Valley Comfort Systems, Inc.

AKA: Blaze King Industries, Inc.

Project # 24-273
Model: Princess PE32
Type: Catalytic Wood Fired Heater
March 22, 2024
Revision: June 26, 2024

ASTM E2780 Standard Test Method for Determining Particulate Matter Emissions from Wood Heaters
EPA Test Method 28R for Certification and Auditing of Wood Heaters

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Revision Summary

Date: March 22, 2024– Original Issue

Date: May 6, 2024 – Revised the following items at the request of EPA:

- Updated manual to include CO / Smoke Detector language, see Appendix B.
- Updated owners' manual with adjusted firebox volume and fuel loading recommendations, see Appendix B
- Removed out of date barometer calibration certificate from Appendix C. Added note on page 6 clarifying that NWS data was used for barometric pressure readings, not a local barometer.
- Updated firebox volume calculation, see page 12.

June 26, 2024 – Revised the following items at the request of EPA:

- Added "Princess" as identifier to report and C of C.

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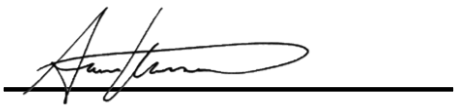
Affidavit

PFS-TECO was contracted by Valley Comfort Systems, Inc. (Valley Comfort), also known as Blaze King Industries, Inc. (Blaze King) to provide testing services for the Princess PE32 Catalytic Wood-Fired Room Heater per EPA Method 28R, *Certification and Auditing of Wood Heaters*. All testing and associated procedures were conducted at PFS-TECO's Portland Laboratory beginning on 3/4/2024 and ending on 3/7/2024. PFS-TECO's Portland Laboratory is located at 11785 SE Highway 212 – Suite 305, Clackamas, Oregon 97015. Testing procedures followed EPA Method 28R and ASTM E2780, *Standard Test Method for Determining Particulate Matter Emissions from Wood Heaters*. Particulate sampling was performed per ASTM E2515, *Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel*.

PFS-TECO is accredited by the U.S. Environmental Protection Agency for the certification and auditing of wood heaters pursuant to subpart AAA of 40 CFR Part 60, New Source Performance Standards for Residential Wood Heaters and subpart QQQQ of 40 CFR Part 60, Standards of Performance for New Hydronic Heaters and Forced Air Furnaces, Methods 28R, 28WHH, 28 WHH-PTS, and all methods listed in Sections 60.534 and 60.5476. PFS-TECO holds EPA Accreditation Certificate Numbers 4 and 4M (mobile). PFS-TECO is accredited by IAS to ISO 17020:2012 "Criteria for Bodies Performing Inspections", and ISO 17025:2017 "Requirements for Testing Laboratories." PFS-TECO is also accredited by Standards Council of Canada to ISO 17065:2012 "Requirements for Bodies Operating Product Certification Systems."

The following people were associated with the testing, analysis and report writing associated with this project.



Aaron Kravitz, Testing Supervisor

Introduction

Blaze King contracted with PFS-TECO to perform EPA certification testing on the Princess PE32 Wood-Fired Room Heater. All testing was performed at PFS-TECO's Portland Laboratory. All testing was performed by Aaron Kravitz.

Notes

- Prior to start of testing, 50 hours of conditioning was performed by the manufacturer at a medium burn setting in accordance with ASTM E2780.
- Prior to start of testing, the dilution tunnel was cleaned with a steel brush.
- A separate, independent, third filter train was utilized to determine 1st hour emissions for all test runs.
- A total of 5 test runs were completed in accordance with EPA Method 28R. 1 at the maximum burn rate category, 1 at the medium high burn rate category, 1 at the medium low burn rate category, 1 at the low burn rate category, and 1 fan confirmation test. All 5 test runs met validity requirements, and all but the fan confirmation test are included in the weighted average. See Run Narrative section for further detail on each run.
- All filters and O-rings weighed in pairs.

Wood Heater Identification and Testing

- Appliance Tested: ***Princess PE32***
- Serial Number: ***PFS Tracking Number 183***
- *Manufacturer:* ***Valley Comfort AKA Blaze King***
- Catalyst: ***Yes***
- Heat exchange blower: ***Optional***
- Type: ***Wood Stove***
- Style: ***Free Standing Wood Stove***
- Date Received: ***Wednesday, February 14, 2024***
- Testing Period – Start: ***Monday, March 04, 2024***
  Finish: ***Friday, March 08, 2024***
- Test Location: ***PFS TECO***
  11785 SE Hwy 212
  Clackamas, OR 97015
- Elevation: ***~131 Feet above sea level***
- Test Technician(s): ***Aaron Kravitz***
- Observers: ***Aaron Saxton of Valley Comfort***

Test Procedures and Equipment

All Sampling and analytical procedures were performed by Aaron Kravitz. All procedures used are directly from ASTM E2780 and ASTM E2515. See the list below for equipment used. See Appendix C submitted with this report for calibration data.

Equipment List:

Equipment ID#	Equipment Description
50	Digiweigh DWP12i Platform Scale
53	APEX XC-60-ED Digital Emissions Sampling Box A
54	APEX XC-60-ED Digital Emissions Sampling Box B
203	APEX XC-50-DIR Digital Emissions Sampling Box C
55	Apex Ambient Air Sample Box
57	California Analytical ZRE CO2/CO/O2 IR ANALYZER
94	Moisture meter calibration block
95	Anemometer
97	10 lb audit weight
107	Sartorius Analytical Balance
109A/B	Troemner 100mg/200mg Audit Weights
111	Microtector
115	Delmhorst Wood Moisture Meter
189	Mettler 3'x3' floor scale w/digital weight indicator
207	Dewalt Tape Measure
208	Digital Calipers
215	Temperature Logger
CC505834	Gas Analyzer Calibration Span Gas
CC139173	Gas Analyzer Calibration Mid Gas

Barometric pressure data was taken from a local National Weather Service station, corrected for altitude differences in accordance with ASTM E2515 6.1.2.

Results

A total of 5 test runs were performed on the Princess PE32. Run #5, a fan confirmation test, was not used in any weighted average results calculations. The weighted average emissions rate for the 4 run test series was measured to be **0.55 g/hr** with a Higher Heating Value efficiency of **82%.** The average CO emission rate for the 4 tests was **0.62 g/min.** The Blaze King Princess PE32 Wood-Fired Room Heater meets the 2020 cribwood PM emission standard of ≤ 2.0 g/hr per CFR 40 part 60, §60.532 (b).

Detailed individual run data can be found in Appendix A submitted with this report.

Summary Table

	Cat. 1 ≤0.80 kg/hr	Cat. 2 0.80 - 1.25 kg/hr	Cat. 3 1.25 - 1.90 kg/hr	Cat. 4 Max Burn Rate	Fan Confirmation (Cat. 2)*
Date	3/5/2024	3/4/2024	3/6/2024	3/6/2024	3/7/2024
Run Number	2	1	4	3	5
Emission Rate (g/hr)	0.14	0.30	0.81	1.76	0.40
Burn Rate (kg/hr)	0.73	1.09	1.66	2.45	1.06
Heat Output (Btu/hr)	11,358	16,850	24,656	34,435	16,073
Overall Efficiency (% HHV)	83.9%	82.9%	79.8%	75.4%	82.0%
CO Emissions (g/MJ Output)	0.15	0.62	1.66	2.54	1.06
CO Emissions (g/kg Dry Fuel)	2.43	10.19	26.30	38.00	17.28
CO Emissions (g/min)	0.03	0.18	0.72	1.54	0.30
Emissions – 1st hr (g/hr)	0.79	0.79	2.43	4.79	1.64
Weighted particulate emission average of 4 test runs: 0.55 grams per hour.					
Weighted average HHV efficiency of 4 test runs: 82%.					
Average CO Emissions Rate: 0.62 g/min					

*Fan Confirmation test not included in weighted average calculations.

Test Run Narrative

Run 1

Run 1 was performed on 3/4/2024 as a category 2 test, per EPA Method 28R. The total test time was 389 minutes. The particulate emissions rate for the test was 0.30 g/hr, the burn rate was 1.09 kg/hr with an HHV efficiency of 82.9%. All test results were appropriate and valid. There were no anomalies and all test criteria were met.

Run 2

Run 2 was performed on 3/5/2024 as a category 1 test, per EPA Method 28R. The total test time was 576 minutes. The particulate emissions rate for the test was 0.14 g/hr, the burn rate was 0.73 kg/hr with an HHV efficiency of 83.9%. All test results were appropriate and valid. There were no anomalies and all test criteria were met.

Run 3

Run 3 was performed on 3/6/2024 as a category 4 test, per EPA Method 28R. The total test time was 167 minutes. The particulate emissions rate for the test was 1.8 g/hr, the burn rate was 2.45 kg/hr with an HHV efficiency of 75.4%. All test results were appropriate and valid. There were no anomalies and all test criteria were met.

Run 4

Run 4 was performed on 3/6/2024 as a category 3 test, per EPA Method 28R. The total test time was 251 minutes. The particulate emissions rate for the test was 0.81 g/hr, the burn rate was 1.66 kg/hr with an HHV efficiency of 79.8%. All test results were appropriate and valid. There were no anomalies and all test criteria were met.

Run 5

Run 5 was performed on 3/7/2024 as a category 2 fan confirmation test, per EPA Method 28R. The total test time was 448 minutes. The particulate emissions rate for the test was 0.40 g/hr, the burn rate was 1.06 kg/hr with an HHV efficiency of 82.0%. All test results were appropriate and valid. There were no anomalies and all test criteria were met. Since the particulate emissions rate is within 1.0 g/hr of the other category 2 test (run 1, 0.30 g/hr) the blower is determined not to have a significant impact on emissions performance and may therefore be approved as an optional accessory. This test run is not included in the weighted average calculations presented in the results summary.

Test Conditions Summary

Testing conditions for all runs fell within allowable specifications of the ASTM 2780 and ASTM E2515. A summary of facility conditions, fuel burned, and run times are listed below.

Run	Ambient (°F)		Relative Humidity (%)		Average Barometric Pressure (In. Hg.)	Preburn Fuel Weight (lbs)	Test Fuel Weight (lbs)	Test Fuel Moisture (%DB)	Test Run Time (Min)
	Pre	Post	Pre	Post					
1	65.1	62.6	28.3	30.3	29.87	18.32	18.87	22.2	389
2	65.2	63.0	29.7	24.5	29.89	18.27	18.72	22.1	576
3	67.3	67.9	22.8	18.6	29.94	17.33	18.50	23.6	167
4	67.6	64.9	19.3	22.4	29.98	16.23	18.59	22.0	251
5	64.7	65.6	21.5	19.0	30.06	16.34	18.52	22.4	394

Appliance Operation and Test Settings

The appliance was operated according to procedures as described in the Operations Manual, found in Appendix B submitted with this report. Detailed run information can be found in Appendix A submitted with this report.

Settings & Run Notes

	Pre-Burn Air Setting	Test Run Air and Fan Settings
Run 1	Air control knob set to 70º	Air control knob set to 70º, fan on medium low
Run 2	Air control knob set to 80º	Air control knob set to 80º, fan on low
Run 3	Air control knob fully open	Air control knob fully open, fan on high
Run 4	Air control knob set to 45º	Air control knob set to 45º, fan on medium high
Run 5	Air control knob set to 60º	Air control knob set to 60º, fan off

Appliance Description

Model(s): Princess PE32

Appliance Type: Catalytic Wood-Fired Room Heater

Total/Usable Firebox Volume: Total firebox volume is 3.09 ft^3. Usable firebox volume is 2.86 ft^3.

Air Introduction System Primary Air enters the firebox from the rear bottom of the appliance and is channeled up the back and to the front of the appliance via tubes located in the firebox. Air then flows into the firebox down through the air wash. No secondary or pilot air ports are utilized in the design. Primary air is controlled via a control knob located on the side of the appliance, towards the back of the unit, which turns clockwise from fully closed to fully open. Dimensions on all these features can be found in Appendix D.

Baffles: A 10.5" wide, 0.135" thick Stainless-Steel smoke baffle hangs behind the combustor.

Catalytic Combustor: Certification testing was performed with a Applied Ceramics metal combustor (Manufacturer Part No. 115-0556). The combustor measures 10.650" by 2.150".

Refractory Insulation: The firebox is lined with 1" thick firebrick.

Flue Outlet: 6-inch exhaust outlet located on the top of the appliance.

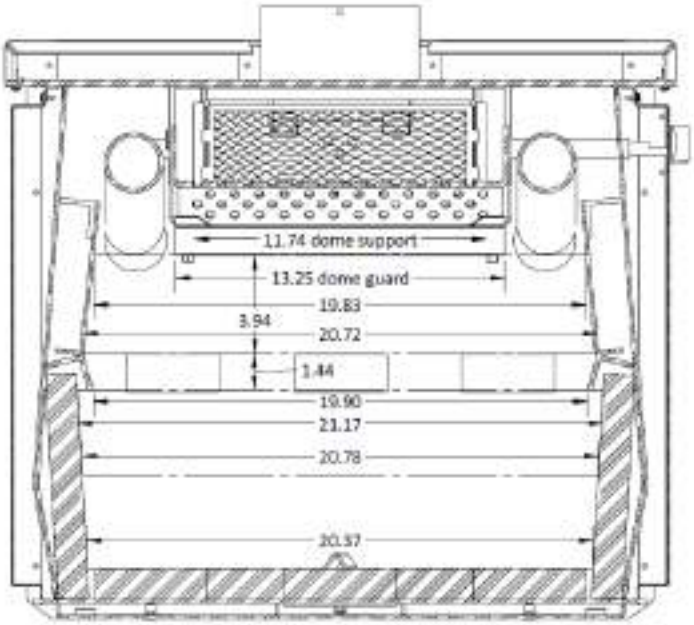
Fan: A variable speed convection fan is mounted to the front of the appliance.

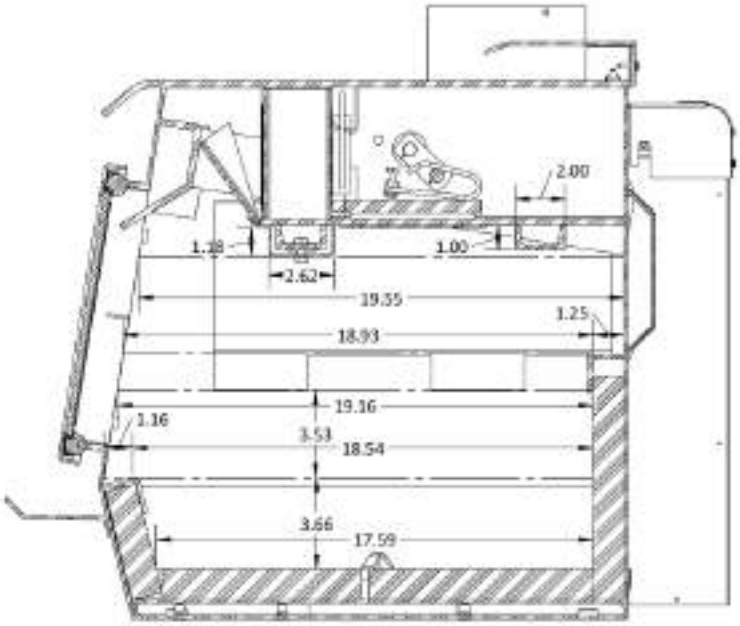
Appliance design drawings can be found in Appendix D submitted with the CBI copy of this report.

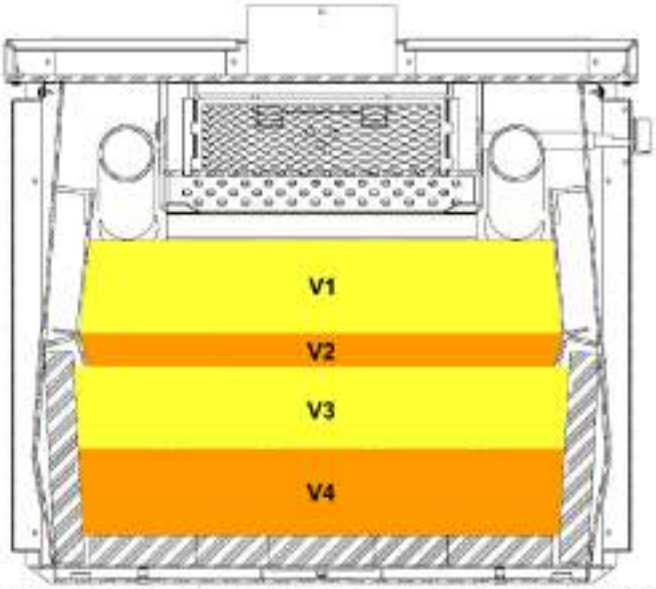
Princess PE32 Unit Dimensions (with pedestal base)

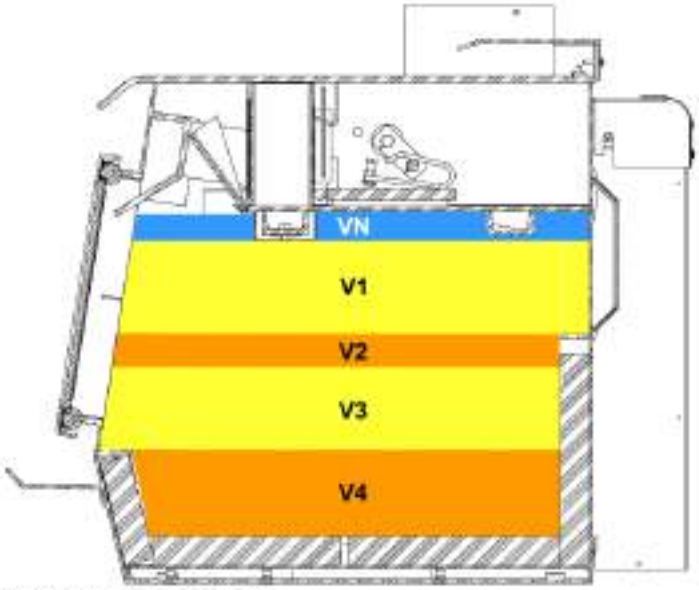
Height	Width	Depth	Firebox Volume
27.375"	27"	29.375"	2.91ft^3

Firebox Volume Calculation









V1 = ((20.72 + 19.83) /2) x ((18.93 + 1.25 + 19.55) /2) = 20.275 x 19.865 = 402.763 x 3.94 = 1586.886
V2 = ((19.90 + 20.72) /2) x ((19.16 + 18.93) /2) = 20.310 x 19.045 = 386.804 x 1.44 = 556.998
V3 = ((20.78 + 21.17) /2) x ((18.54 + 1.16 + 19.16) /2) = 20.975 x 19.43 = 407.5443 x 3.53 = 1438.631
V4 = ((20.37 + 20.78) /2) x ((17.59 + 18.54) /2) = 20.575 x 18.065 = 371.6874 x 3.66 = 1360.376
VN = [19.55 x 1.18 x 19.83] – (2.0 x 1.0 x 11.74) – (2.62 x 1.18 x 13.25) = 457.4583 - 23.48 - 40.9637 = 393.015

Usable firebox volume = V1 + V2 + V3 + V4 = 4942.891 in3 = 2.86 ft3

Non-usable firebox volume: VN = 393.015 in3 = 0.227 ft3
Total Firebox Volume (VT) = Usable firebox volume (VU) + Non-usable Firebox Volume (VN)
Total Firebox Volume: VT = VU + VN = 2.86 ft3 + 0.227 ft3 = 3.09 ft3

Appliance Front

Appliance Rear

Appliance Left

Appliance Right

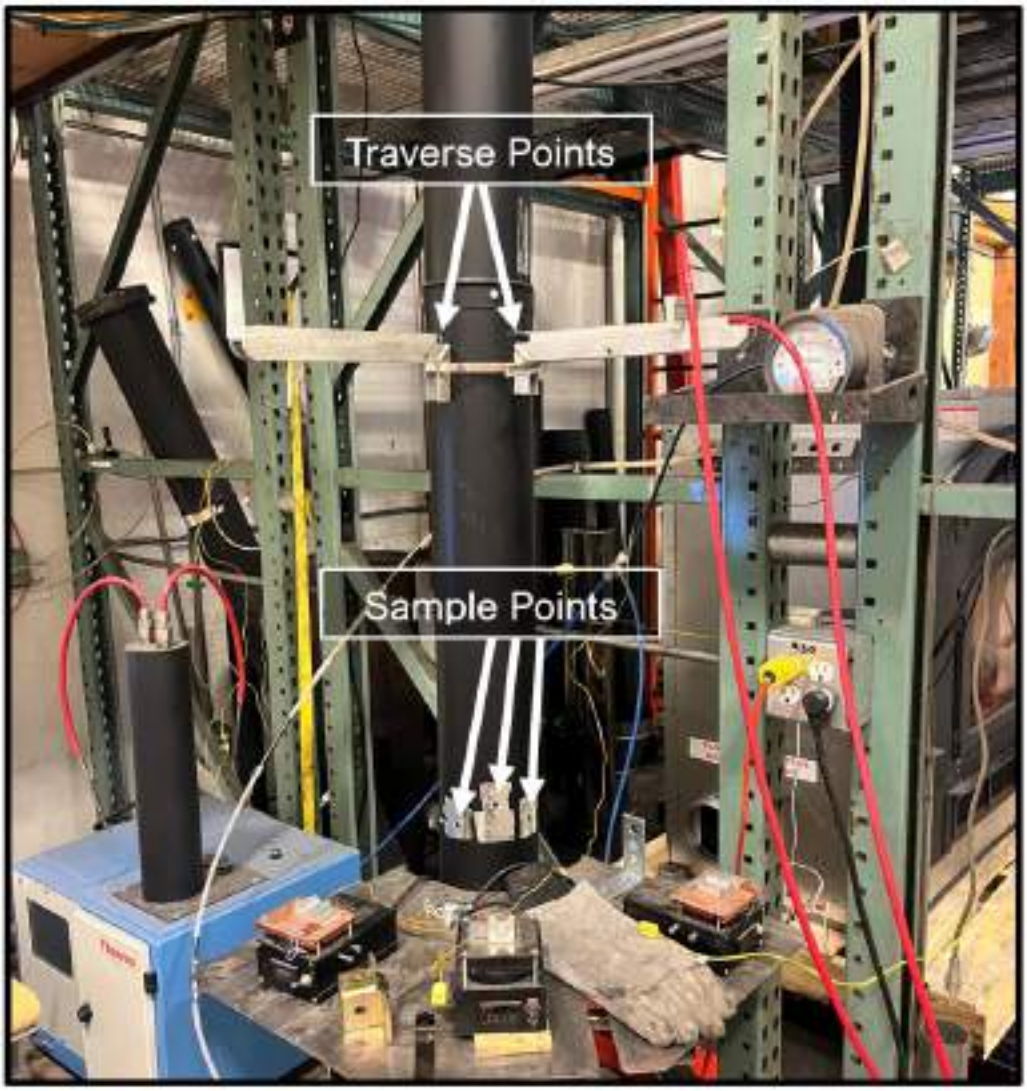
Test Fuel Properties

Test fuel used was Douglas Fir dimensional lumber, air-dried to the specified moisture content range. A typical fuel load is pictured below:

Typical Fuel Load

Sampling Locations and Descriptions

Sample ports are located 14 feet downstream from any disturbances and 2 feet upstream from any disturbances. Flow rate traverse data was collected 12 feet downstream from any disturbances and 4 feet upstream from any disturbances. (See below).



