.05
1/29/2025	2644	59.7	232	71	115841.72	44.07
1/29/2025	2645	59.8	225	71	105465.57	44.08
1/29/2025	2646	59.6	219	71	110207.29	44.10
1/29/2025	2647	63.9	214	71	110297.79	44.12
1/29/2025	2648	54.4	209	71	104993.84	44.13
1/29/2025	2649	59.6	204	71	106910.04	44.15
1/29/2025	2650	59.5	200	71	108013.32	44.17
1/29/2025	2651	59.7	196	71	294591.04	44.18
1/29/2025	2652	59.7	193	71	280129.99	44.20
1/29/2025	2653	59.7	190	71	275047.6	44.22
1/29/2025	2654	59.7	187	71	289078.13	44.23
1/29/2025	2655	59.8	184	71	272326.05	44.25
1/29/2025	2656	59.8	182	71	286325.05	44.27
1/29/2025	2657	59.8	180	71	276935.77	44.28
1/29/2025	2658	59.7	177	71	254388.11	44.30
1/29/2025	2659	59.8	175	71	276660.81	44.32
1/29/2025	2660	59.5	175	71	235890.88	44.33
1/29/2025	2661	59.5	189	71	260704.73	44.35
1/29/2025	2662	59.1	206	71	258218.62	44.37
1/29/2025	2663	58.5	222	71	246301.38	44.38
1/29/2025	2664	57.9	234	71	213446.27	44.40
1/29/2025	2665	57.4	245	71	196534.75	44.42
1/29/2025	2666	57	252	71	206407.3	44.43
1/29/2025	2667	56.6	259	71	206644.52	44.45
1/29/2025	2668	56.2	263	71	201165.26	44.47
1/29/2025	2669	55.8	267	71	206773.05	44.48
1/29/2025	2670	55.3	270	71	203228.72	44.50
1/29/2025	2671	54.9	272	71	191242.07	44.52
1/29/2025	2672	54.4	275	71	210062.67	44.53
1/29/2025	2673	54	277	71	206499.72	44.55
1/29/2025	2674	53.5	278	71	208044.82	44.57
1/29/2025	2675	53.1	279	71	206168.15	44.58
1/29/2025	2676	52.7	280	71	209588.76	44.60
1/29/2025	2677	72.1	275	71	196648.57	44.62
1/29/2025	2678	238.2	259	71	210226.12	44.63
1/29/2025	2679	299.3	257	71	204955.05	44.65
1/29/2025	2680	298.6	262	71	205227.14	44.67
1/29/2025	2681	298.1	263	71	212973.78	44.68
1/29/2025	2682	297.4	264	71	206540.01	44.70
1/29/2025	2683	296.8	265	71	209155.88	44.72
1/29/2025	2684	296.2	266	71	199857.81	44.73

1/29/2025	2685	295.5	266	71	211739.11	44.75
1/29/2025	2686	294.8	266	71	188230.65	44.77
1/29/2025	2687	294.2	266	71	209967.86	44.78
1/29/2025	2688	293.6	266	71	204688.65	44.80
1/29/2025	2689	292.9	267	71	209210.57	44.82
1/29/2025	2690	292.2	267	71	199666.11	44.83
1/29/2025	2691	291.6	267	71	198949.6	44.85
1/29/2025	2692	291	267	71	209887.94	44.87
1/29/2025	2693	290.3	267	71	199402.56	44.88
1/29/2025	2694	289.6	266	71	216121.55	44.90
1/29/2025	2695	289	266	71	207828.03	44.92
1/29/2025	2696	288.4	266	71	191372.36	44.93
1/29/2025	2697	287.8	266	71	210619.87	44.95
1/29/2025	2698	287.1	266	71	191835.15	44.97
1/29/2025	2699	286.4	267	71	213202.74	44.98
1/29/2025	2700	285.8	267	71	204067.35	45.00
1/29/2025	2701	285	268	71	207291.64	45.02
1/29/2025	2702	284.5	267	71	209708.76	45.03
1/29/2025	2703	283.8	268	71	199657.34	45.05
1/29/2025	2704	283.2	268	71	202965.97	45.07
1/29/2025	2705	282.5	269	71	212965.62	45.08
1/29/2025	2706	281.8	270	71	186923.82	45.10
1/29/2025	2707	281.2	271	71	210880.6	45.12
1/29/2025	2708	280.5	272	71	195147.58	45.13
1/29/2025	2709	279.8	274	71	208037.23	45.15
1/29/2025	2710	279.2	275	71	203373.07	45.17
1/29/2025	2711	278.5	275	71	196760.81	45.18
1/29/2025	2712	277.9	276	71	207930.04	45.20
1/29/2025	2713	277.2	275	71	206766.98	45.22
1/29/2025	2714	276.5	276	71	197230.47	45.23
1/29/2025	2715	276	275	71	207675.85	45.25
1/29/2025	2716	275.3	274	71	210621.77	45.27
1/29/2025	2717	274.7	273	71	202331.5	45.28
1/29/2025	2718	274.1	273	71	199878.73	45.30
1/29/2025	2719	273.4	271	71	194101	45.32
1/29/2025	2720	272.8	272	71	211042.93	45.33
1/29/2025	2721	272.3	270	71	196717.62	45.35
1/29/2025	2722	271.6	271	71	206046.19	45.37
1/29/2025	2723	271	270	71	195728.44	45.38
1/29/2025	2724	270.4	270	71	207963.13	45.40
1/29/2025	2725	269.8	270	71	194379.13	45.42
1/29/2025	2726	269.2	269	71	208392.13	45.43
1/29/2025	2727	268.5	269	71	202758.27	45.45
1/29/2025	2728	268	269	71	210772.32	45.47
1/29/2025	2729	267.3	269	71	203297.85	45.48
1/29/2025	2730	266.6	269	71	204980.82	45.50
1/29/2025	2731	266	270	71	200224.28	45.52
1/29/2025	2732	265.3	270	71	196858.26	45.53
1/29/2025	2733	264.7	271	71	206112.21	45.55
1/29/2025	2734	264.1	271	71	203978.08	45.57
1/29/2025	2735	263.4	271	71	209395.72	45.58
1/29/2025	2736	262.8	271	71	201549.7	45.60
1/29/2025	2737	262.2	271	71	200617.33	45.62
1/29/2025	2738	261.5	271	71	203314.45	45.63
1/29/2025	2739	260.9	271	71	207840.46	45.65
1/29/2025	2740	260.3	271	71	189949.71	45.67
1/29/2025	2741	259.7	272	71	210703.6	45.68
1/29/2025	2742	259	272	71	203531.47	45.70
1/29/2025	2743	258.4	273	72	197476.66	45.72
1/29/2025	2744	257.7	273	72	208077.66	45.73
1/29/2025	2745	257.1	273	72	210319.55	45.75
1/29/2025	2746	256.5	273	72	200023.97	45.77
1/29/2025	2747	255.9	273	72	205754.84	45.78
1/29/2025	2748	255.3	273	72	204251.78	45.80

1/29/2025	2749	254.6	273	72	194186.68	45.82
1/29/2025	2750	254.1	272	72	209281.82	45.83
1/29/2025	2751	253.4	273	72	204606.09	45.85
1/29/2025	2752	252.8	273	72	187732.57	45.87
1/29/2025	2753	252.2	273	72	205102.43	45.88
1/29/2025	2754	251.6	274	72	205457.31	45.90
1/29/2025	2755	250.9	273	72	188957.01	45.92
1/29/2025	2756	250.3	274	72	201606.64	45.93
1/29/2025	2757	249.7	275	72	204724.86	45.95
1/29/2025	2758	249.1	275	72	201178.92	45.97
1/29/2025	2759	248.5	275	72	206750.95	45.98
1/29/2025	2760	247.9	276	72	202173.81	46.00
1/29/2025	2761	247.2	275	72	202820.69	46.02
1/29/2025	2762	246.6	276	72	205123.89	46.03
1/29/2025	2763	245.9	276	72	191804.23	46.05
1/29/2025	2764	245.3	276	72	210117.64	46.07
1/29/2025	2765	244.6	277	72	203713.02	46.08
1/29/2025	2766	244	276	72	199143.98	46.10
1/29/2025	2767	243.3	277	72	210754.1	46.12
1/29/2025	2768	242.7	276	72	174587.68	46.13
1/29/2025	2769	242.1	277	72	208139.79	46.15
1/29/2025	2770	241.4	277	72	202263.53	46.17
1/29/2025	2771	240.8	278	72	192420.79	46.18
1/29/2025	2772	240.2	278	72	205796.78	46.20
1/29/2025	2773	239.5	278	72	195889.47	46.22
1/29/2025	2774	238.9	278	72	202559.8	46.23
1/29/2025	2775	238.3	278	72	205187.13	46.25
1/29/2025	2776	237.7	278	72	200563.2	46.27
1/29/2025	2777	237	279	72	207797.22	46.28
1/29/2025	2778	236.3	279	72	207944.42	46.30
1/29/2025	2779	235.6	280	72	199005.93	46.32
1/29/2025	2780	235	280	72	208142.86	46.33
1/29/2025	2781	234.3	281	72	192014.83	46.35
1/29/2025	2782	233.6	281	72	208252.78	46.37
1/29/2025	2783	232.9	281	72	207518.07	46.38
1/29/2025	2784	232.2	282	72	204873.55	46.40
1/29/2025	2785	231.6	282	72	207599.87	46.42
1/29/2025	2786	230.9	282	72	203533.34	46.43
1/29/2025	2787	230.3	283	72	209758.53	46.45
1/29/2025	2788	229.6	282	72	205659.56	46.47
1/29/2025	2789	228.9	282	72	201328.45	46.48
1/29/2025	2790	228.3	283	72	204946.75	46.50
1/29/2025	2791	227.6	283	72	194171.64	46.52
1/29/2025	2792	226.9	282	72	202023.22	46.53
1/29/2025	2793	226.3	281	72	206605.28	46.55
1/29/2025	2794	225.6	281	72	195076.55	46.57
1/29/2025	2795	224.9	282	72	206577.12	46.58
1/29/2025	2796	224.3	282	72	196478.55	46.60
1/29/2025	2797	223.6	281	72	211534.1	46.62
1/29/2025	2798	222.9	281	72	211159.42	46.63
1/29/2025	2799	222.2	282	72	202812.43	46.65
1/29/2025	2800	221.7	282	72	201483.19	46.67
1/29/2025	2801	221.1	281	72	200099.86	46.68
1/29/2025	2802	220.4	282	72	211352.35	46.70
1/29/2025	2803	219.7	282	72	210352.34	46.72
1/29/2025	2804	219.1	282	72	203578.23	46.73
1/29/2025	2805	218.5	282	72	206634.28	46.75
1/29/2025	2806	217.9	282	72	203974.2	46.77
1/29/2025	2807	217.3	281	72	197896.07	46.78
1/29/2025	2808	216.6	282	72	210003.41	46.80
1/29/2025	2809	215.9	282	72	204325.86	46.82
1/29/2025	2810	215.3	283	72	197353.04	46.83
1/29/2025	2811	214.6	283	72	209919.76	46.85
1/29/2025	2812	214	282	72	204511.66	46.87

1/29/2025	2813	213.3	282	72	197393	46.88
1/29/2025	2814	212.7	283	72	200305.02	46.90
1/29/2025	2815	212	283	71	212435.44	46.92
1/29/2025	2816	211.4	283	71	192900.75	46.93
1/29/2025	2817	210.7	284	71	204260.39	46.95
1/29/2025	2818	210	283	72	193932.22	46.97
1/29/2025	2819	209.3	284	71	210266.34	46.98
1/29/2025	2820	208.7	283	71	207881.97	47.00
1/29/2025	2821	208	284	71	196905.88	47.02
1/29/2025	2822	207.4	284	71	209757.86	47.03
1/29/2025	2823	206.7	284	71	202380.33	47.05
1/29/2025	2824	206.1	284	71	212214.93	47.07
1/29/2025	2825	205.4	283	71	197399.1	47.08
1/29/2025	2826	204.6	284	71	213182.93	47.10
1/29/2025	2827	203.9	285	71	202209.19	47.12
1/29/2025	2828	203.2	285	71	202334.12	47.13
1/29/2025	2829	202.6	285	71	209161.71	47.15
1/29/2025	2830	201.8	286	71	203630.5	47.17
1/29/2025	2831	201.1	287	71	210055.24	47.18
1/29/2025	2832	200.4	286	71	211907.59	47.20
1/29/2025	2833	199.7	287	72	208535.67	47.22
1/29/2025	2834	198.9	287	72	205406.21	47.23
1/29/2025	2835	198.2	287	72	209436.4	47.25
1/29/2025	2836	197.6	288	72	205791.93	47.27
1/29/2025	2837	196.9	288	72	206047.45	47.28
1/29/2025	2838	196.2	288	72	210869.72	47.30
1/29/2025	2839	195.5	287	72	200429.53	47.32
1/29/2025	2840	195	288	72	220107.98	47.33
1/29/2025	2841	194.2	288	72	204475.3	47.35
1/29/2025	2842	192.9	284	72	199272.47	47.37
1/29/2025	2843	192.6	268	72	211948.4	47.38
1/29/2025	2844	188.8	254	72	207958.07	47.40
1/29/2025	2845	188.6	241	72	201235.7	47.42
1/29/2025	2846	189.1	230	72	211204.4	47.43
1/29/2025	2847	187.1	221	72	204101.3	47.45
1/29/2025	2848	192.5	213	72	192077.19	47.47
1/29/2025	2849	192.9	206	72	207972.73	47.48
1/29/2025	2850	193.1	201	72	200154.41	47.50
1/29/2025	2851	191.9	210	72	197361.34	47.52
1/29/2025	2852	191.3	226	72	203958.58	47.53
1/29/2025	2853	190.7	242	72	202778.47	47.55
1/29/2025	2854	190	256	72	196880.1	47.57
1/29/2025	2855	189.3	262	72	200054.07	47.58
1/29/2025	2856	188.7	265	72	202173.11	47.60
1/29/2025	2857	187.9	267	72	199462.45	47.62
1/29/2025	2858	187.5	268	72	205756.05	47.63
1/29/2025	2859	186.7	268	72	197098.95	47.65
1/29/2025	2860	186	268	72	187520.97	47.67
1/29/2025	2861	185.4	269	72	201507.94	47.68
1/29/2025	2862	184.8	269	72	196913.54	47.70
1/29/2025	2863	184.1	270	72	197609.99	47.72
1/29/2025	2864	183.4	270	72	205524.48	47.73
1/29/2025	2865	182.7	270	72	191011.82	47.75
1/29/2025	2866	182	271	72	207300.38	47.77
1/29/2025	2867	181.4	271	72	198896.51	47.78
1/29/2025	2868	180.6	272	72	191663.42	47.80
1/29/2025	2869	179.9	272	72	207869.22	47.82
1/29/2025	2870	179.3	272	72	198081.31	47.83
1/29/2025	2871	179.6	272	72	199447.21	47.85
1/29/2025	2872	178.9	273	72	200391.49	47.87
1/29/2025	2873	178.5	274	72	203174.09	47.88
1/29/2025	2874	176.5	274	72	196208.43	47.90
1/29/2025	2875	175.8	275	72	206211.71	47.92
1/29/2025	2876	175.1	276	72	208359.18	47.93

1/29/2025	2877	174.4	277	72	200019.1	47.95
1/29/2025	2878	173.7	276	72	204485.89	47.97
1/29/2025	2879	173	277	72	207003.42	47.98
1/29/2025	2880	172.3	277	72	188468.77	48.00
1/29/2025	2881	171.6	276	72	207627.76	48.02
1/29/2025	2882	170.9	276	72	205687.06	48.03
1/29/2025	2883	170.2	276	72	182462.29	48.05
1/29/2025	2884	169.6	276	72	210686.53	48.07
1/29/2025	2885	168.9	276	72	187312.75	48.08
1/29/2025	2886	168.3	276	72	206461.76	48.10
1/29/2025	2887	167.8	276	72	204909.45	48.12
1/29/2025	2888	167.1	278	72	119049.83	48.13
1/29/2025	2889	166.5	277	72	88470.05	48.15
1/29/2025	2890	165.8	279	72	66531.64	48.17
1/29/2025	2891	165.3	278	72	61405.21	48.18
1/29/2025	2892	164.7	279	72	60870.22	48.20
1/29/2025	2893	164.1	279	72	60017.09	48.22
1/29/2025	2894	163.4	280	72	60412.9	48.23
1/29/2025	2895	162.8	280	72	60249.23	48.25
1/29/2025	2896	162.1	280	72	59971.09	48.27
1/29/2025	2897	161.7	280	72	59320.39	48.28
1/29/2025	2898	160.9	280	72	58664.62	48.30
1/29/2025	2899	160.4	281	72	57331.6	48.32
1/29/2025	2900	159.7	281	72	59319.81	48.33
1/29/2025	2901	159.1	281	72	60483.98	48.35
1/29/2025	2902	158.6	267	72	57502.9	48.37
1/29/2025	2903	158.2	255	72	56945.43	48.38
1/29/2025	2904	157.9	243	72	58149.38	48.40
1/29/2025	2905	157.8	233	72	57036.04	48.42
1/29/2025	2906	157.4	224	72	56998.88	48.43
1/29/2025	2907	157.3	217	72	365759.36	48.45
1/29/2025	2908	157.2	211	72	426526.95	48.47
1/29/2025	2909	156.7	212	72	61630.2	48.48
1/29/2025	2910	156.1	230	72	50663.83	48.50
1/29/2025	2911	155.4	247	72	50904.02	48.52
1/29/2025	2912	154.7	262	72	50442.82	48.53
1/29/2025	2913	154.1	264	72	49655.86	48.55
1/29/2025	2914	153.6	253	72	46365.08	48.57
1/29/2025	2915	153.3	243	72	49074.09	48.58
1/29/2025	2916	153	232	72	48941.86	48.60
1/29/2025	2917	152.7	223	72	47271.31	48.62
1/29/2025	2918	152.4	216	72	47289.16	48.63
1/29/2025	2919	152.2	209	72	48415.32	48.65
1/29/2025	2920	152	204	72	48320.96	48.67
1/29/2025	2921	151.7	200	72	48263.29	48.68
1/29/2025	2922	151.5	196	72	46664.38	48.70
1/29/2025	2923	151.3	192	72	47265.22	48.72
1/29/2025	2924	151.1	189	72	47191.09	48.73
1/29/2025	2925	151	187	72	45646.71	48.75
1/29/2025	2926	151.1	185	72	399243.85	48.77
1/29/2025	2927	151.2	183	72	351637.17	48.78
1/29/2025	2928	151.1	180	72	425361.87	48.80
1/29/2025	2929	151.2	178	72	379416.99	48.82
1/29/2025	2930	151.2	175	72	406044.3	48.83
1/29/2025	2931	340.8	182	71	366952.19	48.85
1/29/2025	2932	340.2	197	71	384355.79	48.87
1/29/2025	2933	339.2	209	71	328212.55	48.88
1/29/2025	2934	337.9	219	71	50606.34	48.90
1/29/2025	2935	336.9	234	71	74354.56	48.92
1/29/2025	2936	336	250	71	82553.09	48.93
1/29/2025	2937	335.2	257	71	80661.19	48.95
1/29/2025	2938	334.3	261	71	78998.74	48.97
1/29/2025	2939	333.5	264	71	78800.53	48.98
1/29/2025	2940	332.8	266	71	74203.18	49.00

1/29/2025	2941	331.9	268	71	73172.64	49.02
1/29/2025	2942	331.1	269	71	76201.4	49.03
1/29/2025	2943	330.3	271	71	74336.44	49.05
1/29/2025	2944	329.5	272	71	70527.31	49.07
1/29/2025	2945	328.7	274	71	75668.74	49.08
1/29/2025	2946	327.8	274	72	71637.37	49.10
1/29/2025	2947	327.1	275	72	74911.45	49.12
1/29/2025	2948	326.3	276	72	74022.7	49.13
1/29/2025	2949	325.6	277	72	71266.14	49.15
1/29/2025	2950	324.8	277	72	74784.4	49.17
1/29/2025	2951	324.1	277	72	71480.18	49.18
1/29/2025	2952	323.4	278	72	73223.12	49.20
1/29/2025	2953	322.7	278	72	73363.43	49.22
1/29/2025	2954	321.9	279	72	71932	49.23
1/29/2025	2955	321.1	280	72	70469.96	49.25
1/29/2025	2956	320.4	281	72	72613.88	49.27
1/29/2025	2957	319.8	280	72	71212.24	49.28
1/29/2025	2958	319.2	267	72	72848.37	49.30
1/29/2025	2959	318.8	255	72	70505.38	49.32
1/29/2025	2960	318.4	244	72	71086.08	49.33
1/29/2025	2961	318.2	234	72	70557.06	49.35
1/29/2025	2962	318	225	72	64596.17	49.37
1/29/2025	2963	317.8	217	72	71024.79	49.38
1/29/2025	2964	317.7	211	72	70456.69	49.40
1/29/2025	2965	317.4	205	72	69493.05	49.42
1/29/2025	2966	317.3	201	72	67878.73	49.43
1/29/2025	2967	317.2	196	72	70471.91	49.45
1/29/2025	2968	317.1	193	72	68502.18	49.47
1/29/2025	2969	316.9	190	72	66814.5	49.48
1/29/2025	2970	316.9	187	72	68561.95	49.50
1/29/2025	2971	316.8	184	72	68444.91	49.52
1/29/2025	2972	316.7	182	72	70021.54	49.53
1/29/2025	2973	316.6	180	72	67075.22	49.55
1/29/2025	2974	316.6	177	72	68746.44	49.57
1/29/2025	2975	316.6	175	72	69233.08	49.58
1/29/2025	2976	314.1	180	71	56869.93	49.60
1/29/2025	2977	313.5	200	71	56305.83	49.62
1/29/2025	2978	313	216	71	56846.61	49.63
1/29/2025	2979	312.4	230	71	57212.7	49.65
1/29/2025	2980	311.7	240	71	58351.52	49.67
1/29/2025	2981	311.1	248	71	56974.28	49.68
1/29/2025	2982	310.5	255	71	56990.13	49.70
1/29/2025	2983	309.9	261	71	55742.4	49.72
1/29/2025	2984	309.2	265	71	56737.49	49.73
1/29/2025	2985	308.6	270	71	58203.67	49.75
1/29/2025	2986	307.9	273	71	56313.9	49.77
1/29/2025	2987	307.2	275	71	57219.1	49.78
1/29/2025	2988	306.6	276	71	58279.64	49.80
1/29/2025	2989	305.8	277	71	58658.01	49.82
1/29/2025	2990	305.1	277	71	58546.42	49.83
1/29/2025	2991	304.3	276	71	57289.88	49.85
1/29/2025	2992	303.6	275	71	58677.73	49.87
1/29/2025	2993	302.9	274	71	60715.26	49.88
1/29/2025	2994	302.1	274	71	61102.47	49.90
1/29/2025	2995	301.3	275	72	59830.45	49.92
1/29/2025	2996	300.5	275	71	59114.34	49.93
1/29/2025	2997	299.5	276	72	60558.62	49.95
1/29/2025	2998	298.8	276	71	59740.69	49.97
1/29/2025	2999	297.9	277	71	59707.36	49.98
1/29/2025	3000	297	277	71	59496.98	50.00
1/29/2025	3001	296.2	278	71	60064.86	50.02
1/29/2025	3002	295.4	279	71	58137.25	50.03
1/29/2025	3003	294.6	280	71	61158.58	50.05
1/29/2025	3004	293.8	280	71	62113.73	50.07

1/29/2025	3005	292.9	281	71	62435.78	50.08
1/29/2025	3006	292.2	269	72	61181.65	50.10
1/29/2025	3007	291.8	256	72	59545.33	50.12
1/29/2025	3008	291.4	244	72	58423.35	50.13
1/29/2025	3009	291	234	71	59562.03	50.15
1/29/2025	3010	290.7	224	71	57347.89	50.17
1/29/2025	3011	290.4	216	71	59537.67	50.18
1/29/2025	3012	290.1	210	71	59587.37	50.20
1/29/2025	3013	289.9	204	71	60057.15	50.22
1/29/2025	3014	289.7	200	71	58952.36	50.23
1/29/2025	3015	289.5	196	71	59006.45	50.25
1/29/2025	3016	289.3	192	71	57852.79	50.27
1/29/2025	3017	289.2	189	71	58629.84	50.28
1/29/2025	3018	289.1	187	71	58227.56	50.30
1/29/2025	3019	289	184	71	59750.51	50.32
1/29/2025	3020	288.9	182	71	58843.24	50.33
1/29/2025	3021	288.9	180	71	58374.56	50.35
1/29/2025	3022	288.8	178	71	58371.55	50.37
1/29/2025	3023	288.6	176	71	59325.98	50.38
1/29/2025	3024	286.2	180	71	52497.73	50.40
1/29/2025	3025	285.6	197	71	52044.72	50.42
1/29/2025	3026	285.1	214	71	53013.82	50.43
1/29/2025	3027	284.5	228	71	54604.54	50.45
1/29/2025	3028	283.9	241	71	53264.77	50.47
1/29/2025	3029	283.3	250	71	53213.97	50.48
1/29/2025	3030	282.6	258	71	52661.94	50.50
1/29/2025	3031	281.9	264	71	52450.55	50.52
1/29/2025	3032	281.3	268	71	54512.9	50.53
1/29/2025	3033	280.7	270	71	54359.8	50.55
1/29/2025	3034	280	271	71	57457.32	50.57
1/29/2025	3035	279.2	271	71	54562.54	50.58
1/29/2025	3036	278.5	271	71	55404.98	50.60
1/29/2025	3037	277.7	270	71	54911.94	50.62
1/29/2025	3038	277.1	270	71	54148.2	50.63
1/29/2025	3039	276.3	271	71	55714.32	50.65
1/29/2025	3040	275.6	271	71	56414.79	50.67
1/29/2025	3041	274.8	272	71	57995.12	50.68
1/29/2025	3042	274.1	274	71	60080.11	50.70
1/29/2025	3043	273.3	274	71	56077.23	50.72
1/29/2025	3044	272.5	275	71	57993.5	50.73
1/29/2025	3045	271.7	275	71	56174.87	50.75
1/29/2025	3046	271	276	71	57565.25	50.77
1/29/2025	3047	270.2	276	71	57854.14	50.78
1/29/2025	3048	269.4	276	71	57291.15	50.80
1/29/2025	3049	268.6	277	71	56042.81	50.82
1/29/2025	3050	267.7	277	71	76610.33	50.83
1/29/2025	3051	266.9	278	71	58380.31	50.85
1/29/2025	3052	266.1	278	71	58768.56	50.87
1/29/2025	3053	265.3	279	71	57969.85	50.88
1/29/2025	3054	264.7	267	71	59004.14	50.90
1/29/2025	3055	264.2	254	71	58342.64	50.92
1/29/2025	3056	263.6	242	71	58488.45	50.93
1/29/2025	3057	263.3	231	71	58269.31	50.95
1/29/2025	3058	263	222	71	56683.38	50.97
1/29/2025	3059	262.6	214	71	59306.34	50.98
1/29/2025	3060	262.3	208	71	58729.35	51.00
1/29/2025	3061	262	203	71	57222.5	51.02
1/29/2025	3062	261.8	199	71	57663.32	51.03
1/29/2025	3063	261.6	195	71	57687.87	51.05
1/29/2025	3064	261.5	191	71	56678.82	51.07
1/29/2025	3065	261.2	188	71	55730.55	51.08
1/29/2025	3066	261.1	186	71	55738.03	51.10
1/29/2025	3067	261	184	71	54615.74	51.12
1/29/2025	3068	260.9	181	71	58424.78	51.13