Sampling Methods

ASTM E2515 was used in collecting particulate samples. The dilution tunnel is 6 inches in diameter. All sampling conditions per ASTM E2515 were followed. No alternate procedures were used.

Analytical Methods Description

All sample recovery and analysis procedures followed ASTM E2515 procedures. At the end of each test run, filters, O-Rings and probes were removed from their housings dessicated for a minimum of 24 hours, and then weighed in pairs at 6 hour intervals to a constant weight per ASTM E2515-11 Section 10.

Calibration, Quality Control and Assurances

Calibration procedures and results were conducted per EPA Method 28R and ASTM E2515-11. Test method quality control procedures (leak checks, volume meter checks, stratification checks, proportionality results) followed the procedures outlined.

Appliance Sealing and Storage

Upon completion of testing, the appliance was secured with metal strapping and the seal below was applied, the appliance was then returned to the manufacturer's location at: 146 A Street, Walla Wala, Washington 99362, for archival.

Sealing Label

ATTENTION:

THIS SEAL IS NOT TO BE BROKEN WITHOUT PRIOR AUTHORIZATION FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY.

THIS APPLIANCE HAS BEEN SEALED INACCORDANCE WITH REQUIREMNTS OF 40CFR PART 60 SUBPART AAA §60.535 (a)(2)(vii)

REPORT #_____ DATE SEALED_____

MANUFACTURER_____ MODEL #_____

Sealed Unit

List of Appendices

The following appendices have been submitted electronically in conjunction with this report:

Appendix A – Low Burn Justification, Test Run Data, Technician Notes, and Sample Analysis See page 20 of NonCBI PDF

Appendix B – Labels and Manuals See page 324 of NonCBI PDF

Appendix C –Equipment Calibration Records See page 374 of Non CBI PDF

Appendix D – Design Drawings (CBI Report Only)

Appendix E – Manufacturer QAP (CBI Report Only)

Appendix A: Test Run Data

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/27/2018	6:26:06 AM	12.16	62.83	74.71	64.57	**Added 12.16 lbs 20-23% MC, Medium High Air Setting**
8/27/2018	6:27:06 AM	12.14	62.89	88.33	65.07	
8/27/2018	6:28:06 AM	12.09	63.06	110.96	66.64	
8/27/2018	6:29:06 AM	12.02	63.06	124.41	68.77	
8/27/2018	6:30:06 AM	11.89	62.94	217.93	71.74	
8/27/2018	6:31:07 AM	11.5	63.11	342.87	88.49	
8/27/2018	6:32:07 AM	11.16	63.45	786.98	121.33	
8/27/2018	6:33:07 AM	11.03	63.62	921.9	127.72	
8/27/2018	6:34:07 AM	10.89	63.78	845.81	131.69	
8/27/2018	6:35:07 AM	10.74	63.84	869.74	136.51	
8/27/2018	6:36:07 AM	10.56	63.84	937.25	141.95	
8/27/2018	6:37:07 AM	10.4	64.01	990.59	147.44	
8/27/2018	6:38:07 AM	10.23	64.06	1036.04	154.39	
8/27/2018	6:39:07 AM	10.03	64.12	1055.42	162.85	
8/27/2018	6:40:07 AM	9.86	64.29	1105.01	172.99	
8/27/2018	6:41:07 AM	9.68	64.46	1144.4	183.47	
8/27/2018	6:42:07 AM	9.48	64.74	1175.95	193.89	
8/27/2018	6:43:07 AM	9.29	64.62	1165.13	203.69	
8/27/2018	6:44:07 AM	9.12	64.9	1155.05	213.16	
8/27/2018	6:45:07 AM	8.95	65.13	1135.27	222.3	
8/27/2018	6:46:07 AM	8.82	65.3	1127.87	230.81	
8/27/2018	6:47:07 AM	8.62	65.41	1129.66	239.16	
8/27/2018	6:48:07 AM	8.47	65.63	1139.64	247.73	
8/27/2018	6:49:07 AM	8.29	65.91	1166.14	256.25	
8/27/2018	6:50:07 AM	8.11	66.08	1206.2	264.38	
8/27/2018	6:51:07 AM	7.91	66.02	1201.16	272.56	
8/27/2018	6:52:08 AM	7.72	66.19	1199.59	279.95	
8/27/2018	6:53:08 AM	7.54	66.31	1204.07	287.01	
8/27/2018	6:54:08 AM	7.37	66.64	1197.46	293.74	
8/27/2018	6:55:08 AM	7.19	66.59	1175.72	300.24	
8/27/2018	6:56:08 AM	7.06	66.59	1158.24	306.29	
8/27/2018	6:57:08 AM	6.89	66.7	1153.31	312.23	
8/27/2018	6:58:08 AM	6.74	66.98	1160.48	318.05	
8/27/2018	6:59:08 AM	6.55	67.2	1161.38	323.54	
8/27/2018	7:00:08 AM	6.38	67.31	1150.9	328.36	
8/27/2018	7:01:08 AM	6.22	67.54	1137.23	332.79	
8/27/2018	7:02:08 AM	6.08	67.59	1124.62	337.1	
8/27/2018	7:03:08 AM	5.94	67.76	1111.23	341.25	
8/27/2018	7:04:08 AM	5.8	67.76	1106.13	345	
8/27/2018	7:05:08 AM	5.65	67.87	1097.39	348.7	
8/27/2018	7:06:08 AM	5.53	68.1	1086.63	352.01	
8/27/2018	7:07:08 AM	5.38	68.1	1080.92	354.98	
8/27/2018	7:08:08 AM	5.26	68.21	1078.9	358.06	
8/27/2018	7:09:08 AM	5.13	68.38	1078	360.97	
8/27/2018	7:10:08 AM	4.99	68.21	1074.64	363.55	
8/27/2018	7:11:08 AM	4.85	68.49	1092.68	365.96	
8/27/2018	7:12:08 AM	4.73	68.83	1107.25	368.03	
8/27/2018	7:13:08 AM	4.6	68.55	1123.61	370.11	
8/27/2018	7:14:08 AM	4.52	68.77	1106.69	372.18	
8/27/2018	7:15:08 AM	4.38	68.49	1071.73	373.92	
8/27/2018	7:16:08 AM	4.26	68.88	1044.66	375.2	
8/27/2018	7:17:08 AM	4.17	68.88	1038.22	376.27	
8/27/2018	7:18:08 AM	4.07	69.05	1038.33	377.39	
8/27/2018	7:19:08 AM	3.95	68.71	1034.24	378.57	
8/27/2018	7:20:08 AM	3.85	68.83	1035.08	380.08	
8/27/2018	7:21:09 AM	3.76	69.22	1038.56	381.82	
8/27/2018	7:22:09 AM	3.68	69.22	1040.24	383.5	
8/27/2018	7:23:09 AM	3.56	68.88	1049.37	385.18	
8/27/2018	7:24:09 AM	3.48	69.16	1048.03	386.35	
8/27/2018	7:25:09 AM	3.4	69.39	1034.13	387.03	
8/27/2018	7:26:09 AM	3.34	69.44	1026.01	387.31	
8/27/2018	7:27:09 AM	3.23	69.11	1011.44	387.03	
8/27/2018	7:28:09 AM	3.17	69.44	999.28	386.52	
8/27/2018	7:29:09 AM	3.1	69.44	990.71	385.91	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/27/2018	7:30:09 AM	3.02	69.44	996.7	385.46	
8/27/2018	7:31:09 AM	2.97	69.39	1007.12	385.35	
8/27/2018	7:32:09 AM	2.89	69.33	1000.46	385.35	
8/27/2018	7:33:09 AM	2.82	69.33	974.4	385.46	
8/27/2018	7:34:09 AM	2.75	69.5	962.24	385.46	
8/27/2018	7:35:09 AM	2.7	69.44	940.22	385.07	
8/27/2018	7:36:09 AM	2.64	69.5	906.04	384.23	
8/27/2018	7:37:09 AM	2.59	70.51	883.41	383.22	
8/27/2018	7:38:09 AM	2.52	69.72	882.68	382.04	
8/27/2018	7:39:09 AM	2.49	69.55	890.02	380.75	
8/27/2018	7:40:09 AM	2.43	69.44	897.08	379.58	
8/27/2018	7:41:09 AM	2.4	69.67	882.9	377.89	
8/27/2018	7:42:09 AM	2.35	70.06	856.23	375.99	
8/27/2018	7:43:09 AM	2.31	69.55	837.07	373.97	
8/27/2018	7:44:09 AM	2.27	70.34	826.42	371.9	
8/27/2018	7:45:09 AM	2.23	70.12	820.37	369.94	
8/27/2018	7:46:09 AM	2.18	70.28	818.02	368.03	
8/27/2018	7:47:09 AM	2.14	70	813.37	366.07	
8/27/2018	7:48:09 AM	2.09	70.4	807.93	364.05	
8/27/2018	7:49:09 AM	2.06	70.17	802.78	361.93	
8/27/2018	7:50:09 AM	2.05	70.4	792.08	359.46	
8/27/2018	7:51:09 AM	2.02	70.4	783.39	357.16	
8/27/2018	7:52:09 AM	1.97	70.51	780.42	354.98	
8/27/2018	7:53:09 AM	1.94	70.34	779.41	352.85	
8/27/2018	7:54:09 AM	1.92	70.51	779.19	350.55	
8/27/2018	7:55:09 AM	1.89	70	780.03	348.53	
8/27/2018	7:56:10 AM	1.86	70.17	777.56	346.46	
8/27/2018	7:57:10 AM	1.82	70.4	776	344.5	
8/27/2018	7:58:10 AM	1.8	70.28	771.74	342.65	
8/27/2018	7:59:10 AM	1.78	70.28	766.58	340.63	
8/27/2018	8:00:10 AM	1.75	70.17	761.65	338.67	
8/27/2018	8:01:10 AM	1.05	70.28	728.31	337.61	
8/27/2018	8:02:10 AM	20.44	70.45	581.46	334.3	**Added 18 lbs 20-23% MC, Medium High Air Setting**
8/27/2018	8:03:10 AM	20.42	72.3	564.37	329.32	
8/27/2018	8:04:10 AM	20.36	71.07	568.23	322.76	
8/27/2018	8:05:10 AM	20.35	71.01	554.28	315.36	
8/27/2018	8:06:10 AM	20.32	71.18	536.69	307.52	
8/27/2018	8:07:10 AM	20.31	71.18	518.98	299.51	
8/27/2018	8:08:10 AM	20.28	70.84	463.9	291.77	
8/27/2018	8:09:10 AM	20.23	71.35	433.59	284.1	
8/27/2018	8:10:10 AM	20.16	71.18	434.99	277.15	
8/27/2018	8:11:10 AM	20.05	70.96	511.3	271.27	
8/27/2018	8:12:10 AM	19.99	70.96	569.02	267.12	
8/27/2018	8:13:10 AM	19.92	71.07	582.3	263.2	
8/27/2018	8:14:10 AM	19.88	71.01	569.35	259.11	
8/27/2018	8:15:10 AM	19.84	71.35	532.48	254.23	
8/27/2018	8:16:10 AM	19.8	71.01	479.53	249.08	
8/27/2018	8:17:10 AM	19.72	71.07	439.3	243.92	
8/27/2018	8:18:10 AM	19.62	70.84	532.37	240.17	
8/27/2018	8:19:10 AM	19.47	70.45	641.69	238.54	
8/27/2018	8:20:10 AM	19.35	70.79	684.61	238.1	
8/27/2018	8:21:10 AM	19.17	70.73	701.14	238.43	
8/27/2018	8:22:10 AM	19.02	70.73	730.61	239.89	
8/27/2018	8:23:11 AM	18.85	70.68	724.89	241.91	
8/27/2018	8:24:11 AM	18.66	70.73	783.73	245.04	
8/27/2018	8:25:11 AM	18.46	70.62	858.08	249.02	
8/27/2018	8:26:11 AM	18.25	70.68	965.32	253.9	
8/27/2018	8:27:11 AM	18.06	70.73	1060.47	259.33	
8/27/2018	8:28:11 AM	17.86	70.68	1049.82	264.32	
8/27/2018	8:29:11 AM	17.66	70.62	1043.21	269.08	
8/27/2018	8:30:11 AM	17.47	70.79	1039.62	273.4	
8/27/2018	8:31:11 AM	17.27	70.45	1033.01	277.49	
8/27/2018	8:32:11 AM	17.06	70.51	1037.16	281.63	
8/27/2018	8:33:11 AM	16.82	70.79	1069.71	288.02	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/27/2018	8:34:11 AM	16.61	70.73	1158.13	295.64	
8/27/2018	8:35:11 AM	16.4	70.79	1112.85	301.8	
8/27/2018	8:36:11 AM	16.2	70.84	1092.68	307.13	
8/27/2018	8:37:11 AM	16	70.73	1124.4	312.28	
8/27/2018	8:38:11 AM	15.81	70.84	1170.51	317.77	
8/27/2018	8:39:11 AM	15.6	70.84	1197.13	322.14	
8/27/2018	8:40:11 AM	15.41	70.84	1156.33	326.74	
8/27/2018	8:41:11 AM	15.2	71.07	1191.58	331.78	
8/27/2018	8:42:11 AM	15.02	70.96	1234.72	336.54	
8/27/2018	8:43:11 AM	14.79	71.12	1252.32	341.59	
8/27/2018	8:44:11 AM	14.56	71.07	1219.37	346.74	
8/27/2018	8:45:11 AM	14.37	71.18	1224.97	351.34	
8/27/2018	8:46:12 AM	14.2	71.29	1243.69	354.7	
8/27/2018	8:47:12 AM	14.02	71.4	1197.41	357.5	
8/27/2018	8:48:12 AM	13.84	70.84	1229.01	359.85	
8/27/2018	8:49:12 AM	13.7	71.85	1228.17	361.48	
8/27/2018	8:50:12 AM	13.51	71.07	1223.07	363.1	
8/27/2018	8:51:12 AM	13.33	71.29	1221.33	364.67	
8/27/2018	8:52:12 AM	13.17	70.84	1223.07	366.69	
8/27/2018	8:53:12 AM	12.98	71.4	1222.96	368.65	
8/27/2018	8:54:12 AM	12.81	71.29	1219.54	370.83	
8/27/2018	8:55:12 AM	12.61	71.35	1218.59	372.91	
8/27/2018	8:56:12 AM	12.45	71.12	1219.48	374.98	
8/27/2018	8:57:12 AM	12.27	71.01	1220.99	376.94	
8/27/2018	8:58:12 AM	12.09	71.35	1217.18	379.18	
8/27/2018	8:59:12 AM	11.91	71.68	1214.72	381.59	
8/27/2018	9:00:12 AM	11.7	71.35	1206.03	384.17	
8/27/2018	9:01:12 AM	11.52	71.18	1195.28	386.64	
8/27/2018	9:02:12 AM	11.29	71.52	1175.5	388.88	
8/27/2018	9:03:12 AM	11.1	71.07	1158.91	390.84	
8/27/2018	9:04:12 AM	10.85	71.29	1145.07	392.52	
8/27/2018	9:05:12 AM	10.64	71.91	1132.07	394.26	
8/27/2018	9:06:12 AM	10.41	71.4	1123.44	395.71	
8/27/2018	9:07:12 AM	10.19	71.35	1120.14	397.17	
8/27/2018	9:08:12 AM	9.93	71.57	1118.51	398.51	
8/27/2018	9:09:12 AM	9.69	71.4	1201.94	400.25	
8/27/2018	9:10:12 AM	9.49	71.52	1278.48	402.27	
8/27/2018	9:11:12 AM	9.29	71.52	1272.82	404.28	
8/27/2018	9:12:12 AM	9.11	71.57	1239.71	406.3	
8/27/2018	9:13:12 AM	8.9	71.57	1253.88	407.98	
8/27/2018	9:14:12 AM	8.71	71.57	1262.35	409.66	
8/27/2018	9:15:12 AM	8.5	71.85	1261.67	411.12	
8/27/2018	9:16:12 AM	8.29	71.96	1249.91	412.35	
8/27/2018	9:17:12 AM	8.12	71.85	1245.7	413.53	
8/27/2018	9:18:12 AM	7.94	72.08	1231.86	414.54	
8/27/2018	9:19:13 AM	7.75	71.91	1240.77	416.05	
8/27/2018	9:20:13 AM	7.58	71.91	1256.24	417	
8/27/2018	9:21:13 AM	7.39	72.3	1250.97	418.12	
8/27/2018	9:22:13 AM	7.2	72.36	1233.66	419.25	
8/27/2018	9:23:13 AM	7.05	71.96	1196.85	419.97	
8/27/2018	9:24:13 AM	6.87	72.86	1186.98	420.37	
8/27/2018	9:25:13 AM	6.72	72.52	1209.73	420.93	
8/27/2018	9:26:13 AM	6.55	72.24	1217.52	421.82	
8/27/2018	9:27:13 AM	6.41	72.75	1209.34	422.44	
8/27/2018	9:28:13 AM	6.25	72.36	1202.9	423.17	
8/27/2018	9:29:13 AM	6.08	72.58	1198.3	423.95	
8/27/2018	9:30:13 AM	5.92	72.52	1195.22	424.68	
8/27/2018	9:31:13 AM	5.77	72.86	1190.74	425.46	
8/27/2018	9:32:13 AM	5.62	72.52	1194.27	426.42	
8/27/2018	9:33:13 AM	5.47	73.53	1195.56	427.37	
8/27/2018	9:34:13 AM	5.33	73.25	1188.22	428.49	
8/27/2018	9:35:13 AM	5.21	72.3	1184.41	429.67	
8/27/2018	9:36:13 AM	5.09	72.19	1175.05	430.9	
8/27/2018	9:37:13 AM	4.98	72.19	1160.14	432.08	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/27/2018	9:38:13 AM	4.87	72.36	1156.84	433.53	
8/27/2018	9:39:13 AM	4.77	72.52	1163.11	435.21	
8/27/2018	9:40:13 AM	4.67	72.36	1154.43	437.23	
8/27/2018	9:41:13 AM	4.61	72.3	1146.81	439.3	
8/27/2018	9:42:13 AM	4.54	72.36	1122.72	441.27	
8/27/2018	9:43:13 AM	4.45	72.75	1089.1	442.83	
8/27/2018	9:44:13 AM	4.39	71.96	1048.81	444.07	
8/27/2018	9:45:13 AM	4.34	72.97	1004.94	444.96	
8/27/2018	9:46:13 AM	4.29	72.3	966.84	445.24	
8/27/2018	9:47:13 AM	4.23	72.3	940.73	444.74	
8/27/2018	9:48:13 AM	4.17	72.41	924.2	443.56	
8/27/2018	9:49:13 AM	4.1	72.41	913.5	442.05	
8/27/2018	9:50:13 AM	4.08	72.52	906.04	440.14	
8/27/2018	9:51:13 AM	4.04	72.75	900.44	437.85	
8/27/2018	9:52:13 AM	4	72.92	900.16	435.44	
8/27/2018	9:53:13 AM	3.94	72.64	904.36	432.92	
8/27/2018	9:54:13 AM	3.91	72.86	906.27	430.23	
8/27/2018	9:55:14 AM	3.86	73.25	906.44	427.48	
8/27/2018	9:56:14 AM	3.81	72.69	905.71	424.62	
8/27/2018	9:57:14 AM	3.78	72.64	906.6	421.71	
8/27/2018	9:58:14 AM	3.74	72.58	907	418.74	
8/27/2018	9:59:14 AM	18	72.24	856.06	418.4	**Added 15 lbs 20-23% MC, Medium High Air Setting**
8/27/2018	10:00:14 AM	17.8	73.93	927.17	416.22	
8/27/2018	10:01:14 AM	17.62	72.64	1143.45	416.16	
8/27/2018	10:02:14 AM	17.42	72.41	1189.62	416	
8/27/2018	10:03:14 AM	17.22	71.74	1216.57	415.49	
8/27/2018	10:04:14 AM	17.04	72.75	1244.3	415.32	
8/27/2018	10:05:14 AM	16.83	72.58	1242.57	414.65	
8/27/2018	10:06:14 AM	16.62	72.19	1252.15	414.2	
8/27/2018	10:07:14 AM	16.42	71.52	1259.43	413.59	
8/27/2018	10:08:14 AM	16.22	72.86	1269.41	413.47	
8/27/2018	10:09:14 AM	16.01	71.96	1281	413.59	
8/27/2018	10:10:14 AM	15.81	72.08	1281.12	413.87	
8/27/2018	10:11:14 AM	15.6	71.96	1279.1	414.09	
8/27/2018	10:12:14 AM	15.41	71.96	1279.44	414.43	
8/27/2018	10:13:14 AM	15.19	71.91	1279.94	415.21	
8/27/2018	10:14:14 AM	15	72.58	1279.72	415.94	
8/27/2018	10:15:14 AM	14.79	72.08	1278.2	416.78	
8/27/2018	10:16:14 AM	14.59	72.19	1276.13	417.51	
8/27/2018	10:17:15 AM	14.39	72.41	1275.06	418.4	
8/27/2018	10:18:15 AM	14.2	72.02	1270.69	419.25	
8/27/2018	10:19:15 AM	14	71.74	1266.49	420.25	
8/27/2018	10:20:15 AM	13.8	72.69	1257.47	421.21	
8/27/2018	10:21:15 AM	13.61	71.96	1249.85	421.99	
8/27/2018	10:22:15 AM	13.4	71.96	1237.92	422.78	
8/27/2018	10:23:15 AM	13.19	71.96	1214.61	423.78	
8/27/2018	10:24:15 AM	12.98	72.02	1187.94	424.34	
8/27/2018	10:25:15 AM	12.78	72.41	1178.07	425.02	
8/27/2018	10:26:15 AM	12.57	72.36	1172.58	425.8	
8/27/2018	10:27:15 AM	12.38	72.24	1170.62	426.42	
8/27/2018	10:28:15 AM	12.17	72.58	1178.92	427.09	
8/27/2018	10:29:15 AM	12.01	72.92	1194.83	427.82	
8/27/2018	10:30:15 AM	11.82	72.19	1214.1	428.43	
8/27/2018	10:31:15 AM	11.66	72.64	1213.32	428.88	
8/27/2018	10:32:15 AM	11.5	72.75	1215.34	429.33	
8/27/2018	10:33:15 AM	11.34	72.19	1210.18	429.67	
8/27/2018	10:34:15 AM	11.18	71.96	1206.71	429.89	
8/27/2018	10:35:15 AM	11.03	72.52	1206.93	429.89	
8/27/2018	10:36:15 AM	10.88	72.19	1194.27	429.84	
8/27/2018	10:37:15 AM	10.73	73.2	1179.2	429.55	
8/27/2018	10:38:15 AM	10.6	72.58	1169.45	428.99	
8/27/2018	10:39:15 AM	10.45	72.08	1162.44	428.38	
8/27/2018	10:40:15 AM	10.32	72.24	1163.51	427.82	
8/27/2018	10:41:15 AM	10.16	72.3	1161.38	427.2	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/27/2018	10:42:15 AM	10.04	72.3	1152.86	426.75	
8/27/2018	10:43:15 AM	9.91	72.52	1137.62	425.86	
8/27/2018	10:44:15 AM	9.76	72.41	1129.5	425.18	
8/27/2018	10:45:15 AM	9.65	72.41	1127.03	424.57	
8/27/2018	10:46:15 AM	9.53	72.02	1134.31	424.12	
8/27/2018	10:47:15 AM	9.4	72.92	1144.62	424.06	
8/27/2018	10:48:15 AM	9.28	72.36	1149.44	424.34	
8/27/2018	10:49:15 AM	9.16	72.86	1158.35	424.79	
8/27/2018	10:50:15 AM	9.02	72.19	1169.56	425.18	
8/27/2018	10:51:15 AM	8.88	72.52	1181.44	426.19	
8/27/2018	10:52:15 AM	8.75	72.69	1185.58	427.43	
8/27/2018	10:53:16 AM	8.61	72.75	1204.86	429.05	
8/27/2018	10:54:16 AM	8.48	73.98	1199.98	430.9	
8/27/2018	10:55:16 AM	8.3	72.52	1179.87	432.75	
8/27/2018	10:56:16 AM	8.16	72.52	1163.11	434.26	
8/27/2018	10:57:16 AM	8.03	72.86	1149.95	435.55	
8/27/2018	10:58:16 AM	7.86	72.75	1135.49	436.78	
8/27/2018	10:59:16 AM	7.7	72.75	1120.14	437.96	
8/27/2018	11:00:16 AM	7.52	72.64	1111.34	438.97	
8/27/2018	11:01:16 AM	7.39	72.92	1112.13	440.03	
8/27/2018	11:02:16 AM	7.25	72.64	1109.77	440.99	
8/27/2018	11:03:16 AM	7.08	72.69	1108.76	442.11	
8/27/2018	11:04:16 AM	6.94	73.31	1104.06	442.67	
8/27/2018	11:05:16 AM	6.8	72.69	1097.22	443.06	
8/27/2018	11:06:16 AM	6.64	73.03	1092.35	443.45	
8/27/2018	11:07:16 AM	6.5	72.41	1089.88	443.62	
8/27/2018	11:08:16 AM	6.36	72.97	1093.08	443.67	
8/27/2018	11:09:16 AM	6.23	72.58	1100.14	443.67	
8/27/2018	11:10:16 AM	6.06	73.03	1103.5	443.62	
8/27/2018	11:11:16 AM	5.96	72.58	1101.59	443.67	
8/27/2018	11:12:16 AM	5.82	72.52	1109.44	443.73	
8/27/2018	11:13:16 AM	5.7	72.64	1120.42	443.73	
8/27/2018	11:14:16 AM	5.59	73.36	1128.32	443.45	
8/27/2018	11:15:16 AM	5.49	72.69	1130.56	442.95	
8/27/2018	11:16:16 AM	5.37	72.58	1131.29	442.22	
8/27/2018	11:17:16 AM	5.26	73.31	1130.39	441.49	
8/27/2018	11:18:16 AM	5.15	73.31	1114.65	440.54	
8/27/2018	11:19:16 AM	5.07	73.59	1078.28	439.3	
8/27/2018	11:20:17 AM	4.98	73.59	1056.6	437.96	
8/27/2018	11:21:17 AM	4.9	73.25	1038.33	436.61	
8/27/2018	11:22:17 AM	4.8	72.36	1024.61	435.1	
8/27/2018	11:23:17 AM	4.73	73.03	1014.02	433.59	
8/27/2018	11:24:17 AM	4.65	73.48	1002.75	432.08	
8/27/2018	11:25:17 AM	4.56	73.03	990.82	430.28	
8/27/2018	11:26:17 AM	4.48	73.48	977.26	428.49	
8/27/2018	11:27:17 AM	4.4	73.2	968.41	426.81	
8/27/2018	11:28:17 AM	4.34	73.48	961.57	425.24	
8/27/2018	11:29:17 AM	4.28	73.25	956.25	423.62	
8/27/2018	11:30:17 AM	4.19	73.36	954.01	422.16	
8/27/2018	11:31:17 AM	4.11	72.64	953.84	420.87	
8/27/2018	11:32:17 AM	4.04	72.69	960.11	419.69	
8/27/2018	11:33:17 AM	3.99	74.93	963.2	418.57	
8/27/2018	11:34:17 AM	3.94	72.69	963.64	417.28	
8/27/2018	11:35:17 AM	3.85	73.14	961.74	416.28	
8/27/2018	11:36:17 AM	3.79	73.36	962.8	415.44	
8/27/2018	11:37:17 AM	3.7	73.25	967.85	414.54	
8/27/2018	11:38:17 AM	3.61	72.86	974.07	413.87	
8/27/2018	11:39:17 AM	3.54	73.48	985.16	413.42	
8/27/2018	11:40:17 AM	3.47	72.92	994.96	412.97	
8/27/2018	11:41:17 AM	3.4	73.36	995.3	412.3	
8/27/2018	11:42:17 AM	3.32	72.58	993.4	411.34	
8/27/2018	11:43:17 AM	3.25	72.75	993.34	410.45	
8/27/2018	11:44:17 AM	3.2	72.92	993.73	409.5	