1/29/2025	3069	260.7	179	71	56869.85	51.15
1/29/2025	3070	260.6	177	71	58176.54	51.17
1/29/2025	3071	260.6	175	71	58064.12	51.18
1/29/2025	3072	257.6	192	71	54379.64	51.20
1/29/2025	3073	257.1	209	71	54963.84	51.22
1/29/2025	3074	256.6	223	71	52298.26	51.23
1/29/2025	3075	256	234	71	52146.12	51.25
1/29/2025	3076	255.5	243	71	51561.79	51.27
1/29/2025	3077	254.9	250	71	53045.21	51.28
1/29/2025	3078	254.3	256	71	52975.38	51.30
1/29/2025	3079	253.7	262	71	53375.52	51.32
1/29/2025	3080	253.1	267	71	54760.03	51.33
1/29/2025	3081	252.5	271	71	53691.81	51.35
1/29/2025	3082	251.9	272	71	56003.06	51.37
1/29/2025	3083	251.2	272	71	55476.9	51.38
1/29/2025	3084	250.5	272	71	55364.18	51.40
1/29/2025	3085	249.9	271	71	55630.57	51.42
1/29/2025	3086	249.4	270	71	56089.18	51.43
1/29/2025	3087	248.7	270	71	54311.34	51.45
1/29/2025	3088	248	270	71	54649.52	51.47
1/29/2025	3089	247.4	271	71	56168.16	51.48
1/29/2025	3090	246.8	271	71	55516.44	51.50
1/29/2025	3091	246.1	272	71	56478.83	51.52
1/29/2025	3092	245.5	273	71	56212.19	51.53
1/29/2025	3093	244.7	274	71	54976.27	51.55
1/29/2025	3094	244	275	71	58535.2	51.57
1/29/2025	3095	243.3	274	71	57329.32	51.58
1/29/2025	3096	242.5	275	71	55504.3	51.60
1/29/2025	3097	241.7	277	71	54307.38	51.62
1/29/2025	3098	241	278	71	58980.77	51.63
1/29/2025	3099	240.2	279	71	58367.88	51.65
1/29/2025	3100	239.5	280	71	58039.86	51.67
1/29/2025	3101	238.8	279	71	59144.7	51.68
1/29/2025	3102	238.3	266	71	57970.08	51.70
1/29/2025	3103	237.9	254	71	56335.18	51.72
1/29/2025	3104	237.5	242	71	56770.39	51.73
1/29/2025	3105	237.2	232	71	56123.89	51.75
1/29/2025	3106	237	224	71	54984.41	51.77
1/29/2025	3107	236.7	216	71	58361.79	51.78
1/29/2025	3108	236.6	209	71	58237.61	51.80
1/29/2025	3109	236.4	204	71	57265	51.82
1/29/2025	3110	236.3	199	71	56629.25	51.83
1/29/2025	3111	236.1	195	71	57176.64	51.85
1/29/2025	3112	236	192	71	55706.03	51.87
1/29/2025	3113	235.8	189	71	55263.75	51.88
1/29/2025	3114	235.8	186	71	55799.77	51.90
1/29/2025	3115	235.7	183	71	54710.2	51.92
1/29/2025	3116	235.6	180	71	60214.48	51.93
1/29/2025	3117	235.5	178	71	63340.66	51.95
1/29/2025	3118	235.5	176	71	56487.32	51.97
1/29/2025	3119	235.4	175	71	57525.24	51.98
1/29/2025	3120	233.7	178	71	51232.5	52.00
1/29/2025	3121	233.1	198	71	52986.4	52.02
1/29/2025	3122	232.6	216	71	52904.74	52.03
1/29/2025	3123	231.9	230	71	53254.3	52.05
1/29/2025	3124	231.3	242	71	52231.19	52.07
1/29/2025	3125	230.7	251	71	52625.35	52.08
1/29/2025	3126	230	258	71	52430.55	52.10
1/29/2025	3127	229.4	264	71	54005.18	52.12
1/29/2025	3128	228.7	267	71	51711.44	52.13
1/29/2025	3129	228	270	71	52620.63	52.15
1/29/2025	3130	227.4	270	71	53600.13	52.17
1/29/2025	3131	226.7	270	71	54102.94	52.18
1/29/2025	3132	226.2	271	71	53234.44	52.20

1/29/2025	3133	225.5	272	71	54219.76	52.22
1/29/2025	3134	224.9	273	71	56619.61	52.23
1/29/2025	3135	224.2	274	71	55903.09	52.25
1/29/2025	3136	223.6	273	71	53606.76	52.27
1/29/2025	3137	222.9	273	71	55219.29	52.28
1/29/2025	3138	222.2	273	71	53963.19	52.30
1/29/2025	3139	221.4	274	71	53663.56	52.32
1/29/2025	3140	220.7	275	71	55159.31	52.33
1/29/2025	3141	220	275	71	54975.97	52.35
1/29/2025	3142	219.3	276	71	55491.01	52.37
1/29/2025	3143	218.5	277	71	55357.03	52.38
1/29/2025	3144	217.9	278	71	55210.43	52.40
1/29/2025	3145	217	279	71	55114	52.42
1/29/2025	3146	216.3	280	71	59195.74	52.43
1/29/2025	3147	215.5	281	71	57463.95	52.45
1/29/2025	3148	214.6	282	71	57357.15	52.47
1/29/2025	3149	213.9	282	71	58657.83	52.48
1/29/2025	3150	213.2	273	71	56980.02	52.50
1/29/2025	3151	212.9	260	71	55765.77	52.52
1/29/2025	3152	212.3	248	71	54592.57	52.53
1/29/2025	3153	212.1	237	71	55698.57	52.55
1/29/2025	3154	211.8	228	71	55046.98	52.57
1/29/2025	3155	211.5	219	71	56058.4	52.58
1/29/2025	3156	211.3	213	71	57271.58	52.60
1/29/2025	3157	210.9	207	71	57236.91	52.62
1/29/2025	3158	210.7	202	71	56200.47	52.63
1/29/2025	3159	210.6	197	71	56047.44	52.65
1/29/2025	3160	210.4	193	71	56142.34	52.67
1/29/2025	3161	210.2	190	71	55059.36	52.68
1/29/2025	3162	210.1	187	71	54714.97	52.70
1/29/2025	3163	210	185	71	54152.35	52.72
1/29/2025	3164	209.9	182	71	55902.1	52.73
1/29/2025	3165	209.7	180	71	56948.49	52.75
1/29/2025	3166	209.6	178	71	55915.43	52.77
1/29/2025	3167	209.5	176	71	54773.32	52.78
1/29/2025	3168	207.6	182	71	50259.74	52.80
1/29/2025	3169	207.1	198	71	50306.29	52.82
1/29/2025	3170	206.6	213	71	51376	52.83
1/29/2025	3171	206.1	225	71	50202.16	52.85
1/29/2025	3172	205.6	235	71	50681.61	52.87
1/29/2025	3173	204.9	243	71	53263.34	52.88
1/29/2025	3174	204.3	251	70	53310.41	52.90
1/29/2025	3175	203.6	257	71	52074.74	52.92
1/29/2025	3176	202.8	263	71	50873.38	52.93
1/29/2025	3177	202.1	267	71	51373.26	52.95
1/29/2025	3178	201.4	268	71	52761.35	52.97
1/29/2025	3179	200.6	269	71	52495.09	52.98
1/29/2025	3180	199.9	270	71	51937.33	53.00
1/29/2025	3181	199.2	270	71	50644.21	53.02
1/29/2025	3182	198.4	269	71	55373.01	53.03
1/29/2025	3183	197.7	268	71	54134.13	53.05
1/29/2025	3184	196.9	268	71	54976.84	53.07
1/29/2025	3185	196.1	269	71	53717.05	53.08
1/29/2025	3186	195.3	270	71	53723.61	53.10
1/29/2025	3187	194.5	270	71	55787.46	53.12
1/29/2025	3188	193.7	271	71	54530.21	53.13
1/29/2025	3189	192.9	272	71	54313.91	53.15
1/29/2025	3190	192	273	71	59546.94	53.17
1/29/2025	3191	191.3	274	71	57108.28	53.18
1/29/2025	3192	190.4	273	71	57666.62	53.20
1/29/2025	3193	189.7	274	71	55727.82	53.22
1/29/2025	3194	188.9	275	71	54970.53	53.23
1/29/2025	3195	188.1	275	71	56491.1	53.25
1/29/2025	3196	187.3	275	71	56903.24	53.27

1/29/2025	3197	186.5	276	71	55640.15	53.28
1/29/2025	3198	185.6	277	71	56678.07	53.30
1/29/2025	3199	184.9	276	71	56835.56	53.32
1/29/2025	3200	184.4	263	71	55742.44	53.33
1/29/2025	3201	184	250	71	55100.36	53.35
1/29/2025	3202	183.7	239	71	55610.51	53.37
1/29/2025	3203	183.5	230	71	55674.39	53.38
1/29/2025	3204	183.4	221	71	55582.2	53.40
1/29/2025	3205	183.1	213	71	54647.68	53.42
1/29/2025	3206	182.9	207	71	54062.23	53.43
1/29/2025	3207	182.8	202	71	56842.83	53.45
1/29/2025	3208	182.7	197	71	54992.92	53.47
1/29/2025	3209	182.6	193	71	55108.5	53.48
1/29/2025	3210	182.4	190	71	56885.51	53.50
1/29/2025	3211	182.3	187	71	55073.84	53.52
1/29/2025	3212	182.3	185	71	54661.65	53.53
1/29/2025	3213	182.3	182	71	54631.94	53.55
1/29/2025	3214	182.2	180	71	53716.39	53.57
1/29/2025	3215	182.1	177	71	53176.55	53.58
1/29/2025	3216	182.1	175	71	57386.58	53.60
1/29/2025	3217	180.4	190	71	49693.1	53.62
1/29/2025	3218	180	206	71	51801.92	53.63
1/29/2025	3219	179.5	220	71	50165.31	53.65
1/29/2025	3220	178.9	232	71	52777.81	53.67
1/29/2025	3221	178.4	241	71	51636.42	53.68
1/29/2025	3222	177.8	249	71	52567.48	53.70
1/29/2025	3223	177.2	255	71	51873.3	53.72
1/29/2025	3224	176.6	261	71	50805.66	53.73
1/29/2025	3225	175.9	266	71	53406.55	53.75
1/29/2025	3226	175.1	271	70	52124.03	53.77
1/29/2025	3227	174.2	275	70	53612.73	53.78
1/29/2025	3228	173.4	277	70	53363.96	53.80
1/29/2025	3229	172.6	278	70	54333.78	53.82
1/29/2025	3230	171.8	278	70	53049.51	53.83
1/29/2025	3231	171	279	70	53365.75	53.85
1/29/2025	3232	170.2	280	70	55383.77	53.87
1/29/2025	3233	169.4	281	70	52878.08	53.88
1/29/2025	3234	168.6	281	70	54953.68	53.90
1/29/2025	3235	167.8	280	70	55933.54	53.92
1/29/2025	3236	167	281	71	54767.69	53.93
1/29/2025	3237	166.2	281	71	56736.88	53.95
1/29/2025	3238	165.1	281	71	54347.56	53.97
1/29/2025	3239	164.1	281	71	55281.43	53.98
1/29/2025	3240	163.2	281	71	55712.07	54.00
1/29/2025	3241	162.4	281	71	53277.15	54.02
1/29/2025	3242	161.4	283	71	54625.23	54.03
1/29/2025	3243	160.5	282	71	53600.36	54.05
1/29/2025	3244	159.6	284	71	56622.66	54.07
1/29/2025	3245	158.8	285	71	56316.85	54.08
1/29/2025	3246	158.1	278	71	57289.09	54.10
1/29/2025	3247	157.6	265	71	55501.15	54.12
1/29/2025	3248	157.1	253	71	56116.58	54.13
1/29/2025	3249	156.7	242	71	53905.31	54.15
1/29/2025	3250	156.6	232	71	54868	54.17
1/29/2025	3251	156.4	223	71	53888.42	54.18
1/29/2025	3252	156.1	216	71	52987.25	54.20
1/29/2025	3253	156	210	71	54564.42	54.22
1/29/2025	3254	155.8	204	71	56036.74	54.23
1/29/2025	3255	155.7	199	71	54600.78	54.25
1/29/2025	3256	155.6	195	71	54991.9	54.27
1/29/2025	3257	155.5	192	71	56157.45	54.28
1/29/2025	3258	155.4	189	71	53937.04	54.30
1/29/2025	3259	155.4	186	71	54542.3	54.32
1/29/2025	3260	155.3	184	71	53538.41	54.33

1/29/2025	3261	155.2	181	71	53465.34	54.35
1/29/2025	3262	155.2	179	71	56244.68	54.37
1/29/2025	3263	155.2	177	71	55775.27	54.38
1/29/2025	3264	154.1	186	70	51229.48	54.40
1/29/2025	3265	153.6	202	70	52558.73	54.42
1/29/2025	3266	153.1	216	70	50350.52	54.43
1/29/2025	3267	152.7	228	70	51760.16	54.45
1/29/2025	3268	152.1	239	70	50986.29	54.47
1/29/2025	3269	151.5	248	70	50461.36	54.48
1/29/2025	3270	151	255	70	50331.62	54.50
1/29/2025	3271	150.4	262	70	51932.95	54.52
1/29/2025	3272	149.8	268	70	51345.75	54.53
1/29/2025	3273	149.2	273	70	53175.02	54.55
1/29/2025	3274	148.4	278	71	52222.05	54.57
1/29/2025	3275	147.7	278	71	53436.39	54.58
1/29/2025	3276	146.9	279	71	52297.08	54.60
1/29/2025	3277	146.2	279	71	53157.44	54.62
1/29/2025	3278	145.4	279	70	54626	54.63
1/29/2025	3279	144.5	279	71	55589.31	54.65
1/29/2025	3280	143.7	280	71	54946.11	54.67
1/29/2025	3281	142.7	281	71	55123.35	54.68
1/29/2025	3282	141.9	281	71	53354.23	54.70
1/29/2025	3283	140.9	282	70	54762.49	54.72
1/29/2025	3284	140	281	70	54466.11	54.73
1/29/2025	3285	139.3	283	71	56552.04	54.75
1/29/2025	3286	138.3	283	70	55888.85	54.77
1/29/2025	3287	137.4	283	71	54146.03	54.78
1/29/2025	3288	136.7	283	71	55121.21	54.80
1/29/2025	3289	135.7	283	71	53844.78	54.82
1/29/2025	3290	134.9	283	71	54236.35	54.83
1/29/2025	3291	134.2	283	71	53512.56	54.85
1/29/2025	3292	133.3	283	71	51080.86	54.87
1/29/2025	3293	132.6	281	71	59873.38	54.88
1/29/2025	3294	131.9	268	71	55658.35	54.90
1/29/2025	3295	131.5	257	71	53382.27	54.92
1/29/2025	3296	131.1	245	71	54374.17	54.93
1/29/2025	3297	130.5	234	71	54890.86	54.95
1/29/2025	3298	130.2	226	71	57654.07	54.97
1/29/2025	3299	129.9	218	71	55042.19	54.98
1/29/2025	3300	129.6	212	71	54474.56	55.00
1/29/2025	3301	129.3	206	71	55407.9	55.02
1/29/2025	3302	129.2	202	71	54965.08	55.03
1/29/2025	3303	129	197	71	53292.79	55.05
1/29/2025	3304	128.9	194	71	57424.61	55.07
1/29/2025	3305	128.7	191	71	53846.31	55.08
1/29/2025	3306	128.6	188	71	53249.08	55.10
1/29/2025	3307	128.5	185	71	54317.8	55.12
1/29/2025	3308	128.5	183	71	51883.95	55.13
1/29/2025	3309	128.3	180	71	56100.88	55.15
1/29/2025	3310	128.3	178	71	56100.77	55.17
1/29/2025	3311	128.3	176	71	54194.99	55.18
1/30/2025	3312	127.3	191	70	199478.95	55.20
1/30/2025	3313	126.8	210	70	211684.84	55.22
1/30/2025	3314	126	225	71	218789.16	55.23
1/30/2025	3315	125.4	238	70	205191.02	55.25
1/30/2025	3316	124.9	249	71	207842.01	55.27
1/30/2025	3317	124.4	257	71	205210.1	55.28
1/30/2025	3318	123.7	263	71	212990.71	55.30
1/30/2025	3319	123.3	265	70	212458.52	55.32
1/30/2025	3320	122.7	265	70	198243.7	55.33
1/30/2025	3321	122.1	266	70	212757.97	55.35
1/30/2025	3322	121.5	266	70	205891.85	55.37
1/30/2025	3323	120.9	266	70	209958.54	55.38
1/30/2025	3324	120.3	266	70	218932.69	55.40

1/30/2025	3325	119.6	267	70	211135.87	55.42
1/30/2025	3326	118.9	268	70	209096.03	55.43
1/30/2025	3327	118.2	268	70	215763.32	55.45
1/30/2025	3328	117.5	268	70	203976.62	55.47
1/30/2025	3329	116.9	267	70	214567.37	55.48
1/30/2025	3330	116.2	266	70	203131.24	55.50
1/30/2025	3331	115.5	266	70	209842.63	55.52
1/30/2025	3332	114.8	267	70	213142.47	55.53
1/30/2025	3333	114.1	268	70	205529.05	55.55
1/30/2025	3334	113.4	269	70	215266.65	55.57
1/30/2025	3335	112.7	270	70	215213.97	55.58
1/30/2025	3336	112	270	70	204767.2	55.60
1/30/2025	3337	111.3	271	70	215186.61	55.62
1/30/2025	3338	110.6	271	70	211049.4	55.63
1/30/2025	3339	109.9	272	70	210680.43	55.65
1/30/2025	3340	109.2	272	70	214795.41	55.67
1/30/2025	3341	108.5	273	70	207528.87	55.68
1/30/2025	3342	107.8	273	70	213073.2	55.70
1/30/2025	3343	107.2	273	70	219145.44	55.72
1/30/2025	3344	106.6	274	70	206638.46	55.73
1/30/2025	3345	106	274	70	224051.91	55.75
1/30/2025	3346	105.4	274	70	210642.25	55.77
1/30/2025	3347	104.7	274	70	205805.08	55.78
1/30/2025	3348	104.2	274	70	220803.06	55.80
1/30/2025	3349	103.6	273	70	214279.88	55.82
1/30/2025	3350	103.1	273	70	225863.63	55.83
1/30/2025	3351	102.5	273	70	217762.55	55.85
1/30/2025	3352	102	273	70	206903.19	55.87
1/30/2025	3353	101.4	273	70	221654.28	55.88
1/30/2025	3354	100.9	273	70	209865.3	55.90
1/30/2025	3355	100.4	273	70	222226.27	55.92
1/30/2025	3356	99.9	273	70	222389.19	55.93
1/30/2025	3357	99.3	273	70	203476.77	55.95
1/30/2025	3358	98.8	273	70	223919.92	55.97
1/30/2025	3359	98.3	273	70	203860.31	55.98
1/30/2025	3360	97.8	273	70	225035.93	56.00
1/30/2025	3361	97.3	273	70	220780.05	56.02
1/30/2025	3362	96.7	273	70	216974.03	56.03
1/30/2025	3363	96.3	273	70	222228.85	56.05
1/30/2025	3364	95.7	274	70	216537.33	56.07
1/30/2025	3365	95.2	273	70	215629.54	56.08
1/30/2025	3366	94.8	273	70	229855.74	56.10
1/30/2025	3367	94.2	273	70	220830.44	56.12
1/30/2025	3368	93.7	275	70	220769.2	56.13
1/30/2025	3369	93.2	276	70	220949.09	56.15
1/30/2025	3370	92.7	276	71	219153.37	56.17
1/30/2025	3371	92.3	277	71	225354.15	56.18
1/30/2025	3372	91.8	278	71	224026.73	56.20
1/30/2025	3373	91.3	278	71	212031.75	56.22
1/30/2025	3374	90.8	278	71	226084.22	56.23
1/30/2025	3375	90.4	279	71	221915.99	56.25
1/30/2025	3376	89.8	280	71	207223.21	56.27
1/30/2025	3377	89.4	281	71	227582.66	56.28
1/30/2025	3378	89	281	71	219991.9	56.30
1/30/2025	3379	88.5	281	71	216218.87	56.32
1/30/2025	3380	88	282	71	222449.53	56.33
1/30/2025	3381	87.6	283	71	215199.06	56.35
1/30/2025	3382	87.1	283	71	227951.01	56.37
1/30/2025	3383	86.6	284	71	223958.61	56.38
1/30/2025	3384	86.1	284	71	222779.53	56.40
1/30/2025	3385	85.7	285	71	227846.74	56.42
1/30/2025	3386	85.1	285	71	214799.65	56.43
1/30/2025	3387	84.6	286	71	232730.11	56.45
1/30/2025	3388	84.1	287	71	229156.77	56.47

1/30/2025	3389	83.7	287	71	217986.34	56.48
1/30/2025	3390	83.2	288	71	227195.83	56.50
1/30/2025	3391	82.7	288	71	225795.14	56.52
1/30/2025	3392	82.2	289	71	216284.63	56.53
1/30/2025	3393	81.7	288	71	229876.24	56.55
1/30/2025	3394	81.2	289	71	226025.92	56.57
1/30/2025	3395	80.7	288	71	230109.81	56.58
1/30/2025	3396	80.2	289	71	229398	56.60
1/30/2025	3397	79.7	289	71	222312.24	56.62
1/30/2025	3398	79.2	290	71	234138.35	56.63
1/30/2025	3399	78.7	290	71	232933.73	56.65
1/30/2025	3400	78.2	291	71	222388.58	56.67
1/30/2025	3401	77.7	291	71	232374.92	56.68
1/30/2025	3402	77.3	290	71	232094.98	56.70
1/30/2025	3403	76.8	291	71	210443.45	56.72
1/30/2025	3404	76.3	291	71	237519.92	56.73
1/30/2025	3405	75.8	291	71	230181.04	56.75
1/30/2025	3406	75.3	291	71	220695.68	56.77
1/30/2025	3407	74.9	292	71	235914.59	56.78
1/30/2025	3408	74.4	291	71	225410.22	56.80
1/30/2025	3409	73.9	292	71	238049.39	56.82
1/30/2025	3410	73.5	291	71	235239.12	56.83
1/30/2025	3411	73	291	71	223174.66	56.85
1/30/2025	3412	72.5	292	71	238147	56.87
1/30/2025	3413	72.1	293	71	230436.49	56.88
1/30/2025	3414	71.6	293	71	230092.43	56.90
1/30/2025	3415	71.2	293	71	239489.61	56.92
1/30/2025	3416	70.7	294	71	228618.27	56.93
1/30/2025	3417	70.3	294	71	224934.71	56.95
1/30/2025	3418	69.9	294	71	242069.77	56.97
1/30/2025	3419	69.5	294	71	238757.25	56.98
1/30/2025	3420	69	293	71	228540.57	57.00
1/30/2025	3421	68.6	293	71	239009.67	57.02
1/30/2025	3422	68.1	293	71	230262.29	57.03
1/30/2025	3423	67.7	294	71	223962.99	57.05
1/30/2025	3424	67.3	294	71	241803.54	57.07
1/30/2025	3425	66.9	294	71	236082.58	57.08
1/30/2025	3426	66.4	294	71	222674.67	57.10
1/30/2025	3427	66	294	71	241932.48	57.12
1/30/2025	3428	65.6	294	71	230763.62	57.13
1/30/2025	3429	65.1	294	71	223273.26	57.15
1/30/2025	3430	64.7	294	71	242186.26	57.17
1/30/2025	3431	64.2	294	71	234967.14	57.18
1/30/2025	3432	63.8	293	71	227207.58	57.20
1/30/2025	3433	63.3	294	71	244060.93	57.22
1/30/2025	3434	63	294	71	232994.36	57.23
1/30/2025	3435	62.5	294	71	224981.6	57.25
1/30/2025	3436	62.1	294	71	238106.98	57.27
1/30/2025	3437	61.6	295	71	232470.26	57.28
1/30/2025	3438	61.2	295	71	238203.17	57.30
1/30/2025	3439	60.9	294	71	239439.02	57.32
1/30/2025	3440	60.4	293	71	227748.24	57.33
1/30/2025	3441	60.2	290	71	238223.51	57.35
1/30/2025	3442	60	275	71	221064.63	57.37
1/30/2025	3443	60	262	71	239268.03	57.38
1/30/2025	3444	60	250	71	218285.23	57.40
1/30/2025	3445	60	239	71	239390.58	57.42
1/30/2025	3446	60	230	71	233564.82	57.43
1/30/2025	3447	60.1	223	71	219022.74	57.45
1/30/2025	3448	60	216	71	233560.44	57.47
1/30/2025	3449	60.1	209	71	226183.06	57.48
1/30/2025	3450	60.1	205	71	224888.91	57.50
1/30/2025	3451	60.2	201	71	225246.12	57.52
1/30/2025	3452	60.1	198	71	223263.63	57.53