8/27/2018	11:45:17 AM	3.12	72.64	988.24	408.71	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/27/2018	11:46:17 AM	3.05	73.03	989.14	408.21	
8/27/2018	11:47:17 AM	3.01	72.58	986.56	407.59	
8/27/2018	11:48:17 AM	2.96	73.87	986.06	406.97	
8/27/2018	11:49:17 AM	2.9	72.75	981.57	406.53	
8/27/2018	11:50:17 AM	2.82	72.36	983.03	406.08	
8/27/2018	11:51:17 AM	2.76	73.65	982.47	405.74	
8/27/2018	11:52:17 AM	2.7	72.69	980.96	405.52	
8/27/2018	11:53:17 AM	2.63	73.14	983.31	405.46	
8/27/2018	11:54:17 AM	2.56	72.75	991.72	405.74	
8/27/2018	11:55:17 AM	2.5	72.97	1002.7	406.36	
8/27/2018	11:56:18 AM	2.43	72.75	1002.36	407.14	
8/27/2018	11:57:18 AM	2.38	73.2	999.34	407.98	
8/27/2018	11:58:18 AM	2.32	74.04	996.25	409.22	
8/27/2018	11:59:18 AM	2.26	72.75	979.05	410.45	
8/27/2018	12:00:18 PM	2.19	72.64	960.84	411.74	
8/27/2018	12:01:18 PM	2.14	72.64	942.58	412.69	
8/27/2018	12:02:18 PM	2.1	72.97	921.45	413.14	
8/27/2018	12:03:18 PM	2.08	72.86	901.95	412.97	
8/27/2018	12:04:18 PM	1.99	73.2	896.29	412.07	
8/27/2018	12:05:18 PM	1.95	73.14	893.55	410.5	
8/27/2018	12:06:18 PM	1.9	73.03	888.9	408.49	
8/27/2018	12:07:18 PM	1.86	72.58	883.24	406.08	
8/27/2018	12:08:18 PM	1.81	72.75	878.08	403.78	
8/27/2018	12:09:18 PM	1.77	72.69	875.11	401.48	
8/27/2018	12:10:18 PM	1.73	72.36	870.74	399.19	
8/27/2018	12:11:18 PM	1.69	72.36	863.91	397.17	
8/27/2018	12:12:18 PM	1.65	72.69	859.99	394.82	
8/27/2018	12:13:18 PM	1.61	72.52	861.72	392.63	
8/27/2018	12:14:18 PM	1.58	72.36	861.72	390.28	
8/27/2018	12:15:18 PM	1.53	73.81	867.27	388.37	
8/27/2018	12:16:18 PM	1.49	72.64	868.73	386.58	
8/27/2018	12:17:18 PM	1.47	72.92	863.68	384.56	
8/27/2018	12:18:18 PM	1.44	72.58	857.97	382.43	
8/27/2018	12:19:18 PM	1.42	72.3	854.61	380.47	
8/27/2018	12:20:18 PM	1.38	72.92	850.57	378.29	
8/27/2018	12:21:18 PM	1.35	72.92	845.19	376.27	
8/27/2018	12:22:18 PM	1.3	72.36	838.53	374.36	
8/27/2018	12:23:18 PM	1.28	72.41	834.32	372.35	
8/27/2018	12:24:18 PM	1.25	72.75	833.09	370.44	
8/27/2018	12:25:18 PM	1.2	72.19	843.46	368.59	
8/27/2018	12:26:18 PM	1.18	72.08	853.82	366.97	
8/27/2018	12:27:18 PM	1.14	72.3	857.58	365.51	
8/27/2018	12:28:18 PM	1.12	73.87	859.15	364.11	
8/27/2018	12:29:18 PM	1.08	72.92	859.15	362.71	
8/27/2018	12:30:18 PM	1.05	72.08	858.14	361.2	
8/27/2018	12:31:19 PM	1.03	72.64	851.97	359.68	
8/27/2018	12:32:19 PM	0.99	72.3	851.25	358.17	
8/27/2018	12:33:19 PM	0.97	72.58	854.94	356.66	
8/27/2018	12:34:19 PM	0.94	72.52	858.08	355.15	
8/27/2018	12:35:19 PM	0.92	72.24	858.98	353.63	
8/27/2018	12:36:19 PM	0.87	72.41	860.55	352.29	
8/27/2018	12:37:19 PM	0.85	72.52	860.55	350.66	
8/27/2018	12:38:19 PM	0.82	72.41	859.15	349.21	
8/27/2018	12:39:19 PM	0.78	72.58	857.24	347.92	
8/27/2018	12:40:19 PM	0.75	72.69	855.56	346.63	
8/27/2018	12:41:19 PM	0.74	72.64	852.87	345.23	
8/27/2018	12:42:19 PM	0.7	72.41	850.8	344	
8/27/2018	12:43:19 PM	0.68	72.64	836.06	342.65	
8/27/2018	12:44:19 PM	0.65	72.64	822.67	341.42	
8/27/2018	12:45:19 PM	0.61	72.36	823.9	340.3	
8/27/2018	12:46:19 PM	0.58	72.24	830.68	339.18	
8/27/2018	12:47:19 PM	0.55	72.36	839.76	338.34	
8/27/2018	12:48:19 PM	0.54	72.58	846.65	337.61	
8/27/2018	12:49:19 PM	0.52	72.52	846.2	336.82	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/27/2018	12:50:19 PM	0.5	72.24	843.57	335.87	
8/27/2018	12:51:19 PM	0.46	72.19	842.56	334.97	
8/27/2018	12:52:19 PM	0.44	72.3	843.29	333.97	
8/27/2018	12:53:19 PM	0.41	72.69	843.12	332.9	
8/27/2018	12:54:19 PM	0.36	72.41	843.12	331.67	
8/27/2018	12:55:19 PM	0.34	72.52	844.24	330.66	
8/27/2018	12:56:19 PM	0.32	72.64	847.04	329.54	
8/27/2018	12:57:19 PM	0.27	72.75	849.62	328.42	
8/27/2018	12:58:19 PM	0.25	73.03	849.34	327.3	
8/27/2018	12:59:19 PM	0.23	72.64	849.9	326.29	
8/27/2018	1:00:19 PM	0.2	72.64	849.23	325.51	
8/27/2018	1:01:19 PM	0.18	72.75	848.67	324.5	
8/27/2018	1:02:19 PM	0.15	72.69	847.55	323.54	
8/27/2018	1:03:19 PM	0.13	72.64	847.6	322.59	
8/27/2018	1:04:19 PM	0.12	72.75	846.87	321.64	
8/27/2018	1:05:20 PM	0	72.75	848.61	320.57	
8/28/2018	6:29:05 AM	12.18	63.06	87.6	65.74	**Added 12 lbs 20-23% MC, Medium High Air Setting**
8/28/2018	6:30:06 AM	12.16	62.83	102.67	66.64	
8/28/2018	6:31:06 AM	12.11	62.94	104.97	67.54	
8/28/2018	6:32:06 AM	12.07	62.89	120.15	69.67	
8/28/2018	6:33:06 AM	12.02	63.06	134.55	72.3	
8/28/2018	6:34:06 AM	11.32	63.11	235.29	84.96	
8/28/2018	6:35:06 AM	11.54	63.17	487.32	95.33	
8/28/2018	6:36:06 AM	11.42	63.22	614.51	104.07	
8/28/2018	6:37:06 AM	11.29	63.39	750.28	112.19	
8/28/2018	6:38:06 AM	11.14	63.39	833.6	120.21	
8/28/2018	6:39:06 AM	10.98	63.5	881.67	127.83	
8/28/2018	6:40:06 AM	10.83	63.56	906.21	134.05	
8/28/2018	6:41:06 AM	10.68	63.62	887.27	139.43	
8/28/2018	6:42:06 AM	10.53	63.73	870.41	144.36	
8/28/2018	6:43:06 AM	10.36	63.78	885.7	150.24	
8/28/2018	6:44:06 AM	10.21	63.95	910.97	156.96	
8/28/2018	6:45:06 AM	10.03	63.95	928.79	163.8	
8/28/2018	6:46:07 AM	9.89	64.01	912.71	169.91	
8/28/2018	6:47:07 AM	9.74	64.06	886.43	175.45	
8/28/2018	6:48:07 AM	9.61	64.06	890.92	181.45	
8/28/2018	6:49:07 AM	9.41	64.18	960.51	188.96	
8/28/2018	6:50:07 AM	9.21	64.34	1077.95	198.26	
8/28/2018	6:51:07 AM	9.02	64.4	1114.14	208.4	
8/28/2018	6:52:07 AM	8.82	64.62	1151.85	218.26	
8/28/2018	6:53:07 AM	8.6	64.9	1153.7	228.4	
8/28/2018	6:54:07 AM	8.35	64.9	1183.62	238.82	
8/28/2018	6:55:07 AM	8.09	64.96	1170.23	248.57	
8/28/2018	6:56:07 AM	7.89	65.3	1168.44	257.65	
8/28/2018	6:57:07 AM	7.68	65.3	1141.21	266.22	
8/28/2018	6:58:07 AM	7.5	65.3	1113.92	274.01	
8/28/2018	6:59:07 AM	7.31	65.58	1113.13	282.19	
8/28/2018	7:00:07 AM	7.14	65.69	1115.99	290.21	
8/28/2018	7:01:07 AM	6.96	65.74	1148.71	297.49	
8/28/2018	7:02:07 AM	6.79	66.02	1162.61	305.05	
8/28/2018	7:03:07 AM	6.6	66.19	1173.09	312.23	
8/28/2018	7:04:08 AM	6.43	66.25	1180.76	319.79	
8/28/2018	7:05:08 AM	6.25	66.31	1191.47	327.07	
8/28/2018	7:06:08 AM	6.08	66.36	1184.74	333.8	
8/28/2018	7:07:08 AM	5.92	66.36	1187.66	340.35	
8/28/2018	7:08:08 AM	5.74	66.53	1180.43	346.4	
8/28/2018	7:09:08 AM	5.58	66.53	1176.84	351.9	
8/28/2018	7:10:08 AM	5.41	66.47	1168.16	356.99	
8/28/2018	7:11:08 AM	5.23	66.7	1158.02	361.76	
8/28/2018	7:12:08 AM	5.09	66.7	1165.3	365.96	
8/28/2018	7:13:08 AM	4.92	66.7	1178.47	369.94	
8/28/2018	7:14:08 AM	4.77	67.54	1173.26	373.41	
8/28/2018	7:15:08 AM	4.59	66.98	1156.39	376.38	
8/28/2018	7:16:08 AM	4.47	67.31	1145.69	379.07	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/28/2018	7:17:08 AM	4.28	66.98	1154.32	381.87	
8/28/2018	7:18:08 AM	4.12	67.2	1166.08	384.17	
8/28/2018	7:19:08 AM	3.96	67.87	1170.45	386.41	
8/28/2018	7:20:09 AM	3.8	68.99	1171.97	388.65	
8/28/2018	7:21:09 AM	3.64	68.99	1176	390.61	
8/28/2018	7:22:09 AM	3.48	68.55	1177.23	392.74	
8/28/2018	7:23:09 AM	3.32	68.49	1180.43	394.76	
8/28/2018	7:24:09 AM	3.15	69.22	1174.21	396.78	
8/28/2018	7:25:09 AM	2.99	68.1	1165.69	398.57	
8/28/2018	7:26:09 AM	2.85	68.49	1174.04	400.31	
8/28/2018	7:27:09 AM	2.68	68.1	1174.15	401.76	
8/28/2018	7:28:09 AM	2.55	68.15	1174.66	403.33	
8/28/2018	7:29:09 AM	2.44	69.22	1151.29	404.68	
8/28/2018	7:30:09 AM	2.27	68.99	1148.1	406.08	
8/28/2018	7:31:09 AM	2.16	69.39	1142.83	407.25	
8/28/2018	7:32:09 AM	2.05	68.88	1125.97	408.32	
8/28/2018	7:33:09 AM	1.97	68.43	1125.24	409.94	
8/28/2018	7:34:09 AM	1.89	68.83	1126.92	412.02	
8/28/2018	7:35:09 AM	1.8	68.43	1065.34	412.86	
8/28/2018	7:36:09 AM	1.72	69.95	1011.89	412.8	
8/28/2018	7:37:09 AM	1.67	68.66	991.72	412.47	
8/28/2018	7:38:10 AM	1.62	69.05	991.72	412.02	
8/28/2018	7:39:10 AM	1.56	68.83	992.95	411.34	
8/28/2018	7:40:10 AM	1.47	69.22	998.89	410.67	
8/28/2018	7:41:10 AM	1.3	68.88	1000.06	409.78	
8/28/2018	7:42:10 AM	13.59	68.66	901.73	412.69	
8/28/2018	7:43:10 AM	21.46	69.67	858.53	415.1	**Added 19 lbs 20-23% MC, Medium High Air Setting**
8/28/2018	7:44:10 AM	21.32	72.08	970.59	414.54	
8/28/2018	7:45:10 AM	21.1	72.36	1085.23	412.91	
8/28/2018	7:46:10 AM	20.85	69.95	1204.75	411.4	
8/28/2018	7:47:10 AM	20.62	71.74	1276.41	410.67	
8/28/2018	7:48:10 AM	20.35	69.5	1306.83	409.94	
8/28/2018	7:49:10 AM	20.1	70.4	1300.89	408.82	
8/28/2018	7:50:10 AM	19.87	72.24	1331.49	408.32	
8/28/2018	7:51:10 AM	19.58	69.39	1339.16	407.93	
8/28/2018	7:52:10 AM	19.34	74.04	1340.12	407.59	
8/28/2018	7:53:11 AM	19.07	73.31	1345.38	407.37	
8/28/2018	7:54:11 AM	18.8	69.33	1349.59	407.14	
8/28/2018	7:55:11 AM	18.51	69.33	1347.18	406.97	
8/28/2018	7:56:11 AM	18.28	70.73	1333.56	407.53	
8/28/2018	7:57:11 AM	17.97	69.44	1335.24	407.37	
8/28/2018	7:58:11 AM	17.74	70.34	1340.23	407.53	
8/28/2018	7:59:11 AM	17.48	72.64	1337.26	407.65	
8/28/2018	8:00:11 AM	17.21	70.73	1321.46	407.59	
8/28/2018	8:01:11 AM	16.93	71.35	1307.11	407.31	
8/28/2018	8:02:11 AM	16.63	69.67	1303.7	406.86	
8/28/2018	8:03:11 AM	16.34	69.78	1292.04	406.41	
8/28/2018	8:04:11 AM	16.05	70.34	1290.53	405.91	
8/28/2018	8:05:11 AM	15.8	70.68	1276.58	405.46	
8/28/2018	8:06:11 AM	15.55	70.12	1257.81	404.9	
8/28/2018	8:07:12 AM	15.26	71.12	1239.54	404.23	
8/28/2018	8:08:12 AM	15.01	71.01	1205.42	403.39	
8/28/2018	8:09:12 AM	14.74	69.95	1183.17	402.16	
8/28/2018	8:10:12 AM	14.46	72.52	1177.01	401.04	
8/28/2018	8:11:12 AM	14.2	74.04	1169.67	400.08	
8/28/2018	8:12:12 AM	13.88	70.62	1161.27	399.19	
8/28/2018	8:13:12 AM	13.66	73.14	1155.21	398.23	
8/28/2018	8:14:12 AM	13.41	70.96	1147.15	397.34	
8/28/2018	8:15:12 AM	13.15	70.4	1147.09	396.61	
8/28/2018	8:16:12 AM	12.9	71.18	1141.93	396.05	
8/28/2018	8:17:12 AM	12.65	70.34	1135.04	395.32	
8/28/2018	8:18:12 AM	12.39	70.34	1132.86	394.54	
8/28/2018	8:19:12 AM	12.16	70.62	1133.47	393.98	
8/28/2018	8:20:12 AM	11.92	70.17	1144.18	393.81	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/28/2018	8:21:12 AM	11.7	70.28	1137.84	393.64	
8/28/2018	8:22:12 AM	11.51	70.17	1140.53	393.64	
8/28/2018	8:23:13 AM	11.32	70.28	1140.87	393.81	
8/28/2018	8:24:13 AM	11.15	70.96	1151.57	394.48	
8/28/2018	8:25:13 AM	10.94	70.79	1141.49	395.15	
8/28/2018	8:26:13 AM	10.75	70.96	1134.03	395.82	
8/28/2018	8:27:13 AM	10.56	72.36	1130.34	396.72	
8/28/2018	8:28:13 AM	10.36	71.91	1125.41	397.56	
8/28/2018	8:29:13 AM	10.13	69.95	1124.23	398.74	
8/28/2018	8:30:13 AM	9.92	70	1113.36	399.97	
8/28/2018	8:31:13 AM	9.74	69.39	1112.18	400.98	
8/28/2018	8:32:13 AM	9.58	70.12	1110.73	402.27	
8/28/2018	8:33:13 AM	9.38	71.68	1107.48	403.78	
8/28/2018	8:34:13 AM	9.2	70.12	1105.96	405.63	
8/28/2018	8:35:13 AM	9.02	71.68	1100.19	407.42	
8/28/2018	8:36:13 AM	8.87	73.2	1091.17	409.16	
8/28/2018	8:37:13 AM	8.72	71.01	1088.76	411.57	
8/28/2018	8:38:13 AM	8.49	70.34	1100.36	414.15	
8/28/2018	8:39:14 AM	8.33	71.57	1128.43	416.95	
8/28/2018	8:40:14 AM	8.17	71.18	1258.98	420.7	
8/28/2018	8:41:14 AM	8.03	70.84	1294.79	424.46	
8/28/2018	8:42:14 AM	7.88	71.85	1245.42	428.27	
8/28/2018	8:43:14 AM	7.78	70.84	1221.55	432.02	
8/28/2018	8:44:14 AM	7.65	71.29	1207.21	434.49	
8/28/2018	8:45:14 AM	7.52	73.14	1198.3	435.77	
8/28/2018	8:46:14 AM	7.42	70.79	1185.92	436.67	
8/28/2018	8:47:14 AM	7.31	71.63	1154.71	437.34	
8/28/2018	8:48:14 AM	7.21	74.15	1118.79	437.96	
8/28/2018	8:49:14 AM	7.08	72.19	1112.69	438.35	
8/28/2018	8:50:14 AM	6.97	70.73	1133.59	439.02	
8/28/2018	8:51:14 AM	6.84	72.19	1151.4	439.98	
8/28/2018	8:52:14 AM	6.73	72.69	1152.92	441.1	
8/28/2018	8:53:14 AM	6.59	72.02	1151.24	442.11	
8/28/2018	8:54:14 AM	6.46	73.2	1130.39	443	
8/28/2018	8:55:15 AM	6.34	71.29	1121.99	443.67	
8/28/2018	8:56:15 AM	6.23	72.69	1122.16	444.07	
8/28/2018	8:57:15 AM	6.13	72.08	1121.2	444.63	
8/28/2018	8:58:15 AM	5.99	71.68	1125.97	445.47	
8/28/2018	8:59:15 AM	5.91	73.53	1131.29	446.25	
8/28/2018	9:00:15 AM	5.83	72.52	1133.59	446.92	
8/28/2018	9:01:15 AM	5.72	73.7	1140.09	447.09	
8/28/2018	9:02:15 AM	5.64	72.24	1137.12	447.37	
8/28/2018	9:03:15 AM	5.56	72.24	1117.51	447.54	
8/28/2018	9:04:15 AM	5.46	71.52	1153.31	448.1	
8/28/2018	9:05:15 AM	5.4	71.68	1182.95	448.49	
8/28/2018	9:06:15 AM	5.31	71.63	1172.58	448.66	
8/28/2018	9:07:15 AM	5.24	72.64	1104.62	448.33	
8/28/2018	9:08:15 AM	5.19	70.79	1062.65	447.48	
8/28/2018	9:09:15 AM	5.13	72.64	1033.46	446.48	
8/28/2018	9:10:15 AM	5.08	73.36	1013.57	445.13	
8/28/2018	9:11:16 AM	5.02	72.19	993.62	443.56	
8/28/2018	9:12:16 AM	4.98	72.58	978.83	441.88	
8/28/2018	9:13:16 AM	4.93	73.7	965.44	440.31	
8/28/2018	9:14:16 AM	4.88	71.52	952.38	438.63	
8/28/2018	9:15:16 AM	4.82	71.91	939.72	436.95	
8/28/2018	9:16:16 AM	4.8	73.81	932.43	435.21	
8/28/2018	9:17:16 AM	4.74	72.52	925.71	433.36	
8/28/2018	9:18:16 AM	4.68	73.7	920	431.4	
8/28/2018	9:19:16 AM	4.63	72.19	909.74	429.44	
8/28/2018	9:20:16 AM	4.59	73.7	901.11	427.2	
8/28/2018	9:21:16 AM	4.53	72.97	896.41	425.3	
8/28/2018	9:22:16 AM	4.5	74.54	892.04	423.06	
8/28/2018	9:23:16 AM	4.45	71.07	887.44	420.7	
8/28/2018	9:24:16 AM	4.39	72.36	886.49	418.52	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/28/2018	9:25:17 AM	4.36	73.65	886.82	416.56	
8/28/2018	9:26:17 AM	4.32	71.4	887.78	414.43	
8/28/2018	9:27:17 AM	21.83	70.73	836.12	417.23	**Added 17 lbs 20-23% MC, Medium High Air Setting**
8/28/2018	9:28:17 AM	21.5	73.87	899.82	418.52	
8/28/2018	9:29:17 AM	21.31	74.15	1037.66	417.4	
8/28/2018	9:30:17 AM	21.14	72.75	1077.55	414.15	
8/28/2018	9:31:17 AM	20.98	72.75	1066.85	409.89	
8/28/2018	9:32:17 AM	20.81	72.02	1071.9	405.35	
8/28/2018	9:33:17 AM	20.6	72.58	1149.22	402.21	
8/28/2018	9:34:17 AM	20.38	74.54	1192.53	400.59	
8/28/2018	9:35:17 AM	20.15	72.58	1212.03	399.13	
8/28/2018	9:36:17 AM	19.95	73.81	1223.8	398.12	
8/28/2018	9:37:17 AM	19.74	73.36	1224.02	397.45	
8/28/2018	9:38:17 AM	19.5	72.64	1227.94	396.94	
8/28/2018	9:39:18 AM	19.28	72.36	1228.67	396.66	
8/28/2018	9:40:18 AM	19.04	72.19	1227.21	396.5	
8/28/2018	9:41:18 AM	18.85	74.32	1228.28	396.22	
8/28/2018	9:42:18 AM	18.61	73.14	1236.35	396.22	
8/28/2018	9:43:18 AM	18.39	72.19	1248.62	396.55	
8/28/2018	9:44:18 AM	18.16	72.97	1261.73	397.17	
8/28/2018	9:45:18 AM	17.95	72.41	1269.91	397.67	
8/28/2018	9:46:18 AM	17.71	71.18	1288.57	398.68	
8/28/2018	9:47:18 AM	17.47	71.07	1293.95	399.52	
8/28/2018	9:48:18 AM	17.26	71.85	1291.71	400.36	
8/28/2018	9:49:18 AM	17.02	71.68	1283.53	401.15	
8/28/2018	9:50:18 AM	16.77	71.4	1271.09	401.99	
8/28/2018	9:51:18 AM	16.52	72.24	1254.11	402.55	
8/28/2018	9:52:18 AM	16.3	72.02	1235.34	403.05	
8/28/2018	9:53:18 AM	16.06	72.19	1210.74	403.44	
8/28/2018	9:54:19 AM	15.81	71.96	1191.13	403.5	
8/28/2018	9:55:19 AM	15.55	71.91	1177.01	403.67	
8/28/2018	9:56:19 AM	15.3	71.68	1156.84	403.67	
8/28/2018	9:57:19 AM	15.06	71.35	1148.32	403.39	
8/28/2018	9:58:19 AM	14.82	72.58	1154.32	403.05	
8/28/2018	9:59:19 AM	14.6	71.91	1155.55	403.28	
8/28/2018	10:00:19 AM	14.34	72.02	1145.24	403.44	
8/28/2018	10:01:19 AM	14.12	72.24	1136.28	404.06	
8/28/2018	10:02:19 AM	13.9	72.75	1136.72	404.62	
8/28/2018	10:03:19 AM	13.63	71.74	1137.23	405.57	
8/28/2018	10:04:19 AM	13.4	72.02	1130.56	406.3	
8/28/2018	10:05:19 AM	13.19	71.4	1137.06	407.14	
8/28/2018	10:06:19 AM	12.96	71.85	1141.37	407.98	
8/28/2018	10:07:19 AM	12.74	71.91	1152.02	408.82	
8/28/2018	10:08:19 AM	12.52	72.36	1138.24	409.94	
8/28/2018	10:09:20 AM	12.31	72.3	1132.47	411.12	
8/28/2018	10:10:20 AM	12.13	72.24	1149.55	412.3	
8/28/2018	10:11:20 AM	11.93	72.08	1176.79	413.42	
8/28/2018	10:12:20 AM	11.77	72.24	1208.44	414.76	
8/28/2018	10:13:20 AM	11.6	72.52	1214.05	416.61	
8/28/2018	10:14:20 AM	11.43	71.91	1161.99	418.35	
8/28/2018	10:15:20 AM	11.27	72.36	1154.71	419.64	
8/28/2018	10:16:20 AM	11.07	72.19	1164.85	421.09	
8/28/2018	10:17:20 AM	10.91	72.52	1181.27	422.27	
8/28/2018	10:18:20 AM	10.74	71.74	1186.82	423.73	
8/28/2018	10:19:20 AM	10.57	72.86	1190.63	424.85	
8/28/2018	10:20:20 AM	10.38	72.36	1191.07	426.25	
8/28/2018	10:21:20 AM	10.19	72.64	1190.85	427.99	
8/28/2018	10:22:20 AM	10.03	72.58	1186.76	429.61	
8/28/2018	10:23:20 AM	9.86	72.24	1179.48	431.18	
8/28/2018	10:24:20 AM	9.65	72.19	1162.22	432.64	
8/28/2018	10:25:20 AM	9.48	72.75	1149.55	433.81	
8/28/2018	10:26:21 AM	9.33	72.69	1143.73	434.6	
8/28/2018	10:27:21 AM	9.15	73.2	1140.14	435.38	
8/28/2018	10:28:21 AM	8.98	73.2	1138.68	436.05	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/28/2018	10:29:21 AM	8.81	72.97	1139.97	436.78	
8/28/2018	10:30:21 AM	8.63	72.97	1136.22	437.62	
8/28/2018	10:31:21 AM	8.45	72.58	1130.56	438.58	
8/28/2018	10:32:21 AM	8.3	73.93	1122.55	439.3	
8/28/2018	10:33:21 AM	8.15	72.52	1114.26	440.31	
8/28/2018	10:34:21 AM	7.97	73.14	1111.9	441.27	
8/28/2018	10:35:21 AM	7.83	72.86	1107.25	442.5	
8/28/2018	10:36:21 AM	7.65	74.21	1104.17	443.34	
8/28/2018	10:37:21 AM	7.49	74.15	1103.67	444.29	
8/28/2018	10:38:21 AM	7.34	76.22	1106.69	445.3	
8/28/2018	10:39:21 AM	7.19	73.81	1110.45	446.25	
8/28/2018	10:40:21 AM	7.04	74.71	1107.08	447.04	
8/28/2018	10:41:21 AM	6.87	73.81	1110.39	447.26	
8/28/2018	10:42:21 AM	6.74	73.65	1123.56	447.82	
8/28/2018	10:43:21 AM	6.59	74.21	1126.92	448.21	
8/28/2018	10:44:22 AM	6.46	73.2	1127.03	448.83	
8/28/2018	10:45:22 AM	6.32	75.44	1125.63	449.28	
8/28/2018	10:46:22 AM	6.19	73.2	1129.61	449.78	
8/28/2018	10:47:22 AM	6.08	73.53	1145.07	450.4	
8/28/2018	10:48:22 AM	5.95	74.77	1159.14	451.24	
8/28/2018	10:49:22 AM	5.85	74.37	1161.83	451.91	
8/28/2018	10:50:22 AM	5.76	74.37	1142.61	452.58	
8/28/2018	10:51:22 AM	5.62	73.87	1116.66	453.09	
8/28/2018	10:52:22 AM	5.55	74.6	1092.12	453.37	
8/28/2018	10:53:22 AM	5.45	74.26	1079.29	453.42	
8/28/2018	10:54:22 AM	5.36	75.1	1070.72	452.98	
8/28/2018	10:55:22 AM	5.25	74.26	1045.45	452.3	
8/28/2018	10:56:22 AM	5.17	75.21	1024.27	451.29	
8/28/2018	10:57:22 AM	5.1	74.04	1019.45	450.06	
8/28/2018	10:58:22 AM	5.01	73.31	1006.96	448.66	
8/28/2018	10:59:23 AM	4.93	74.71	993.51	447.04	
8/28/2018	11:00:23 AM	4.86	74.26	984.77	445.19	
8/28/2018	11:01:23 AM	4.79	75.89	993.12	443.45	
8/28/2018	11:02:23 AM	4.69	74.26	1004.88	441.6	
8/28/2018	11:03:23 AM	4.62	74.32	1000.18	439.64	
8/28/2018	11:04:23 AM	4.54	74.04	992.44	437.62	
8/28/2018	11:05:23 AM	4.47	74.54	981.24	435.27	
8/28/2018	11:06:23 AM	4.41	75.38	976.98	433.25	
8/28/2018	11:07:23 AM	4.34	74.88	975.3	431.24	
8/28/2018	11:08:23 AM	4.27	76.78	975.41	429.55	
8/28/2018	11:09:23 AM	4.19	76.61	976.36	428.1	
8/28/2018	11:10:23 AM	4.11	75.55	978.04	426.59	
8/28/2018	11:11:23 AM	4.03	75.16	976.25	425.3	
8/28/2018	11:12:23 AM	3.96	74.04	968.97	423.95	
8/28/2018	11:13:23 AM	3.91	77.06	963.87	422.61	
8/28/2018	11:14:24 AM	3.84	76.05	977.54	421.15	
8/28/2018	11:15:24 AM	3.79	76.5	982.53	419.75	
8/28/2018	11:16:24 AM	3.7	75.21	979.05	418.07	
8/28/2018	11:17:24 AM	3.63	74.6	978.88	416.22	
8/28/2018	11:18:24 AM	3.59	75.05	984.77	414.15	
8/28/2018	11:19:24 AM	3.53	74.82	988.02	412.19	
8/28/2018	11:20:24 AM	3.49	75.83	982.47	410.17	
8/28/2018	11:21:24 AM	3.44	76.84	972.33	408.04	
8/28/2018	11:22:24 AM	3.39	75.94	954.96	405.85	
8/28/2018	11:23:24 AM	3.33	75.38	944.99	403.95	
8/28/2018	11:24:24 AM	3.29	74.88	939.33	402.21	
8/28/2018	11:25:25 AM	3.23	75.61	936.36	400.53	
8/28/2018	11:26:25 AM	3.2	75.89	934.96	398.91	
8/28/2018	11:27:25 AM	3.12	75.1	923.13	397.51	
8/28/2018	11:28:25 AM	3.09	74.32	920.78	396.1	
8/28/2018	11:29:25 AM	3.04	75.05	923.19	394.7	
8/28/2018	11:30:25 AM	2.97	75.21	926.72	393.25	
8/28/2018	11:31:25 AM	2.94	73.81	929.13	392.13	
8/28/2018	11:32:25 AM	2.91	74.71	934.45	391.17	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/28/2018	11:33:25 AM	2.85	74.54	936.19	390.39	
8/28/2018	11:34:25 AM	2.79	74.15	933.33	389.94	
8/28/2018	11:35:25 AM	2.74	74.15	932.15	389.66	
8/28/2018	11:36:25 AM	2.69	73.98	932.04	389.6	
8/28/2018	11:37:25 AM	2.66	74.26	936.3	389.55	
8/28/2018	11:38:25 AM	2.58	74.37	938.49	389.66	
8/28/2018	11:39:26 AM	2.55	74.32	933.55	389.44	
8/28/2018	11:40:26 AM	2.48	75.61	930.92	389.1	
8/28/2018	11:41:26 AM	2.43	73.87	926.72	388.99	
8/28/2018	11:42:26 AM	2.35	74.21	922.18	389.44	
8/28/2018	11:43:26 AM	2.29	74.26	916.41	390	
8/28/2018	11:44:26 AM	2.22	74.77	917.36	391.17	
8/28/2018	11:45:26 AM	2.16	75.27	894.73	392.13	
8/28/2018	11:46:26 AM	2.12	75.72	885.76	392.69	
8/28/2018	11:47:26 AM	2.06	75.05	883.18	392.46	
8/28/2018	11:48:26 AM	1.99	73.87	885.93	391.85	
8/28/2018	11:49:26 AM	1.95	74.71	896.29	391.06	
8/28/2018	11:50:26 AM	1.92	76.22	909.24	389.88	
8/28/2018	11:51:26 AM	1.87	74.93	921.68	388.48	
8/28/2018	11:52:26 AM	1.84	75.89	941.68	387.03	
8/28/2018	11:53:27 AM	1.79	74.04	957.37	385.46	
8/28/2018	11:54:27 AM	1.76	74.37	954.01	383.55	
8/28/2018	11:55:27 AM	1.74	74.54	950.2	381.76	
8/28/2018	11:56:27 AM	1.7	74.6	949.08	379.97	
8/28/2018	11:57:27 AM	1.66	74.26	945.49	378.12	
8/28/2018	11:58:27 AM	1.63	74.04	938.88	376.16	
8/28/2018	11:59:27 AM	1.61	75.61	933.11	374.08	
8/28/2018	12:00:27 PM	1.57	75.49	920.84	372.12	
8/28/2018	12:01:27 PM	1.54	75.16	924.48	370.05	
8/28/2018	12:02:27 PM	1.51	74.77	928.79	368.26	
8/28/2018	12:03:27 PM	1.49	75.55	923.41	366.58	
8/28/2018	12:04:27 PM	1.45	74.15	912.09	364.78	
8/28/2018	12:05:27 PM	1.43	75.55	904.64	362.99	
8/28/2018	12:06:27 PM	1.4	74.77	899.77	361.03	
8/28/2018	12:07:27 PM	1.36	74.32	901.06	359.24	
8/28/2018	12:08:27 PM	1.33	74.88	903.47	357.39	
8/28/2018	12:09:28 PM	1.3	75.38	907.39	355.59	
8/28/2018	12:10:28 PM	1.27	74.82	906.1	353.97	
8/28/2018	12:11:28 PM	1.25	77.06	907.33	352.29	
8/28/2018	12:12:28 PM	1.22	74.77	909.69	350.72	
8/28/2018	12:13:28 PM	1.18	74.6	907.67	349.32	
8/28/2018	12:14:28 PM	1.15	74.93	904.64	347.92	
8/28/2018	12:15:28 PM	1.14	75.77	901.11	346.46	
8/28/2018	12:16:28 PM	1.1	74.71	897.25	345.17	
8/28/2018	12:17:28 PM	1.06	74.32	892.04	343.83	
8/28/2018	12:18:28 PM	1.04	74.6	886.54	342.59	
8/28/2018	12:19:28 PM	1.01	75.44	881.84	341.36	
8/28/2018	12:20:28 PM	0.98	75.05	877.64	340.13	
8/28/2018	12:21:28 PM	0.95	74.6	873.27	339.12	
8/28/2018	12:22:28 PM	0.92	75.38	868.61	338.17	
8/28/2018	12:23:28 PM	0.87	74.82	864.47	337.16	
8/28/2018	12:24:29 PM	0.84	75.16	860.88	336.26	
8/28/2018	12:25:29 PM	0.82	74.71	857.52	335.53	
8/28/2018	12:26:29 PM	0.78	74.93	850.4	334.86	
8/28/2018	12:27:29 PM	0.75	74.71	845.87	334.19	
8/28/2018	12:28:29 PM	0.72	74.77	845.19	333.52	
8/28/2018	12:29:29 PM	0.68	74.77	844.52	332.9	
8/28/2018	12:30:29 PM	0.65	74.71	844.13	332.45	
8/28/2018	12:31:29 PM	0.63	74.49	843.46	332.06	
8/28/2018	12:32:29 PM	0.59	74.77	841.94	331.56	
8/28/2018	12:33:29 PM	0.57	74.77	840.26	330.94	
8/28/2018	12:34:29 PM	0.53	75.44	838.75	330.38	
8/28/2018	12:35:29 PM	0.5	74.88	838.08	329.76	
8/28/2018	12:36:29 PM	0.47	74.82	836.62	329.32	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/28/2018	12:37:29 PM	0.45	74.88	835.39	328.75	
8/28/2018	12:38:29 PM	0.41	74.71	834.72	328.25	
8/28/2018	12:39:29 PM	0.38	75.83	833.99	327.86	
8/28/2018	12:40:29 PM	0.35	74.71	832.47	327.3	
8/28/2018	12:41:30 PM	0.32	75.61	828.72	326.79	
8/28/2018	12:42:30 PM	0.29	74.88	824.63	326.4	
8/28/2018	12:43:30 PM	0.26	75.05	820.76	326.07	
8/28/2018	12:44:30 PM	0.23	75.27	819.14	325.79	
8/28/2018	12:45:30 PM	0.2	74.93	817.74	325.51	
8/28/2018	12:46:30 PM	0.18	74.71	817.57	325.34	
8/28/2018	12:47:30 PM	0.14	75.49	816.79	325.06	
8/28/2018	12:48:30 PM	0.11	75.49	815.95	324.89	
8/28/2018	12:49:30 PM	0	74.82	815.55	324.78	
8/29/2018	7:47:27 AM	12.27	65.63	84.57	70.51	**Added 12 lbs 20-23% MC, Medium High Air Setting**
8/29/2018	7:48:27 AM	12.14	65.63	103.79	77.06	
8/29/2018	7:49:27 AM	12.02	65.69	149.06	83.28	
8/29/2018	7:50:27 AM	11.88	65.74	225.88	90.96	
8/29/2018	7:51:27 AM	11.43	65.91	303.37	104.74	
8/29/2018	7:52:27 AM	11.52	66.02	543.75	110.18	
8/29/2018	7:53:27 AM	11.43	66.08	649.2	113.26	
8/29/2018	7:54:27 AM	11.33	66.25	709.71	116.9	
8/29/2018	7:55:27 AM	11.2	66.47	795.89	121.5	
8/29/2018	7:56:27 AM	11.09	66.31	836.06	126.03	
8/29/2018	7:57:27 AM	10.95	66.47	859.59	130.63	
8/29/2018	7:58:27 AM	10.72	66.64	842	136.34	
8/29/2018	7:59:27 AM	10.62	66.64	936.08	142.62	
8/29/2018	8:00:28 AM	10.47	66.81	948.52	148.89	
8/29/2018	8:01:28 AM	10.31	66.81	965.72	156.4	
8/29/2018	8:02:28 AM	10.15	66.92	973.28	164.19	
8/29/2018	8:03:28 AM	9.97	66.92	1003.93	173.04	
8/29/2018	8:04:28 AM	9.8	67.03	1084	183.13	
8/29/2018	8:05:28 AM	9.66	67.15	1103.33	192.21	
8/29/2018	8:06:28 AM	9.49	67.31	1088.82	200.39	
8/29/2018	8:07:28 AM	9.34	67.37	1112.07	208.74	
8/29/2018	8:08:28 AM	9.17	67.48	1121.76	217.36	
8/29/2018	8:09:28 AM	8.99	67.59	1110.67	225.55	
8/29/2018	8:10:28 AM	8.84	67.76	1102.1	234.06	
8/29/2018	8:11:28 AM	8.69	67.87	1100.81	241.35	
8/29/2018	8:12:28 AM	8.51	68.04	1078.79	248.74	
8/29/2018	8:13:28 AM	8.35	68.15	1077.72	256.47	
8/29/2018	8:14:28 AM	8.2	68.21	1078.51	264.15	
8/29/2018	8:15:28 AM	8.02	68.38	1092.18	271.94	
8/29/2018	8:16:29 AM	7.81	68.55	1126.86	280.29	
8/29/2018	8:17:29 AM	7.61	68.66	1140.2	288.52	
8/29/2018	8:18:29 AM	7.39	68.77	1149.33	296.87	
8/29/2018	8:19:29 AM	7.2	68.83	1114.54	305.22	
8/29/2018	8:20:29 AM	6.99	69.05	1095.37	313.01	
8/29/2018	8:21:29 AM	6.79	68.99	1094.81	320.24	
8/29/2018	8:22:29 AM	6.58	69.16	1116.33	327.19	
8/29/2018	8:23:29 AM	6.4	69.39	1113.53	332.85	
8/29/2018	8:24:29 AM	6.21	69.33	1113.41	338.28	
8/29/2018	8:25:29 AM	6.02	69.44	1116.44	343.55	
8/29/2018	8:26:29 AM	5.79	69.55	1138.35	348.59	
8/29/2018	8:27:29 AM	5.6	69.67	1138.91	353.58	
8/29/2018	8:28:29 AM	5.41	69.72	1135.49	358.56	
8/29/2018	8:29:29 AM	5.22	69.84	1109.16	363.44	
8/29/2018	8:30:29 AM	5.04	69.95	1102.43	368.09	
8/29/2018	8:31:29 AM	4.86	70.12	1123.44	372.74	
8/29/2018	8:32:30 AM	4.64	70.17	1128.94	377.22	
8/29/2018	8:33:30 AM	4.44	70.34	1120.14	381.59	
8/29/2018	8:34:30 AM	4.26	70.34	1110.73	386.02	
8/29/2018	8:35:30 AM	4.09	70.17	1109.88	390.5	
8/29/2018	8:36:30 AM	3.91	70.34	1095.43	394.59	
8/29/2018	8:37:30 AM	3.75	70.45	1098.06	398.18	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/29/2018	8:38:30 AM	3.59	70.4	1098.79	401.82	
8/29/2018	8:39:30 AM	3.45	70.68	1092.18	405.91	
8/29/2018	8:40:30 AM	3.31	70.68	1068.87	409.94	
8/29/2018	8:41:30 AM	3.18	70.96	1042.82	413.59	
8/29/2018	8:42:30 AM	3.04	70.73	1028.98	416.78	
8/29/2018	8:43:30 AM	2.93	70.84	1012.39	418.96	
8/29/2018	8:44:30 AM	2.82	71.29	999	420.76	
8/29/2018	8:45:30 AM	2.71	70.96	984.66	422.38	
8/29/2018	8:46:30 AM	2.62	71.29	962.97	423.5	
8/29/2018	8:47:31 AM	2.51	71.96	947.17	424.06	
8/29/2018	8:48:31 AM	2.42	71.12	950.36	424.01	
8/29/2018	8:49:31 AM	2.34	71.35	954.4	423.9	
8/29/2018	8:50:31 AM	2.24	72.24	949.02	423.34	
8/29/2018	8:51:31 AM	2.16	71.74	921.51	422.38	
8/29/2018	8:52:31 AM	2.08	71.63	921.06	421.21	
8/29/2018	8:53:31 AM	1.98	71.4	928.9	419.92	
8/29/2018	8:54:31 AM	1.94	71.85	901.51	417.9	
8/29/2018	8:55:31 AM	1.88	71.68	888.34	415.77	
8/29/2018	8:56:31 AM	1.81	71.74	885.14	413.53	
8/29/2018	8:57:31 AM	1.75	71.91	881.28	411.4	
8/29/2018	8:58:31 AM	13.58	72.02	875.9	410.11	
8/29/2018	8:59:31 AM	20.19	71.91	885.26	414.15	**Added 18 lbs 20-23% MC, Medium High Air Setting**
8/29/2018	9:00:31 AM	21.93	73.59	907.89	417.23	
8/29/2018	9:01:31 AM	21.75	73.2	1073.97	418.18	
8/29/2018	9:02:31 AM	21.53	73.14	1184.69	418.18	
8/29/2018	9:03:32 AM	21.31	71.91	1222.68	417.28	
8/29/2018	9:04:32 AM	21.1	72.36	1221.67	416	
8/29/2018	9:05:32 AM	20.88	73.36	1254.67	414.43	
8/29/2018	9:06:32 AM	20.65	72.58	1250.92	412.3	
8/29/2018	9:07:32 AM	20.42	72.75	1282.29	410.73	
8/29/2018	9:08:32 AM	20.18	73.7	1309.58	409.55	
8/29/2018	9:09:32 AM	19.93	73.03	1321.46	408.88	
8/29/2018	9:10:32 AM	19.69	74.32	1327.45	408.26	
8/29/2018	9:11:32 AM	19.43	73.48	1328.57	407.76	
8/29/2018	9:12:32 AM	19.18	74.15	1329.81	407.37	
8/29/2018	9:13:32 AM	18.92	73.03	1327.34	407.31	
8/29/2018	9:14:32 AM	18.65	73.03	1334.35	407.42	
8/29/2018	9:15:32 AM	18.41	73.14	1339.05	407.53	
8/29/2018	9:16:32 AM	18.13	73.81	1336.14	407.7	
8/29/2018	9:17:32 AM	17.86	73.25	1291.26	407.37	
8/29/2018	9:18:32 AM	17.57	73.36	1296.92	407.31	
8/29/2018	9:19:32 AM	17.32	73.14	1313.89	407.14	
8/29/2018	9:20:32 AM	17.04	73.25	1259.21	406.64	
8/29/2018	9:21:32 AM	16.78	73.31	1265.32	406.41	
8/29/2018	9:22:33 AM	16.52	73.2	1293.16	405.8	
8/29/2018	9:23:33 AM	16.23	74.93	1259.66	405.35	
8/29/2018	9:24:33 AM	15.97	73.93	1250.02	404.4	
8/29/2018	9:25:33 AM	15.69	73.14	1220.1	403.5	
8/29/2018	9:26:33 AM	15.42	74.21	1205.14	402.55	
8/29/2018	9:27:33 AM	15.16	73.48	1183.73	401.48	
8/29/2018	9:28:33 AM	14.87	73.81	1166.59	400.59	
8/29/2018	9:29:33 AM	14.58	74.32	1161.04	399.75	
8/29/2018	9:30:33 AM	14.32	74.26	1156.45	398.79	
8/29/2018	9:31:33 AM	14.04	74.04	1158.8	397.84	
8/29/2018	9:32:33 AM	13.82	73.81	1163.34	397.06	
8/29/2018	9:33:33 AM	13.57	75.44	1170.23	396.61	
8/29/2018	9:34:33 AM	13.34	74.04	1172.7	396.38	
8/29/2018	9:35:33 AM	13.11	75.05	1176.56	396.5	
8/29/2018	9:36:33 AM	12.88	74.26	1169.39	396.66	
8/29/2018	9:37:33 AM	12.67	73.98	1181.72	397	
8/29/2018	9:38:34 AM	12.48	74.15	1190.63	397.45	
8/29/2018	9:39:34 AM	12.28	74.15	1204.19	398.07	
8/29/2018	9:40:34 AM	12.09	75.05	1211.47	398.79	
8/29/2018	9:41:34 AM	11.93	74.32	1219.87	399.47	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/29/2018	9:42:34 AM	11.74	75.1	1221.05	400.47	
8/29/2018	9:43:34 AM	11.59	75.05	1216.46	401.26	
8/29/2018	9:44:34 AM	11.41	74.93	1211.86	402.16	
8/29/2018	9:45:34 AM	11.21	74.88	1208.89	403.05	
8/29/2018	9:46:34 AM	11.04	74.88	1194.77	403.95	
8/29/2018	9:47:34 AM	10.87	74.71	1176.67	404.85	
8/29/2018	9:48:34 AM	10.67	74.88	1157.46	405.52	
8/29/2018	9:49:34 AM	10.46	74.26	1149.05	406.36	
8/29/2018	9:50:34 AM	10.28	75.16	1149.72	407.14	
8/29/2018	9:51:34 AM	10.11	75.38	1146.31	407.93	
8/29/2018	9:52:34 AM	9.92	74.54	1149.27	408.71	
8/29/2018	9:53:34 AM	9.74	74.77	1150.17	409.83	
8/29/2018	9:54:35 AM	9.59	74.82	1141.77	410.84	
8/29/2018	9:55:35 AM	9.42	75.16	1139.41	411.96	
8/29/2018	9:56:35 AM	9.22	75.1	1139.08	413.03	
8/29/2018	9:57:35 AM	9.05	75.77	1132.69	414.03	
8/29/2018	9:58:35 AM	8.89	75.16	1132.35	414.93	
8/29/2018	9:59:35 AM	8.71	75.27	1131.74	415.88	
8/29/2018	10:00:35 AM	8.55	75.61	1132.86	416.78	
8/29/2018	10:01:35 AM	8.39	75.49	1134.15	417.56	
8/29/2018	10:02:35 AM	8.23	75.44	1133.7	418.46	
8/29/2018	10:03:35 AM	8.07	75.38	1134.2	419.36	
8/29/2018	10:04:35 AM	7.91	75.38	1142.33	420.37	
8/29/2018	10:05:35 AM	7.75	75.27	1142.49	421.49	
8/29/2018	10:06:35 AM	7.58	75.27	1144.85	422.44	
8/29/2018	10:07:35 AM	7.44	75.38	1146.87	423.45	
8/29/2018	10:08:35 AM	7.28	75.44	1139.25	424.46	
8/29/2018	10:09:35 AM	7.1	75.44	1135.49	425.35	
8/29/2018	10:10:36 AM	6.94	75.1	1133.42	426.08	
8/29/2018	10:11:36 AM	6.77	75.21	1127.03	426.87	
8/29/2018	10:12:36 AM	6.65	75.44	1117.34	427.43	
8/29/2018	10:13:36 AM	6.52	75.55	1119.47	427.93	
8/29/2018	10:14:36 AM	6.41	75.72	1153.42	428.88	
8/29/2018	10:15:36 AM	6.29	75.27	1186.93	430.12	
8/29/2018	10:16:36 AM	6.17	75.72	1192.81	431.52	
8/29/2018	10:17:36 AM	6.06	75.83	1194.83	432.92	
8/29/2018	10:18:36 AM	5.96	75.77	1191.8	434.26	
8/29/2018	10:19:36 AM	5.87	75.89	1204.07	436	
8/29/2018	10:20:36 AM	5.77	75.77	1219.09	437.74	
8/29/2018	10:21:36 AM	5.71	75.89	1215.84	439.25	
8/29/2018	10:22:36 AM	5.61	75.83	1171.35	440.54	
8/29/2018	10:23:36 AM	5.56	76.05	1116.44	441.43	
8/29/2018	10:24:36 AM	5.46	75.89	1082.04	441.71	
8/29/2018	10:25:36 AM	5.41	75.72	1061.14	441.77	
8/29/2018	10:26:37 AM	5.37	75.55	1036.43	441.38	
8/29/2018	10:27:37 AM	5.32	76.22	1011.89	440.48	
8/29/2018	10:28:37 AM	5.26	75.89	992.5	438.8	
8/29/2018	10:29:37 AM	5.23	75.89	976.64	436.84	
8/29/2018	10:30:37 AM	5.18	76.11	965.55	434.54	
8/29/2018	10:31:37 AM	5.13	75.83	958.88	432.13	
8/29/2018	10:32:37 AM	5.08	76.28	955.35	429.61	
8/29/2018	10:33:37 AM	5.06	75.89	950.36	427.03	
8/29/2018	10:34:37 AM	5.03	75.83	940	424.46	
8/29/2018	10:35:37 AM	4.98	75.89	930.7	421.82	
8/29/2018	10:36:37 AM	4.94	75.89	930.08	419.36	
8/29/2018	10:37:37 AM	4.89	75.55	929.35	416.78	
8/29/2018	10:38:37 AM	4.86	75.72	924.03	413.81	
8/29/2018	10:39:37 AM	4.84	75.89	920.84	410.73	
8/29/2018	10:40:38 AM	4.78	75.83	915.79	407.76	
8/29/2018	10:41:38 AM	4.74	76.05	909.46	404.68	
8/29/2018	10:42:38 AM	4.71	76.45	903.24	401.82	
8/29/2018	10:43:38 AM	4.68	75.94	897.08	398.74	