1/30/2025	3453	60.2	195	71	225960.88	57.55
1/30/2025	3454	60.2	192	71	218337	57.57
1/30/2025	3455	60.2	189	71	225214.36	57.58
1/30/2025	3456	60.3	187	71	224901.25	57.60
1/30/2025	3457	60.3	184	71	217613.12	57.62
1/30/2025	3458	60.3	182	71	209595.81	57.63
1/30/2025	3459	60.3	179	71	220798.83	57.65
1/30/2025	3460	60.4	177	71	210361.89	57.67
1/30/2025	3461	60.4	175	71	211231.75	57.68
1/30/2025	3462	60.4	179	71	207197.58	57.70
1/30/2025	3463	165.9	181	71	211870.85	57.72
1/30/2025	3464	214.8	182	71	191011.97	57.73
1/30/2025	3465	214.1	194	71	207165.38	57.75
1/30/2025	3466	213.4	208	71	199252.1	57.77
1/30/2025	3467	212.7	221	71	209342.99	57.78
1/30/2025	3468	212	231	71	199241.39	57.80
1/30/2025	3469	211.3	240	71	204747.53	57.82
1/30/2025	3470	210.5	245	71	205774.44	57.83
1/30/2025	3471	209.8	250	71	197479.88	57.85
1/30/2025	3472	209.2	253	71	205991.73	57.87
1/30/2025	3473	208.5	254	71	204015.5	57.88
1/30/2025	3474	207.9	255	71	189565.34	57.90
1/30/2025	3475	207.2	255	71	207479.7	57.92
1/30/2025	3476	206.5	255	71	202629.9	57.93
1/30/2025	3477	206	254	71	188133.75	57.95
1/30/2025	3478	205.4	253	71	209016.3	57.97
1/30/2025	3479	204.9	252	71	200326.92	57.98
1/30/2025	3480	204.3	250	71	208312.75	58.00
1/30/2025	3481	203.8	249	71	207185.78	58.02
1/30/2025	3482	203.1	248	71	192983.77	58.03
1/30/2025	3483	202.6	246	71	207539.62	58.05
1/30/2025	3484	202.1	245	71	194720.63	58.07
1/30/2025	3485	201.6	244	71	186574.1	58.08
1/30/2025	3486	201.1	243	71	206837.96	58.10
1/30/2025	3487	200.6	242	71	197926.82	58.12
1/30/2025	3488	200.1	241	71	203922.7	58.13
1/30/2025	3489	199.6	240	71	196151.8	58.15
1/30/2025	3490	199.1	239	71	193611.32	58.17
1/30/2025	3491	198.7	238	71	203021.04	58.18
1/30/2025	3492	198.1	238	71	201116.18	58.20
1/30/2025	3493	197.7	237	71	192905.92	58.22
1/30/2025	3494	197.3	236	71	205910.57	58.23
1/30/2025	3495	196.8	236	71	199207.23	58.25
1/30/2025	3496	196.3	236	71	191376.62	58.27
1/30/2025	3497	195.8	236	71	202112.17	58.28
1/30/2025	3498	195.3	237	71	188384.2	58.30
1/30/2025	3499	194.7	237	71	205973.56	58.32
1/30/2025	3500	194.3	238	71	199393.46	58.33
1/30/2025	3501	193.7	239	71	190799.21	58.35
1/30/2025	3502	193.2	241	71	204141.04	58.37
1/30/2025	3503	192.5	246	71	195334.52	58.38
1/30/2025	3504	191.7	252	71	202630.29	58.40
1/30/2025	3505	191	256	71	203796.03	58.42
1/30/2025	3506	190.3	259	71	192848.53	58.43
1/30/2025	3507	189.6	262	71	201297.02	58.45
1/30/2025	3508	189	264	71	192820.22	58.47
1/30/2025	3509	188.3	265	71	189551.83	58.48
1/30/2025	3510	187.6	267	71	206647.82	58.50
1/30/2025	3511	187	268	71	199556.21	58.52
1/30/2025	3512	186.3	269	71	188591.42	58.53
1/30/2025	3513	185.6	270	71	205598.27	58.55
1/30/2025	3514	185	271	71	191798.15	58.57
1/30/2025	3515	184.4	271	71	208359.44	58.58
1/30/2025	3516	183.8	270	71	203071.16	58.60

1/30/2025	3517	183.1	270	71	194453.89	58.62
1/30/2025	3518	182.5	271	71	202500.7	58.63
1/30/2025	3519	181.9	271	71	188703.76	58.65
1/30/2025	3520	181.2	273	71	201754.55	58.67
1/30/2025	3521	180.6	273	71	190900.68	58.68
1/30/2025	3522	180	274	71	206783.74	58.70
1/30/2025	3523	179.4	273	71	200239.64	58.72
1/30/2025	3524	178.8	273	70	196754.9	58.73
1/30/2025	3525	178.2	273	70	206265.57	58.75
1/30/2025	3526	177.6	273	70	201017.78	58.77
1/30/2025	3527	177	274	70	201694.24	58.78
1/30/2025	3528	176.4	275	70	208867.14	58.80
1/30/2025	3529	175.8	277	70	196155.44	58.82
1/30/2025	3530	175.2	277	71	205209	58.83
1/30/2025	3531	174.6	278	70	210108.3	58.85
1/30/2025	3532	173.9	278	70	199274.92	58.87
1/30/2025	3533	173.4	278	70	204746.93	58.88
1/30/2025	3534	172.8	278	70	206114.94	58.90
1/30/2025	3535	172.2	277	70	203063.48	58.92
1/30/2025	3536	171.6	277	70	208824.35	58.93
1/30/2025	3537	171.1	277	70	208596.72	58.95
1/30/2025	3538	170.5	277	70	195801.82	58.97
1/30/2025	3539	169.8	278	70	201390.56	58.98
1/30/2025	3540	169.2	279	70	214049.19	59.00
1/30/2025	3541	168.5	281	70	201647.84	59.02
1/30/2025	3542	167.9	281	70	205377.97	59.03
1/30/2025	3543	167.2	281	70	213507.65	59.05
1/30/2025	3544	166.6	280	70	195525.46	59.07
1/30/2025	3545	165.9	281	70	203810.85	59.08
1/30/2025	3546	165.3	281	70	212378.75	59.10
1/30/2025	3547	164.6	282	70	203656.23	59.12
1/30/2025	3548	164	283	70	211208.12	59.13
1/30/2025	3549	163.4	282	71	208990.34	59.15
1/30/2025	3550	162.7	283	71	202729.72	59.17
1/30/2025	3551	162.1	283	71	203277.32	59.18
1/30/2025	3552	161.4	283	71	197796.36	59.20
1/30/2025	3553	160.9	282	71	213927.57	59.22
1/30/2025	3554	160.3	281	71	205650.38	59.23
1/30/2025	3555	159.7	280	71	206214.33	59.25
1/30/2025	3556	159.2	279	71	213780.09	59.27
1/30/2025	3557	158.6	279	71	200584.75	59.28
1/30/2025	3558	157.9	280	71	214182.73	59.30
1/30/2025	3559	157.3	280	71	208537.25	59.32
1/30/2025	3560	156.7	280	71	190755.78	59.33
1/30/2025	3561	209.9	273	71	212158.89	59.35
1/30/2025	3562	308.8	266	71	200166.2	59.37
1/30/2025	3563	308	269	71	192562.18	59.38
1/30/2025	3564	307.5	267	71	215022.68	59.40
1/30/2025	3565	306.9	267	71	210324.67	59.42
1/30/2025	3566	306.2	267	71	213948.54	59.43
1/30/2025	3567	305.7	267	70	206397.08	59.45
1/30/2025	3568	305.1	266	71	205465.74	59.47
1/30/2025	3569	304.6	266	70	218248.26	59.48
1/30/2025	3570	304	265	70	210295.99	59.50
1/30/2025	3571	303.4	265	70	204372.25	59.52
1/30/2025	3572	302.9	264	71	219678.91	59.53
1/30/2025	3573	302.3	264	70	207403.53	59.55
1/30/2025	3574	301.6	263	70	212811.03	59.57
1/30/2025	3575	301.1	263	70	217277.99	59.58
1/30/2025	3576	300.5	263	70	208738.53	59.60
1/30/2025	3577	300	263	70	201378.21	59.62
1/30/2025	3578	299.4	265	70	220311.89	59.63
1/30/2025	3579	298.8	267	70	211400.51	59.65
1/30/2025	3580	298.2	267	71	204018.42	59.67

1/30/2025	3581	297.6	266	71	215727.73	59.68
1/30/2025	3582	297	266	70	204670.41	59.70
1/30/2025	3583	296.4	266	70	209306.42	59.72
1/30/2025	3584	295.8	266	70	204099.1	59.73
1/30/2025	3585	295.2	266	70	201776.02	59.75
1/30/2025	3586	294.6	266	71	221743.91	59.77
1/30/2025	3587	294	268	71	209238.55	59.78
1/30/2025	3588	293.4	270	71	212623.49	59.80
1/30/2025	3589	292.8	274	71	209155.08	59.82
1/30/2025	3590	292.1	273	71	207937.1	59.83
1/30/2025	3591	291.5	273	71	217769.58	59.85
1/30/2025	3592	290.8	272	71	209182.73	59.87
1/30/2025	3593	290.2	272	71	209558.2	59.88
1/30/2025	3594	289.5	271	71	203091.61	59.90
1/30/2025	3595	289	270	71	212192.41	59.92
1/30/2025	3596	288.3	270	71	208103.03	59.93
1/30/2025	3597	287.8	269	71	217460.12	59.95
1/30/2025	3598	287.2	268	71	206492.57	59.97
1/30/2025	3599	286.5	269	71	200116.56	59.98
1/30/2025	3600	286	268	71	218046.05	60.00
1/30/2025	3601	285.4	268	71	206221.4	60.02
1/30/2025	3602	284.9	268	71	213389.06	60.03
1/30/2025	3603	284.3	268	71	218321.82	60.05
1/30/2025	3604	283.7	268	71	207777.54	60.07
1/30/2025	3605	283.1	267	71	207802.81	60.08
1/30/2025	3606	282.5	268	71	208127.44	60.10
1/30/2025	3607	281.9	267	71	198479.03	60.12
1/30/2025	3608	281.4	267	71	216480.51	60.13
1/30/2025	3609	280.8	268	71	207840.84	60.15
1/30/2025	3610	280.2	266	71	211723.07	60.17
1/30/2025	3611	279.7	266	71	216967.4	60.18
1/30/2025	3612	279.1	265	71	209952.18	60.20
1/30/2025	3613	278.5	263	71	218435.84	60.22
1/30/2025	3614	278	263	71	206324.51	60.23
1/30/2025	3615	277.4	262	71	202431.33	60.25
1/30/2025	3616	276.9	262	71	214721.73	60.27
1/30/2025	3617	276.3	262	70	204164.91	60.28
1/30/2025	3618	275.7	261	70	218357.98	60.30
1/30/2025	3619	275.1	260	70	199813.49	60.32
1/30/2025	3620	274.6	262	70	210898.06	60.33
1/30/2025	3621	274	262	70	205506.24	60.35
1/30/2025	3622	273.5	262	70	217220.12	60.37
1/30/2025	3623	272.8	262	70	207161.29	60.38
1/30/2025	3624	272.3	263	70	208947.32	60.40
1/30/2025	3625	271.7	262	71	214257.29	60.42
1/30/2025	3626	271.2	263	71	203062.27	60.43
1/30/2025	3627	270.6	263	71	214394.21	60.45
1/30/2025	3628	270	264	70	214815	60.47
1/30/2025	3629	269.4	265	71	199172.81	60.48
1/30/2025	3630	268.7	266	71	212338.87	60.50
1/30/2025	3631	268.1	267	71	213073.66	60.52
1/30/2025	3632	267.5	268	70	215947.41	60.53
1/30/2025	3633	266.9	268	70	208789.05	60.55
1/30/2025	3634	266.3	268	70	196285.76	60.57
1/30/2025	3635	265.7	269	70	218730.97	60.58
1/30/2025	3636	265.1	269	70	204945.91	60.60
1/30/2025	3637	264.5	270	70	210703.99	60.62
1/30/2025	3638	263.8	270	70	197183.46	60.63
1/30/2025	3639	263.3	270	70	214544.18	60.65
1/30/2025	3640	262.7	271	71	211163.9	60.67
1/30/2025	3641	262.1	271	71	203638.72	60.68
1/30/2025	3642	261.5	272	71	216659.63	60.70
1/30/2025	3643	260.9	272	71	202588.69	60.72
1/30/2025	3644	260.3	272	71	218309.85	60.73

1/30/2025	3645	259.8	272	71	203566.82	60.75
1/30/2025	3646	259.2	272	71	209092.14	60.77
1/30/2025	3647	258.5	272	71	214986.88	60.78
1/30/2025	3648	258	272	71	200780.41	60.80
1/30/2025	3649	257.4	271	71	213293.15	60.82
1/30/2025	3650	256.8	271	71	213503.07	60.83
1/30/2025	3651	256.2	271	71	204444.69	60.85
1/30/2025	3652	255.7	270	71	216046.06	60.87
1/30/2025	3653	255.1	269	71	207512.88	60.88
1/30/2025	3654	254.5	269	71	204077.24	60.90
1/30/2025	3655	254	269	71	222292.34	60.92
1/30/2025	3656	253.5	269	71	218098.85	60.93
1/30/2025	3657	252.9	268	71	204622.25	60.95
1/30/2025	3658	252.3	269	71	218063.6	60.97
1/30/2025	3659	251.7	270	71	209597.79	60.98
1/30/2025	3660	251.1	270	71	210392.94	61.00
1/30/2025	3661	250.5	270	71	211043.8	61.02
1/30/2025	3662	249.9	271	71	212321.8	61.03
1/30/2025	3663	249.3	270	71	215345.97	61.05
1/30/2025	3664	248.7	270	71	219816.02	61.07
1/30/2025	3665	248.1	271	71	208949.35	61.08
1/30/2025	3666	247.5	272	71	204053.43	61.10
1/30/2025	3667	246.9	273	71	208698.27	61.12
1/30/2025	3668	246.3	274	71	209159.85	61.13
1/30/2025	3669	245.6	274	71	214981.48	61.15
1/30/2025	3670	245.1	274	71	220722.32	61.17
1/30/2025	3671	244.4	273	71	200763.18	61.18
1/30/2025	3672	243.9	272	71	221411.7	61.20
1/30/2025	3673	243.3	273	71	207223.55	61.22
1/30/2025	3674	242.7	272	71	215894.6	61.23
1/30/2025	3675	242.1	273	71	216589.9	61.25
1/30/2025	3676	241.5	274	71	205869.3	61.27
1/30/2025	3677	240.8	275	71	206809.18	61.28
1/30/2025	3678	240.2	276	71	211171.04	61.30
1/30/2025	3679	239.5	276	71	211128.32	61.32
1/30/2025	3680	238.8	277	71	206568.62	61.33
1/30/2025	3681	238.2	277	71	216861.19	61.35
1/30/2025	3682	237.5	277	71	211528.6	61.37
1/30/2025	3683	237	277	71	218954.93	61.38
1/30/2025	3684	236.4	277	71	212509.13	61.40
1/30/2025	3685	235.7	277	71	199574.95	61.42
1/30/2025	3686	235.1	276	71	219904.69	61.43
1/30/2025	3687	234.5	277	72	212840.14	61.45
1/30/2025	3688	233.9	277	72	204691.87	61.47
1/30/2025	3689	233.3	277	72	219357.61	61.48
1/30/2025	3690	232.6	277	72	204325.7	61.50
1/30/2025	3691	232	277	72	209527.13	61.52
1/30/2025	3692	231.4	278	72	215819.14	61.53
1/30/2025	3693	230.8	278	72	209938.23	61.55
1/30/2025	3694	230.1	278	72	217961.44	61.57
1/30/2025	3695	229.5	278	72	213282.64	61.58
1/30/2025	3696	228.9	278	72	213131.56	61.60
1/30/2025	3697	228.3	279	72	221877.15	61.62
1/30/2025	3698	227.7	279	72	216910.29	61.63
1/30/2025	3699	227	280	72	209996.01	61.65
1/30/2025	3700	226.4	280	72	219661.39	61.67
1/30/2025	3701	225.8	281	72	213630.59	61.68
1/30/2025	3702	225.2	281	72	218939.24	61.70
1/30/2025	3703	224.6	280	72	219053.13	61.72
1/30/2025	3704	224	280	72	208914.83	61.73
1/30/2025	3705	223.4	279	72	229025.31	61.75
1/30/2025	3706	222.9	278	72	220444.7	61.77
1/30/2025	3707	222.3	277	72	210285.94	61.78
1/30/2025	3708	221.8	277	72	216529.8	61.80

1/30/2025	3709	221.3	276	72	215572.56	61.82
1/30/2025	3710	220.8	277	72	209876.32	61.83
1/30/2025	3711	220.3	276	71	217389.73	61.85
1/30/2025	3712	219.7	276	71	218523.39	61.87
1/30/2025	3713	219.3	276	71	210299.29	61.88
1/30/2025	3714	218.7	277	71	222565.39	61.90
1/30/2025	3715	218.1	278	71	216945.89	61.92
1/30/2025	3716	217.5	278	71	215128.7	61.93
1/30/2025	3717	216.9	279	71	227355.74	61.95
1/30/2025	3718	216.3	278	71	223892.96	61.97
1/30/2025	3719	215.7	279	71	216082.73	61.98
1/30/2025	3720	215.1	279	72	208779.99	62.00
1/30/2025	3721	214.4	280	72	217899.59	62.02
1/30/2025	3722	213.9	278	71	215720.6	62.03
1/30/2025	3723	213.3	278	72	215373.13	62.05
1/30/2025	3724	212.7	279	72	216333.42	62.07
1/30/2025	3725	212.1	279	71	202170.75	62.08
1/30/2025	3726	211.4	279	71	221911.98	62.10
1/30/2025	3727	210.8	279	71	207455.32	62.12
1/30/2025	3728	210.2	279	72	227419.53	62.13
1/30/2025	3729	209.5	280	72	215827.12	62.15
1/30/2025	3730	208.9	280	72	220481.86	62.17
1/30/2025	3731	208.2	281	72	222636.28	62.18
1/30/2025	3732	207.6	280	72	212493.56	62.20
1/30/2025	3733	206.9	280	71	228145.26	62.22
1/30/2025	3734	206.3	280	71	220137.84	62.23
1/30/2025	3735	205.6	281	71	206488.82	62.25
1/30/2025	3736	205	281	71	224112.53	62.27
1/30/2025	3737	204.3	281	71	217430.75	62.28
1/30/2025	3738	203.6	282	71	223321.87	62.30
1/30/2025	3739	203	282	71	221433.16	62.32
1/30/2025	3740	202.3	283	71	211452.62	62.33
1/30/2025	3741	201.6	283	71	224581.51	62.35
1/30/2025	3742	201	284	71	217321.54	62.37
1/30/2025	3743	200.4	284	71	211903.44	62.38
1/30/2025	3744	199.7	283	71	228261.22	62.40
1/30/2025	3745	199.1	283	71	221528.83	62.42
1/30/2025	3746	198.4	283	71	213621.09	62.43
1/30/2025	3747	197.8	283	72	228001.33	62.45
1/30/2025	3748	197.1	284	72	214150.6	62.47
1/30/2025	3749	196.4	285	71	228476.47	62.48
1/30/2025	3750	195.8	286	71	220815.84	62.50
1/30/2025	3751	195.1	287	71	211357.77	62.52
1/30/2025	3752	194.4	287	71	229089.18	62.53
1/30/2025	3753	193.8	287	71	214903.03	62.55
1/30/2025	3754	193.1	287	71	227835.18	62.57
1/30/2025	3755	192.5	287	71	219350.26	62.58
1/30/2025	3756	191.8	287	72	218063.31	62.60
1/30/2025	3757	191.2	287	72	223711.84	62.62
1/30/2025	3758	190.8	287	71	217209.9	62.63
1/30/2025	3759	190.3	286	71	223500.48	62.65
1/30/2025	3760	189.5	291	71	228795.3	62.67
1/30/2025	3761	188.8	295	71	218368.63	62.68
1/30/2025	3762	188.1	297	71	223653.91	62.70
1/30/2025	3763	187.4	295	71	202673.96	62.72
1/30/2025	3764	186.6	295	71	217604.79	62.73
1/30/2025	3765	185.9	296	71	228181.65	62.75
1/30/2025	3766	185.2	297	71	211603.71	62.77
1/30/2025	3767	184.5	294	71	225518.02	62.78
1/30/2025	3768	183.8	296	71	214124.67	62.80
1/30/2025	3769	183.1	298	71	226330.63	62.82
1/30/2025	3770	182.4	301	71	226834.61	62.83
1/30/2025	3771	181.7	302	71	218622.3	62.85
1/30/2025	3772	180.9	303	71	229653.33	62.87

1/30/2025	3773	180.3	303	72	226958.53	62.88
1/30/2025	3774	179.5	304	72	216622.84	62.90
1/30/2025	3775	178.8	304	72	201748.29	62.92
1/30/2025	3776	178.3	304	72	226955.76	62.93
1/30/2025	3777	177.6	303	72	223008.5	62.95
1/30/2025	3778	176.9	303	72	214768.17	62.97
1/30/2025	3779	176.3	303	72	231451.35	62.98
1/30/2025	3780	175.6	304	72	220464.14	63.00
1/30/2025	3781	174.8	305	72	221913.11	63.02
1/30/2025	3782	174.1	306	72	234348.91	63.03
1/30/2025	3783	173.4	307	72	224503.13	63.05
1/30/2025	3784	172.8	307	72	217615.21	63.07
1/30/2025	3785	172	307	72	230853.62	63.08
1/30/2025	3786	171.3	308	72	223610.61	63.10
1/30/2025	3787	170.5	308	72	215418.76	63.12
1/30/2025	3788	169.7	310	72	232175.83	63.13
1/30/2025	3789	168.9	311	72	228236.46	63.15
1/30/2025	3790	168.3	311	72	224511.1	63.17
1/30/2025	3791	167.9	295	72	213605.36	63.18
1/30/2025	3792	167.7	279	72	229431.28	63.20
1/30/2025	3793	167.4	265	72	226379.27	63.22
1/30/2025	3794	167.2	252	72	221282.91	63.23
1/30/2025	3795	167.1	241	72	219051.23	63.25
1/30/2025	3796	167	232	72	213708.84	63.27
1/30/2025	3797	166.9	224	72	322593.74	63.28
1/30/2025	3798	166.9	217	72	371386.32	63.30
1/30/2025	3799	211.4	211	72	121319.75	63.32
1/30/2025	3800	352.7	214	72	57804.77	63.33
1/30/2025	3801	351.9	233	72	57810.11	63.35
1/30/2025	3802	350.7	254	72	89111.28	63.37
1/30/2025	3803	350.1	258	72	101805.22	63.38
1/30/2025	3804	349.3	268	72	99151.33	63.40
1/30/2025	3805	348.5	271	71	93681.88	63.42
1/30/2025	3806	347.7	276	72	93356.98	63.43
1/30/2025	3807	347.1	275	72	91071.79	63.45
1/30/2025	3808	346.8	263	72	99338.56	63.47
1/30/2025	3809	346.6	251	71	91198.17	63.48
1/30/2025	3810	346.4	240	71	87131.01	63.50
1/30/2025	3811	346.4	230	71	85483.45	63.52
1/30/2025	3812	346.3	222	71	86250.48	63.53
1/30/2025	3813	346.2	215	71	87948.33	63.55
1/30/2025	3814	346.1	208	71	82925.51	63.57
1/30/2025	3815	346	203	71	84036.09	63.58
1/30/2025	3816	346	198	71	81306.6	63.60
1/30/2025	3817	346	195	71	83050.69	63.62
1/30/2025	3818	346	191	71	82581.15	63.63
1/30/2025	3819	346	188	71	83094.55	63.65
1/30/2025	3820	345.9	185	71	82523.43	63.67
1/30/2025	3821	345.9	183	71	80559.58	63.68
1/30/2025	3822	346	180	71	81148.47	63.70
1/30/2025	3823	345.8	178	71	81299.27	63.72
1/30/2025	3824	345.8	176	71	80040.43	63.73
1/30/2025	3825	343.9	177	72	65224.43	63.75
1/30/2025	3826	343.3	185	72	63530.45	63.77
1/30/2025	3827	342.5	196	71	61772.88	63.78
1/30/2025	3828	341.6	212	71	62541.5	63.80
1/30/2025	3829	340.7	229	71	62767.36	63.82
1/30/2025	3830	339.8	242	71	66505.19	63.83
1/30/2025	3831	338.9	253	71	66937.51	63.85
1/30/2025	3832	337.9	262	71	65713.15	63.87
1/30/2025	3833	336.8	270	71	65619.86	63.88
1/30/2025	3834	335.9	269	71	67078.68	63.90
1/30/2025	3835	334.8	260	71	65253.43	63.92
1/30/2025	3836	333.5	258	71	65720.73	63.93

1/30/2025	3837	332.4	265	71	68345.01	63.95
1/30/2025	3838	331.2	274	71	68126.7	63.97
1/30/2025	3839	330.1	282	71	67311.97	63.98
1/30/2025	3840	329	287	71	68795.26	64.00
1/30/2025	3841	327.9	290	71	67858.9	64.02
1/30/2025	3842	326.8	292	71	67766.16	64.03
1/30/2025	3843	325.8	295	71	67111.16	64.05
1/30/2025	3844	324.7	298	71	70687.24	64.07
1/30/2025	3845	323.5	300	71	69199.96	64.08
1/30/2025	3846	322.7	297	71	71209.23	64.10
1/30/2025	3847	321.8	297	71	68174.67	64.12
1/30/2025	3848	320.6	299	71	68274.75	64.13
1/30/2025	3849	319.7	300	71	69559.17	64.15
1/30/2025	3850	318.8	297	71	69700.71	64.17
1/30/2025	3851	317.8	298	71	67360.47	64.18
1/30/2025	3852	316.9	300	71	70368.56	64.20
1/30/2025	3853	316.4	287	71	70817.24	64.22
1/30/2025	3854	315.9	272	71	69561.5	64.23
1/30/2025	3855	315.7	258	71	68485.85	64.25
1/30/2025	3856	315.4	245	71	68534.12	64.27
1/30/2025	3857	315.2	235	71	68504.93	64.28
1/30/2025	3858	315	225	71	66713.46	64.30
1/30/2025	3859	314.9	218	71	73809.49	64.32
1/30/2025	3860	314.7	211	71	69481.87	64.33
1/30/2025	3861	314.6	206	71	69085.06	64.35
1/30/2025	3862	314.5	201	71	68994.53	64.37
1/30/2025	3863	314.5	197	71	68098.87	64.38
1/30/2025	3864	314.4	194	71	67070.04	64.40
1/30/2025	3865	314.3	191	71	89507.75	64.42
1/30/2025	3866	314.3	188	71	66623.55	64.43
1/30/2025	3867	314.3	185	71	69733.05	64.45
1/30/2025	3868	314.2	183	71	66633.6	64.47
1/30/2025	3869	314.2	180	71	69182.72	64.48
1/30/2025	3870	314.1	178	71	67100.84	64.50
1/30/2025	3871	314.1	175	71	67644.08	64.52
1/30/2025	3872	311.6	177	71	61554.61	64.53
1/30/2025	3873	311	188	71	61301.52	64.55
1/30/2025	3874	310.4	201	71	59853.2	64.57
1/30/2025	3875	309.8	213	71	60680.75	64.58
1/30/2025	3876	309.1	225	71	61218.69	64.60
1/30/2025	3877	308.5	234	71	59442.52	64.62
1/30/2025	3878	307.8	242	71	58859.32	64.63
1/30/2025	3879	307.1	248	71	63575.19	64.65
1/30/2025	3880	306.4	254	71	63005.36	64.67
1/30/2025	3881	305.6	259	71	62357.49	64.68
1/30/2025	3882	304.9	263	71	62159.53	64.70
1/30/2025	3883	304	267	71	62630.51	64.72
1/30/2025	3884	303.3	270	71	62039.87	64.73
1/30/2025	3885	302.5	273	71	63385.84	64.75
1/30/2025	3886	301.7	275	71	62078.2	64.77
1/30/2025	3887	300.9	277	71	70558.69	64.78
1/30/2025	3888	300.2	279	71	64957.31	64.80
1/30/2025	3889	299.3	280	71	66428.2	64.82
1/30/2025	3890	298.5	281	71	64164.95	64.83
1/30/2025	3891	297.7	283	71	63891.5	64.85
1/30/2025	3892	296.8	284	71	62771.45	64.87
1/30/2025	3893	296	286	71	67498.31	64.88
1/30/2025	3894	295.1	289	71	65577.03	64.90
1/30/2025	3895	294.2	291	71	66805.53	64.92
1/30/2025	3896	293.3	293	71	66169.49	64.93
1/30/2025	3897	292.4	295	71	65999.41	64.95
1/30/2025	3898	291.5	297	71	67502.78	64.97
1/30/2025	3899	290.5	298	71	65664.75	64.98
1/30/2025	3900	289.6	300	71	64775.78	65.00

1/30/2025	3901	288.8	301	71	67189.57	65.02
1/30/2025	3902	287.9	300	71	68323.43	65.03
1/30/2025	3903	287.3	284	71	67428.25	65.05
1/30/2025	3904	286.9	268	71	66284.05	65.07
1/30/2025	3905	286.5	255	71	67789.94	65.08
1/30/2025	3906	286.2	243	71	66779.79	65.10
1/30/2025	3907	285.9	232	71	64477.62	65.12
1/30/2025	3908	285.8	223	71	67721.42	65.13
1/30/2025	3909	285.6	216	71	65063.06	65.15
1/30/2025	3910	285.4	210	71	67736.99	65.17
1/30/2025	3911	285.2	204	71	67892.19	65.18
1/30/2025	3912	285.1	200	71	66698.7	65.20
1/30/2025	3913	285	196	71	66300.03	65.22
1/30/2025	3914	284.9	193	71	66867.14	65.23
1/30/2025	3915	284.8	190	71	64642.83	65.25
1/30/2025	3916	284.7	188	71	69494.96	65.27
1/30/2025	3917	284.7	185	71	67462.15	65.28
1/30/2025	3918	284.6	182	71	69088.53	65.30
1/30/2025	3919	284.6	180	71	68012.43	65.32
1/30/2025	3920	284.5	178	71	66513.51	65.33
1/30/2025	3921	284.4	175	71	65776.79	65.35
1/30/2025	3922	282.6	177	70	57962.47	65.37
1/30/2025	3923	282.1	185	70	59604.76	65.38
1/30/2025	3924	281.6	197	70	59058.35	65.40
1/30/2025	3925	281	210	70	59021.52	65.42
1/30/2025	3926	280.5	220	70	59597.81	65.43
1/30/2025	3927	279.9	229	70	57930.32	65.45
1/30/2025	3928	279.3	237	70	63217.94	65.47
1/30/2025	3929	278.6	244	70	58364.63	65.48
1/30/2025	3930	277.9	252	70	59797.81	65.50
1/30/2025	3931	277.2	258	70	59732.4	65.52
1/30/2025	3932	276.4	263	70	59622.61	65.53
1/30/2025	3933	275.7	268	70	61004.88	65.55
1/30/2025	3934	274.9	272	70	64191.74	65.57
1/30/2025	3935	274.1	275	70	60233.76	65.58
1/30/2025	3936	273.4	277	70	62651.71	65.60
1/30/2025	3937	272.7	279	70	62086.11	65.62
1/30/2025	3938	271.9	281	70	62928.23	65.63
1/30/2025	3939	271.2	278	70	62098	65.65
1/30/2025	3940	270.6	278	70	60347.33	65.67
1/30/2025	3941	269.7	277	70	63155.92	65.68
1/30/2025	3942	268.9	280	70	63331.74	65.70
1/30/2025	3943	268.2	282	70	64734.35	65.72
1/30/2025	3944	267.5	284	70	64019.78	65.73
1/30/2025	3945	266.8	285	70	64368.28	65.75
1/30/2025	3946	266	286	70	62616.93	65.77
1/30/2025	3947	265.3	287	70	62912.91	65.78
1/30/2025	3948	264.7	288	70	67520.59	65.80
1/30/2025	3949	264	289	71	66735.75	65.82
1/30/2025	3950	263.2	290	71	66658.93	65.83
1/30/2025	3951	262.5	291	71	65486.01	65.85
1/30/2025	3952	261.8	292	71	66835.36	65.87
1/30/2025	3953	261.1	288	71	65511.82	65.88
1/30/2025	3954	260.8	273	71	65340.53	65.90
1/30/2025	3955	260.4	259	71	64880.37	65.92
1/30/2025	3956	260.2	246	71	68961.68	65.93
1/30/2025	3957	260	235	71	67570.3	65.95
1/30/2025	3958	259.7	226	71	66454.67	65.97
1/30/2025	3959	259.6	218	71	66364.75	65.98
1/30/2025	3960	259.4	211	71	65366.67	66.00
1/30/2025	3961	259.2	205	71	63746.47	66.02
1/30/2025	3962	259.1	200	71	65311.14	66.03
1/30/2025	3963	259	196	71	63108.72	66.05
1/30/2025	3964	258.9	193	71	67548.79	66.07

1/30/2025	3965	258.8	190	71	65255.91	66.08
1/30/2025	3966	258.8	187	71	64957.66	66.10
1/30/2025	3967	258.7	184	71	64903.36	66.12
1/30/2025	3968	258.6	182	71	65009.64	66.13
1/30/2025	3969	258.5	179	71	63323.7	66.15
1/30/2025	3970	258.5	177	71	65004.24	66.17
1/30/2025	3971	258.4	175	71	64817.58	66.18
1/30/2025	3972	255.9	183	70	59101.91	66.20
1/30/2025	3973	255.2	199	70	58639.22	66.22
1/30/2025	3974	254.5	215	70	60042.27	66.23
1/30/2025	3975	253.8	229	70	57866.58	66.25
1/30/2025	3976	253.1	240	71	60037.53	66.27
1/30/2025	3977	252.4	249	71	60532.92	66.28
1/30/2025	3978	251.5	257	71	59155.51	66.30
1/30/2025	3979	250.8	263	71	61754.13	66.32
1/30/2025	3980	250	268	71	61118.94	66.33
1/30/2025	3981	249.2	272	71	61492.98	66.35
1/30/2025	3982	248.4	274	71	60654.08	66.37
1/30/2025	3983	247.6	273	71	59522.86	66.38
1/30/2025	3984	246.8	274	71	63695.25	66.40
1/30/2025	3985	246	272	71	65093.66	66.42
1/30/2025	3986	245.3	272	71	62758.6	66.43
1/30/2025	3987	244.5	276	71	61519.76	66.45
1/30/2025	3988	243.7	274	71	64132.19	66.47
1/30/2025	3989	243	273	71	64520.9	66.48
1/30/2025	3990	242.2	272	71	63227.9	66.50
1/30/2025	3991	241.5	271	71	63665.68	66.52
1/30/2025	3992	240.8	271	71	76779.27	66.53
1/30/2025	3993	240	271	71	64805.07	66.55
1/30/2025	3994	239.3	271	71	65174.91	66.57
1/30/2025	3995	238.6	272	71	65046.65	66.58
1/30/2025	3996	237.9	272	71	64275.21	66.60
1/30/2025	3997	237.1	273	71	65276.23	66.62
1/30/2025	3998	236.4	274	71	65245	66.63
1/30/2025	3999	235.6	275	71	64466.09	66.65
1/30/2025	4000	234.9	276	71	78263.51	66.67
1/30/2025	4001	234.1	277	71	67216.49	66.68
1/30/2025	4002	233.6	269	71	66983.88	66.70
1/30/2025	4003	233.1	256	71	66365.38	66.72
1/30/2025	4004	232.9	245	71	65256.64	66.73
1/30/2025	4005	232.6	235	71	66864.55	66.75
1/30/2025	4006	232.4	225	71	64659.78	66.77
1/30/2025	4007	232.1	217	71	64045.15	66.78
1/30/2025	4008	232	211	71	66227.44	66.80
1/30/2025	4009	231.8	205	71	66734.82	66.82
1/30/2025	4010	231.6	201	71	65313.49	66.83
1/30/2025	4011	231.4	196	71	65819.66	66.85
1/30/2025	4012	231.2	192	71	65849.67	66.87
1/30/2025	4013	231.1	189	71	64136.96	66.88
1/30/2025	4014	231	187	71	64757.83	66.90
1/30/2025	4015	230.8	184	71	62561.4	66.92
1/30/2025	4016	230.7	182	71	67572.41	66.93
1/30/2025	4017	230.6	179	71	66507.2	66.95
1/30/2025	4018	230.6	177	71	64375.21	66.97
1/30/2025	4019	230.5	175	71	65993.6	66.98
1/30/2025	4020	227.4	184	70	58029.53	67.00
1/30/2025	4021	227	196	70	59041.73	67.02
1/30/2025	4022	226.4	207	70	57389.22	67.03
1/30/2025	4023	225.9	218	70	57815	67.05
1/30/2025	4024	225.3	227	70	60051.08	67.07
1/30/2025	4025	224.7	235	70	59405.53	67.08
1/30/2025	4026	224.1	242	70	59681.39	67.10
1/30/2025	4027	223.5	248	70	60129.37	67.12
1/30/2025	4028	222.8	253	70	59577.88	67.13

1/30/2025	4029	222.2	258	70	60557.9	67.15
1/30/2025	4030	221.5	262	70	59342.8	67.17
1/30/2025	4031	220.8	266	70	59470.29	67.18
1/30/2025	4032	220	270	70	63458.59	67.20
1/30/2025	4033	219.3	274	70	63248.03	67.22
1/30/2025	4034	218.5	277	70	63737.67	67.23
1/30/2025	4035	217.8	279	70	63495.77	67.25
1/30/2025	4036	216.9	282	70	62332.75	67.27
1/30/2025	4037	216.2	281	70	62109.07	67.28
1/30/2025	4038	215.5	282	70	61390.89	67.30
1/30/2025	4039	214.8	279	70	62201.04	67.32
1/30/2025	4040	214.1	278	70	63597.52	67.33
1/30/2025	4041	213.3	281	70	64653.95	67.35
1/30/2025	4042	212.6	280	70	65506.9	67.37
1/30/2025	4043	211.9	282	70	65868.91	67.38
1/30/2025	4044	211.1	285	70	64071.34	67.40
1/30/2025	4045	210.3	285	70	64987.91	67.42
1/30/2025	4046	209.5	283	70	64348.95	67.43
1/30/2025	4047	208.7	281	71	66160.62	67.45
1/30/2025	4048	207.9	280	71	76196.57	67.47
1/30/2025	4049	207.2	280	71	65888.78	67.48
1/30/2025	4050	206.5	279	71	68341.59	67.50
1/30/2025	4051	206.1	269	71	64475.51	67.52
1/30/2025	4052	205.7	257	71	63891.11	67.53
1/30/2025	4053	205.4	245	71	66530.04	67.55
1/30/2025	4054	205.1	235	71	65419.09	67.57
1/30/2025	4055	204.9	226	71	66603.36	67.58
1/30/2025	4056	204.6	218	71	64784.68	67.60
1/30/2025	4057	204.5	211	71	64851.16	67.62
1/30/2025	4058	204.2	206	71	63933.75	67.63
1/30/2025	4059	204.1	201	71	63762.14	67.65
1/30/2025	4060	203.9	197	71	67103.11	67.67
1/30/2025	4061	203.7	193	71	73951.6	67.68
1/30/2025	4062	203.6	190	71	65452.07	67.70
1/30/2025	4063	203.4	187	71	64979.71	67.72
1/30/2025	4064	203.3	185	71	64986.92	67.73
1/30/2025	4065	203.1	183	71	63988.27	67.75
1/30/2025	4066	203	181	71	63365.68	67.77
1/30/2025	4067	202.8	179	71	62171.77	67.78
1/30/2025	4068	202.7	177	71	66468.18	67.80
1/30/2025	4069	202.6	176	71	65562.3	67.82
1/30/2025	4070	198.1	182	71	57810.21	67.83
1/30/2025	4071	197.5	200	71	57253.23	67.85
1/30/2025	4072	197	215	71	58243.48	67.87
1/30/2025	4073	196.4	228	71	62536.1	67.88
1/30/2025	4074	195.7	239	71	60828.36	67.90
1/30/2025	4075	195.1	248	71	60766.62	67.92
1/30/2025	4076	194.5	255	71	62235.34	67.93
1/30/2025	4077	193.8	260	71	62064.34	67.95
1/30/2025	4078	193.2	265	71	60586.22	67.97
1/30/2025	4079	192.6	269	71	59307.23	67.98
1/30/2025	4080	191.9	272	71	60726.5	68.00
1/30/2025	4081	191.3	275	71	63065.89	68.02
1/30/2025	4082	190.6	278	71	62507.76	68.03
1/30/2025	4083	189.9	280	71	63881.55	68.05
1/30/2025	4084	189.3	281	71	62107.22	68.07
1/30/2025	4085	188.6	283	71	62378.03	68.08
1/30/2025	4086	187.9	285	71	60967.55	68.10
1/30/2025	4087	187.2	286	71	64242.23	68.12
1/30/2025	4088	186.6	287	71	64577.22	68.13
1/30/2025	4089	185.9	288	71	62554.7	68.15
1/30/2025	4090	185.3	289	71	64151.21	68.17
1/30/2025	4091	184.6	290	71	65561.99	68.18
1/30/2025	4092	184	291	71	67571.82	68.20

1/30/2025	4093	183.3	292	71	66735.29	68.22
1/30/2025	4094	182.7	293	71	66622.75	68.23
1/30/2025	4095	182	293	71	65251.63	68.25
1/30/2025	4096	181.4	294	71	64675.25	68.27
1/30/2025	4097	180.8	290	71	67059.04	68.28
1/30/2025	4098	180.4	275	71	65725.72	68.30
1/30/2025	4099	180.2	261	71	63618.26	68.32
1/30/2025	4100	180	248	71	63006.73	68.33
1/30/2025	4101	179.8	237	71	64764.08	68.35
1/30/2025	4102	179.6	228	71	65285.59	68.37
1/30/2025	4103	179.4	219	71	64591.09	68.38
1/30/2025	4104	179.3	212	70	63014.81	68.40
1/30/2025	4105	179.2	206	70	67756.3	68.42
1/30/2025	4106	179.1	202	70	65705.85	68.43
1/30/2025	4107	179	197	71	63667.84	68.45
1/30/2025	4108	178.8	193	71	63705.44	68.47
1/30/2025	4109	178.7	190	70	63187.27	68.48
1/30/2025	4110	178.6	187	70	66863.79	68.50
1/30/2025	4111	178.5	185	71	64763.66	68.52
1/30/2025	4112	178.4	182	70	64262.91	68.53
1/30/2025	4113	178.3	180	70	64881.48	68.55
1/30/2025	4114	178.2	178	70	63947.6	68.57
1/30/2025	4115	178.1	176	71	63301.67	68.58
1/31/2025	4116	176	187	71	226118.98	68.60
1/31/2025	4117	175.4	204	71	224348.06	68.62
1/31/2025	4118	174.9	219	71	212509.31	68.63
1/31/2025	4119	174.3	231	71	223191.32	68.65
1/31/2025	4120	173.8	241	70	219418.67	68.67
1/31/2025	4121	173.2	248	70	214574.64	68.68
1/31/2025	4122	172.6	254	70	226697.28	68.70
1/31/2025	4123	172.1	259	70	215288.8	68.72
1/31/2025	4124	171.4	263	70	219214.96	68.73
1/31/2025	4125	170.9	268	70	217774.71	68.75
1/31/2025	4126	170.2	271	70	212764.24	68.77
1/31/2025	4127	169.5	273	70	221473.73	68.78
1/31/2025	4128	168.7	275	70	216609.07	68.80
1/31/2025	4129	168.1	276	70	228672.92	68.82
1/31/2025	4130	167.5	277	71	219126.75	68.83
1/31/2025	4131	166.8	277	70	216764.51	68.85
1/31/2025	4132	166.1	278	70	223835.74	68.87
1/31/2025	4133	165.5	278	70	218627.04	68.88
1/31/2025	4134	164.8	279	70	223582.46	68.90
1/31/2025	4135	164.2	279	70	221311.51	68.92
1/31/2025	4136	163.5	279	70	214380.19	68.93
1/31/2025	4137	162.9	280	70	227052.76	68.95
1/31/2025	4138	162.2	280	70	219910.8	68.97
1/31/2025	4139	161.5	281	70	206192.66	68.98
1/31/2025	4140	160.9	281	70	225432.53	69.00
1/31/2025	4141	160.2	281	70	215316.93	69.02
1/31/2025	4142	159.6	281	70	221888.5	69.03
1/31/2025	4143	158.9	282	70	227765.56	69.05
1/31/2025	4144	158.3	283	70	212523.17	69.07
1/31/2025	4145	157.7	283	70	224418.53	69.08
1/31/2025	4146	157	284	70	220948.64	69.10
1/31/2025	4147	156.4	283	70	227343.22	69.12
1/31/2025	4148	155.7	283	70	223980.11	69.13
1/31/2025	4149	155.1	283	70	209210.92	69.15
1/31/2025	4150	154.5	283	70	226075.65	69.17
1/31/2025	4151	153.7	285	70	217154.29	69.18
1/31/2025	4152	153	285	70	229470.27	69.20
1/31/2025	4153	152.4	282	70	225227.44	69.22
1/31/2025	4154	151.7	279	70	208467.34	69.23
1/31/2025	4155	151.2	277	70	227240.57	69.25
1/31/2025	4156	150.5	280	70	219576.76	69.27

1/31/2025	4157	149.8	283	70	234860.28	69.28
1/31/2025	4158	149.2	285	70	231134.56	69.30
1/31/2025	4159	148.5	283	70	216414.79	69.32
1/31/2025	4160	147.9	285	70	226186.6	69.33
1/31/2025	4161	147.2	287	70	219931.5	69.35
1/31/2025	4162	146.6	288	70	220127.3	69.37
1/31/2025	4163	146	286	70	221303.31	69.38
1/31/2025	4164	145.4	286	70	214568.06	69.40
1/31/2025	4165	144.8	286	70	225936.48	69.42
1/31/2025	4166	144.2	286	70	216609.67	69.43
1/31/2025	4167	143.6	286	70	231056.21	69.45
1/31/2025	4168	143	286	70	225828.8	69.47
1/31/2025	4169	142.3	286	70	214554.05	69.48
1/31/2025	4170	141.8	287	70	226112.3	69.50
1/31/2025	4171	141.2	287	70	222471.6	69.52
1/31/2025	4172	140.5	288	70	222073.12	69.53
1/31/2025	4173	140	289	70	230626.51	69.55
1/31/2025	4174	139.4	289	70	222183.96	69.57
1/31/2025	4175	138.8	289	70	224702.77	69.58
1/31/2025	4176	138.3	289	70	221676.22	69.60
1/31/2025	4177	137.6	289	70	217337.05	69.62
1/31/2025	4178	137	289	70	232397.32	69.63
1/31/2025	4179	136.5	289	70	228753.85	69.65
1/31/2025	4180	135.9	290	70	223726.99	69.67
1/31/2025	4181	135.3	291	70	237367.46	69.68
1/31/2025	4182	134.6	292	70	224909.55	69.70
1/31/2025	4183	133.9	293	70	215460.88	69.72
1/31/2025	4184	133.4	294	70	233418.7	69.73
1/31/2025	4185	132.8	294	71	231090.84	69.75
1/31/2025	4186	132.2	294	71	221363.77	69.77
1/31/2025	4187	131.7	294	71	236842.72	69.78
1/31/2025	4188	131.1	295	71	219658.19	69.80
1/31/2025	4189	130.5	295	71	231714.56	69.82
1/31/2025	4190	130	294	71	232471.69	69.83
1/31/2025	4191	129.4	294	71	219477.34	69.85
1/31/2025	4192	128.8	294	71	228669.4	69.87
1/31/2025	4193	128.2	294	71	211910.35	69.88
1/31/2025	4194	127.7	294	71	231552.2	69.90
1/31/2025	4195	127.1	294	71	215367.57	69.92
1/31/2025	4196	126.6	294	71	236070.3	69.93
1/31/2025	4197	126	294	71	229262.03	69.95
1/31/2025	4198	125.5	294	71	218537.7	69.97
1/31/2025	4199	125	294	71	236798.8	69.98
1/31/2025	4200	124.4	294	71	228837.35	70.00
1/31/2025	4201	123.8	295	71	220184.47	70.02
1/31/2025	4202	123.3	296	71	240471.66	70.03
1/31/2025	4203	122.7	297	71	230014.44	70.05
1/31/2025	4204	122.1	296	71	219442.83	70.07
1/31/2025	4205	121.5	294	71	235629.2	70.08
1/31/2025	4206	121	294	71	219331.54	70.10
1/31/2025	4207	120.4	295	71	235694.03	70.12
1/31/2025	4208	119.8	295	71	211537.72	70.13
1/31/2025	4209	119.3	295	70	229341.59	70.15
1/31/2025	4210	118.7	296	70	226880.02	70.17
1/31/2025	4211	118.2	295	71	225223.89	70.18
1/31/2025	4212	117.6	295	71	222860.17	70.20
1/31/2025	4213	117	295	71	238006.94	70.22
1/31/2025	4214	116.5	296	71	223405.12	70.23
1/31/2025	4215	115.9	296	71	231930.01	70.25
1/31/2025	4216	115.3	295	71	230604.91	70.27
1/31/2025	4217	114.8	294	71	214470.63	70.28
1/31/2025	4218	114.3	294	71	232924.03	70.30
1/31/2025	4219	113.7	294	71	223676.47	70.32
1/31/2025	4220	113.2	294	71	228236.2	70.33