8/29/2018	10:44:38 AM	4.65	75.55	891.53	395.82	
8/29/2018	10:45:38 AM	4.6	75.77	886.6	393.02	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/29/2018	10:46:38 AM	4.59	75.77	881.89	390.56	
8/29/2018	10:47:38 AM	4.53	75.89	876.96	387.92	
8/29/2018	10:48:38 AM	4.49	75.77	872.71	385.63	
8/29/2018	10:49:38 AM	4.47	75.83	869.23	383.39	
8/29/2018	10:50:38 AM	4.43	75.61	866.71	381.26	
8/29/2018	10:51:38 AM	4.4	75.83	864.24	379.18	
8/29/2018	10:52:38 AM	4.35	75.55	859.82	377.33	
8/29/2018	10:53:38 AM	4.32	75.77	854.1	375.65	
8/29/2018	10:54:39 AM	4.28	75.27	850.8	373.97	
8/29/2018	10:55:39 AM	4.25	75.89	847.1	372.35	
8/29/2018	10:56:39 AM	4.22	76.05	844.47	370.95	
8/29/2018	10:57:39 AM	4.18	75.83	840.88	369.6	
8/29/2018	10:58:39 AM	4.15	75.94	837.8	368.59	
8/29/2018	10:59:39 AM	4.12	75.77	832.92	367.42	
8/29/2018	11:00:39 AM	4.07	75.89	829.34	366.63	
8/29/2018	11:01:39 AM	4.04	75.77	821.16	365.74	
8/29/2018	11:02:39 AM	4.02	75.77	815.11	364.84	
8/29/2018	11:03:39 AM	3.99	75.49	812.42	363.77	
8/29/2018	11:04:39 AM	3.95	75.49	812.3	362.99	
8/29/2018	11:05:39 AM	19.57	75.49	761.65	367.02	**Added 15 lbs 20-23% MC, Medium High Air Setting**
8/29/2018	11:06:39 AM	19.44	77.12	829.9	368.99	
8/29/2018	11:07:39 AM	19.24	77.96	973.73	370.27	
8/29/2018	11:08:39 AM	19.05	76.84	1127.2	371.95	
8/29/2018	11:09:40 AM	18.86	76.28	1197.07	373.97	
8/29/2018	11:10:40 AM	18.65	75.94	1212.48	375.76	
8/29/2018	11:11:40 AM	18.43	76.45	1226.49	377.5	
8/29/2018	11:12:40 AM	18.22	76.5	1246.15	379.35	
8/29/2018	11:13:40 AM	18.03	75.94	1253.32	381.09	
8/29/2018	11:14:40 AM	17.82	76.17	1261.62	382.71	
8/29/2018	11:15:40 AM	17.59	76.28	1270.81	384.51	
8/29/2018	11:16:40 AM	17.37	76.39	1281.62	386.35	
8/29/2018	11:17:40 AM	17.15	76.61	1289.97	388.32	
8/29/2018	11:18:40 AM	16.94	76.28	1293.22	390.16	
8/29/2018	11:19:40 AM	16.71	76.5	1298.82	391.96	
8/29/2018	11:20:40 AM	16.49	76.5	1304.93	393.86	
8/29/2018	11:21:40 AM	16.28	76.5	1304.26	395.66	
8/29/2018	11:22:40 AM	16.06	76.39	1309.19	397.34	
8/29/2018	11:23:40 AM	15.85	76.61	1307.95	398.91	
8/29/2018	11:24:40 AM	15.62	76.61	1305.49	400.47	
8/29/2018	11:25:41 AM	15.4	76.61	1299.38	401.6	
8/29/2018	11:26:41 AM	15.19	76.73	1292.77	402.72	
8/29/2018	11:27:41 AM	14.96	76.73	1283.92	403.72	
8/29/2018	11:28:41 AM	14.75	76.78	1274.11	404.4	
8/29/2018	11:29:41 AM	14.53	76.89	1250.02	404.9	
8/29/2018	11:30:41 AM	14.31	77.18	1210.57	405.18	
8/29/2018	11:31:41 AM	14.08	76.95	1180.09	404.96	
8/29/2018	11:32:41 AM	13.87	77.06	1185.08	404.4	
8/29/2018	11:33:41 AM	13.66	77.34	1168.33	404.17	
8/29/2018	11:34:41 AM	13.47	77.12	1161.38	403.61	
8/29/2018	11:35:41 AM	13.27	77.4	1174.82	403.33	
8/29/2018	11:36:41 AM	13.09	77.46	1181.44	403.16	
8/29/2018	11:37:41 AM	12.92	77.51	1185.02	403.39	
8/29/2018	11:38:41 AM	12.76	77.46	1188.22	403.72	
8/29/2018	11:39:41 AM	12.57	77.29	1188.89	404.17	
8/29/2018	11:40:42 AM	12.39	77.68	1182.78	405.18	
8/29/2018	11:41:42 AM	12.23	77.51	1167.09	406.3	
8/29/2018	11:42:42 AM	12.03	77.62	1158.74	407.53	
8/29/2018	11:43:42 AM	11.85	77.74	1146.59	408.82	
8/29/2018	11:44:42 AM	11.7	78.07	1136.44	410.11	
8/29/2018	11:45:42 AM	11.5	78.13	1134.26	411.57	
8/29/2018	11:46:42 AM	11.32	78.18	1136.67	413.03	
8/29/2018	11:47:42 AM	11.16	78.13	1140.93	414.54	
8/29/2018	11:48:42 AM	10.97	78.07	1142.72	416.16	
8/29/2018	11:49:42 AM	10.79	78.18	1151.07	417.79	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/29/2018	11:50:42 AM	10.62	78.13	1158.86	419.25	
8/29/2018	11:51:42 AM	10.45	78.41	1160.76	420.76	
8/29/2018	11:52:42 AM	10.27	78.63	1158.07	422.1	
8/29/2018	11:53:42 AM	10.13	78.35	1154.09	423.28	
8/29/2018	11:54:42 AM	9.92	78.74	1154.15	424.12	
8/29/2018	11:55:42 AM	9.78	78.63	1159.75	425.02	
8/29/2018	11:56:42 AM	9.58	78.35	1161.83	425.86	
8/29/2018	11:57:42 AM	9.42	78.46	1158.74	426.47	
8/29/2018	11:58:42 AM	9.25	78.69	1151.85	427.03	
8/29/2018	11:59:42 AM	9.09	78.69	1146.42	427.43	
8/29/2018	12:00:42 PM	8.91	78.69	1143.67	427.76	
8/29/2018	12:01:42 PM	8.76	78.63	1143.67	428.04	
8/29/2018	12:02:42 PM	8.61	78.69	1136.5	428.38	
8/29/2018	12:03:42 PM	8.44	78.8	1123.89	428.77	
8/29/2018	12:04:42 PM	8.28	78.8	1120.03	429.11	
8/29/2018	12:05:42 PM	8.12	78.74	1117.39	429.67	
8/29/2018	12:06:42 PM	7.96	78.97	1117.79	430.51	
8/29/2018	12:07:42 PM	7.82	78.86	1119.91	431.4	
8/29/2018	12:08:42 PM	7.69	79.08	1123.84	432.47	
8/29/2018	12:09:42 PM	7.55	79.14	1130.11	433.53	
8/29/2018	12:10:42 PM	7.4	79.36	1133.87	434.37	
8/29/2018	12:11:42 PM	7.28	79.75	1135.49	435.16	
8/29/2018	12:12:42 PM	7.13	79.47	1134.43	435.61	
8/29/2018	12:13:42 PM	7.01	79.47	1132.86	436.05	
8/29/2018	12:14:42 PM	6.87	79.75	1134.93	436.39	
8/29/2018	12:15:42 PM	6.74	80.14	1137.62	437.01	
8/29/2018	12:16:43 PM	6.63	80.09	1135.83	437.23	
8/29/2018	12:17:43 PM	6.5	79.98	1137.06	437.4	
8/29/2018	12:18:43 PM	6.39	79.75	1130.9	437.46	
8/29/2018	12:19:43 PM	6.27	79.81	1130.62	437.4	
8/29/2018	12:20:43 PM	6.15	80.09	1131.01	437.4	
8/29/2018	12:21:43 PM	6.04	79.92	1133.64	437.06	
8/29/2018	12:22:43 PM	5.92	80.26	1134.43	437.06	
8/29/2018	12:23:43 PM	5.82	80.26	1130.95	436.78	
8/29/2018	12:24:43 PM	5.72	80.09	1132.24	436.39	
8/29/2018	12:25:43 PM	5.61	80.26	1133.64	435.77	
8/29/2018	12:26:43 PM	5.52	80.03	1137.96	434.88	
8/29/2018	12:27:43 PM	5.42	80.31	1163.51	434.15	
8/29/2018	12:28:43 PM	5.33	80.37	1163	433.59	
8/29/2018	12:29:43 PM	5.25	79.98	1156	432.92	
8/29/2018	12:30:43 PM	5.17	80.14	1161.77	432.47	
8/29/2018	12:31:43 PM	5.09	80.26	1149.83	432.36	
8/29/2018	12:32:43 PM	5.01	80.03	1133.92	432.08	
8/29/2018	12:33:43 PM	4.93	80.26	1124.06	432.08	
8/29/2018	12:34:43 PM	4.84	80.59	1121.2	432.08	
8/29/2018	12:35:43 PM	4.78	80.65	1113.3	432.24	
8/29/2018	12:36:43 PM	4.7	79.98	1098.23	431.85	
8/29/2018	12:37:43 PM	4.64	80.14	1077.05	431.18	
8/29/2018	12:38:43 PM	4.57	79.81	1056.66	430.51	
8/29/2018	12:39:43 PM	4.51	79.98	1029.26	429.72	
8/29/2018	12:40:43 PM	4.43	79.7	1009.08	428.94	
8/29/2018	12:41:43 PM	4.37	79.7	986.67	427.93	
8/29/2018	12:42:43 PM	4.31	80.03	977.37	426.7	
8/29/2018	12:43:43 PM	4.26	79.64	981.18	425.35	
8/29/2018	12:44:43 PM	4.19	79.75	983.53	424.18	
8/29/2018	12:45:43 PM	4.14	79.7	987.06	423.17	
8/29/2018	12:46:43 PM	4.07	80.03	984.49	422.38	
8/29/2018	12:47:43 PM	4	79.98	971.82	421.6	
8/29/2018	12:48:43 PM	3.94	79.7	969.02	420.87	
8/29/2018	12:49:43 PM	3.87	79.75	973.34	420.31	
8/29/2018	12:50:43 PM	3.82	79.98	985.94	419.81	
8/29/2018	12:51:43 PM	3.76	80.14	988.24	419.47	
8/29/2018	12:52:44 PM	3.7	80.42	992.89	419.25	
8/29/2018	12:53:44 PM	3.62	80.42	1001.24	419.08	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/29/2018	12:54:44 PM	3.57	80.48	1015.42	419.25	
8/29/2018	12:55:44 PM	3.48	80.65	1026.73	419.58	
8/29/2018	12:56:44 PM	3.41	80.71	1029.87	420.09	
8/29/2018	12:57:44 PM	3.34	80.65	1020.68	420.93	
8/29/2018	12:58:44 PM	3.27	80.71	1068.2	421.88	
8/29/2018	12:59:44 PM	3.2	80.71	1082.15	422.61	
8/29/2018	1:00:44 PM	3.15	80.76	1078.62	422.72	
8/29/2018	1:01:44 PM	3.12	80.82	1048.47	421.88	
8/29/2018	1:02:44 PM	3.06	80.93	1002.87	420.03	
8/29/2018	1:03:44 PM	3.05	81.04	996.25	417.79	
8/29/2018	1:04:44 PM	3	80.82	1001.07	415.27	
8/29/2018	1:05:44 PM	2.98	80.82	978.6	412.35	
8/29/2018	1:06:44 PM	2.94	81.04	954.29	409.16	
8/29/2018	1:07:44 PM	2.92	80.93	939.44	405.85	
8/29/2018	1:08:44 PM	2.89	80.99	929.24	402.44	
8/29/2018	1:09:44 PM	2.85	80.99	929.86	399.02	
8/29/2018	1:10:44 PM	2.83	81.04	933.61	395.77	
8/29/2018	1:11:44 PM	2.78	81.04	931.82	392.52	
8/29/2018	1:12:44 PM	2.76	80.93	926.94	389.55	
8/29/2018	1:13:44 PM	2.75	80.82	925.21	386.52	
8/29/2018	1:14:44 PM	2.72	80.76	923.13	383.55	
8/29/2018	1:15:44 PM	2.68	80.93	919.32	380.75	
8/29/2018	1:16:44 PM	2.65	80.82	915.68	378.17	
8/29/2018	1:17:44 PM	2.63	80.82	911.65	375.76	
8/29/2018	1:18:44 PM	2.59	80.76	908.28	373.47	
8/29/2018	1:19:44 PM	2.55	80.48	905.65	371.28	
8/29/2018	1:20:44 PM	2.53	80.09	902.18	369.27	
8/29/2018	1:21:44 PM	2.5	80.09	898.48	367.36	
8/29/2018	1:22:44 PM	2.47	80.14	892.32	365.68	
8/29/2018	1:23:45 PM	2.44	80.42	881.22	363.66	
8/29/2018	1:24:45 PM	2.41	80.03	881.33	361.87	
8/29/2018	1:25:45 PM	2.37	79.98	880.1	360.24	
8/29/2018	1:26:45 PM	2.35	79.98	874.95	358.62	
8/29/2018	1:27:45 PM	2.31	80.42	869.9	357.11	
8/29/2018	1:28:45 PM	2.28	79.98	867.72	355.71	
8/29/2018	1:29:45 PM	2.27	80.31	862.68	354.31	
8/29/2018	1:30:45 PM	2.23	80.65	856.62	352.96	
8/29/2018	1:31:45 PM	2.2	80.71	854.61	351.9	
8/29/2018	1:32:45 PM	2.16	80.76	854.78	351	
8/29/2018	1:33:45 PM	2.13	80.65	854.94	350.05	
8/29/2018	1:34:45 PM	2.11	80.71	853.26	349.15	
8/29/2018	1:35:45 PM	2.07	80.82	855.17	348.37	
8/29/2018	1:36:45 PM	2.04	80.71	858.14	347.81	
8/29/2018	1:37:45 PM	2.01	80.48	856.79	347.19	
8/29/2018	1:38:45 PM	1.96	80.71	859.48	346.63	
8/29/2018	1:39:45 PM	1.94	80.65	860.55	346.01	
8/29/2018	1:40:45 PM	1.91	80.65	859.87	345.56	
8/29/2018	1:41:45 PM	1.88	80.71	856.01	345.06	
8/29/2018	1:42:45 PM	1.86	80.59	853.32	344.61	
8/29/2018	1:43:45 PM	1.81	80.76	855.45	344.05	
8/29/2018	1:44:45 PM	1.77	80.65	857.13	343.55	
8/29/2018	1:45:45 PM	1.77	80.71	857.46	343.04	
8/29/2018	1:46:45 PM	1.74	80.65	857.24	342.43	
8/29/2018	1:47:45 PM	1.71	80.76	857.97	341.7	
8/29/2018	1:48:45 PM	1.67	80.76	857.3	340.97	
8/29/2018	1:49:45 PM	1.64	80.93	857.86	340.19	
8/29/2018	1:50:46 PM	1.63	80.71	858.47	339.46	
8/29/2018	1:51:46 PM	1.6	80.82	858.25	338.62	
8/29/2018	1:52:46 PM	1.56	80.65	857.07	337.78	
8/29/2018	1:53:46 PM	1.53	80.65	855.45	337.05	
8/29/2018	1:54:46 PM	1.51	80.76	854.49	336.38	
8/29/2018	1:55:46 PM	1.47	80.76	854.49	335.81	
8/29/2018	1:56:46 PM	1.44	80.48	855.06	335.14	
8/29/2018	1:57:46 PM	1.43	80.26	854.16	334.53	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/29/2018	1:58:46 PM	1.39	79.98	853.43	333.74	
8/29/2018	1:59:46 PM	1.36	79.92	854.1	333.07	
8/29/2018	2:00:46 PM	1.34	79.92	854.83	332.28	
8/29/2018	2:01:46 PM	1.3	79.53	856.46	331.56	
8/29/2018	2:02:46 PM	1.29	79.98	856.23	330.72	
8/29/2018	2:03:46 PM	1.26	80.31	855.06	329.93	
8/29/2018	2:04:46 PM	1.24	80.42	853.04	329.15	
8/29/2018	2:05:46 PM	1.2	80.59	851.25	328.53	
8/29/2018	2:06:46 PM	1.17	80.65	851.53	327.86	
8/29/2018	2:07:46 PM	1.14	80.76	853.09	327.24	
8/29/2018	2:08:46 PM	1.13	80.65	854.55	326.63	
8/29/2018	2:09:46 PM	1.09	80.93	854.21	325.95	
8/29/2018	2:10:46 PM	1.07	80.99	853.6	325.51	
8/29/2018	2:11:46 PM	1.04	80.93	850.85	324.83	
8/29/2018	2:12:46 PM	1.04	80.99	849.51	324.16	
8/29/2018	2:13:46 PM	0.99	81.27	848.61	323.54	
8/29/2018	2:14:46 PM	0.96	81.1	846.76	322.93	
8/29/2018	2:15:46 PM	0.95	81.04	844.3	322.31	
8/29/2018	2:16:46 PM	0.91	81.1	842.06	321.69	
8/29/2018	2:17:46 PM	0.88	81.15	841.55	321.13	
8/29/2018	2:18:47 PM	0.88	80.99	840.88	320.46	
8/29/2018	2:19:47 PM	0.84	81.04	839.81	319.9	
8/29/2018	2:20:47 PM	0.82	80.99	837.46	319.34	
8/29/2018	2:21:47 PM	0.79	81.1	832.7	318.84	
8/29/2018	2:22:47 PM	0.77	81.6	826.14	318.16	
8/29/2018	2:23:47 PM	0.73	81.38	820.99	317.55	
8/29/2018	2:24:47 PM	0.72	81.1	817.51	316.93	
8/29/2018	2:25:47 PM	0.67	81.49	817.23	316.43	
8/29/2018	2:26:47 PM	0.65	81.38	816	315.92	
8/29/2018	2:27:47 PM	0.63	80.82	812.14	315.31	
8/29/2018	2:28:47 PM	0.61	80.59	808.49	314.75	
8/29/2018	2:29:47 PM	0.58	80.76	805.36	314.3	
8/29/2018	2:30:47 PM	0.54	80.31	803.17	313.68	
8/29/2018	2:31:47 PM	0.52	80.37	801.71	313.12	
8/29/2018	2:32:47 PM	0.49	80.65	799.98	312.73	
8/29/2018	2:33:47 PM	0.48	80.26	797.68	312.23	
8/29/2018	2:34:47 PM	0.46	80.14	796.95	311.78	
8/29/2018	2:35:47 PM	0.43	80.71	795.89	311.33	
8/29/2018	2:36:47 PM	0.4	80.76	794.93	311.33	
8/29/2018	2:37:47 PM	0.36	81.32	793.76	311.67	
8/29/2018	2:38:47 PM	0.34	81.38	792.86	312.45	
8/29/2018	2:39:47 PM	0.31	81.1	791.74	313.18	
8/29/2018	2:40:47 PM	0.29	81.1	790.62	313.91	
8/29/2018	2:41:47 PM	0.25	81.15	788.6	314.64	
8/29/2018	2:42:48 PM	0.23	81.43	786.64	315.25	
8/29/2018	2:43:48 PM	0.21	81.38	782.33	315.92	
8/29/2018	2:44:48 PM	0.16	81.27	776.67	316.48	
8/29/2018	2:45:48 PM	0.15	81.38	773.7	316.93	
8/29/2018	2:46:48 PM	0.12	81.49	770.9	317.38	
8/29/2018	2:47:48 PM	0.11	81.43	769.38	317.66	
8/29/2018	2:48:48 PM	0	81.38	769.66	318.05	
8/30/2018	7:10:09 AM	12.31	67.26	86.92	72.52	**Added 12 lbs 20-23% MC, Medium High Air Setting**
8/30/2018	7:11:09 AM	12.09	67.31	113.09	85.02	
8/30/2018	7:12:09 AM	12.08	67.48	236.47	111.63	
8/30/2018	7:13:09 AM	11.64	67.65	608.97	117.97	
8/30/2018	7:14:09 AM	11.53	67.82	803.28	123.68	
8/30/2018	7:15:10 AM	11.43	67.93	842.78	128.33	
8/30/2018	7:16:10 AM	11.32	67.87	813.59	132.2	
8/30/2018	7:17:10 AM	11.22	68.04	798.41	136.12	
8/30/2018	7:18:10 AM	11.13	68.1	779.3	139.99	
8/30/2018	7:19:10 AM	11.04	68.15	743.78	143.8	
8/30/2018	7:20:10 AM	10.96	68.27	747.98	148	
8/30/2018	7:21:10 AM	10.87	68.27	739.35	152.03	
8/30/2018	7:22:10 AM	10.78	68.43	731.28	156.12	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/30/2018	7:23:10 AM	10.69	68.49	730.83	160.16	
8/30/2018	7:24:10 AM	10.6	68.43	719.74	163.8	
8/30/2018	7:25:10 AM	10.53	68.55	707.58	167.22	
8/30/2018	7:26:10 AM	10.44	68.66	715.87	170.92	
8/30/2018	7:27:10 AM	10.35	68.71	739.01	174.61	
8/30/2018	7:28:10 AM	10.24	68.88	761.15	178.42	
8/30/2018	7:29:10 AM	10.14	68.88	804.68	182.46	
8/30/2018	7:30:10 AM	10.02	69.11	865.76	187.56	
8/30/2018	7:31:10 AM	9.91	69.16	900.94	193.38	
8/30/2018	7:32:10 AM	9.81	69.11	856.29	199.04	
8/30/2018	7:33:10 AM	9.69	69.22	862.56	204.7	
8/30/2018	7:34:10 AM	9.53	69.44	942.41	211.2	
8/30/2018	7:35:10 AM	9.37	69.39	1037.27	220.17	
8/30/2018	7:36:10 AM	9.23	69.5	1095.15	230.25	
8/30/2018	7:37:10 AM	9.07	69.72	1099.35	240.17	
8/30/2018	7:38:10 AM	8.9	69.72	1145.18	250.09	
8/30/2018	7:39:10 AM	8.75	69.78	1176.39	260.12	
8/30/2018	7:40:10 AM	8.58	69.95	1166.87	270.03	
8/30/2018	7:41:10 AM	8.41	70.06	1128.49	278.94	
8/30/2018	7:42:10 AM	8.27	70.06	1084.28	286.68	
8/30/2018	7:43:10 AM	8.07	70.34	1129.78	294.46	
8/30/2018	7:44:10 AM	7.89	70.4	1163.45	302.48	
8/30/2018	7:45:10 AM	7.72	70.51	1165.8	310.04	
8/30/2018	7:46:10 AM	7.54	70.62	1164.29	317.1	
8/30/2018	7:47:10 AM	7.4	70.62	1166.98	323.94	
8/30/2018	7:48:10 AM	7.21	70.73	1167.88	330.77	
8/30/2018	7:49:11 AM	7.08	70.96	1157.29	336.6	
8/30/2018	7:50:11 AM	6.92	71.18	1135.49	341.14	
8/30/2018	7:51:11 AM	6.8	71.29	1112.57	344.95	
8/30/2018	7:52:11 AM	6.67	71.4	1095.37	348.37	
8/30/2018	7:53:11 AM	6.52	71.18	1106.13	351.34	
8/30/2018	7:54:11 AM	6.38	71.4	1130.95	354.25	
8/30/2018	7:55:11 AM	6.24	71.4	1147.2	357.11	
8/30/2018	7:56:11 AM	6.09	72.02	1142.33	359.8	
8/30/2018	7:57:11 AM	5.94	71.96	1134.26	362.54	
8/30/2018	7:58:11 AM	5.79	71.85	1132.13	365.46	
8/30/2018	7:59:11 AM	5.65	72.08	1121.26	368.42	
8/30/2018	8:00:11 AM	5.49	72.02	1116.55	371.62	
8/30/2018	8:01:11 AM	5.34	71.91	1140.37	374.64	
8/30/2018	8:02:11 AM	5.19	71.85	1155.49	377.78	
8/30/2018	8:03:11 AM	5.04	71.96	1147.76	380.19	
8/30/2018	8:04:11 AM	4.92	71.96	1139.75	382.71	
8/30/2018	8:05:11 AM	4.77	72.02	1128.32	385.01	
8/30/2018	8:06:11 AM	4.62	72.36	1136.44	386.86	
8/30/2018	8:07:11 AM	4.49	72.36	1145.69	388.82	
8/30/2018	8:08:11 AM	4.37	72.19	1152.69	390.84	
8/30/2018	8:09:11 AM	4.24	72.36	1151.74	392.52	
8/30/2018	8:10:11 AM	4.11	72.3	1144.74	393.92	
8/30/2018	8:11:11 AM	3.99	72.58	1137.34	395.1	
8/30/2018	8:12:11 AM	3.83	72.41	1145.02	396.38	
8/30/2018	8:13:11 AM	3.71	73.25	1140.31	397.28	
8/30/2018	8:14:11 AM	3.59	72.58	1135.27	398.46	
8/30/2018	8:15:11 AM	3.46	72.69	1133.03	398.91	
8/30/2018	8:16:11 AM	3.36	72.64	1132.97	399.69	
8/30/2018	8:17:11 AM	3.24	72.86	1136.78	400.47	
8/30/2018	8:18:11 AM	3.1	73.36	1146.92	401.04	
8/30/2018	8:19:11 AM	3.02	73.53	1147.09	401.54	
8/30/2018	8:20:11 AM	2.91	73.2	1148.43	402.04	
8/30/2018	8:21:11 AM	2.76	73.31	1144.06	402.49	
8/30/2018	8:22:11 AM	2.66	73.14	1139.41	403.16	
8/30/2018	8:23:11 AM	2.54	73.48	1129.66	404.06	
8/30/2018	8:24:11 AM	2.44	73.03	1098.06	404.9	
8/30/2018	8:25:12 AM	2.33	73.14	1074.02	405.41	