1/31/2025	4221	112.7	295	71	229210.25	70.35
1/31/2025	4222	112.1	295	70	220972.25	70.37
1/31/2025	4223	111.5	295	70	236575.11	70.38
1/31/2025	4224	110.9	295	70	210273.49	70.40
1/31/2025	4225	110.4	295	71	237193.6	70.42
1/31/2025	4226	109.8	296	70	227015.23	70.43
1/31/2025	4227	109.2	297	71	238518.38	70.45
1/31/2025	4228	108.6	298	71	231436.83	70.47
1/31/2025	4229	108	295	71	227985.99	70.48
1/31/2025	4230	107.4	295	70	235205.62	70.50
1/31/2025	4231	106.8	296	70	229049.25	70.52
1/31/2025	4232	106.3	296	70	228874.83	70.53
1/31/2025	4233	105.7	296	71	234759.82	70.55
1/31/2025	4234	105.2	296	70	212511.92	70.57
1/31/2025	4235	104.6	297	71	226936.82	70.58
1/31/2025	4236	104.1	297	70	225972.52	70.60
1/31/2025	4237	103.6	298	70	237498.3	70.62
1/31/2025	4238	103	298	70	238011.96	70.63
1/31/2025	4239	102.5	299	71	229667.98	70.65
1/31/2025	4240	101.9	299	71	241942.63	70.67
1/31/2025	4241	101.4	300	71	233237.33	70.68
1/31/2025	4242	100.9	301	71	224750.46	70.70
1/31/2025	4243	100.4	301	71	240607.48	70.72
1/31/2025	4244	99.9	301	71	220472.07	70.73
1/31/2025	4245	99.4	301	71	237914.11	70.75
1/31/2025	4246	98.9	301	71	234414.12	70.77
1/31/2025	4247	98.4	301	71	225604.79	70.78
1/31/2025	4248	97.9	301	71	237133.68	70.80
1/31/2025	4249	97.4	300	70	230281.67	70.82
1/31/2025	4250	97	300	70	223175.15	70.83
1/31/2025	4251	96.5	299	70	230223.96	70.85
1/31/2025	4252	96	299	70	220819.47	70.87
1/31/2025	4253	95.6	298	70	239762.38	70.88
1/31/2025	4254	95.1	298	70	213624.57	70.90
1/31/2025	4255	94.7	298	71	229759.6	70.92
1/31/2025	4256	94.3	298	71	233118.68	70.93
1/31/2025	4257	93.8	298	71	233526.93	70.95
1/31/2025	4258	93.4	297	71	225696.34	70.97
1/31/2025	4259	92.9	297	71	225958.09	70.98
1/31/2025	4260	92.5	298	71	236276.19	71.00
1/31/2025	4261	92.1	298	70	225780.34	71.02
1/31/2025	4262	91.6	297	70	240436.31	71.03
1/31/2025	4263	91	297	70	223856.48	71.05
1/31/2025	4264	90.5	297	71	235410.63	71.07
1/31/2025	4265	90.1	297	71	235630.73	71.08
1/31/2025	4266	89.5	298	71	224255.43	71.10
1/31/2025	4267	89.1	298	71	223210.99	71.12
1/31/2025	4268	88.7	298	71	219166.49	71.13
1/31/2025	4269	88.3	298	71	236407.65	71.15
1/31/2025	4270	87.8	296	71	224608.46	71.17
1/31/2025	4271	87.4	292	71	240157.5	71.18
1/31/2025	4272	87	290	71	232605.49	71.20
1/31/2025	4273	86.5	292	71	220051.16	71.22
1/31/2025	4274	86.1	293	71	239736.91	71.23
1/31/2025	4275	85.7	290	71	222833.27	71.25
1/31/2025	4276	85.3	287	71	228526.75	71.27
1/31/2025	4277	84.9	287	71	229504.54	71.28
1/31/2025	4278	84.5	287	71	202193.81	71.30
1/31/2025	4279	84.1	286	71	239041.2	71.32
1/31/2025	4280	83.7	284	71	221764.98	71.33
1/31/2025	4281	83.2	285	71	229259.32	71.35
1/31/2025	4282	82.8	287	71	236206.2	71.37
1/31/2025	4283	82.3	289	71	223704.89	71.38
1/31/2025	4284	81.9	288	71	237013.49	71.40

1/31/2025	4285	81.6	288	71	228770.34	71.42
1/31/2025	4286	81.1	290	71	216962.47	71.43
1/31/2025	4287	80.7	288	71	224895.83	71.45
1/31/2025	4288	80.3	288	71	215619.29	71.47
1/31/2025	4289	80	286	71	237875.68	71.48
1/31/2025	4290	79.6	287	71	222488.65	71.50
1/31/2025	4291	79.2	286	71	236712.41	71.52
1/31/2025	4292	78.8	286	71	223687.71	71.53
1/31/2025	4293	78.5	284	71	224522.68	71.55
1/31/2025	4294	103.8	276	71	236955.76	71.57
1/31/2025	4295	196.7	268	71	235237.31	71.58
1/31/2025	4296	196.1	272	71	215688.29	71.60
1/31/2025	4297	195.6	272	71	239063.52	71.62
1/31/2025	4298	195	273	71	225237.09	71.63
1/31/2025	4299	194.5	273	71	228084.23	71.65
1/31/2025	4300	194	273	71	231297.45	71.67
1/31/2025	4301	193.4	276	71	211552.56	71.68
1/31/2025	4302	192.8	280	71	231826.65	71.70
1/31/2025	4303	192.1	283	71	229740.96	71.72
1/31/2025	4304	191.5	283	71	224445.6	71.73
1/31/2025	4305	190.8	285	71	234272.78	71.75
1/31/2025	4306	190.2	286	71	225827.39	71.77
1/31/2025	4307	189.5	286	71	220572.94	71.78
1/31/2025	4308	188.9	286	71	234737.98	71.80
1/31/2025	4309	188.2	288	71	221317.36	71.82
1/31/2025	4310	187.5	287	71	230639.69	71.83
1/31/2025	4311	186.9	288	71	229568.41	71.85
1/31/2025	4312	186.3	288	71	216780.49	71.87
1/31/2025	4313	185.6	289	71	231090.97	71.88
1/31/2025	4314	184.9	290	71	231095.22	71.90
1/31/2025	4315	184.2	291	71	224296.86	71.92
1/31/2025	4316	183.5	291	71	233547.58	71.93
1/31/2025	4317	182.8	291	71	224105.48	71.95
1/31/2025	4318	182.1	291	71	225824.31	71.97
1/31/2025	4319	181.4	291	71	229255.71	71.98
1/31/2025	4320	180.7	291	71	219560.03	72.00
1/31/2025	4321	180.1	291	71	234797.23	72.02
1/31/2025	4322	179.3	291	71	228265.31	72.03
1/31/2025	4323	178.6	291	71	218253.15	72.05
1/31/2025	4324	177.9	291	71	239926.91	72.07
1/31/2025	4325	177.3	290	71	234742.83	72.08
1/31/2025	4326	176.5	289	71	227683.69	72.10
1/31/2025	4327	175.8	288	71	233688.1	72.12
1/31/2025	4328	175.2	287	71	222385.4	72.13
1/31/2025	4329	174.4	286	71	209304.3	72.15
1/31/2025	4330	173.8	285	71	230665.18	72.17
1/31/2025	4331	173.1	283	71	212459.43	72.18
1/31/2025	4332	172.5	282	71	237198.53	72.20
1/31/2025	4333	171.8	281	71	217014.66	72.22
1/31/2025	4334	171.2	280	71	229670.75	72.23
1/31/2025	4335	170.5	280	71	218900.99	72.25
1/31/2025	4336	169.9	279	71	231927.2	72.27
1/31/2025	4337	169.2	279	71	231328.97	72.28
1/31/2025	4338	168.6	278	71	223968.5	72.30
1/31/2025	4339	167.9	278	71	223951.43	72.32
1/31/2025	4340	167.3	277	71	207527.74	72.33
1/31/2025	4341	166.6	277	71	232878.33	72.35
1/31/2025	4342	166	277	71	222881.77	72.37
1/31/2025	4343	165.4	276	71	224399.99	72.38
1/31/2025	4344	164.7	276	71	224344.61	72.40
1/31/2025	4345	164.1	275	71	209301.63	72.42
1/31/2025	4346	163.5	275	71	228114.25	72.43
1/31/2025	4347	162.9	274	71	223330.76	72.45
1/31/2025	4348	162.3	274	71	229592.88	72.47

1/31/2025	4349	161.7	273	71	230764.99	72.48
1/31/2025	4350	161	273	71	219181.94	72.50
1/31/2025	4351	160.4	271	71	233362.11	72.52
1/31/2025	4352	159.9	270	71	217369.56	72.53
1/31/2025	4353	159.3	268	71	233117.68	72.55
1/31/2025	4354	158.7	266	71	218790.75	72.57
1/31/2025	4355	158.2	264	71	229297.53	72.58
1/31/2025	4356	157.6	263	71	213914.02	72.60
1/31/2025	4357	157.2	261	71	229958.23	72.62
1/31/2025	4358	156.6	260	71	210461.22	72.63
1/31/2025	4359	156	260	71	226228.87	72.65
1/31/2025	4360	155.5	260	71	222751.09	72.67
1/31/2025	4361	154.9	260	71	214847.66	72.68
1/31/2025	4362	154.4	260	71	229663.47	72.70
1/31/2025	4363	153.9	260	71	220798.49	72.72
1/31/2025	4364	153.3	259	71	213159.88	72.73
1/31/2025	4365	152.8	258	71	223881.8	72.75
1/31/2025	4366	152.3	258	71	207404.19	72.77
1/31/2025	4367	151.7	257	71	223306.77	72.78
1/31/2025	4368	151.2	257	71	213808.75	72.80
1/31/2025	4369	150.7	256	71	224251.38	72.82
1/31/2025	4370	150.1	254	71	217143.68	72.83
1/31/2025	4371	149.6	253	71	203274.86	72.85
1/31/2025	4372	148.9	251	71	218568.8	72.87
1/31/2025	4373	148.2	251	71	206876.35	72.88
1/31/2025	4374	147.7	254	71	220160.95	72.90
1/31/2025	4375	147.2	256	71	212861.17	72.92
1/31/2025	4376	146.7	257	71	217580.3	72.93
1/31/2025	4377	146.2	257	71	215158.6	72.95
1/31/2025	4378	145.7	257	71	208726.93	72.97
1/31/2025	4379	145.2	257	71	216111.11	72.98
1/31/2025	4380	144.6	257	71	217784.4	73.00
1/31/2025	4381	144.1	257	71	210460.14	73.02
1/31/2025	4382	143.6	258	71	221437.78	73.03
1/31/2025	4383	143	258	71	214054.01	73.05
1/31/2025	4384	142.5	258	71	218751.44	73.07
1/31/2025	4385	142	258	71	215440.62	73.08
1/31/2025	4386	141.4	258	70	211047.12	73.10
1/31/2025	4387	140.9	257	70	213656.39	73.12
1/31/2025	4388	140.4	257	70	205423.12	73.13
1/31/2025	4389	139.8	256	70	218589.93	73.15
1/31/2025	4390	139.3	255	70	216827.95	73.17
1/31/2025	4391	138.8	255	70	207128.69	73.18
1/31/2025	4392	138.3	254	71	216032.42	73.20
1/31/2025	4393	137.9	253	71	210848.1	73.22
1/31/2025	4394	137.3	252	71	199225.55	73.23
1/31/2025	4395	137	252	71	213605.61	73.25
1/31/2025	4396	136.5	252	70	188857.56	73.27
1/31/2025	4397	136	252	70	218519.08	73.28
1/31/2025	4398	135.5	252	70	203698.75	73.30
1/31/2025	4399	135.1	252	70	216386.77	73.32
1/31/2025	4400	134.7	253	70	197264.48	73.33
1/31/2025	4401	134.2	253	70	216390.14	73.35
1/31/2025	4402	133.8	253	70	205568.47	73.37
1/31/2025	4403	133.3	253	70	201052.22	73.38
1/31/2025	4404	132.8	254	70	216882.15	73.40
1/31/2025	4405	132.4	254	71	209081.83	73.42
1/31/2025	4406	131.9	255	71	209704.44	73.43
1/31/2025	4407	131.4	255	71	207255.58	73.45
1/31/2025	4408	130.9	256	71	202397.93	73.47
1/31/2025	4409	130.5	256	71	210810.78	73.48
1/31/2025	4410	130	256	71	209364.61	73.50
1/31/2025	4411	129.5	256	71	208028.73	73.52
1/31/2025	4412	129	256	71	204752.47	73.53

1/31/2025	4413	128.5	256	71	196007.71	73.55
1/31/2025	4414	128.1	257	71	213593.3	73.57
1/31/2025	4415	127.6	256	71	206264.61	73.58
1/31/2025	4416	127.1	257	71	199062.51	73.60
1/31/2025	4417	126.7	257	71	214637.96	73.62
1/31/2025	4418	126.2	257	71	195273.09	73.63
1/31/2025	4419	125.7	257	71	219373.94	73.65
1/31/2025	4420	125.2	257	71	200576.15	73.67
1/31/2025	4421	124.8	258	71	207466.44	73.68
1/31/2025	4422	124.3	258	71	207663.2	73.70
1/31/2025	4423	123.9	258	71	197099.06	73.72
1/31/2025	4424	123.4	258	71	204391.11	73.73
1/31/2025	4425	122.9	259	71	202180.36	73.75
1/31/2025	4426	122.4	259	71	208170.46	73.77
1/31/2025	4427	121.9	260	71	209569.41	73.78
1/31/2025	4428	121.5	261	71	188590.79	73.80
1/31/2025	4429	121	262	71	207448.58	73.82
1/31/2025	4430	120.5	263	71	196590.72	73.83
1/31/2025	4431	120	264	71	209670.38	73.85
1/31/2025	4432	119.5	265	71	209508.2	73.87
1/31/2025	4433	119.1	266	71	197354.03	73.88
1/31/2025	4434	118.6	266	71	217509.18	73.90
1/31/2025	4435	118.1	266	71	191156.23	73.92
1/31/2025	4436	117.6	266	71	211984.35	73.93
1/31/2025	4437	117.1	266	71	208364.54	73.95
1/31/2025	4438	116.6	267	71	197597.93	73.97
1/31/2025	4439	116.1	267	71	212770.72	73.98
1/31/2025	4440	115.6	268	71	205811.54	74.00
1/31/2025	4441	115.1	268	71	207842.31	74.02
1/31/2025	4442	114.6	268	71	203854.06	74.03
1/31/2025	4443	114	268	71	204993.75	74.05
1/31/2025	4444	113.5	268	71	212994.11	74.07
1/31/2025	4445	113	269	71	200580.44	74.08
1/31/2025	4446	112.5	269	71	212163.71	74.10
1/31/2025	4447	112.1	269	71	211093.01	74.12
1/31/2025	4448	111.5	269	71	197372.01	74.13
1/31/2025	4449	111.1	269	71	213939.61	74.15
1/31/2025	4450	110.6	269	71	194548.29	74.17
1/31/2025	4451	110.2	268	71	209925.99	74.18
1/31/2025	4452	109.8	268	71	209460.62	74.20
1/31/2025	4453	109.3	268	71	200769.16	74.22
1/31/2025	4454	108.9	267	71	207044.58	74.23
1/31/2025	4455	108.4	267	71	196761.8	74.25
1/31/2025	4456	108	266	71	213368.46	74.27
1/31/2025	4457	107.5	266	71	203606.87	74.28
1/31/2025	4458	107.1	266	71	205911.25	74.30
1/31/2025	4459	106.7	266	71	209250.79	74.32
1/31/2025	4460	106.2	265	71	197588.97	74.33
1/31/2025	4461	105.8	264	71	215379.21	74.35
1/31/2025	4462	105.4	264	71	207879.52	74.37
1/31/2025	4463	105	264	71	202535.22	74.38
1/31/2025	4464	104.6	264	71	214381.06	74.40
1/31/2025	4465	104.2	264	71	202855	74.42
1/31/2025	4466	103.8	264	71	210588.46	74.43
1/31/2025	4467	103.3	265	70	203670.17	74.45
1/31/2025	4468	102.8	265	71	204702.31	74.47
1/31/2025	4469	102.4	265	71	216429.58	74.48
1/31/2025	4470	101.9	265	71	208322.19	74.50
1/31/2025	4471	101.1	263	71	201461.62	74.52
1/31/2025	4472	100.5	264	71	212235.3	74.53
1/31/2025	4473	99.9	266	71	205437.51	74.55
1/31/2025	4474	99.3	267	71	199227.38	74.57
1/31/2025	4475	98.8	268	71	212530.41	74.58
1/31/2025	4476	98.2	268	71	199093.79	74.60

1/31/2025	4477	97.7	268	71	198232.68	74.62
1/31/2025	4478	97.2	268	71	213521.84	74.63
1/31/2025	4479	96.7	268	71	212003.6	74.65
1/31/2025	4480	96.2	267	71	200991.28	74.67
1/31/2025	4481	95.7	267	71	214445.25	74.68
1/31/2025	4482	95.2	267	71	200749.26	74.70
1/31/2025	4483	94.7	267	71	212028.15	74.72
1/31/2025	4484	94.3	267	71	206216.41	74.73
1/31/2025	4485	93.8	266	70	200580.56	74.75
1/31/2025	4486	93.3	266	71	213087.18	74.77
1/31/2025	4487	92.9	266	71	197267.87	74.78
1/31/2025	4488	92.4	265	71	214168.68	74.80
1/31/2025	4489	92	265	71	204529.74	74.82
1/31/2025	4490	91.5	265	71	212671.83	74.83
1/31/2025	4491	91.1	265	71	207611.38	74.85
1/31/2025	4492	90.6	265	71	205911.14	74.87
1/31/2025	4493	90.2	264	71	213423.75	74.88
1/31/2025	4494	89.8	264	71	201508.99	74.90
1/31/2025	4495	89.4	264	71	217713.52	74.92
1/31/2025	4496	88.9	264	71	213110.23	74.93
1/31/2025	4497	88.5	263	71	192639.44	74.95
1/31/2025	4498	88.1	263	71	216853.88	74.97
1/31/2025	4499	87.7	262	71	206577.36	74.98
1/31/2025	4500	87.4	262	71	202940.39	75.00
1/31/2025	4501	87	261	71	215688.7	75.02
1/31/2025	4502	86.6	260	71	195744.68	75.03
1/31/2025	4503	86.3	260	71	210633.3	75.05
1/31/2025	4504	86	259	71	190749.28	75.07
1/31/2025	4505	85.7	259	71	213250.11	75.08
1/31/2025	4506	85.3	259	71	202501.88	75.10
1/31/2025	4507	85	259	71	216655.5	75.12
1/31/2025	4508	84.7	259	71	203370.54	75.13
1/31/2025	4509	84.4	258	71	205285.12	75.15
1/31/2025	4510	84.1	258	71	212421.01	75.17
1/31/2025	4511	83.8	258	71	205686.77	75.18
1/31/2025	4512	83.5	258	71	203661.15	75.20
1/31/2025	4513	83.2	258	71	214111.71	75.22
1/31/2025	4514	82.8	258	71	200180.12	75.23
1/31/2025	4515	82.5	258	71	208086.07	75.25
1/31/2025	4516	82.2	258	71	207846.46	75.27
1/31/2025	4517	82	257	71	201726.32	75.28
1/31/2025	4518	81.7	257	71	213935.65	75.30
1/31/2025	4519	81.4	257	71	193472.1	75.32
1/31/2025	4520	81.1	256	71	215759.3	75.33
1/31/2025	4521	80.9	256	71	207241.75	75.35
1/31/2025	4522	80.6	256	71	200762.11	75.37
1/31/2025	4523	80.3	256	71	213438.1	75.38
1/31/2025	4524	80	256	71	195650.36	75.40
1/31/2025	4525	79.7	256	71	212244.45	75.42
1/31/2025	4526	79.4	257	71	208568.65	75.43
1/31/2025	4527	79.1	257	71	203310.92	75.45
1/31/2025	4528	78.9	257	71	205489.56	75.47
1/31/2025	4529	78.5	258	71	191695.55	75.48
1/31/2025	4530	78.3	258	71	207703.6	75.50
1/31/2025	4531	77.9	259	71	204976.33	75.52
1/31/2025	4532	77.6	259	71	214626.92	75.53
1/31/2025	4533	77.4	259	71	207823.26	75.55
1/31/2025	4534	77.1	259	71	202061.27	75.57
1/31/2025	4535	76.8	259	71	208328.19	75.58
1/31/2025	4536	76.5	260	71	195053.15	75.60
1/31/2025	4537	76.2	260	71	210889.2	75.62
1/31/2025	4538	76	260	71	192949.47	75.63
1/31/2025	4539	75.7	260	71	203413.46	75.65
1/31/2025	4540	75.4	261	71	204442.88	75.67

1/31/2025	4541	75.1	261	71	203136.77	75.68
1/31/2025	4542	74.8	261	71	209905.78	75.70
1/31/2025	4543	74.5	262	71	202220.95	75.72
1/31/2025	4544	74.2	262	71	214505.48	75.73
1/31/2025	4545	73.9	262	71	210635.92	75.75
1/31/2025	4546	73.6	262	71	199947.23	75.77
1/31/2025	4547	73.3	262	71	211287.38	75.78
1/31/2025	4548	73	262	71	211100.2	75.80
1/31/2025	4549	72.7	263	71	192551.35	75.82
1/31/2025	4550	72.5	263	71	212454.6	75.83
1/31/2025	4551	72.3	263	71	201898.47	75.85
1/31/2025	4552	72	262	71	213261.9	75.87
1/31/2025	4553	71.8	261	71	205092.96	75.88
1/31/2025	4554	71.5	260	71	197009.97	75.90
1/31/2025	4555	71.3	259	71	209141.5	75.92
1/31/2025	4556	71	258	71	204247.24	75.93
1/31/2025	4557	70.8	256	71	200051.27	75.95
1/31/2025	4558	70.5	255	71	205880.64	75.97
1/31/2025	4559	70.3	254	71	204263.28	75.98
1/31/2025	4560	70	252	71	207832.92	76.00
1/31/2025	4561	69.8	250	71	196828.68	76.02
1/31/2025	4562	69.6	249	71	207721.18	76.03
1/31/2025	4563	69.4	247	71	200514.26	76.05
1/31/2025	4564	69.1	247	71	202513.03	76.07
1/31/2025	4565	68.9	247	71	204334.02	76.08
1/31/2025	4566	68.7	248	71	195569.87	76.10
1/31/2025	4567	68.5	248	71	195961.84	76.12
1/31/2025	4568	68.3	248	71	206403.91	76.13
1/31/2025	4569	68.1	248	71	198436.43	76.15
1/31/2025	4570	67.9	248	71	204058.21	76.17
1/31/2025	4571	67.6	248	71	188151.4	76.18
1/31/2025	4572	67.4	248	71	206266.21	76.20
1/31/2025	4573	67.2	248	71	200822.98	76.22
1/31/2025	4574	66.9	248	71	206507.79	76.23
1/31/2025	4575	66.7	248	71	203602.17	76.25
1/31/2025	4576	66.4	249	71	189257.24	76.27
1/31/2025	4577	66.2	249	71	208379.41	76.28
1/31/2025	4578	65.9	250	71	202314.31	76.30
1/31/2025	4579	65.7	251	71	189856.44	76.32
1/31/2025	4580	65.4	251	71	205588.77	76.33
1/31/2025	4581	65.2	251	71	190583.65	76.35
1/31/2025	4582	64.9	250	71	205554.72	76.37
1/31/2025	4583	64.7	250	71	204896.69	76.38
1/31/2025	4584	64.4	249	71	194625.62	76.40
1/31/2025	4585	64.2	247	71	204262.45	76.42
1/31/2025	4586	63.9	247	71	197571.2	76.43
1/31/2025	4587	63.6	248	71	194795.07	76.45
1/31/2025	4588	63.4	249	71	206486.96	76.47
1/31/2025	4589	62.8	244	71	198325.88	76.48
1/31/2025	4590	62.6	245	71	197885.72	76.50
1/31/2025	4591	62.4	247	71	201801.48	76.52
1/31/2025	4592	62.1	248	71	183141.02	76.53
1/31/2025	4593	61.9	248	71	207932.32	76.55
1/31/2025	4594	61.7	248	71	201808.35	76.57
2/3/2025	4595	59.3	269	70	145259.45	76.58
2/3/2025	4596	194.9	258	70	54716.44	76.60
2/3/2025	4597	272.7	261	71	56075.59	76.62
2/3/2025	4598	271.8	270	70	54898.36	76.63
2/3/2025	4599	271.3	268	70	55713.68	76.65
2/3/2025	4600	270.5	271	70	54458.48	76.67
2/3/2025	4601	269.9	273	70	53234.62	76.68
2/3/2025	4602	269.2	274	70	56912.97	76.70
2/3/2025	4603	268.5	276	70	55540.77	76.72
2/3/2025	4604	267.8	277	70	56126.6	76.73