8/30/2018	8:26:12 AM	2.23	73.14	1064.72	405.57	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/30/2018	8:27:12 AM	2.14	73.14	1058.78	405.52	
8/30/2018	8:28:12 AM	2.05	73.14	1053.69	405.41	
8/30/2018	8:29:12 AM	1.97	73.25	1050.77	404.85	
8/30/2018	8:30:12 AM	1.89	73.2	1032.06	404.28	
8/30/2018	8:31:12 AM	1.78	73.48	1015.81	403.5	
8/30/2018	8:32:12 AM	1.74	73.53	1001.58	402.94	
8/30/2018	8:33:12 AM	1.66	73.53	996.31	402.21	
8/30/2018	8:34:12 AM	1.59	73.53	994.18	401.54	
8/30/2018	8:35:12 AM	1.53	73.48	985.38	400.81	
8/30/2018	8:36:12 AM	1.46	73.36	980.12	399.8	
8/30/2018	8:37:12 AM	1.4	73.53	985.38	399.07	
8/30/2018	8:38:12 AM	1.33	73.53	977.65	397.95	
8/30/2018	8:39:12 AM	1.29	73.59	956.58	396.61	
8/30/2018	8:40:12 AM	1.23	73.59	926.83	395.26	
8/30/2018	8:41:12 AM	1.18	73.53	891.2	393.98	
8/30/2018	8:42:12 AM	1.12	73.65	870.13	392.97	
8/30/2018	8:43:12 AM	1.08	73.48	862.17	392.07	
8/30/2018	8:44:12 AM	1.04	73.53	857.91	391.12	
8/30/2018	8:45:12 AM	0.99	73.48	858.08	390.05	
8/30/2018	8:46:12 AM	0.95	73.36	854.27	388.76	
8/30/2018	8:47:12 AM	0.37	73.81	844.52	387.42	
8/30/2018	8:48:12 AM	24.05	73.48	766.25	389.94	**Added 22 lbs 20-23% MC, Medium High Air Setting**
8/30/2018	8:49:12 AM	21.96	74.82	718.51	391.29	
8/30/2018	8:50:12 AM	21.87	75.16	789.11	389.32	
8/30/2018	8:51:12 AM	21.76	74.26	839.14	384.23	
8/30/2018	8:52:12 AM	21.67	74.04	885.7	378.23	
8/30/2018	8:53:12 AM	21.56	74.54	898.54	371.95	
8/30/2018	8:54:12 AM	21.43	74.26	907.11	365.79	
8/30/2018	8:55:12 AM	21.24	73.87	965.72	361.03	
8/30/2018	8:56:12 AM	21.03	75.21	1172.08	360.41	
8/30/2018	8:57:12 AM	20.8	74.21	1300.28	362.93	
8/30/2018	8:58:13 AM	20.57	74.32	1305.88	366.07	
8/30/2018	8:59:13 AM	20.33	73.7	1304.14	368.76	
8/30/2018	9:00:13 AM	20.09	75.38	1281.73	370.83	
8/30/2018	9:01:13 AM	19.84	74.21	1254.89	372.01	
8/30/2018	9:02:13 AM	19.59	74.88	1249.79	372.52	
8/30/2018	9:03:13 AM	19.35	73.93	1272.82	373.64	
8/30/2018	9:04:13 AM	19.09	74.26	1295.68	375.2	
8/30/2018	9:05:13 AM	18.84	74.32	1300.28	377	
8/30/2018	9:06:13 AM	18.58	74.15	1302.8	378.85	
8/30/2018	9:07:13 AM	18.3	74.32	1298.21	380.64	
8/30/2018	9:08:13 AM	18.03	73.98	1295.85	382.26	
8/30/2018	9:09:13 AM	17.76	74.37	1303.92	383.67	
8/30/2018	9:10:13 AM	17.49	74.49	1309.13	385.35	
8/30/2018	9:11:13 AM	17.24	74.26	1307.39	386.86	
8/30/2018	9:12:13 AM	16.98	74.54	1306.39	388.37	
8/30/2018	9:13:13 AM	16.72	74.04	1303.25	389.72	
8/30/2018	9:14:13 AM	16.46	74.49	1299.21	390.89	
8/30/2018	9:15:13 AM	16.2	74.21	1299.21	391.85	
8/30/2018	9:16:13 AM	15.96	73.98	1296.58	392.91	
8/30/2018	9:17:13 AM	15.72	74.49	1292.99	393.75	
8/30/2018	9:18:13 AM	15.49	74.49	1288.23	394.48	
8/30/2018	9:19:13 AM	15.22	74.71	1292.43	395.32	
8/30/2018	9:20:13 AM	15	74.26	1291.65	395.82	
8/30/2018	9:21:13 AM	14.77	74.26	1289.8	396.38	
8/30/2018	9:22:13 AM	14.54	75.49	1283.19	396.94	
8/30/2018	9:23:13 AM	14.29	74.21	1269.41	397.28	
8/30/2018	9:24:13 AM	14.08	74.49	1248.62	397.51	
8/30/2018	9:25:14 AM	13.82	74.88	1241.05	397.62	
8/30/2018	9:26:14 AM	13.59	74.26	1223.68	397.79	
8/30/2018	9:27:14 AM	13.37	74.37	1215.45	397.9	
8/30/2018	9:28:14 AM	13.13	74.54	1222	397.95	
8/30/2018	9:29:14 AM	12.94	74.49	1269.97	398.46	
8/30/2018	9:30:14 AM	12.75	74.32	1267.5	399.13	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/30/2018	9:31:14 AM	12.57	74.54	1258.48	400.08	
8/30/2018	9:32:14 AM	12.38	74.37	1243.35	401.04	
8/30/2018	9:33:14 AM	12.24	74.37	1230.74	402.04	
8/30/2018	9:34:14 AM	12.07	74.6	1211.86	402.77	
8/30/2018	9:35:14 AM	11.91	74.77	1198.97	403.33	
8/30/2018	9:36:14 AM	11.76	75.1	1205.53	404	
8/30/2018	9:37:14 AM	11.62	74.82	1187.77	404.62	
8/30/2018	9:38:14 AM	11.46	74.88	1168.1	404.96	
8/30/2018	9:39:14 AM	11.33	74.6	1156.73	405.24	
8/30/2018	9:40:14 AM	11.16	75.49	1146.25	405.35	
8/30/2018	9:41:14 AM	11.03	74.71	1144.18	405.24	
8/30/2018	9:42:14 AM	10.9	74.77	1137.45	405.35	
8/30/2018	9:43:14 AM	10.76	75.38	1138.8	405.24	
8/30/2018	9:44:14 AM	10.61	75.16	1139.13	405.41	
8/30/2018	9:45:14 AM	10.47	75.38	1140.03	405.35	
8/30/2018	9:46:14 AM	10.34	75.49	1134.31	405.41	
8/30/2018	9:47:14 AM	10.2	74.88	1135.66	405.46	
8/30/2018	9:48:14 AM	10.06	75.27	1141.04	405.74	
8/30/2018	9:49:14 AM	9.95	74.93	1141.21	406.08	
8/30/2018	9:50:14 AM	9.8	75.89	1141.04	406.41	
8/30/2018	9:51:14 AM	9.68	75.27	1144.29	406.75	
8/30/2018	9:52:15 AM	9.54	75.21	1143.22	407.14	
8/30/2018	9:53:15 AM	9.41	75.16	1139.36	407.53	
8/30/2018	9:54:15 AM	9.28	75.05	1145.3	407.81	
8/30/2018	9:55:15 AM	9.13	75.05	1154.93	408.21	
8/30/2018	9:56:15 AM	8.99	74.88	1176.95	408.66	
8/30/2018	9:57:15 AM	8.86	74.93	1180.26	409.27	
8/30/2018	9:58:15 AM	8.71	75.44	1194.77	410.06	
8/30/2018	9:59:15 AM	8.57	75.27	1198.41	411.01	
8/30/2018	10:00:15 AM	8.45	75.16	1202.62	411.85	
8/30/2018	10:01:15 AM	8.31	75.21	1196.85	412.35	
8/30/2018	10:02:15 AM	8.17	75.16	1187.04	412.69	
8/30/2018	10:03:15 AM	8.05	75.44	1183.9	413.03	
8/30/2018	10:04:15 AM	7.9	75.61	1174.71	413.25	
8/30/2018	10:05:15 AM	7.76	75.38	1157.51	413.87	
8/30/2018	10:06:15 AM	7.6	75.61	1140.14	414.54	
8/30/2018	10:07:15 AM	7.45	75.94	1134.03	415.21	
8/30/2018	10:08:15 AM	7.32	75.61	1136.89	415.72	
8/30/2018	10:09:15 AM	7.2	75.89	1136	416.44	
8/30/2018	10:10:15 AM	7.07	75.72	1135.88	417.12	
8/30/2018	10:11:15 AM	6.95	75.72	1139.53	417.56	
8/30/2018	10:12:15 AM	6.84	75.49	1140.87	417.9	
8/30/2018	10:13:15 AM	6.71	75.05	1138.74	418.4	
8/30/2018	10:14:16 AM	6.6	75.27	1136.61	418.85	
8/30/2018	10:15:16 AM	6.5	75.49	1133.92	419.64	
8/30/2018	10:16:16 AM	6.39	75.44	1138.35	420.09	
8/30/2018	10:17:16 AM	6.29	75.27	1147.31	420.42	
8/30/2018	10:18:16 AM	6.2	75.89	1131.96	420.76	
8/30/2018	10:19:16 AM	6.08	75.89	1110.45	421.21	
8/30/2018	10:20:16 AM	5.97	75.61	1107.03	421.71	
8/30/2018	10:21:16 AM	5.87	75.72	1104.79	422.38	
8/30/2018	10:22:16 AM	5.76	75.61	1103.67	423.34	
8/30/2018	10:23:16 AM	5.66	75.94	1107.42	424.57	
8/30/2018	10:24:16 AM	5.55	75.94	1114.37	425.8	
8/30/2018	10:25:16 AM	5.43	75.72	1116.27	427.03	
8/30/2018	10:26:16 AM	5.38	76.17	1110.39	428.27	
8/30/2018	10:27:16 AM	5.25	75.89	1108.88	429.05	
8/30/2018	10:28:16 AM	5.18	76.05	1104.9	429.67	
8/30/2018	10:29:16 AM	5.1	76.28	1100.58	430.12	
8/30/2018	10:30:16 AM	5.04	76.17	1094.53	430.12	
8/30/2018	10:31:16 AM	4.98	75.72	1076.32	429.89	
8/30/2018	10:32:16 AM	4.94	76.11	1050.88	429.5	
8/30/2018	10:33:16 AM	4.88	76.17	1016.71	428.49	
8/30/2018	10:34:16 AM	4.83	75.83	988.19	427.2	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/30/2018	10:35:16 AM	4.8	76.11	973.34	425.3	
8/30/2018	10:36:16 AM	4.78	76.45	954.45	423.06	
8/30/2018	10:37:16 AM	4.73	76.05	940.61	420.65	
8/30/2018	10:38:16 AM	4.69	76.39	932.66	417.96	
8/30/2018	10:39:16 AM	4.65	75.89	928.18	415.21	
8/30/2018	10:40:16 AM	4.62	76.22	925.15	412.47	
8/30/2018	10:41:16 AM	4.59	75.61	924.65	409.83	
8/30/2018	10:42:16 AM	4.54	76.11	922.52	407.42	
8/30/2018	10:43:17 AM	4.51	76.22	918.15	404.9	
8/30/2018	10:44:17 AM	4.48	75.89	921.28	402.49	
8/30/2018	10:45:17 AM	4.43	75.83	919.38	400.31	
8/30/2018	10:46:17 AM	4.4	75.21	912.77	398.18	
8/30/2018	10:47:17 AM	4.36	75.72	917.92	395.99	
8/30/2018	10:48:17 AM	4.34	76.05	922.24	393.75	
8/30/2018	10:49:17 AM	4.3	75.83	924.03	391.4	
8/30/2018	10:50:17 AM	4.26	75.49	925.09	388.88	
8/30/2018	10:51:17 AM	4.25	76.22	924.53	386.3	
8/30/2018	10:52:17 AM	4.23	75.49	922.24	383.83	
8/30/2018	10:53:17 AM	4.18	76.22	919.88	381.48	
8/30/2018	10:54:17 AM	4.15	77.34	916.47	379.07	
8/30/2018	10:55:17 AM	4.1	75.72	916.19	376.89	
8/30/2018	10:56:18 AM	4.1	75.61	917.75	374.81	
8/30/2018	10:57:18 AM	4.06	75.49	913.94	372.85	
8/30/2018	10:58:18 AM	4.03	75.49	909.24	371.28	
8/30/2018	10:59:18 AM	3.99	75.77	906.04	369.66	
8/30/2018	11:00:18 AM	3.95	76.95	902.85	368.26	
8/30/2018	11:01:18 AM	3.91	76.39	899.49	366.97	
8/30/2018	11:02:18 AM	3.89	76.11	898.7	365.68	
8/30/2018	11:03:18 AM	3.85	75.94	896.52	364.22	
8/30/2018	11:04:18 AM	3.82	75.49	894.33	362.99	
8/30/2018	11:05:18 AM	3.77	76.39	892.2	361.87	
8/30/2018	11:06:18 AM	3.76	75.61	888.9	360.75	
8/30/2018	11:07:18 AM	3.72	75.83	883.97	359.74	
8/30/2018	11:08:18 AM	3.68	75.83	881.45	358.79	
8/30/2018	11:09:18 AM	3.65	76.05	880.21	357.72	
8/30/2018	11:10:19 AM	3.62	75.55	880.49	356.77	
8/30/2018	11:11:19 AM	3.58	76.11	880.49	355.93	
8/30/2018	11:12:19 AM	3.55	75.72	881.05	355.03	
8/30/2018	11:13:19 AM	3.51	75.61	882.62	354.31	
8/30/2018	11:14:19 AM	3.48	83.67	885.76	353.8	
8/30/2018	11:15:19 AM	3.45	76.56	889.57	354.31	
8/30/2018	11:16:19 AM	17.19	76.11	809	359.46	**Added 14 lbs 20-23% MC, Medium High Air Setting**
8/30/2018	11:17:19 AM	17	77.29	942.02	363.55	
8/30/2018	11:18:19 AM	16.77	77.68	1172.98	368.03	
8/30/2018	11:19:19 AM	16.51	77.62	1197.85	370.5	
8/30/2018	11:20:19 AM	16.27	76.84	1193.43	371.95	
8/30/2018	11:21:19 AM	16.02	76.89	1199.25	372.57	
8/30/2018	11:22:19 AM	15.8	76.11	1208.11	373.02	
8/30/2018	11:23:19 AM	15.57	76.22	1218.75	373.41	
8/30/2018	11:24:19 AM	15.31	76.61	1227.16	373.97	
8/30/2018	11:25:19 AM	15.07	76.11	1212.7	374.53	
8/30/2018	11:26:19 AM	14.82	76.5	1212.09	374.98	
8/30/2018	11:27:19 AM	14.58	76.39	1208.89	375.54	
8/30/2018	11:28:19 AM	14.31	76.84	1199.93	376.16	
8/30/2018	11:29:20 AM	14.08	76.45	1200.49	376.77	
8/30/2018	11:30:20 AM	13.84	76.28	1198.58	377.33	
8/30/2018	11:31:20 AM	13.61	76.56	1195.44	377.84	
8/30/2018	11:32:20 AM	13.36	76.22	1195.56	378.51	
8/30/2018	11:33:20 AM	13.13	76.45	1199.65	379.29	
8/30/2018	11:34:20 AM	12.9	76.17	1192.81	380.08	
8/30/2018	11:35:20 AM	12.67	76.61	1185.47	380.98	
8/30/2018	11:36:20 AM	12.44	76.45	1179.08	381.98	
8/30/2018	11:37:20 AM	12.21	76.84	1177.23	382.71	
8/30/2018	11:38:20 AM	12.01	76.84	1171.13	383.5	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/30/2018	11:39:20 AM	11.78	76.11	1168.83	384.56	
8/30/2018	11:40:20 AM	11.55	76.11	1158.52	385.57	
8/30/2018	11:41:20 AM	11.35	76.84	1144.57	386.3	
8/30/2018	11:42:20 AM	11.14	77.29	1128.94	386.69	
8/30/2018	11:43:20 AM	10.94	77.29	1122.1	386.97	
8/30/2018	11:44:20 AM	10.71	76.45	1116.16	387.48	
8/30/2018	11:45:20 AM	10.51	76.39	1113.98	387.81	
8/30/2018	11:46:20 AM	10.33	77.74	1123.84	388.37	
8/30/2018	11:47:20 AM	10.14	76.39	1154.43	388.82	
8/30/2018	11:48:20 AM	9.98	76.84	1205.03	389.66	
8/30/2018	11:49:21 AM	9.82	77.96	1222.56	390.67	
8/30/2018	11:50:21 AM	9.67	77.18	1207.21	391.79	
8/30/2018	11:51:21 AM	9.52	76.56	1188.72	392.63	
8/30/2018	11:52:21 AM	9.36	77.62	1174.38	393.64	
8/30/2018	11:53:21 AM	9.19	77.34	1167.6	394.42	
8/30/2018	11:54:21 AM	9.02	78.18	1167.48	395.38	
8/30/2018	11:55:21 AM	8.88	77.12	1159.75	396.27	
8/30/2018	11:56:21 AM	8.71	77.51	1154.21	397.62	
8/30/2018	11:57:21 AM	8.52	77.96	1157.62	399.02	
8/30/2018	11:58:21 AM	8.36	77.34	1164.57	400.36	
8/30/2018	11:59:21 AM	8.21	76.95	1170.4	401.76	
8/30/2018	12:00:21 PM	8.04	76.73	1171.52	403.05	
8/30/2018	12:01:21 PM	7.89	77.18	1160.48	404.23	
8/30/2018	12:02:21 PM	7.75	76.78	1158.02	405.41	
8/30/2018	12:03:21 PM	7.59	76.78	1161.71	406.47	
8/30/2018	12:04:21 PM	7.44	76.95	1165.52	407.7	
8/30/2018	12:05:21 PM	7.31	78.74	1167.99	408.82	
8/30/2018	12:06:21 PM	7.18	77.12	1168.27	410.11	
8/30/2018	12:07:21 PM	7.03	77.34	1180.93	411.57	
8/30/2018	12:08:21 PM	6.91	76.5	1178.64	413.03	
8/30/2018	12:09:21 PM	6.77	76.95	1177.23	414.93	
8/30/2018	12:10:22 PM	6.67	76.61	1164.68	416.78	
8/30/2018	12:11:22 PM	6.52	76.45	1157.68	418.4	
8/30/2018	12:12:22 PM	6.39	76.61	1162.16	420.03	
8/30/2018	12:13:22 PM	6.26	76.45	1161.43	421.54	
8/30/2018	12:14:22 PM	6.14	76.78	1156.17	423.17	
8/30/2018	12:15:22 PM	6	76.56	1124.68	424.62	
8/30/2018	12:16:22 PM	5.88	76.61	1105.4	425.63	
8/30/2018	12:17:22 PM	5.77	76.61	1097.89	426.7	
8/30/2018	12:18:22 PM	5.62	76.22	1097.5	427.65	
8/30/2018	12:19:22 PM	5.49	76.28	1091	428.88	
8/30/2018	12:20:22 PM	5.38	76.56	1087.58	430.17	
8/30/2018	12:21:22 PM	5.23	76.5	1098.96	432.08	
8/30/2018	12:22:23 PM	5.09	76.11	1100.36	433.98	
8/30/2018	12:23:23 PM	4.95	76.22	1098.34	436.11	
8/30/2018	12:24:23 PM	4.83	76.56	1102.82	437.9	
8/30/2018	12:25:23 PM	4.69	76.84	1110.33	439.42	
8/30/2018	12:26:23 PM	4.6	76.61	1121.65	440.87	
8/30/2018	12:27:23 PM	4.48	76.56	1126.69	442.33	
8/30/2018	12:28:23 PM	4.4	76.78	1117.73	443.11	
8/30/2018	12:29:23 PM	4.29	76.84	1101.82	443.56	
8/30/2018	12:30:23 PM	4.21	76.89	1087.58	443.45	
8/30/2018	12:31:23 PM	4.11	76.78	1078.4	443.11	
8/30/2018	12:32:23 PM	4.02	76.56	1075.43	442.5	
8/30/2018	12:33:23 PM	3.93	76.84	1074.53	441.49	
8/30/2018	12:34:23 PM	3.86	76.73	1071.22	440.03	
8/30/2018	12:35:23 PM	3.79	76.89	1065.34	438.63	
8/30/2018	12:36:23 PM	3.7	76.45	1060.07	436.84	
8/30/2018	12:37:23 PM	3.63	76.84	1065.96	435.21	
8/30/2018	12:38:23 PM	3.56	76.84	1068.03	433.36	
8/30/2018	12:39:24 PM	3.49	76.89	1061.08	431.4	
8/30/2018	12:40:24 PM	3.4	76.61	1053.07	429.33	
8/30/2018	12:41:24 PM	3.34	76.84	1033.29	427.09	
8/30/2018	12:42:24 PM	3.29	76.56	1014.52	424.62	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/30/2018	12:43:24 PM	3.23	76.78	1004.43	422.1	
8/30/2018	12:44:24 PM	3.18	76.89	1004.38	419.3	
8/30/2018	12:45:24 PM	3.12	76.61	1007.68	416.44	
8/30/2018	12:46:24 PM	3.08	76.61	1018.11	414.03	
8/30/2018	12:47:24 PM	3.03	76.45	1025.22	411.68	
8/30/2018	12:48:24 PM	2.97	76.61	1030.54	409.27	
8/30/2018	12:49:24 PM	2.92	76.73	1032.84	407.31	
8/30/2018	12:50:24 PM	2.88	76.56	1028.36	405.35	
8/30/2018	12:51:24 PM	2.81	76.61	1020.01	403.16	
8/30/2018	12:52:24 PM	2.74	76.84	1016.14	401.2	
8/30/2018	12:53:24 PM	2.72	76.95	1010.37	399.3	
8/30/2018	12:54:25 PM	2.65	76.56	1010.49	397.67	
8/30/2018	12:55:25 PM	2.62	76.73	1005.5	396.27	
8/30/2018	12:56:25 PM	2.55	76.5	1002.36	395.04	
8/30/2018	12:57:25 PM	2.51	76.5	982.86	393.81	
8/30/2018	12:58:25 PM	2.44	76.56	953.61	392.52	
8/30/2018	12:59:25 PM	2.4	76.39	938.77	391.57	
8/30/2018	1:00:25 PM	2.33	76.5	929.41	390.78	
8/30/2018	1:01:25 PM	2.29	76.78	926.16	390.28	
8/30/2018	1:02:25 PM	2.22	76.56	929.3	390.16	
8/30/2018	1:03:25 PM	2.18	76.45	929.97	390.33	
8/30/2018	1:04:25 PM	2.11	76.84	931.43	390.95	
8/30/2018	1:05:25 PM	2.08	76.56	942.35	391.79	
8/30/2018	1:06:25 PM	2.04	76.61	942.3	392.41	
8/30/2018	1:07:25 PM	1.98	76.5	936.3	392.91	
8/30/2018	1:08:25 PM	1.94	76.39	930.47	392.97	
8/30/2018	1:09:25 PM	1.89	76.39	931.48	393.02	
8/30/2018	1:10:25 PM	1.84	76.56	934.06	392.74	
8/30/2018	1:11:25 PM	1.81	76.5	934.62	392.07	
8/30/2018	1:12:25 PM	1.77	76.56	926.33	390.84	
8/30/2018	1:13:25 PM	1.74	76.45	916.91	389.16	
8/30/2018	1:14:25 PM	1.7	76.5	910.97	387.31	
8/30/2018	1:15:26 PM	1.66	76.61	907.05	385.18	
8/30/2018	1:16:26 PM	1.63	76.28	906.94	383.16	
8/30/2018	1:17:26 PM	1.6	76.39	907.67	381.26	
8/30/2018	1:18:26 PM	1.56	76.45	910.19	379.46	
8/30/2018	1:19:26 PM	1.51	76.61	909.46	377.78	
8/30/2018	1:20:26 PM	1.48	76.28	904.81	376.05	
8/30/2018	1:21:26 PM	1.44	76.28	902.63	374.36	
8/30/2018	1:22:26 PM	1.42	76.11	898.59	372.85	
8/30/2018	1:23:26 PM	1.37	76.17	902.46	371.39	
8/30/2018	1:24:26 PM	1.34	76.22	904.53	370.11	
8/30/2018	1:25:26 PM	1.32	76.22	906.04	368.87	
8/30/2018	1:26:26 PM	1.29	76.17	906.94	367.64	
8/30/2018	1:27:26 PM	1.25	75.94	905.15	366.35	
8/30/2018	1:28:26 PM	1.22	76.11	902.46	365.23	
8/30/2018	1:29:26 PM	1.19	75.89	900.61	364.33	
8/30/2018	1:30:26 PM	1.15	75.77	899.71	363.55	
8/30/2018	1:31:26 PM	1.13	76.05	898.82	362.82	
8/30/2018	1:32:26 PM	1.09	75.94	897.92	362.09	
8/30/2018	1:33:26 PM	1.04	75.89	896.97	361.36	
8/30/2018	1:34:26 PM	1.03	75.72	892.48	360.64	
8/30/2018	1:35:26 PM	0.98	75.55	889.51	359.85	
8/30/2018	1:36:26 PM	0.96	75.83	888.17	359.12	
8/30/2018	1:37:26 PM	0.92	76.11	887.39	358.28	
8/30/2018	1:38:26 PM	0.9	75.72	888.11	357.5	
8/30/2018	1:39:26 PM	0.86	75.94	888.23	356.66	
8/30/2018	1:40:26 PM	0.82	75.89	882.12	355.87	
8/30/2018	1:41:26 PM	0.79	75.94	870.3	354.59	
8/30/2018	1:42:26 PM	0.76	75.77	861.89	353.3	
8/30/2018	1:43:26 PM	0.73	75.72	858.53	352.18	
8/30/2018	1:44:26 PM	0.71	75.77	857.07	351	