2/3/2025	4605	267.1	279	70	55299.85	76.75
2/3/2025	4606	266.4	279	70	55201.93	76.77
2/3/2025	4607	265.7	278	70	53795.77	76.78
2/3/2025	4608	265.1	278	71	56230.6	76.80
2/3/2025	4609	264.4	278	71	55187.8	76.82
2/3/2025	4610	263.8	279	70	54850.44	76.83
2/3/2025	4611	263.1	279	70	54205.25	76.85
2/3/2025	4612	262.7	270	71	63109.43	76.87
2/3/2025	4613	262.5	257	71	68051.85	76.88
2/3/2025	4614	262.3	245	71	65229.21	76.90
2/3/2025	4615	262.3	234	71	63589.47	76.92
2/3/2025	4616	262.2	225	71	63044.6	76.93
2/3/2025	4617	262.2	217	71	60965.53	76.95
2/3/2025	4618	262.2	210	71	60884.7	76.97
2/3/2025	4619	262.2	204	71	60372.72	76.98
2/3/2025	4620	262.2	198	71	59295.89	77.00
2/3/2025	4621	262.2	195	71	58848.1	77.02
2/3/2025	4622	262.2	191	71	60915.89	77.03
2/3/2025	4623	262.2	188	71	58216.4	77.05
2/3/2025	4624	262.1	185	71	58322.05	77.07
2/3/2025	4625	262.1	183	71	57891.16	77.08
2/3/2025	4626	262.1	180	71	58300.05	77.10
2/3/2025	4627	262.1	178	71	58021.62	77.12
2/3/2025	4628	262.1	175	71	57788.13	77.13
2/3/2025	4629	258.4	203	71	47206.99	77.15
2/3/2025	4630	257.5	228	71	46997.5	77.17
2/3/2025	4631	256.5	248	71	46964.67	77.18
2/3/2025	4632	255.6	259	71	47776.08	77.20
2/3/2025	4633	254.7	266	71	48253.18	77.22
2/3/2025	4634	253.9	270	71	48577.46	77.23
2/3/2025	4635	253	271	71	48442.93	77.25
2/3/2025	4636	252.1	273	71	47694.16	77.27
2/3/2025	4637	251.2	275	71	49258.57	77.28
2/3/2025	4638	250.3	278	71	48517.73	77.30
2/3/2025	4639	249.5	279	71	48952.4	77.32
2/3/2025	4640	248.6	280	71	50364.02	77.33
2/3/2025	4641	247.8	280	71	49483.19	77.35
2/3/2025	4642	247	281	71	48447.92	77.37
2/3/2025	4643	246.1	281	71	50878.81	77.38
2/3/2025	4644	245.3	283	71	49026.66	77.40
2/3/2025	4645	244.5	284	71	48479.65	77.42
2/3/2025	4646	243.7	284	71	51947.55	77.43
2/3/2025	4647	242.9	285	71	50665.33	77.45
2/3/2025	4648	242.2	285	71	51041.85	77.47
2/3/2025	4649	241.4	285	71	50782.45	77.48
2/3/2025	4650	240.6	287	71	49640.65	77.50
2/3/2025	4651	239.8	287	71	49909	77.52
2/3/2025	4652	239.2	284	70	48717.21	77.53
2/3/2025	4653	238.7	269	70	52920.07	77.55
2/3/2025	4654	238.4	256	70	50583.74	77.57
2/3/2025	4655	238.2	243	70	50574.54	77.58
2/3/2025	4656	238.1	232	70	49984.45	77.60
2/3/2025	4657	238	222	70	50576.65	77.62
2/3/2025	4658	237.8	214	70	49852.99	77.63
2/3/2025	4659	237.7	207	70	49580.77	77.65
2/3/2025	4660	237.7	201	70	49328.15	77.67
2/3/2025	4661	237.6	196	70	48410.73	77.68
2/3/2025	4662	237.5	192	70	48413.88	77.70
2/3/2025	4663	237.5	189	70	51648.61	77.72
2/3/2025	4664	237.5	186	70	49885.11	77.73
2/3/2025	4665	237.4	183	70	50023.25	77.75
2/3/2025	4666	237.4	180	70	49416.33	77.77
2/3/2025	4667	237.3	177	70	48900.78	77.78
2/3/2025	4668	237.3	175	70	48373.78	77.80

2/3/2025	4669	234.8	179	70	46144	77.82
2/3/2025	4670	234.1	197	70	45546.64	77.83
2/3/2025	4671	233.4	217	70	43900.99	77.85
2/3/2025	4672	232.7	234	70	44330.27	77.87
2/3/2025	4673	232	249	70	44796.35	77.88
2/3/2025	4674	231.2	260	70	47454.42	77.90
2/3/2025	4675	230.4	269	70	47383.07	77.92
2/3/2025	4676	229.7	276	70	47582.49	77.93
2/3/2025	4677	228.8	278	70	48025.13	77.95
2/3/2025	4678	228.1	278	70	47172.31	77.97
2/3/2025	4679	227.3	277	70	47080.7	77.98
2/3/2025	4680	226.4	278	70	48000.55	78.00
2/3/2025	4681	225.5	279	70	47887.86	78.02
2/3/2025	4682	224.6	280	70	47057.7	78.03
2/3/2025	4683	223.8	282	70	48547.44	78.05
2/3/2025	4684	222.9	284	70	47194.01	78.07
2/3/2025	4685	221.9	286	70	50348.49	78.08
2/3/2025	4686	221.1	288	70	49616.56	78.10
2/3/2025	4687	220.1	287	70	49404.31	78.12
2/3/2025	4688	219.3	287	70	49721.44	78.13
2/3/2025	4689	218.4	287	70	49653.27	78.15
2/3/2025	4690	217.5	288	70	49847.26	78.17
2/3/2025	4691	216.6	288	70	48120.98	78.18
2/3/2025	4692	215.8	290	70	49514.79	78.20
2/3/2025	4693	214.9	292	71	49305.93	78.22
2/3/2025	4694	214.2	290	71	49136.68	78.23
2/3/2025	4695	213.8	274	71	47324.93	78.25
2/3/2025	4696	213.4	260	71	50043.71	78.27
2/3/2025	4697	213.1	247	71	50490.92	78.28
2/3/2025	4698	212.9	235	71	49954.09	78.30
2/3/2025	4699	212.7	225	71	47713.99	78.32
2/3/2025	4700	212.6	217	71	48840.88	78.33
2/3/2025	4701	212.4	210	71	48708.02	78.35
2/3/2025	4702	212.3	204	71	48198.57	78.37
2/3/2025	4703	212.2	199	70	48855.4	78.38
2/3/2025	4704	212.2	194	70	47703.62	78.40
2/3/2025	4705	212.1	191	70	48825.19	78.42
2/3/2025	4706	212	188	70	46124.98	78.43
2/3/2025	4707	212	185	70	50935.6	78.45
2/3/2025	4708	211.9	182	70	49964.12	78.47
2/3/2025	4709	211.9	179	70	47817.7	78.48
2/3/2025	4710	211.9	177	70	47728.79	78.50
2/3/2025	4711	209.4	175	70	43523.56	78.52
2/3/2025	4712	208.7	190	70	44539.43	78.53
2/3/2025	4713	208.1	208	70	41746.74	78.55
2/3/2025	4714	207.4	225	70	43417.89	78.57
2/3/2025	4715	206.7	241	70	45946.16	78.58
2/3/2025	4716	206	253	70	47615.99	78.60
2/3/2025	4717	205.3	263	70	45770.34	78.62
2/3/2025	4718	204.5	271	70	47242.42	78.63
2/3/2025	4719	203.8	276	70	48200.41	78.65
2/3/2025	4720	203.1	280	70	46847.64	78.67
2/3/2025	4721	202.4	283	70	46781.78	78.68
2/3/2025	4722	201.7	285	70	47735.66	78.70
2/3/2025	4723	201	288	70	47529.78	78.72
2/3/2025	4724	200.2	290	70	46789.17	78.73
2/3/2025	4725	199.4	287	70	46154.1	78.75
2/3/2025	4726	198.7	285	70	50186.08	78.77
2/3/2025	4727	198	284	70	49422.08	78.78
2/3/2025	4728	197.2	284	70	49805.69	78.80
2/3/2025	4729	196.4	285	70	50256.65	78.82
2/3/2025	4730	195.6	285	70	50093.19	78.83
2/3/2025	4731	194.9	286	70	50357.12	78.85
2/3/2025	4732	194.1	286	70	52827.34	78.87

2/3/2025	4733	193.3	286	70	48974.49	78.88
2/3/2025	4734	192.4	286	70	48745.86	78.90
2/3/2025	4735	191.6	286	70	48639.3	78.92
2/3/2025	4736	190.9	286	70	48922.83	78.93
2/3/2025	4737	190.2	285	70	55659.14	78.95
2/3/2025	4738	189.7	271	70	49196.65	78.97
2/3/2025	4739	189.4	257	71	52338.24	78.98
2/3/2025	4740	189.1	245	71	50174.54	79.00
2/3/2025	4741	188.9	234	71	49993.96	79.02
2/3/2025	4742	188.7	224	71	49600.41	79.03
2/3/2025	4743	188.5	216	70	49411.82	79.05
2/3/2025	4744	188.4	209	70	48963.34	79.07
2/3/2025	4745	188.3	203	70	48403.16	79.08
2/3/2025	4746	188.2	198	70	47827.3	79.10
2/3/2025	4747	188.1	194	70	48807.62	79.12
2/3/2025	4748	188	190	70	50074.57	79.13
2/3/2025	4749	187.9	187	70	47239.12	79.15
2/3/2025	4750	187.9	184	70	50085.02	79.17
2/3/2025	4751	187.8	182	70	49013.58	79.18
2/3/2025	4752	187.8	179	70	49452.92	79.20
2/3/2025	4753	187.8	177	70	49036.96	79.22
2/3/2025	4754	185.3	186	70	44618.61	79.23
2/3/2025	4755	184.7	207	70	44517.68	79.25
2/3/2025	4756	183.9	228	70	44460.05	79.27
2/3/2025	4757	183.1	246	70	44363.27	79.28
2/3/2025	4758	182.5	257	70	44787.88	79.30
2/3/2025	4759	181.8	265	70	45766.92	79.32
2/3/2025	4760	181.1	266	70	47132.36	79.33
2/3/2025	4761	180.5	267	70	46619.03	79.35
2/3/2025	4762	179.7	268	70	46949.76	79.37
2/3/2025	4763	179	269	70	47868.07	79.38
2/3/2025	4764	178.3	270	70	47143.83	79.40
2/3/2025	4765	177.5	271	70	48570.15	79.42
2/3/2025	4766	176.8	272	70	48519.81	79.43
2/3/2025	4767	176	274	70	45988.98	79.45
2/3/2025	4768	175.2	275	71	48563.64	79.47
2/3/2025	4769	174.5	277	71	46433.93	79.48
2/3/2025	4770	173.7	278	71	47306.89	79.50
2/3/2025	4771	173	280	71	46003.15	79.52
2/3/2025	4772	172.1	281	71	49565.18	79.53
2/3/2025	4773	171.3	283	71	48735.45	79.55
2/3/2025	4774	170.6	283	71	49200.91	79.57
2/3/2025	4775	169.7	284	70	48988.53	79.58
2/3/2025	4776	168.9	285	70	49348.57	79.60
2/3/2025	4777	168.2	286	70	48566.78	79.62
2/3/2025	4778	167.3	286	70	49020.89	79.63
2/3/2025	4779	166.6	287	70	48268.69	79.65
2/3/2025	4780	166	278	70	48469.96	79.67
2/3/2025	4781	165.6	263	70	49490.86	79.68
2/3/2025	4782	165.3	250	70	51031.5	79.70
2/3/2025	4783	165	238	70	49959.95	79.72
2/3/2025	4784	164.9	228	70	49467.99	79.73
2/3/2025	4785	164.7	218	70	49888.56	79.75
2/3/2025	4786	164.5	211	70	49428.34	79.77
2/3/2025	4787	164.3	205	70	49865.3	79.78
2/3/2025	4788	164.2	200	70	48764.74	79.80
2/3/2025	4789	164.1	195	70	48828.61	79.82
2/3/2025	4790	164	191	70	48889.08	79.83
2/3/2025	4791	163.9	188	70	48435.31	79.85
2/3/2025	4792	163.8	185	70	48243.2	79.87
2/3/2025	4793	163.7	182	70	49891.33	79.88
2/3/2025	4794	163.6	180	70	49365.98	79.90
2/3/2025	4795	163.5	178	70	49432.8	79.92
2/3/2025	4796	163.5	175	70	49505.34	79.93

2/3/2025	4797	160.5	179	70	46596.25	79.95
2/3/2025	4798	159.6	200	70	45520.87	79.97
2/3/2025	4799	158.9	222	70	45462.84	79.98
2/3/2025	4800	158.3	237	70	46409.78	80.00
2/3/2025	4801	157.6	251	70	45858.88	80.02
2/3/2025	4802	156.9	262	70	46228.46	80.03
2/3/2025	4803	156.1	268	70	48296.83	80.05
2/3/2025	4804	155.5	269	70	48845.88	80.07
2/3/2025	4805	154.8	269	70	48155.98	80.08
2/3/2025	4806	154.1	270	70	47423.74	80.10
2/3/2025	4807	153.4	271	70	46668.39	80.12
2/3/2025	4808	152.7	272	70	47590.67	80.13
2/3/2025	4809	152	273	70	48995.78	80.15
2/3/2025	4810	151.4	273	70	49357.96	80.17
2/3/2025	4811	150.7	274	69	48058.16	80.18
2/3/2025	4812	150.1	276	69	47460.37	80.20
2/3/2025	4813	149.4	277	69	46695.73	80.22
2/3/2025	4814	148.7	278	69	50914.28	80.23
2/3/2025	4815	148	279	69	48960.31	80.25
2/3/2025	4816	147.2	280	69	50615.74	80.27
2/3/2025	4817	146.5	281	69	48523.16	80.28
2/3/2025	4818	145.8	282	69	50121.73	80.30
2/3/2025	4819	145	283	69	51613.4	80.32
2/3/2025	4820	144.3	285	69	49274.88	80.33
2/3/2025	4821	143.5	286	69	49697.11	80.35
2/3/2025	4822	142.8	286	69	47907.07	80.37
2/3/2025	4823	142.1	285	69	52886.38	80.38
2/3/2025	4824	141.6	271	68	50134.85	80.40
2/3/2025	4825	141.3	257	68	51196.03	80.42
2/3/2025	4826	141.1	244	68	83439.71	80.43
2/3/2025	4827	140.8	234	68	68579.39	80.45
2/3/2025	4828	140.6	224	68	66768.47	80.47
2/3/2025	4829	140.4	216	68	67861.75	80.48
2/3/2025	4830	140.2	209	68	66852.81	80.50
2/3/2025	4831	140.1	203	68	84643.73	80.52
2/3/2025	4832	139.9	198	68	66666.51	80.53
2/3/2025	4833	139.8	194	68	65655.76	80.55
2/3/2025	4834	139.6	190	68	64577.98	80.57
2/3/2025	4835	139.6	186	68	68967.3	80.58
2/3/2025	4836	139.5	183	68	67913.52	80.60
2/3/2025	4837	139.3	181	68	67569.1	80.62
2/3/2025	4838	139.2	178	68	67547.1	80.63
2/3/2025	4839	139.1	176	68	66519.87	80.65
2/3/2025	4840	136.5	176	69	54470.48	80.67
2/3/2025	4841	136	193	69	55054.74	80.68
2/3/2025	4842	135.4	212	69	53239.2	80.70
2/3/2025	4843	134.8	232	69	52102.74	80.72
2/3/2025	4844	134.1	247	70	54740.12	80.73
2/3/2025	4845	133.4	260	70	55413.86	80.75
2/3/2025	4846	132.7	265	70	53951.22	80.77
2/3/2025	4847	132.1	268	70	57246.85	80.78
2/3/2025	4848	131.4	269	70	54313.66	80.80
2/3/2025	4849	130.7	269	70	54818.29	80.82
2/3/2025	4850	130.1	269	69	56308.63	80.83
2/3/2025	4851	129.4	270	70	57203.61	80.85
2/3/2025	4852	128.7	273	70	52049.13	80.87
2/3/2025	4853	128	273	69	57925.26	80.88
2/3/2025	4854	127.2	277	69	57683.27	80.90
2/3/2025	4855	126.5	278	69	57526.53	80.92
2/3/2025	4856	125.8	278	69	58008.5	80.93
2/3/2025	4857	125.1	278	69	56760.85	80.95
2/3/2025	4858	124.4	279	69	56472.18	80.97
2/3/2025	4859	123.6	280	69	60107.42	80.98
2/3/2025	4860	122.9	280	69	59842.98	81.00

2/3/2025	4861	122.1	282	69	54858.95	81.02
2/3/2025	4862	121.4	282	69	56399.35	81.03
2/3/2025	4863	120.5	283	69	60523.95	81.05
2/3/2025	4864	119.8	284	69	59566.34	81.07
2/3/2025	4865	119.1	285	69	59042.46	81.08
2/3/2025	4866	118.4	285	69	58408.85	81.10
2/3/2025	4867	117.9	269	69	57652.27	81.12
2/3/2025	4868	117.5	254	69	61484.01	81.13
2/3/2025	4869	117.2	242	69	61170.12	81.15
2/3/2025	4870	117	231	69	58663.56	81.17
2/3/2025	4871	116.8	221	69	57893.22	81.18
2/3/2025	4872	116.6	213	69	54118.15	81.20
2/3/2025	4873	116.4	206	69	59092.98	81.22
2/3/2025	4874	116.3	200	69	58387.41	81.23
2/3/2025	4875	116.1	196	69	57538.08	81.25
2/3/2025	4876	116	191	69	58014.78	81.27
2/3/2025	4877	115.9	188	69	54285.27	81.28
2/3/2025	4878	115.8	184	69	59658.61	81.30
2/3/2025	4879	115.8	181	69	57976.35	81.32
2/3/2025	4880	115.7	179	69	57916.73	81.33
2/3/2025	4881	115.6	176	69	56451.01	81.35
2/3/2025	4882	113	189	69	56421.39	81.37
2/3/2025	4883	112.3	213	69	54190.14	81.38
2/3/2025	4884	111.6	234	69	55971.17	81.40
2/3/2025	4885	110.8	250	69	54617.93	81.42
2/3/2025	4886	110.1	263	69	58637.35	81.43
2/3/2025	4887	109.5	268	69	59345.23	81.45
2/3/2025	4888	108.7	271	69	53764.84	81.47
2/3/2025	4889	108.1	273	69	57493.22	81.48
2/3/2025	4890	107.4	274	69	56315.94	81.50
2/3/2025	4891	106.6	275	69	56986.93	81.52
2/3/2025	4892	105.9	276	69	57625.17	81.53
2/3/2025	4893	105.2	277	69	58881.73	81.55
2/3/2025	4894	104.5	278	69	57782.31	81.57
2/3/2025	4895	103.8	280	69	55448.55	81.58
2/3/2025	4896	103	281	68	57936.9	81.60
2/3/2025	4897	102.3	282	69	59994.13	81.62
2/3/2025	4898	101.5	283	68	57511.76	81.63
2/3/2025	4899	100.8	284	68	58481.86	81.65
2/3/2025	4900	100	285	68	60463.84	81.67
2/3/2025	4901	99.3	287	68	57995.55	81.68
2/3/2025	4902	98.6	287	69	58379.41	81.70
2/3/2025	4903	97.8	288	69	60965.37	81.72
2/3/2025	4904	97.1	290	69	60766.37	81.73
2/3/2025	4905	96.2	291	69	60079.19	81.75
2/3/2025	4906	95.5	292	69	57093.39	81.77
2/3/2025	4907	94.7	292	69	60613.32	81.78
2/3/2025	4908	94.1	290	69	58290.92	81.80
2/3/2025	4909	93.5	274	69	58633.57	81.82
2/3/2025	4910	93.1	260	69	62394.55	81.83
2/3/2025	4911	92.7	246	69	58105.52	81.85
2/3/2025	4912	92.4	235	69	61884.86	81.87
2/3/2025	4913	92.1	225	69	60682.2	81.88
2/3/2025	4914	91.9	218	69	58515.26	81.90
2/3/2025	4915	91.7	211	69	57453.21	81.92
2/3/2025	4916	91.5	205	69	59557.42	81.93
2/3/2025	4917	91.3	200	69	57957.72	81.95
2/3/2025	4918	91.1	196	69	58059.46	81.97
2/3/2025	4919	90.9	192	69	62212.56	81.98
2/3/2025	4920	90.8	189	69	60765.38	82.00
2/3/2025	4921	90.7	186	69	59689.58	82.02
2/3/2025	4922	90.5	183	69	57416.44	82.03
2/3/2025	4923	90.4	181	69	57502.67	82.05
2/3/2025	4924	90.2	178	69	57491.42	82.07

2/3/2025	4925	90.1	176	69	57413.07	82.08
2/3/2025	4926	88	185	69	67569.97	82.10
2/3/2025	4927	87.4	203	69	65818.36	82.12
2/3/2025	4928	86.9	222	69	68983.39	82.13
2/3/2025	4929	86.2	238	69	68475.7	82.15
2/3/2025	4930	85.6	251	69	67966.79	82.17
2/3/2025	4931	85	260	69	67144.45	82.18
2/3/2025	4932	84.4	267	69	69285.62	82.20
2/3/2025	4933	83.8	273	69	67531.98	82.22
2/3/2025	4934	83.1	278	69	65730.58	82.23
2/3/2025	4935	82.5	282	69	70036.87	82.25
2/3/2025	4936	81.9	281	69	69146.72	82.27
2/3/2025	4937	81.3	282	69	66949.05	82.28
2/3/2025	4938	80.7	283	69	69940.83	82.30
2/3/2025	4939	80.1	285	69	68298.96	82.32
2/3/2025	4940	79.4	286	70	70853.04	82.33
2/3/2025	4941	78.8	287	70	70106.73	82.35
2/3/2025	4942	78.2	288	70	68790.94	82.37
2/3/2025	4943	77.5	289	70	70275.43	82.38
2/3/2025	4944	76.9	289	70	69526.16	82.40
2/3/2025	4945	76.2	291	70	67659.33	82.42
2/3/2025	4946	75.6	292	70	68876.1	82.43
2/3/2025	4947	74.9	291	70	67825.49	82.45
2/3/2025	4948	74.2	292	70	70459.04	82.47
2/3/2025	4949	73.5	293	70	70750.12	82.48
2/3/2025	4950	72.9	293	70	68473.1	82.50
2/3/2025	4951	72.1	295	70	69306.41	82.52
2/3/2025	4952	71.5	296	70	68666.88	82.53
2/3/2025	4953	70.8	296	70	71233.15	82.55
2/3/2025	4954	70.2	298	70	72444.07	82.57
2/3/2025	4955	69.7	290	70	70767.23	82.58
2/3/2025	4956	69.3	273	70	69706.06	82.60
2/3/2025	4957	68.9	259	70	69995.1	82.62
2/3/2025	4958	68.6	246	70	69482.53	82.63
2/3/2025	4959	68.4	235	70	69558.99	82.65
2/3/2025	4960	68.2	226	70	69827.54	82.67
2/3/2025	4961	68	218	70	71719.9	82.68
2/3/2025	4962	67.8	211	70	69949.54	82.70
2/3/2025	4963	67.6	205	70	69394.63	82.72
2/3/2025	4964	67.4	200	70	66313.54	82.73
2/3/2025	4965	67.3	196	70	69828.68	82.75
2/3/2025	4966	67.1	193	70	69417.72	82.77
2/3/2025	4967	67	189	70	67687.05	82.78
2/3/2025	4968	66.9	187	70	69967.5	82.80
2/3/2025	4969	66.7	184	70	69538.41	82.82
2/3/2025	4970	66.7	181	70	69490.84	82.83
2/3/2025	4971	66.6	179	70	67457.07	82.85
2/3/2025	4972	66.5	177	70	68492.06	82.87
2/3/2025	4973	66.4	175	70	65770.52	82.88
2/3/2025	4974	64.4	186	70	74559.28	82.90
2/3/2025	4975	63.8	210	70	72857.18	82.92
2/3/2025	4976	63.2	230	70	74311.26	82.93
2/3/2025	4977	62.6	245	70	72593.57	82.95
2/3/2025	4978	62.1	257	71	77484.29	82.97
2/3/2025	4979	61.5	266	70	76145.78	82.98
2/3/2025	4980	60.9	273	70	74064.52	83.00
2/3/2025	4981	60.3	276	70	74323.83	83.02
2/3/2025	4982	59.7	276	71	74299.03	83.03
2/3/2025	4983	59	277	70	73619.82	83.05
2/3/2025	4984	58.4	277	71	77417.3	83.07
2/3/2025	4985	57.8	276	71	74435.59	83.08
2/3/2025	4986	57.1	277	71	77012.64	83.10
2/3/2025	4987	56.5	278	71	75632.52	83.12
2/3/2025	4988	55.9	279	71	76422.95	83.13

2/3/2025	4989	55.2	280	71	91395.93	83.15
2/3/2025	4990	54.6	281	71	80065.47	83.17
2/3/2025	4991	54	281	71	79937.36	83.18
2/3/2025	4992	53.4	282	71	79158.38	83.20
2/3/2025	4993	52.7	284	71	79968.24	83.22
2/3/2025	4994	52.2	285	71	79235.75	83.23
2/3/2025	4995	51.6	285	71	80735.44	83.25
2/3/2025	4996	51	285	71	77880.51	83.27
2/3/2025	4997	50.3	285	71	80427.91	83.28
2/3/2025	4998	49.7	285	71	175604.85	83.30
2/3/2025	4999	49.3	285	71	341389.65	83.32
2/3/2025	5000	48.8	286	71	281675.81	83.33
2/3/2025	5001	48.2	286	71	273164.05	83.35
2/3/2025	5002	47.6	287	70	297512.91	83.37
2/3/2025	5003	47	287	71	276981.29	83.38
2/3/2025	5004	46.3	288	71	280251.19	83.40
2/3/2025	5005	45.7	288	71	282980.94	83.42
2/3/2025	5006	45.1	288	71	271385.25	83.43
2/3/2025	5007	44.5	288	71	288460.65	83.45
2/3/2025	5008	43.9	289	71	278871.96	83.47
2/3/2025	5009	43.3	289	71	268149.34	83.48
2/3/2025	5010	42.7	289	70	283167.81	83.50
2/3/2025	5011	42.1	289	71	267644.68	83.52
2/3/2025	5012	41.4	289	71	291552.61	83.53
2/3/2025	5013	40.9	289	70	276554.12	83.55
2/3/2025	5014	40.2	287	70	263613.9	83.57
2/3/2025	5015	39.6	288	70	247648.58	83.58
2/3/2025	5016	39	288	70	252121.43	83.60
2/3/2025	5017	38.5	287	70	257456.34	83.62
2/3/2025	5018	37.8	287	70	257116.65	83.63
2/3/2025	5019	37.2	287	70	242086.96	83.65
2/3/2025	5020	36.7	286	70	264498.24	83.67
2/3/2025	5021	36.1	286	70	253693.16	83.68
2/3/2025	5022	35.5	285	70	249432.4	83.70
2/3/2025	5023	35	285	70	259362.96	83.72
2/3/2025	5024	34.4	285	71	246767.56	83.73
2/3/2025	5025	33.9	284	71	260419.92	83.75
2/3/2025	5026	33.4	284	71	256992.83	83.77
2/3/2025	5027	32.8	283	71	246911.93	83.78
2/3/2025	5028	32.3	283	71	260174.33	83.80
2/3/2025	5029	31.8	281	71	248084.93	83.82
2/3/2025	5030	31.3	281	71	259713.94	83.83
2/3/2025	5031	30.8	280	71	254063.05	83.85
2/3/2025	5032	30.2	280	71	240673.59	83.87
2/3/2025	5033	29.7	279	71	259859.16	83.88
2/3/2025	5034	29.2	280	71	252385.86	83.90
2/3/2025	5035	28.6	281	71	246582.52	83.92
2/3/2025	5036	28.1	280	71	259589.66	83.93
2/3/2025	5037	27.6	280	71	246436.85	83.95
2/3/2025	5038	27.1	280	71	257443.75	83.97
2/3/2025	5039	26.6	281	71	252248.41	83.98
2/3/2025	5040	26.1	280	71	242031.39	84.00
2/3/2025	5041	25.6	281	71	255534.5	84.02
2/3/2025	5042	25.2	279	71	248137.18	84.03
2/3/2025	5043	24.7	279	71	251267.3	84.05
2/3/2025	5044	24.2	279	71	253891.66	84.07
2/3/2025	5045	23.8	279	71	242557.15	84.08
2/3/2025	5046	23.3	279	71	256337.96	84.10
2/3/2025	5047	22.9	279	71	244823.19	84.12
2/3/2025	5048	22.4	279	71	237267.75	84.13
2/3/2025	5049	22	278	71	249950.04	84.15
2/3/2025	5050	21.5	279	71	240327.1	84.17
2/3/2025	5051	21	279	71	255682.56	84.18
2/3/2025	5052	20.6	278	71	247955.37	84.20

2/3/2025	5053	20.1	279	71	239659.15	84.22
2/3/2025	5054	19.7	277	71	259069.48	84.23
2/3/2025	5055	19.2	277	71	242980.93	84.25
2/3/2025	5056	18.7	278	71	194212.86	84.27
2/3/2025	5057	18.3	278	71	251608.23	84.28
2/3/2025	5058	17.9	279	71	247883.02	84.30
2/3/2025	5059	17.4	279	71	254150.66	84.32
2/3/2025	5060	17	279	71	256683.11	84.33
2/3/2025	5061	16.5	278	71	211002.62	84.35
2/3/2025	5062	16	279	71	220905.65	84.37
2/3/2025	5063	15.6	279	71	219144.82	84.38
2/3/2025	5064	15.1	279	71	204250.74	84.40
2/3/2025	5065	14.6	279	71	219766.66	84.42
2/3/2025	5066	14.2	279	71	210687.56	84.43
2/3/2025	5067	13.7	279	71	206003.07	84.45
2/3/2025	5068	13.3	280	71	223123.47	84.47
2/3/2025	5069	12.8	280	71	215165.63	84.48
2/3/2025	5070	12.4	280	71	203285.15	84.50
2/3/2025	5071	12	280	71	220737.39	84.52
2/3/2025	5072	11.5	280	71	216068.68	84.53
2/3/2025	5073	11.1	280	71	199926.58	84.55
2/3/2025	5074	10.7	280	71	219971.2	84.57
2/3/2025	5075	10.3	279	71	204534.46	84.58
2/3/2025	5076	9.9	279	71	207099.92	84.60
2/3/2025	5077	9.5	279	71	220828.74	84.62
2/3/2025	5078	9.1	279	71	212237.19	84.63
2/3/2025	5079	8.7	279	71	206404.39	84.65
2/3/2025	5080	8.3	279	71	217860.46	84.67
2/3/2025	5081	7.9	278	71	210329.11	84.68
2/3/2025	5082	7.5	278	71	210971.97	84.70
2/3/2025	5083	7.2	278	71	220588.8	84.72
2/3/2025	5084	6.7	279	71	208521.41	84.73
2/3/2025	5085	6.3	279	71	215080.06	84.75
2/3/2025	5086	6	279	71	209384.14	84.77
2/3/2025	5087	5.6	280	71	206958.67	84.78
2/3/2025	5088	5.2	280	70	228003.48	84.80
2/3/2025	5089	4.9	280	71	214881.82	84.82
2/3/2025	5090	4.5	280	71	209381.69	84.83
2/3/2025	5091	4.1	280	70	227325.25	84.85
2/3/2025	5092	3.8	280	71	218504.44	84.87
2/3/2025	5093	3.3	280	71	211548.35	84.88
2/3/2025	5094	3	280	71	226621.34	84.90
2/3/2025	5095	2.7	280	71	224834.22	84.92
2/3/2025	5096	2.3	280	71	214522.21	84.93
2/3/2025	5097	2.1	280	70	283075.96	84.95
2/3/2025	5098	1.8	280	70	277314.55	84.97
2/3/2025	5099	1.4	283	70	295006.53	84.98
2/3/2025	5100	1.1	283	70	283750.13	85.00
2/3/2025	5101	0.7	282	70	275972.42	85.02
2/3/2025	5102	0.4	281	71	284508.53	85.03
2/3/2025	5103	0	280	70	271298.98	85.05
2/5/2025	5104	38.4	261	71	260502.73	85.07
2/5/2025	5105	250.7	249	72	24638.43	85.08
2/5/2025	5106	264.4	258	72	90482.79	85.10
2/5/2025	5107	263.6	264	71	105873.64	85.12
2/5/2025	5108	263	263	71	100286.67	85.13
2/5/2025	5109	262.4	263	71	92894.75	85.15
2/5/2025	5110	261.7	264	71	96777.19	85.17
2/5/2025	5111	261.2	264	71	102595.41	85.18
2/5/2025	5112	260.6	263	71	96555.83	85.20
2/5/2025	5113	260	262	71	96745.27	85.22
2/5/2025	5114	259.4	262	71	92903.86	85.23
2/5/2025	5115	258.7	262	71	94940.8	85.25
2/5/2025	5116	258.1	262	71	98926.49	85.27

2/5/2025	5117	257.5	261	71	99582.13	85.28
2/5/2025	5118	256.9	262	71	97376.17	85.30
2/5/2025	5119	256.3	261	71	98403.18	85.32
2/5/2025	5120	255.7	262	71	95120.77	85.33
2/5/2025	5121	255	263	71	100405.21	85.35
2/5/2025	5122	254.4	263	71	98268.83	85.37
2/5/2025	5123	253.9	263	71	97403.01	85.38
2/5/2025	5124	253.3	263	71	98419.28	85.40
2/5/2025	5125	252.7	263	71	96714.17	85.42
2/5/2025	5126	252	264	71	98174.63	85.43
2/5/2025	5127	251.4	264	71	100910.87	85.45
2/5/2025	5128	250.8	265	71	100657.11	85.47
2/5/2025	5129	250.3	266	71	96074.11	85.48
2/5/2025	5130	249.7	266	71	99478.43	85.50
2/5/2025	5131	249.1	266	71	99210.8	85.52
2/5/2025	5132	248.5	266	71	95388.38	85.53
2/5/2025	5133	247.9	266	71	98999.88	85.55
2/5/2025	5134	247.4	267	71	105941.08	85.57
2/5/2025	5135	246.8	268	71	102397.07	85.58
2/5/2025	5136	246.2	268	71	98085.36	85.60
2/5/2025	5137	245.8	260	71	98246.22	85.62
2/5/2025	5138	245.5	250	71	102246.39	85.63
2/5/2025	5139	245.3	239	71	100387.14	85.65
2/5/2025	5140	245.1	230	71	99120.97	85.67
2/5/2025	5141	245	222	71	98846.65	85.68
2/5/2025	5142	244.8	214	71	98945.75	85.70
2/5/2025	5143	244.7	208	71	97791.42	85.72
2/5/2025	5144	244.6	202	71	98665.31	85.73
2/5/2025	5145	244.5	197	72	96839.61	85.75
2/5/2025	5146	244.4	193	72	96200.32	85.77
2/5/2025	5147	244.3	190	72	97032.85	85.78
2/5/2025	5148	244.3	187	71	102220.81	85.80
2/5/2025	5149	244.2	184	71	96357.38	85.82
2/5/2025	5150	244.1	181	72	95055.44	85.83
2/5/2025	5151	244.1	179	72	93648.15	85.85
2/5/2025	5152	244	176	72	94858.95	85.87
2/5/2025	5153	241.8	177	72	78069.46	85.88
2/5/2025	5154	241.1	202	72	78768.68	85.90
2/5/2025	5155	240.4	223	72	79515.55	85.92
2/5/2025	5156	239.6	241	72	78703.1	85.93
2/5/2025	5157	238.7	256	72	80558.96	85.95
2/5/2025	5158	237.9	267	72	83041.19	85.97
2/5/2025	5159	237.1	266	72	81266.47	85.98
2/5/2025	5160	236.4	265	72	78330.02	86.00
2/5/2025	5161	235.7	264	72	85146.44	86.02
2/5/2025	5162	235	264	72	80510.94	86.03
2/5/2025	5163	234.4	264	72	80943.4	86.05
2/5/2025	5164	233.6	265	72	84983	86.07
2/5/2025	5165	232.9	264	72	85949.34	86.08
2/5/2025	5166	232.2	265	72	82656.91	86.10
2/5/2025	5167	231.4	265	72	86811.95	86.12
2/5/2025	5168	230.7	265	72	83309.77	86.13
2/5/2025	5169	230.1	265	72	88567.49	86.15
2/5/2025	5170	229.4	265	72	85495.33	86.17
2/5/2025	5171	228.6	265	72	86385.19	86.18
2/5/2025	5172	227.9	266	72	93062.27	86.20
2/5/2025	5173	227.2	267	72	83222.21	86.22
2/5/2025	5174	226.6	267	72	85919.51	86.23
2/5/2025	5175	225.8	268	72	88463.96	86.25
2/5/2025	5176	225.1	267	72	85096.58	86.27
2/5/2025	5177	224.5	268	72	85480.17	86.28
2/5/2025	5178	223.8	269	72	84901.11	86.30
2/5/2025	5179	223.1	269	72	85911.59	86.32
2/5/2025	5180	222.4	270	72	86711.38	86.33

2/5/2025	5181	221.8	270	72	97699.89	86.35
2/5/2025	5182	221.1	270	72	88467.78	86.37
2/5/2025	5183	220.5	271	72	88538.44	86.38
2/5/2025	5184	219.8	271	72	88352.22	86.40
2/5/2025	5185	219.1	272	72	93615.13	86.42
2/5/2025	5186	218.5	272	72	84928.09	86.43
2/5/2025	5187	217.8	272	72	100561.32	86.45
2/5/2025	5188	217.2	273	72	88135.65	86.47
2/5/2025	5189	216.6	268	72	85983.98	86.48
2/5/2025	5190	216.2	257	72	86092.76	86.50
2/5/2025	5191	216	246	72	88663.98	86.52
2/5/2025	5192	215.6	235	72	86136.59	86.53
2/5/2025	5193	215.4	226	72	93259.98	86.55
2/5/2025	5194	215.2	218	72	86789.11	86.57
2/5/2025	5195	215.1	211	72	86574.9	86.58
2/5/2025	5196	214.9	205	72	98376.68	86.60
2/5/2025	5197	214.7	200	72	86534.16	86.62
2/5/2025	5198	214.6	196	72	84697.41	86.63
2/5/2025	5199	214.5	192	72	89170.46	86.65
2/5/2025	5200	214.4	189	72	84799.87	86.67
2/5/2025	5201	214.3	186	72	91746.63	86.68
2/5/2025	5202	214.2	183	72	84293.86	86.70
2/5/2025	5203	214.1	181	72	84650.71	86.72
2/5/2025	5204	214.1	178	72	81667.99	86.73
2/5/2025	5205	214	176	72	90749.98	86.75
2/5/2025	5206	212	183	72	72951.09	86.77
2/5/2025	5207	211.4	201	72	71887.37	86.78
2/5/2025	5208	210.7	219	72	71810.45	86.80
2/5/2025	5209	210.1	235	72	70660.36	86.82
2/5/2025	5210	209.3	249	72	77691.68	86.83
2/5/2025	5211	208.6	260	72	72507.92	86.85
2/5/2025	5212	207.9	268	72	72440.31	86.87
2/5/2025	5213	207.1	276	72	74142.27	86.88
2/5/2025	5214	206.4	281	72	73982.39	86.90
2/5/2025	5215	205.8	280	72	73368.83	86.92
2/5/2025	5216	205.1	280	72	80290.01	86.93
2/5/2025	5217	204.4	276	72	75080.46	86.95
2/5/2025	5218	203.8	272	72	73952.8	86.97
2/5/2025	5219	203.1	270	72	73701.27	86.98
2/5/2025	5220	202.5	269	72	75818.52	87.00
2/5/2025	5221	201.8	269	72	73542.27	87.02
2/5/2025	5222	201.1	269	72	90822.98	87.03
2/5/2025	5223	200.4	269	72	77632.47	87.05
2/5/2025	5224	199.7	270	72	78928.53	87.07
2/5/2025	5225	199	270	72	77838.27	87.08
2/5/2025	5226	198.2	271	72	77065.79	87.10
2/5/2025	5227	197.5	272	72	76052.85	87.12
2/5/2025	5228	196.8	273	72	76857.82	87.13
2/5/2025	5229	196.1	274	72	75674.24	87.15
2/5/2025	5230	195.3	275	72	78303.56	87.17
2/5/2025	5231	194.7	275	72	77417.42	87.18
2/5/2025	5232	194.1	276	72	77927.39	87.20
2/5/2025	5233	193.4	276	72	76518.23	87.22
2/5/2025	5234	192.7	276	72	76461.4	87.23
2/5/2025	5235	192.2	277	72	81144.06	87.25
2/5/2025	5236	191.4	278	72	80562.62	87.27
2/5/2025	5237	190.8	279	72	82067.84	87.28
2/5/2025	5238	190.2	278	72	79753.9	87.30
2/5/2025	5239	189.8	267	72	78357.87	87.32
2/5/2025	5240	189.3	255	72	77808.82	87.33
2/5/2025	5241	189	243	72	75737.11	87.35
2/5/2025	5242	188.7	233	72	82569.84	87.37
2/5/2025	5243	188.5	225	72	79005.97	87.38
2/5/2025	5244	188.4	217	72	78283.85	87.40

2/5/2025	5245	188.2	210	72	79323.91	87.42
2/5/2025	5246	188	204	72	77954.17	87.43
2/5/2025	5247	187.8	200	72	77363.75	87.45
2/5/2025	5248	187.7	195	72	76728.45	87.47
2/5/2025	5249	187.5	192	72	79616.88	87.48
2/5/2025	5250	187.4	189	72	78835.05	87.50
2/5/2025	5251	187.2	186	72	79978.68	87.52
2/5/2025	5252	187.1	183	72	77427.26	87.53
2/5/2025	5253	187	181	72	76296.81	87.55
2/5/2025	5254	186.8	178	72	75697.53	87.57
2/5/2025	5255	186.7	176	72	74076.9	87.58
2/5/2025	5256	186.6	175	72	79105.36	87.60
2/5/2025	5257	182.2	186	71	65257.97	87.62
2/5/2025	5258	181.6	204	71	64780.29	87.63
2/5/2025	5259	181	222	71	68384.77	87.65
2/5/2025	5260	180.2	237	71	66170.31	87.67
2/5/2025	5261	179.5	251	71	67689.56	87.68
2/5/2025	5262	178.8	262	71	67455.77	87.70
2/5/2025	5263	178	270	71	67526.01	87.72
2/5/2025	5264	177.3	271	71	68926.55	87.73
2/5/2025	5265	176.6	268	71	67351.24	87.75
2/5/2025	5266	175.9	267	71	67250.5	87.77
2/5/2025	5267	175.1	266	71	70883.7	87.78
2/5/2025	5268	174.4	267	71	69068.85	87.80
2/5/2025	5269	173.6	267	71	69909.1	87.82
2/5/2025	5270	172.9	268	71	69953.49	87.83
2/5/2025	5271	172.1	267	71	71463.82	87.85
2/5/2025	5272	171.3	268	71	69112.22	87.87
2/5/2025	5273	170.5	269	71	68904.45	87.88
2/5/2025	5274	169.8	269	71	70939.09	87.90
2/5/2025	5275	169	271	71	74049.37	87.92
2/5/2025	5276	168.3	271	71	71754.17	87.93
2/5/2025	5277	167.5	271	71	72604.28	87.95
2/5/2025	5278	166.7	271	71	73019.85	87.97
2/5/2025	5279	166.1	271	71	71836.91	87.98
2/5/2025	5280	165.3	272	71	71510.06	88.00
2/5/2025	5281	164.5	273	71	71596.82	88.02
2/5/2025	5282	163.9	273	71	75589.88	88.03
2/5/2025	5283	163.1	274	71	94936.75	88.05
2/5/2025	5284	162.4	274	71	73255.24	88.07
2/5/2025	5285	161.8	275	71	72719.26	88.08
2/5/2025	5286	161	277	71	74131.4	88.10
2/5/2025	5287	160.3	276	71	73810.52	88.12
2/5/2025	5288	159.8	277	71	79553.85	88.13
2/5/2025	5289	159.3	265	71	77802.49	88.15
2/5/2025	5290	158.9	253	71	76158.62	88.17
2/5/2025	5291	158.5	241	71	75594.85	88.18
2/5/2025	5292	158.2	232	71	77252.77	88.20
2/5/2025	5293	158	223	71	72454.93	88.22
2/5/2025	5294	157.7	216	71	77833.68	88.23
2/5/2025	5295	157.6	209	71	75455.49	88.25
2/5/2025	5296	157.3	204	71	76740.09	88.27
2/5/2025	5297	157.2	199	71	76502.75	88.28
2/5/2025	5298	157	195	71	74467.46	88.30
2/5/2025	5299	156.8	191	71	75001.7	88.32
2/5/2025	5300	156.6	188	71	73785.49	88.33
2/5/2025	5301	156.5	185	71	73683.82	88.35
2/5/2025	5302	156.4	183	71	71878.14	88.37
2/5/2025	5303	156.3	180	71	76707.89	88.38
2/5/2025	5304	156.1	178	71	75282.14	88.40
2/5/2025	5305	156	176	71	80502.97	88.42
2/5/2025	5306	151.9	188	71	64134.04	88.43
2/5/2025	5307	151.3	208	71	65155.87	88.45
2/5/2025	5308	150.6	227	71	64032.36	88.47

2/5/2025	5309	150	241	71	62789.06	88.48
2/5/2025	5310	149.3	252	71	80365.82	88.50
2/5/2025	5311	148.7	262	71	65773.18	88.52
2/5/2025	5312	148	269	71	65894.86	88.53
2/5/2025	5313	147.4	275	71	67559.27	88.55
2/5/2025	5314	146.6	275	71	66117.52	88.57
2/5/2025	5315	146	275	71	64280.74	88.58
2/5/2025	5316	145.4	271	71	68109.07	88.60
2/5/2025	5317	144.6	269	71	67405.79	88.62
2/5/2025	5318	144	268	71	69045.36	88.63
2/5/2025	5319	143.3	268	71	69726.71	88.65
2/5/2025	5320	142.6	268	71	69174.74	88.67
2/5/2025	5321	141.8	269	71	68904.03	88.68
2/5/2025	5322	141.1	269	71	68320.82	88.70
2/5/2025	5323	140.3	270	71	67496.87	88.72
2/5/2025	5324	139.6	271	71	69614.55	88.73
2/5/2025	5325	138.9	272	71	68951.64	88.75
2/5/2025	5326	138.2	272	71	68530.79	88.77
2/5/2025	5327	137.5	273	71	69613.31	88.78
2/5/2025	5328	136.9	273	71	70028.42	88.80
2/5/2025	5329	136.2	274	71	68836.54	88.82
2/5/2025	5330	135.5	275	71	84368.66	88.83
2/5/2025	5331	134.7	276	71	72834.39	88.85
2/5/2025	5332	134	277	71	73768.66	88.87
2/5/2025	5333	133.2	278	71	71913.06	88.88
2/5/2025	5334	132.4	279	71	73309.96	88.90
2/5/2025	5335	131.7	279	71	72606.81	88.92
2/5/2025	5336	131.3	268	71	71908.8	88.93
2/5/2025	5337	130.9	255	71	69763.99	88.95
2/5/2025	5338	130.6	244	71	70621.95	88.97
2/5/2025	5339	130.3	234	71	72360.15	88.98
2/5/2025	5340	130	225	71	73374.04	89.00
2/5/2025	5341	129.8	217	71	71541.83	89.02
2/5/2025	5342	129.5	211	71	72443.54	89.03
2/5/2025	5343	129.2	205	71	69564.92	89.05
2/5/2025	5344	129	200	71	70051.1	89.07
2/5/2025	5345	128.8	196	71	73921.4	89.08
2/5/2025	5346	128.5	192	71	71909.69	89.10
2/5/2025	5347	128.3	189	71	71124.44	89.12
2/5/2025	5348	128.1	186	71	71228.67	89.13
2/5/2025	5349	127.9	184	71	71111.54	89.15
2/5/2025	5350	127.8	181	71	70017.64	89.17
2/5/2025	5351	127.7	179	71	70211.91	89.18
2/5/2025	5352	127.5	177	71	68589.35	89.20
2/5/2025	5353	127.4	175	71	69836.6	89.22
2/5/2025	5354	123.8	179	71	62426.1	89.23
2/5/2025	5355	123.2	195	71	63004.04	89.25
2/5/2025	5356	122.6	212	71	63222.43	89.27
2/5/2025	5357	121.9	229	71	62999.11	89.28
2/5/2025	5358	121.3	244	71	61831.72	89.30
2/5/2025	5359	120.6	256	71	63172.18	89.32
2/5/2025	5360	119.9	265	71	66052.82	89.33
2/5/2025	5361	119.2	272	71	68132.49	89.35
2/5/2025	5362	118.5	275	71	65096.12	89.37
2/5/2025	5363	117.9	271	71	66195.2	89.38
2/5/2025	5364	117.1	271	71	65904.05	89.40
2/5/2025	5365	116.5	269	71	65392.56	89.42
2/5/2025	5366	115.9	268	71	64685.84	89.43
2/5/2025	5367	115.2	267	71	65562.86	89.45
2/5/2025	5368	114.5	268	71	67079.14	89.47
2/5/2025	5369	113.8	268	71	64124.86	89.48
2/5/2025	5370	113.1	268	71	68426.89	89.50
2/5/2025	5371	112.5	269	71	68815.26	89.52
2/5/2025	5372	111.9	270	71	69148.21	89.53

2/5/2025	5373	111.1	270	71	66734.94	89.55
2/5/2025	5374	110.4	271	71	67034.83	89.57
2/5/2025	5375	109.7	272	71	65396.8	89.58
2/5/2025	5376	109.1	273	71	67850.03	89.60
2/5/2025	5377	108.4	274	71	69978.14	89.62
2/5/2025	5378	107.7	274	71	71395.93	89.63
2/5/2025	5379	107	276	71	71839.05	89.65
2/5/2025	5380	106.2	277	71	70547.61	89.67
2/5/2025	5381	105.5	278	71	70983.04	89.68
2/5/2025	5382	104.7	277	71	69587.06	89.70
2/5/2025	5383	104.1	277	71	74369.05	89.72
2/5/2025	5384	103.4	277	71	71621.37	89.73
2/5/2025	5385	102.9	273	71	70490.3	89.75
2/5/2025	5386	102.4	261	71	71849.78	89.77
2/5/2025	5387	102	249	71	72418.44	89.78
2/5/2025	5388	101.6	239	71	71296.05	89.80
2/5/2025	5389	101.3	230	71	71668.54	89.82
2/5/2025	5390	101.1	221	71	70162.86	89.83
2/5/2025	5391	101	214	71	70004.26	89.85
2/5/2025	5392	100.8	208	71	71610.29	89.87
2/5/2025	5393	100.4	203	71	71176.55	89.88
2/5/2025	5394	100.3	198	71	71051.27	89.90
2/5/2025	5395	100	194	71	70620.21	89.92
2/5/2025	5396	99.9	191	71	70631.7	89.93
2/5/2025	5397	99.7	188	71	68458.77	89.95
2/5/2025	5398	99.5	185	71	95477.78	89.97
2/5/2025	5399	99.4	182	71	72366.63	89.98
2/5/2025	5400	99.2	180	71	71740.81	90.00
2/5/2025	5401	99.2	178	71	70560.23	90.02
2/5/2025	5402	99.1	176	71	71722.05	90.03
2/5/2025	5403	95.4	187	71	65188.29	90.05
2/5/2025	5404	94.8	205	71	63532.43	90.07
2/5/2025	5405	94.2	223	71	62916.26	90.08
2/5/2025	5406	93.4	239	71	62856.82	90.10
2/5/2025	5407	92.7	252	71	64475.13	90.12
2/5/2025	5408	92	262	71	65333.85	90.13
2/5/2025	5409	91.2	271	71	64288.05	90.15
2/5/2025	5410	90.5	277	71	80728.39	90.17
2/5/2025	5411	89.8	275	71	67985.94	90.18
2/5/2025	5412	89.1	274	71	65819.73	90.20
2/5/2025	5413	88.4	271	71	66758.95	90.22
2/5/2025	5414	87.7	270	71	64976.18	90.23
2/5/2025	5415	87	270	71	65203.53	90.25
2/5/2025	5416	86.3	270	71	65887.28	90.27
2/5/2025	5417	85.5	270	71	76929.98	90.28
2/5/2025	5418	84.9	270	71	69305.65	90.30
2/5/2025	5419	84.1	269	71	69896.55	90.32
2/5/2025	5420	83.5	270	71	70200.6	90.33
2/5/2025	5421	82.7	270	71	68360.06	90.35
2/5/2025	5422	82	269	71	68604.18	90.37
2/5/2025	5423	81.3	269	71	67463.41	90.38
2/5/2025	5424	80.7	269	71	70582.3	90.40
2/5/2025	5425	80	270	71	69385.72	90.42
2/5/2025	5426	79.3	272	71	70923.74	90.43
2/5/2025	5427	78.6	274	71	71743.38	90.45
2/5/2025	5428	77.9	274	71	69454.85	90.47
2/5/2025	5429	77.2	274	71	69343.41	90.48
2/5/2025	5430	76.7	274	71	68582.29	90.50
2/5/2025	5431	76.1	275	71	71188.3	90.52
2/5/2025	5432	75.4	276	71	71727.25	90.53
2/5/2025	5433	74.7	276	71	72849.2	90.55
2/5/2025	5434	74.3	265	71	72361.72	90.57
2/5/2025	5435	73.9	254	71	72847.33	90.58
2/5/2025	5436	73.6	243	71	70201.37	90.60

2/5/2025	5437	73.2	234	71	70136.6	90.62
2/5/2025	5438	72.9	225	71	69475.27	90.63
2/5/2025	5439	72.7	217	71	74440.42	90.65
2/5/2025	5440	72.5	210	71	71485.46	90.67
2/5/2025	5441	72.3	205	71	71084.84	90.68
2/5/2025	5442	72	200	71	70564.86	90.70
2/5/2025	5443	71.8	196	71	67966.66	90.72
2/5/2025	5444	71.6	192	71	71542.56	90.73
2/5/2025	5445	71.4	189	71	71084.78	90.75
2/5/2025	5446	71.2	185	71	70464.97	90.77
2/5/2025	5447	71	183	71	68836.85	90.78
2/5/2025	5448	70.8	180	71	78719.53	90.80
2/5/2025	5449	70.6	178	71	71641.6	90.82
2/5/2025	5450	70.5	176	71	72151.5	90.83
2/5/2025	5451	70.3	175	71	70473.84	90.85
2/5/2025	5452	66.1	187	71	89280.62	90.87
2/5/2025	5453	65.6	204	71	89592.65	90.88
2/5/2025	5454	65.1	219	71	98965.83	90.90
2/5/2025	5455	64.6	234	71	98297.14	90.92
2/5/2025	5456	64	245	71	95554.79	90.93
2/5/2025	5457	63.5	254	71	94248.77	90.95
2/5/2025	5458	62.9	261	71	100286.49	90.97
2/5/2025	5459	62.3	267	71	100744.7	90.98
2/5/2025	5460	61.8	272	71	96505.32	91.00
2/5/2025	5461	61.2	276	71	97068.17	91.02
2/5/2025	5462	60.7	280	71	99336.65	91.03
2/5/2025	5463	60.1	281	71	97844.15	91.05
2/5/2025	5464	59.6	279	71	97643.62	91.07
2/5/2025	5465	59	278	71	98067.79	91.08
2/5/2025	5466	58.5	274	71	98657.41	91.10
2/5/2025	5467	58	271	71	100594.87	91.12
2/5/2025	5468	57.4	269	71	98253.65	91.13
2/5/2025	5469	56.9	269	71	100540.64	91.15
2/5/2025	5470	56.3	268	71	104171.71	91.17
2/5/2025	5471	55.7	269	71	102848.72	91.18
2/5/2025	5472	55.2	269	71	101889.93	91.20
2/5/2025	5473	54.6	268	71	102187.85	91.22
2/5/2025	5474	54.1	268	71	101348.23	91.23
2/5/2025	5475	53.5	268	71	104847.82	91.25
2/5/2025	5476	52.9	268	71	100755.85	91.27
2/5/2025	5477	52.4	267	71	101699.19	91.28
2/5/2025	5478	51.7	267	71	103366.43	91.30
2/5/2025	5479	51.1	269	71	107870.97	91.32
2/5/2025	5480	50.5	271	71	102283.74	91.33
2/5/2025	5481	50	272	71	97672.65	91.35
2/5/2025	5482	49.4	273	71	105430.6	91.37
2/5/2025	5483	48.8	274	71	106524.78	91.38
2/5/2025	5484	48.3	275	71	106595.72	91.40
2/5/2025	5485	47.6	275	71	106033.67	91.42
2/5/2025	5486	47	274	71	100980.71	91.43
2/5/2025	5487	46.4	276	71	98627.34	91.45
2/5/2025	5488	45.8	276	71	101089.25	91.47
2/5/2025	5489	45.2	276	71	106843.76	91.48
2/5/2025	5490	44.6	276	71	105428.63	91.50
2/5/2025	5491	43.9	278	71	100141.8	91.52
2/5/2025	5492	43.4	276	71	98821.79	91.53
2/5/2025	5493	43.1	264	72	101429.91	91.55
2/5/2025	5494	42.9	252	72	106856.41	91.57
2/5/2025	5495	42.5	242	72	103487.63	91.58
2/5/2025	5496	42.2	232	72	104617.06	91.60
2/5/2025	5497	42.1	224	72	103701.71	91.62
2/5/2025	5498	41.8	216	72	111723.99	91.63
2/5/2025	5499	41.6	210	72	103043.62	91.65
2/5/2025	5500	41.5	204	72	103057.87	91.67

2/5/2025	5501	41.3	200	72	115316.36	91.68
2/5/2025	5502	41.1	196	72	104070.63	91.70
2/5/2025	5503	41	192	72	103030.4	91.72
2/5/2025	5504	40.8	189	72	91678.71	91.73
2/5/2025	5505	40.7	186	72	102777.54	91.75
2/5/2025	5506	40.5	183	72	111866.81	91.77
2/5/2025	5507	40.4	181	71	101978.15	91.78
2/5/2025	5508	40.3	178	71	106253.62	91.80
2/5/2025	5509	40.2	176	71	103787.36	91.82
2/5/2025	5510	40.1	175	72	107233.41	91.83
2/5/2025	5511	37.4	179	72	89693.59	91.85
2/5/2025	5512	36.8	196	72	85991.14	91.87
2/5/2025	5513	36.2	214	71	92926.04	91.88
2/5/2025	5514	35.7	228	72	89922.04	91.90
2/5/2025	5515	35	241	72	90124.05	91.92
2/5/2025	5516	34.4	250	72	89295.81	91.93
2/5/2025	5517	33.9	259	71	91517.71	91.95
2/5/2025	5518	33.3	266	72	91917.68	91.97
2/5/2025	5519	32.7	272	72	93058.42	91.98
2/5/2025	5520	32.1	276	72	90332.93	92.00
2/5/2025	5521	31.5	281	71	89081.82	92.02
2/5/2025	5522	30.8	285	72	93946.27	92.03
2/5/2025	5523	30.2	285	72	95193.59	92.05
2/5/2025	5524	29.6	280	72	93706.46	92.07
2/5/2025	5525	29.1	279	72	90575.1	92.08
2/5/2025	5526	28.5	276	72	95320.05	92.10
2/5/2025	5527	27.9	274	71	94427.41	92.12
2/5/2025	5528	27.2	272	72	95256.25	92.13
2/5/2025	5529	26.6	272	72	99197.95	92.15
2/5/2025	5530	26	272	72	97790.14	92.17
2/5/2025	5531	25.3	272	71	95989.03	92.18
2/5/2025	5532	24.7	272	72	97325.76	92.20
2/5/2025	5533	24	273	72	91850.26	92.22
2/5/2025	5534	23.4	274	72	101047.66	92.23
2/5/2025	5535	22.7	275	72	96458.97	92.25
2/5/2025	5536	22	274	72	95688.77	92.27
2/5/2025	5537	21.4	275	72	97801.93	92.28
2/5/2025	5538	20.7	276	72	110601.46	92.30
2/5/2025	5539	20	277	72	93559.51	92.32
2/5/2025	5540	19.4	278	72	92849.85	92.33
2/5/2025	5541	18.8	279	72	102738.93	92.35
2/5/2025	5542	18.1	279	72	105183.16	92.37
2/5/2025	5543	17.5	279	72	101275.44	92.38
2/5/2025	5544	16.8	280	72	99418.66	92.40
2/5/2025	5545	16.2	281	72	108163.06	92.42
2/5/2025	5546	15.5	281	72	104938.99	92.43
2/5/2025	5547	14.9	281	72	98910.32	92.45
2/5/2025	5548	14.5	272	72	102024.82	92.47
2/5/2025	5549	14.1	260	72	107531.35	92.48
2/5/2025	5550	13.7	248	72	103489.15	92.50
2/5/2025	5551	13.5	238	72	95446.47	92.52
2/5/2025	5552	13.2	229	72	98648.13	92.53
2/5/2025	5553	12.9	221	72	101411.73	92.55
2/5/2025	5554	12.7	214	72	105223.71	92.57
2/5/2025	5555	12.5	209	72	101092.68	92.58
2/5/2025	5556	12.2	203	72	96560.84	92.60
2/5/2025	5557	12	199	72	104898	92.62
2/5/2025	5558	11.9	195	72	102169.66	92.63
2/5/2025	5559	11.7	192	72	98013.3	92.65
2/5/2025	5560	11.5	188	72	99371.37	92.67
2/5/2025	5561	11.3	185	72	105348.74	92.68
2/5/2025	5562	11.2	183	72	99968.39	92.70
2/5/2025	5563	11.1	181	72	104738.55	92.72
2/5/2025	5564	11	178	72	101511.76	92.73

2/5/2025	5565	10.9	177	72	98517.25	92.75
2/5/2025	5566	10.8	175	72	99627.69	92.77
2/5/2025	5567	8.9	182	71	86979.48	92.78
2/5/2025	5568	8.5	198	71	83138.39	92.80
2/5/2025	5569	7.9	214	71	83644.69	92.82
2/5/2025	5570	7.5	227	71	83021.58	92.83
2/5/2025	5571	7	238	71	84040.53	92.85
2/5/2025	5572	6.4	249	71	86736.33	92.87
2/5/2025	5573	5.9	258	71	90120.82	92.88
2/5/2025	5574	5.3	265	71	86003.53	92.90
2/5/2025	5575	4.8	271	71	88375.32	92.92
2/5/2025	5576	4.2	276	71	87975.81	92.93
2/5/2025	5577	3.7	280	71	85739.51	92.95
2/5/2025	5578	3.2	284	71	91996.29	92.97
2/5/2025	5579	2.6	287	71	90605.25	92.98
2/5/2025	5580	2.1	285	71	84963.74	93.00
2/5/2025	5581	1.6	280	71	91257.97	93.02
2/5/2025	5582	1.1	277	71	91230.59	93.03
2/5/2025	5583	0.6	275	71	88178.13	93.05
2/5/2025	5584	0.1	273	71	87835.09	93.07

Appendix B

EPA 30-Day Notice



OMB Control No. 2060-0161
Approval expires 03/31/2019

OMB Control No. 2060-0693
Approval expires 03/31/2019

30-DAY NOTIFICATION

2015 CLEAN AIR ACT (CAA) STANDARDS OF PERFORMANCE FOR NEW RESIDENTIAL WOOD HEATERS, NEW RESIDENTIAL HYDRONIC HEATERS AND FORCED-AIR FURNACES 40 CFR PART 60 SUBPARTS AAA AND QQQQ

The public reporting and recordkeeping burden for this collection of information is estimated to average 2 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Regulatory Support Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Disclaimer: The statutory provisions and the EPA regulations described in this document contain legally binding requirements. This document is not a substitute for those provisions or regulations, nor is it a regulation itself. In the event of a discrepancy, please refer to 40 CFR PART 60 Subparts AAA AND QQQQ, sections 60.537 and 60.5479. If you have additional questions, please contact Rafael Sanchez at 202-564-7028 or via email at sanchez.rafael@epa.gov.

Instructions: The manufacturer of an affected wood/pellet heater/central heater model line must notify the Administrator of the date that certification testing is scheduled to begin by email to WoodHeaterReports@epa.gov. This notice must be received by the EPA at least 30 days before the start of testing.

GENERAL INFORMATION						
Manufacturer's Name: Central Boiler Inc./WoodMaster						
Heater Type (Circle One):	<input type="checkbox"/> Adjustable Burn Rate Wood Heater	<input type="checkbox"/> Pellet Stove	<input type="checkbox"/> Single Burn Rate Heater	<input checked="" type="checkbox"/> Hydronic Heater	<input type="checkbox"/> Forced Air Furnace	<input type="checkbox"/> Other:
Hydronic Heater Type (Check one):	<input type="checkbox"/> Full Storage	<input type="checkbox"/> Partial Storage	<input type="checkbox"/> Indoor	<input checked="" type="checkbox"/> Outdoor	<input type="checkbox"/> Other:	
Forced-Air Furnace Type (Check one):	<input type="checkbox"/> Small (less than 65,000 BTU/hr heat output)		<input checked="" type="checkbox"/> Large (greater than 65,000 BTU/hr heat output)			
Fuel Tested (Check one):	<input type="checkbox"/> Crib	<input type="checkbox"/> Pellet	<input checked="" type="checkbox"/> Cordwood	<input type="checkbox"/> Wood Chips		<input type="checkbox"/> Other:
Model Name(s) (as will appear on test report): Classic Edge/CleanFire						
Model Number(s) (as will appear on test report): 760.1/700.1						
Equipped with a catalytic combustor? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Mailing Address: 20502 160th St. Greenbush, MN 56726						
Street Address: Same as Mailing Address						



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City: Greenbush	State: MN	ZIP Code: 56726
Phone: 218-782-2575	Fax: 218-782-2580	Web Site: www.centralboiler.com www.woodmaster.com
Address of Manufacturer: 20502 160th St.		
City: Greenbush	State: MN	ZIP Code: 56726
EPA APPROVED TEST LABORATORY		
Name and Title of Authorized Representative: Ken Morgan		
Company: OMNI- Test 13327 NE Airport Way		
Phone: 503-643-3788	E-mail: kmorgan@omni-test.com	Fax: 503-643-3799
City: Portland	State: OR	ZIP Code: 97230
EPA APPROVED THIRD-PARTY CERTIFIER		
Name and Title of Authorized Representative: Alex Tiegs, President-OMNI-Test		
Company: OMNI-Test Lab		



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Phone: 503-643-3788	E-mail: atiegs@omni-test.com	Fax: 503-643-3799
City: Portland	State: OR	ZIP Code: 97230
COMPLIANCE TEST INFORMATION		
Test Method(s): 40 CFR 60 Subpart QQQQ requirements for outdoor wood boilers (2020 compliance) ASTM 2618 "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" CSA B415.1-10 "Performance testing of solid-fuel-burning heating appliances"		
Date(s) of Proposed Test: THE WINDOW OF: February 24 th – April 7 th - 2025. The start and end date are variable within this window due to lab constraints such as schedule and personnel.		
Testing Location: OMNI-Test 13327 NE Airport Way PORTLAND, OR 97230		



United States
Environmental Protection
Agency

OMB Control No. 2060-0161
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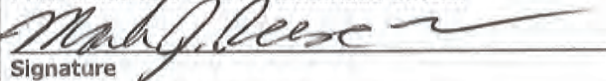
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Mark J. Reese Engineer

Print Name and Title of Authorized Official


Signature

Date 1-21-25

Telephone Number: 218-782-2575

Email Address: markr@centralboiler.com

Remarks: : This model is dual branded as both a Central Boiler and WoodMaster model.

v1

Appendix C

EPA ALT-154



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Mr. Ken Morgan
Technical Services Director
OMNI-Test Laboratories, INC
Post Office Box 301367
Portland, Oregon, 97294

01/21/2025

Dear Mr. Morgan,

This letter is a modification of my original response letter dated December 13, 2024. This modification is made to include approval to use this alternative 40 CFR part 60, Subpart QQQQ - Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces (Subpart QQQQ). The approval to also use this alternative on central heaters under Subpart QQQQ should have been included in the original response letter. These letters are written in response to your emails and letter dated November 20, 2023, requesting that the Environmental Protection Agency approve for use an alternative test method (ATM) for demonstrating compliance with New Source Performance Standard (NSPS) Subpart AAA, Standards of Performance for New Residential Wood Heaters (Subpart AAA). Specifically, the filter weighing procedures as outlined in ASTM E2515-11 to determine compliance for wood heaters under 40 CFR Part 60. The Office of Air Quality Planning and Standards, as the delegated authority, must make the determination on any major alternatives to test methods and procedures required under 40 CFR parts 59, 60, 61, 63, and 65. Your proposed alternative test method and our approval decisions are discussed below.

Your letter outlines concerns with the gravimetric analysis of the pair of filters used to capture particulate during each compliance test. Specifically, you state that the method suggests that weighing filters and filter assemblies in pairs will reduce measurement error, but that the method provides direction inconsistent with achieving error reduction.

As detailed in your letter ASTM E2515-11 section 9.4.4 states:

"9.4.4 Desiccate the filters, filter gaskets, and the probe assemblies at 20 +/- 5.6°C (68 +/- 10°F) and ambient pressure for at least 24 h. Weigh each component at intervals of not less than 6 h until a constant weight is achieved. Record results to the nearest 0.1 mg. During each weighing, the period for which the components are exposed to the laboratory environment shall be less than 2 min. The filter gaskets can be weighed in sets to be used in each filter holder and kept in an identified container at all times except during sampling and weighing. The filter holder assembly after the front filter need not

be desiccated or weighed.”

As shown above, section 9.4.4 states that “...the filter gaskets may be weighed in pairs”, however it does not say that you may do so for the filter tares.

In contrast, section 10.2.1 of ASTM E2515-11 states:

“10.2.1 Desiccate the filters and filter gaskets at 20 +/- 5.6°C (68 +/-10°F) and ambient pressure for at least 24 h. Weigh each component at intervals of at least 6 h until a constant weight is achieved. Report the results to the nearest 0.1 mg. Filters and filter gaskets may be weighed directly without a Petri dish. They may be weighed in pairs (front and back filters and front and back filter gaskets from same filter train) to reduce handling and weighing errors. During each weighing, the components shall not be exposed to the laboratory atmosphere for longer than 2 min. For the room air background sample filter and filter gasket, treat negative particulate catch weights as “zero” when determining total room air particulate weight in accordance with 10.2.”

Additionally, you point out that section 10.2.1 allows, during post-test analysis, the filters to be weighed in pairs. You also assert that not only does this section state that filters may be weighed in pairs, but it also expresses that it is advantageous to do in order to reduce handling and weighing errors.

Furthermore, during our recent discussions of this issue, you pointed out that since ASTM E2515-11 does not specify that filters may be weighed in pairs during pre-test processing, doing so would likely lead to concerns regarding whether proper procedures were being followed. Also, in response to our inquiry of whether ASTM E2515-11 could be followed as written, where one would weigh both filters independently during pre-test processing (clause 9.4.4) and in pairs during post-test processing (section 10.2.1), you point out that this defeats the intent of section 10.2.1 in that more measurements are being performed than necessary and this goes against the stated intent of reducing handling and weighing errors.

It is your opinion, given the language in ASTM E2515-11 discussed above, that the authors originally intended that both filter gaskets and filters should be weighed in pairs during both pre-test and post-test procedures in order to reduce such errors (as evidenced by the language in section 10.2.1). Based on this, you are asking for consideration and approval of an alternative test method that would allow pre-test processing (taring) of filters in pairs as is currently allowed for filter gaskets in section 9.4.4. As you state, you seek this alternative because the errors imposed by the extra weighing of independent filters can account for a very high degree of error on today’s cleaner stoves where a ± 0.1 mg of measured catch can mean ± 0.2 grams of emissions under ordinary conditions. In light of these circumstances, we agree that appropriate paired weighings must be done during both pre and post test weighings.

We have reviewed your request to perform the pre-test processing (taring) of filters in pairs as is currently allowed for filter gaskets in section 9.4.4 when conducting testing testing of wood heaters under Subpart AAA. Because of the similarities in the requirements, we are also approving this alternative for use on central heaters under Subpart QQQQ. This approval is contingent on the following conditions:

- All of the pieces of the filter and filter assemblies that are tared together during pre-test assessment must also be weighed together when the post-test gravimetric assessment is made and the results of these assessments must be recorded to the nearest 0.1 mg. Please note that this alternative method approval is valid until such time that Subpart AAA and QQQQ are revised or replaced to require a different certification method, and at such time, this alternative will be reconsidered and possibly withdrawn. A copy of this letter must be included in each certification test report where this alternative test method is utilized.

Since this alternative test method may be of interest to others performing testing as described in ASTM2515-11 on wood heaters subject to 40 CFR 60, Subpart AAA or central heaters subject to Subpart QQQQ, we believe it is reasonable to make it broadly applicable. Therefore, we will post this letter as ALT-154 on the EPA website at <https://www.epa.gov/emc/broadly-applicable-approved-alternative-test-methods> for use by other interested parties.

If you have additional questions regarding this approval, please contact Michael Toney of my staff at 919-541-5247 or toney.mike@epa.gov.

Sincerely,

Steffan M. Johnson, Group Leader
Measurement Technology Group

cc: Shannon Banner, EPA/OAQPS/SPPD
Lessard, Patrick, EPA/OAQPS/SPPD
Rafael Sanchez, EPA/OECA
Robert Scinta, EPA/OECA
Michael Toney, EPA/OAQPS/AQAD
Mark Turner, EPA/OAQPS/SPPD
Richard Wayland, EPA/OAQPS/AQAD

Appendix D

Analysis of Test Fuel



MINNESOTA VALLEY TESTING LABORATORIES, INC.

1126 North Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 East Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com



Workorder: Wood Sample (77801) **Client:** Central Boiler, Inc.
Account #: 7413 **PO:** PO152410

Mark Reese
Central Boiler Inc.
20502 160th St.
Greenbush, MN 56726

Certificate of Analysis

Approval

All data reported has been reviewed and approved by:

Eric Vetter

Eric Vetter, Bismarck, ND

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Tuesday, February 11, 2025 5:16:06 PM

Page 1 of 3

**MINNESOTA VALLEY TESTING LABORATORIES, INC.**

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1201 Lincoln Hwy. ~ Nevada, IA 50201 ~ 515-382-5486 ~ Fax 515-382-3885
www.MVTL.com



Workorder: Wood Sample (77801) **Client:** Central Boiler, Inc.

Analytical Results

Lab ID: 77801001 **Date Collected:** No Date Sampled Supplied **Matrix:** WO
Sample ID: Maple Cordwood #2 20 (EA) **Date Received:** 02/06/2025 10:25 **Collector:** Client

* PROXIMATE *					* ULTIMATE *				
ANALYTE	AS RECEIVED		DRY BASIS		ANALYTE	AS RECEIVED		DRY BASIS	
Total Moisture	11.97	wt. %			Total Moisture	11.97	wt. %		
Air Dry Moisture	8.46	wt. %			Air Dry Moisture	8.46	wt. %		
Oven Dry Moisture	3.84	wt. %			Oven Dry Moisture	3.84	wt. %		
Ash	0.47	wt. %	0.53	wt. %	Ash	0.47	wt. %	0.53	wt. %
BTU/lb	7303	BTU/lb	8297	BTU/lb	Carbon	43.89	wt. %	49.85	wt. %
Net Calorific Value	6776	BTU/lb	7698	BTU/lb	Hydrogen	6.64	wt. %	6.02	wt. %
Total Sulfur	<0.01	wt. %	<0.01	wt. %	Nitrogen	<0.2	wt. %	<0.2	wt. %
					Total Sulfur	<0.01	wt. %	<0.01	wt. %
					Oxygen by Difference	49.01	wt. %	43.60	wt. %
* SULFUR FORMS *					* ASH FUSION *				
ANALYTE	AS RECEIVED		DRY BASIS		ANALYTE	REDUCING		OXIDIZING	
Total Sulfur	<0.01	wt. %	<0.01	wt. %					
* MINERAL ANALYSIS OF ASH *					* MISCELLANEOUS *				
ANALYTE	DRY BASIS				ANALYTE	AS RECEIVED		DRY BASIS	
					Hydrogen Less Water	5.30	wt. %		
					Oxygen Less Water	38.38	wt. %		

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

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Page 2 of 3



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www.MVTL.com



Workorder: Wood Sample (77801) Client: Central Boiler, Inc.

Central Boiler, Inc.
WO: 77801

HASE ORDER

Central Boiler, Inc.
20502 160th Street
Greenbush, MN 56726
Phone 218-782-2575
Fax 218-782-3416

Page Number: 1
P.O. Number: PO152410

Vendor Address
MVTL
2616 E. BROADWAY AVE
BISMARCK, ND 58501
USA
Phone: 800-279-6885 Fax: 701-258-9724

Ship To Address
CENTRAL BOILER, INC.
20502 160TH STREET
GREENBUSH, MN 56726
E-mail Invoices to: AP@CENTRALBOILER.COM

VENDOR ID	BUYER	TERMS	F.O.B.			
3166	AEW	Net 15	EXWORKS			
CONTACT		SHIPPING METHOD	ORDER DATE	DATE REQUIRED		
STACY ZANDER		UPS GROUND	2/3/2025	2/3/2025		
QTY	PART ID	UM	DESCRIPTION	TAX	UNIT COST	EXTENDED COST
1.00	MAPLE CORDWOOD #2 20 (EA)				\$212.00	\$212.00
			Deliver On	3/28/2025		
ORDER TOTAL:						\$212.00



ACKNOWLEDGEMENT REQUIRED

INSPECTION REQUIRED

Authorized Signature

- * Enclose packing list with all shipments showing buyer's purchase order number, part number, description and quantity.
- * Do NOT deliver more than 5 days before PO deliver on date unless otherwise approved by buyer's authorized agent.
- * Please notify buyer immediately if you are unable to ship as specified.
- * Please enter our order for the above, subject to the terms and conditions stated above and on the General Terms and Conditions provided by purchasing. Any additional or different terms proposed by seller are rejected unless expressly assented to in writing by buyer's authorized agent. Contact buyer for General Terms and Conditions if you do not have on file.

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

Report Date: Tuesday, February 11, 2025 5:16:06 PM

11. Revision History

Closure Date	Project # / CR ID #	Technician / Evaluator	Report Sect.	Report Item	Summary of Changes
4/1/2025	0117WB044E	R. Tiegs K. Morgan	All	All	First issue Report.