8/30/2018	1:45:26 PM	0.68	75.89	854.78	349.71	
8/30/2018	1:46:26 PM	0.64	75.55	851.64	348.53	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
8/30/2018	1:47:26 PM	0.62	75.72	850.57	347.47	
8/30/2018	1:48:26 PM	0.57	75.61	855.34	346.4	
8/30/2018	1:49:26 PM	0.56	75.72	860.6	345.4	
8/30/2018	1:50:26 PM	0.53	75.49	862.79	344.44	
8/30/2018	1:51:27 PM	0.49	75.72	858.64	343.44	
8/30/2018	1:52:27 PM	0.48	75.72	856.4	342.54	
8/30/2018	1:53:27 PM	0.44	75.77	855.62	341.75	
8/30/2018	1:54:27 PM	0.4	75.72	855.9	340.97	
8/30/2018	1:55:27 PM	0.37	75.77	857.18	340.3	
8/30/2018	1:56:27 PM	0.35	75.89	859.37	339.51	
8/30/2018	1:57:27 PM	0.32	75.72	861.05	338.9	
8/30/2018	1:58:27 PM	0.28	75.55	861.78	338.28	
8/30/2018	1:59:27 PM	0.26	75.83	860.43	337.72	
8/30/2018	2:00:27 PM	0.24	75.44	855.95	337.05	
8/30/2018	2:01:27 PM	0.21	75.61	854.61	336.26	
8/30/2018	2:02:27 PM	0.19	75.61	852.09	335.53	
8/30/2018	2:03:27 PM	0.15	75.77	851.75	334.69	
8/30/2018	2:04:27 PM	0.12	75.72	853.77	333.85	
8/30/2018	2:05:27 PM	0.12	75.38	855.56	333.13	
8/30/2018	2:06:27 PM	0	75.55	856.68	332.23	
9/4/2018	9:32:45 AM	20.49	70.28	815.72	399.63	**Added 20 lbs 20-23% MC, Medium High Air Setting**
9/4/2018	9:33:45 AM	20.3	70	927.95	395.82	
9/4/2018	9:34:45 AM	20.1	70.06	1206.15	394.87	
9/4/2018	9:35:45 AM	19.9	70.4	1289.69	395.26	
9/4/2018	9:36:45 AM	19.68	70.84	1225.42	395.1	
9/4/2018	9:37:45 AM	19.46	71.52	1211.36	394.2	
9/4/2018	9:38:45 AM	19.22	70.84	1239.09	393.58	
9/4/2018	9:39:45 AM	19	70.45	1270.19	393.64	
9/4/2018	9:40:46 AM	18.76	70.84	1281.17	393.86	
9/4/2018	9:41:46 AM	18.51	71.07	1244.19	393.25	
9/4/2018	9:42:46 AM	18.33	70.79	1190.01	391.51	
9/4/2018	9:43:46 AM	18.12	71.52	1196.06	390.22	
9/4/2018	9:44:46 AM	17.87	70.51	1281.4	390.84	
9/4/2018	9:45:46 AM	17.62	71.29	1321.29	392.35	
9/4/2018	9:46:46 AM	17.38	70.51	1340.23	394.14	
9/4/2018	9:47:46 AM	17.14	71.18	1352.78	395.99	
9/4/2018	9:48:46 AM	16.87	71.52	1350.37	397.67	
9/4/2018	9:49:46 AM	16.63	71.01	1329.47	399.07	
9/4/2018	9:50:46 AM	16.38	71.57	1311.77	399.63	
9/4/2018	9:51:46 AM	16.14	70.51	1298.6	399.63	
9/4/2018	9:52:46 AM	15.9	71.35	1295.91	399.8	
9/4/2018	9:53:46 AM	15.68	70.84	1313.33	400.47	
9/4/2018	9:54:46 AM	15.43	71.07	1325.27	401.04	
9/4/2018	9:55:46 AM	15.16	71.07	1325.49	401.6	
9/4/2018	9:56:46 AM	14.93	70.45	1326.84	401.99	
9/4/2018	9:57:46 AM	14.7	70.84	1325.04	402.44	
9/4/2018	9:58:46 AM	14.45	72.08	1315.58	402.44	
9/4/2018	9:59:46 AM	14.2	71.29	1312.72	402.44	
9/4/2018	10:00:46 AM	13.96	70.73	1311.09	402.49	
9/4/2018	10:01:46 AM	13.71	71.63	1307	402.66	
9/4/2018	10:02:46 AM	13.46	70.79	1298.65	402.66	
9/4/2018	10:03:46 AM	13.25	71.07	1274	402.38	
9/4/2018	10:04:46 AM	13	70.73	1254	402.1	
9/4/2018	10:05:46 AM	12.75	70.79	1233.38	401.82	
9/4/2018	10:06:47 AM	12.49	71.01	1210.46	401.32	
9/4/2018	10:07:47 AM	12.25	70.84	1208.28	400.87	
9/4/2018	10:08:47 AM	12.01	70.96	1209.73	400.64	
9/4/2018	10:09:47 AM	11.79	71.35	1217.86	400.36	
9/4/2018	10:10:47 AM	11.55	71.01	1220.6	400.25	
9/4/2018	10:11:47 AM	11.33	72.19	1228.84	400.25	
9/4/2018	10:12:47 AM	11.13	71.07	1239.71	400.53	
9/4/2018	10:13:47 AM	10.93	70.96	1239.32	400.98	
9/4/2018	10:14:47 AM	10.74	71.12	1239.54	401.54	
9/4/2018	10:15:47 AM	10.55	71.85	1245.09	402.16	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/4/2018	10:16:47 AM	10.33	72.24	1250.58	402.94	
9/4/2018	10:17:47 AM	10.16	71.63	1252.93	403.61	
9/4/2018	10:18:47 AM	9.99	71.4	1282.96	405.8	
9/4/2018	10:19:47 AM	9.81	71.52	1260.78	409.44	
9/4/2018	10:20:47 AM	9.69	71.35	1232.37	410.73	
9/4/2018	10:21:47 AM	9.57	72.02	1220.88	410.9	
9/4/2018	10:22:47 AM	9.43	71.68	1201.38	410.78	
9/4/2018	10:23:47 AM	9.29	72.24	1184.52	410.5	
9/4/2018	10:24:47 AM	9.19	71.4	1171.13	409.72	
9/4/2018	10:25:47 AM	9.07	71.85	1162.11	408.82	
9/4/2018	10:26:47 AM	8.93	71.85	1157.79	407.7	
9/4/2018	10:27:47 AM	8.81	71.63	1160.65	406.53	
9/4/2018	10:28:47 AM	8.7	72.41	1163.28	405.57	
9/4/2018	10:29:47 AM	8.57	72.02	1159.25	404.9	
9/4/2018	10:30:47 AM	8.43	71.74	1156.67	404.68	
9/4/2018	10:31:47 AM	8.29	71.85	1155.44	404.68	
9/4/2018	10:32:47 AM	8.14	72.24	1166.2	404.62	
9/4/2018	10:33:47 AM	8.02	72.02	1186.37	404.9	
9/4/2018	10:34:47 AM	7.88	72.02	1221.5	405.24	
9/4/2018	10:35:47 AM	7.76	72.3	1243.74	406.02	
9/4/2018	10:36:47 AM	7.63	71.85	1240.27	406.81	
9/4/2018	10:37:47 AM	7.49	72.75	1221.78	407.37	
9/4/2018	10:38:47 AM	7.4	72.19	1201.78	407.14	
9/4/2018	10:39:47 AM	7.28	72.19	1199.93	407.03	
9/4/2018	10:40:47 AM	7.14	72.24	1200.15	407.37	
9/4/2018	10:41:47 AM	7.01	72.3	1192.64	407.98	
9/4/2018	10:42:47 AM	6.85	72.75	1187.66	408.82	
9/4/2018	10:43:47 AM	6.76	72.08	1200.09	409.27	
9/4/2018	10:44:47 AM	6.62	72.19	1201.38	409.94	
9/4/2018	10:45:47 AM	6.5	72.41	1199.93	410.5	
9/4/2018	10:46:48 AM	6.39	72.02	1208.28	411.4	
9/4/2018	10:47:48 AM	6.28	72.75	1213.88	412.91	
9/4/2018	10:48:48 AM	6.16	72.52	1214.44	415.04	
9/4/2018	10:49:48 AM	6.05	72.69	1211.3	417.17	
9/4/2018	10:50:48 AM	5.92	72.19	1201.33	419.02	
9/4/2018	10:51:48 AM	5.81	72.64	1187.26	420.7	
9/4/2018	10:52:48 AM	5.71	72.36	1188.89	422.16	
9/4/2018	10:53:48 AM	5.61	72.41	1163.34	423.28	
9/4/2018	10:54:48 AM	5.52	72.75	1149.72	424.12	
9/4/2018	10:55:48 AM	5.42	72.52	1141.93	425.3	
9/4/2018	10:56:48 AM	5.34	72.24	1129.05	426.31	
9/4/2018	10:57:48 AM	5.25	72.75	1101.14	427.43	
9/4/2018	10:58:48 AM	5.18	72.52	1076.38	428.32	
9/4/2018	10:59:48 AM	5.1	72.69	1057.66	429.05	
9/4/2018	11:00:48 AM	5.03	72.41	1039.45	429.61	
9/4/2018	11:01:48 AM	4.97	72.64	1027.07	429.89	
9/4/2018	11:02:48 AM	4.91	72.41	1015.81	429.95	
9/4/2018	11:03:48 AM	4.85	72.41	1002.53	429.61	
9/4/2018	11:04:48 AM	4.79	72.58	988.8	428.88	
9/4/2018	11:05:48 AM	4.73	72.64	978.83	427.93	
9/4/2018	11:06:48 AM	4.67	72.69	971.99	427.09	
9/4/2018	11:07:48 AM	4.62	72.3	968.69	425.97	
9/4/2018	11:08:48 AM	4.57	72.52	967.45	424.9	
9/4/2018	11:09:48 AM	4.51	73.36	969.41	423.5	
9/4/2018	11:10:48 AM	4.45	72.3	971.94	421.77	
9/4/2018	11:11:48 AM	4.41	72.86	972.1	419.64	
9/4/2018	11:12:49 AM	4.37	73.53	963.36	417.23	
9/4/2018	11:13:49 AM	4.34	72.97	948.24	414.76	
9/4/2018	11:14:49 AM	4.3	72.75	957.76	412.35	
9/4/2018	11:15:49 AM	4.27	72.75	955.35	409.55	
9/4/2018	11:16:49 AM	4.24	73.2	945.88	406.41	
9/4/2018	11:17:49 AM	4.17	73.25	940.11	403.16	
9/4/2018	11:18:49 AM	4.17	72.86	935.91	400.03	
9/4/2018	11:19:49 AM	4.13	72.97	931.03	397.06	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/4/2018	11:20:49 AM	4.09	72.75	926.94	393.98	
9/4/2018	11:21:49 AM	4.05	73.53	923.81	391.12	
9/4/2018	11:22:49 AM	4.03	72.69	920	388.43	
9/4/2018	11:23:49 AM	4	73.03	916.63	385.74	
9/4/2018	11:24:49 AM	3.96	72.86	914.28	383.22	
9/4/2018	11:25:49 AM	3.94	72.92	910.3	380.64	
9/4/2018	11:26:49 AM	3.9	72.92	906.16	378.17	
9/4/2018	11:27:49 AM	3.88	72.69	905.37	375.76	
9/4/2018	11:28:49 AM	3.83	72.64	900.55	373.47	
9/4/2018	11:29:49 AM	3.8	72.75	895.96	371.62	
9/4/2018	11:30:49 AM	3.75	72.92	894.67	370.05	
9/4/2018	11:31:49 AM	18.49	72.58	822.73	372.01	**Added 15 lbs 20-23% MC, Medium High Air Setting**
9/4/2018	11:32:49 AM	18.36	72.52	874.55	373.08	
9/4/2018	11:33:49 AM	18.17	73.81	1016.09	373.41	
9/4/2018	11:34:49 AM	17.95	74.37	1100.3	374.03	
9/4/2018	11:35:49 AM	17.74	77.18	1167.93	374.59	
9/4/2018	11:36:49 AM	17.52	74.6	1192.53	375.2	
9/4/2018	11:37:50 AM	17.3	73.65	1204.8	375.76	
9/4/2018	11:38:50 AM	17.09	78.46	1217.07	376.38	
9/4/2018	11:39:50 AM	16.87	76.17	1224.47	377.22	
9/4/2018	11:40:50 AM	16.64	75.1	1227.44	377.84	
9/4/2018	11:41:50 AM	16.44	77.29	1236.74	378.96	
9/4/2018	11:42:50 AM	16.22	74.71	1251.53	380.25	
9/4/2018	11:43:50 AM	16.02	77.4	1261.73	381.54	
9/4/2018	11:44:50 AM	15.77	74.82	1271.48	382.94	
9/4/2018	11:45:50 AM	15.54	73.31	1276.91	384.45	
9/4/2018	11:46:50 AM	15.3	75.05	1277.36	385.91	
9/4/2018	11:47:50 AM	15.08	73.87	1273.5	387.2	
9/4/2018	11:48:50 AM	14.84	77.79	1273.33	388.65	
9/4/2018	11:49:50 AM	14.59	74.21	1269.46	390	
9/4/2018	11:50:50 AM	14.37	73.59	1253.77	391.17	
9/4/2018	11:51:50 AM	14.13	74.54	1240.89	392.41	
9/4/2018	11:52:50 AM	13.92	78.52	1232.37	393.58	
9/4/2018	11:53:50 AM	13.69	75.44	1217.41	394.7	
9/4/2018	11:54:50 AM	13.45	76.22	1203.34	395.38	
9/4/2018	11:55:50 AM	13.2	78.13	1184.29	395.82	
9/4/2018	11:56:50 AM	12.96	77.68	1171.18	396.33	
9/4/2018	11:57:50 AM	12.72	77.74	1167.37	396.55	
9/4/2018	11:58:50 AM	12.48	75.83	1161.66	396.61	
9/4/2018	11:59:50 AM	12.24	76.22	1146.19	396.66	
9/4/2018	12:00:50 PM	12.03	76.78	1131.23	396.78	
9/4/2018	12:01:51 PM	11.81	76.73	1129.78	396.89	
9/4/2018	12:02:51 PM	11.58	78.46	1146.92	397.22	
9/4/2018	12:03:51 PM	11.38	76.5	1157.9	397.79	
9/4/2018	12:04:51 PM	11.18	74.88	1185.81	398.79	
9/4/2018	12:05:51 PM	11.01	75.38	1218.25	400.31	
9/4/2018	12:06:51 PM	10.82	76.17	1236.46	402.04	
9/4/2018	12:07:51 PM	10.67	75.1	1273.38	403.78	
9/4/2018	12:08:51 PM	10.5	75.16	1264.64	405.57	
9/4/2018	12:09:51 PM	10.38	75.38	1250.13	407.09	
9/4/2018	12:10:51 PM	10.18	74.93	1244.81	408.49	
9/4/2018	12:11:51 PM	10.02	74.82	1237.08	409.72	
9/4/2018	12:12:51 PM	9.86	75.44	1216.85	410.78	
9/4/2018	12:13:51 PM	9.68	75.1	1191.86	411.68	
9/4/2018	12:14:51 PM	9.53	76.73	1191.52	412.35	
9/4/2018	12:15:51 PM	9.35	75.38	1199.65	412.91	
9/4/2018	12:16:51 PM	9.17	75.49	1199.59	413.64	
9/4/2018	12:17:51 PM	9	75.21	1200.15	414.15	
9/4/2018	12:18:51 PM	8.86	75.21	1200.77	414.54	
9/4/2018	12:19:51 PM	8.68	75.44	1186.48	414.93	
9/4/2018	12:20:51 PM	8.51	78.52	1178.19	415.27	
9/4/2018	12:21:51 PM	8.33	75.94	1168.27	415.72	
9/4/2018	12:22:51 PM	8.18	75.55	1165.8	416.05	
9/4/2018	12:23:51 PM	8.02	75.77	1165.92	416.33	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/4/2018	12:24:51 PM	7.87	74.93	1176.62	417	
9/4/2018	12:25:51 PM	7.7	76.45	1166.7	418.12	
9/4/2018	12:26:51 PM	7.55	75.27	1145.58	419.08	
9/4/2018	12:27:52 PM	7.38	77.4	1138.4	419.92	
9/4/2018	12:28:52 PM	7.23	76.22	1129.05	420.7	
9/4/2018	12:29:52 PM	7.1	75.77	1129.33	421.26	
9/4/2018	12:30:52 PM	6.95	76.11	1139.19	421.82	
9/4/2018	12:31:52 PM	6.82	75.83	1151.46	422.49	
9/4/2018	12:32:52 PM	6.68	75.61	1161.38	423.45	
9/4/2018	12:33:52 PM	6.54	75.44	1163.73	424.29	
9/4/2018	12:34:52 PM	6.41	75.38	1162.83	424.62	
9/4/2018	12:35:52 PM	6.3	75.44	1171.52	425.02	
9/4/2018	12:36:52 PM	6.18	76.39	1193.88	425.63	
9/4/2018	12:37:52 PM	6.05	76.39	1193.2	426.19	
9/4/2018	12:38:52 PM	5.93	75.49	1185.98	426.7	
9/4/2018	12:39:52 PM	5.83	75.94	1189.62	426.98	
9/4/2018	12:40:52 PM	5.69	75.72	1190.96	427.48	
9/4/2018	12:41:52 PM	5.59	75.77	1188.5	427.82	
9/4/2018	12:42:52 PM	5.48	75.83	1188.66	428.04	
9/4/2018	12:43:52 PM	5.34	75.83	1186.65	428.43	
9/4/2018	12:44:52 PM	5.24	75.77	1187.26	428.77	
9/4/2018	12:45:52 PM	5.14	75.61	1185.02	429.44	
9/4/2018	12:46:52 PM	5.03	75.77	1183.01	430	
9/4/2018	12:47:52 PM	4.92	75.89	1180.15	430.56	
9/4/2018	12:48:52 PM	4.81	76.17	1177.23	431.12	
9/4/2018	12:49:52 PM	4.7	76.05	1165.75	431.63	
9/4/2018	12:50:52 PM	4.63	76.05	1140.42	431.8	
9/4/2018	12:51:52 PM	4.52	75.89	1127.87	431.91	
9/4/2018	12:52:52 PM	4.42	75.72	1116.72	432.02	
9/4/2018	12:53:52 PM	4.34	76.95	1105.79	431.68	
9/4/2018	12:54:52 PM	4.26	76.11	1096.16	431.35	
9/4/2018	12:55:52 PM	4.17	75.55	1081.42	430.62	
9/4/2018	12:56:52 PM	4.07	76.45	1070.78	429.89	
9/4/2018	12:57:52 PM	4.01	75.89	1058.78	428.88	
9/4/2018	12:58:52 PM	3.91	76.05	1050.16	427.82	
9/4/2018	12:59:52 PM	3.84	75.38	1045.06	427.03	
9/4/2018	1:00:52 PM	3.77	75.27	1040.52	426.31	
9/4/2018	1:01:53 PM	3.67	75.21	1035.81	425.86	
9/4/2018	1:02:53 PM	3.59	74.88	1025.11	425.24	
9/4/2018	1:03:53 PM	3.53	74.88	1015.42	424.57	
9/4/2018	1:04:53 PM	3.44	74.54	1005.5	423.78	
9/4/2018	1:05:53 PM	3.37	74.54	1000.06	423.11	
9/4/2018	1:06:53 PM	3.3	74.37	995.02	422.16	
9/4/2018	1:07:53 PM	3.24	74.15	992.89	421.54	
9/4/2018	1:08:53 PM	3.16	74.49	998.33	420.87	
9/4/2018	1:09:53 PM	3.1	74.54	995.97	419.64	
9/4/2018	1:10:53 PM	3.05	74.37	985.38	417.96	
9/4/2018	1:11:53 PM	2.99	74.32	981.18	416.44	
9/4/2018	1:12:53 PM	2.94	74.32	975.63	414.65	
9/4/2018	1:13:53 PM	2.88	74.37	969.36	412.8	
9/4/2018	1:14:53 PM	2.83	74.82	962.97	410.78	
9/4/2018	1:15:53 PM	2.78	74.6	959.05	408.88	
9/4/2018	1:16:53 PM	2.72	74.15	957.87	406.97	
9/4/2018	1:17:53 PM	2.68	74.26	963.03	405.07	
9/4/2018	1:18:53 PM	2.62	74.26	963.87	403.05	
9/4/2018	1:19:53 PM	2.58	74.32	958.54	400.92	
9/4/2018	1:20:53 PM	2.53	74.15	949.41	398.57	
9/4/2018	1:21:53 PM	2.48	74.21	945.6	396.27	
9/4/2018	1:22:53 PM	2.42	73.93	939.72	393.92	
9/4/2018	1:23:53 PM	2.36	73.81	934.96	391.68	
9/4/2018	1:24:53 PM	2.33	74.26	925.77	389.94	
9/4/2018	1:25:53 PM	2.26	74.54	920.72	388.2	
9/4/2018	1:26:53 PM	2.19	74.37	916.63	386.86	
9/4/2018	1:27:53 PM	2.15	74.21	916.41	385.79	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/4/2018	1:28:53 PM	2.1	74.32	909.24	384.62	
9/4/2018	1:29:53 PM	2.05	74.71	903.69	383.55	
9/4/2018	1:30:53 PM	1.98	74.93	895.9	382.6	
9/4/2018	1:31:53 PM	1.93	74.77	887.55	382.15	
9/4/2018	1:32:54 PM	1.86	74.6	888.17	382.1	
9/4/2018	1:33:54 PM	1.8	74.82	882.17	382.26	
9/4/2018	1:34:54 PM	1.77	74.82	882.96	382.43	
9/4/2018	1:35:54 PM	1.73	74.6	887.83	382.88	
9/4/2018	1:36:54 PM	1.68	74.15	888.9	382.77	
9/4/2018	1:37:54 PM	1.64	74.21	892.93	382.32	
9/4/2018	1:38:54 PM	1.6	74.37	895.51	381.59	
9/4/2018	1:39:54 PM	1.55	74.04	887.33	380.58	
9/4/2018	1:40:54 PM	1.52	74.93	876.68	379.18	
9/4/2018	1:41:54 PM	1.47	74.37	870.3	377.67	
9/4/2018	1:42:54 PM	1.45	74.04	866.71	376.16	
9/4/2018	1:43:54 PM	1.43	74.15	861.55	374.59	
9/4/2018	1:44:54 PM	1.39	74.26	859.37	373.02	
9/4/2018	1:45:54 PM	1.33	74.04	860.21	371.56	
9/4/2018	1:46:54 PM	1.3	73.93	860.21	370.11	
9/4/2018	1:47:54 PM	1.29	74.21	855.5	368.65	
9/4/2018	1:48:54 PM	1.24	74.49	852.48	367.02	
9/4/2018	1:49:54 PM	1.21	74.93	850.18	365.46	
9/4/2018	1:50:54 PM	1.2	74.32	851.41	363.94	
9/4/2018	1:51:54 PM	1.17	74.37	854.1	362.21	
9/4/2018	1:52:54 PM	1.14	74.15	855.84	360.47	
9/4/2018	1:53:54 PM	1.09	74.54	855	358.68	
9/4/2018	1:54:55 PM	1.08	75.49	851.3	357.11	
9/4/2018	1:55:55 PM	1.03	75.55	847.83	355.48	
9/4/2018	1:56:55 PM	1	74.54	844.75	353.8	
9/4/2018	1:57:55 PM	0.99	74.04	841.33	352.18	
9/4/2018	1:58:55 PM	0.97	74.49	836.45	350.44	
9/4/2018	1:59:55 PM	0.95	74.88	831.35	348.7	
9/4/2018	2:00:55 PM	0.92	74.6	831.13	347.3	
9/4/2018	2:01:55 PM	0.86	74.82	831.13	345.68	
9/4/2018	2:02:55 PM	0.83	74.04	828.61	344.16	
9/4/2018	2:03:55 PM	0.82	74.26	825.92	342.59	
9/4/2018	2:04:55 PM	0.77	74.15	824.24	341.25	
9/4/2018	2:05:55 PM	0.76	73.98	823.06	339.85	
9/4/2018	2:06:55 PM	0.72	74.32	818.35	338.62	
9/4/2018	2:07:55 PM	0.7	74.21	814.99	337.55	
9/4/2018	2:08:55 PM	0.67	74.15	813.03	336.26	
9/4/2018	2:09:55 PM	0.64	74.37	812.81	335.31	
9/4/2018	2:10:55 PM	0.62	74.26	809.78	334.41	
9/4/2018	2:11:55 PM	0.58	74.15	808.66	333.46	
9/4/2018	2:12:55 PM	0.56	74.77	815.22	332.51	
9/4/2018	2:13:55 PM	0.52	75.49	820.48	331.84	
9/4/2018	2:14:55 PM	0.5	74.93	821.6	331.11	
9/4/2018	2:15:55 PM	0.48	74.71	821.21	330.27	
9/4/2018	2:16:55 PM	0.45	74.88	820.6	329.54	
9/4/2018	2:17:55 PM	0.42	74.54	819.81	328.87	
9/4/2018	2:18:55 PM	0.4	74.71	819.36	328.14	
9/4/2018	2:19:55 PM	0.35	74.32	818.92	327.58	
9/4/2018	2:20:55 PM	0.34	74.21	818.02	326.96	
9/4/2018	2:21:55 PM	0.3	74.04	815.61	326.46	
9/4/2018	2:22:56 PM	0.27	74.15	814.15	326.12	
9/4/2018	2:23:56 PM	0.23	73.98	813.03	325.73	
9/4/2018	2:24:56 PM	0.2	73.7	811.52	325.39	
9/4/2018	2:25:56 PM	0.17	74.04	810.9	325.11	
9/4/2018	2:26:56 PM	0.14	74.15	809.11	324.89	
9/4/2018	2:27:56 PM	0.12	73.93	807.43	324.72	
9/4/2018	2:28:56 PM	0	73.81	808.16	324.55	
9/5/2018	10:01:24 AM	11.54	65.02	170.13	104.85	**Added 12 lbs 20-23% MC, Medium High Air Setting**
9/5/2018	10:02:24 AM	11.43	65.3	692.4	116.28	
9/5/2018	10:03:24 AM	11.25	65.58	970.82	126.15	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/5/2018	10:04:24 AM	11.09	65.63	1025.56	133.71	
9/5/2018	10:05:24 AM	10.95	65.74	1064.5	138.87	
9/5/2018	10:06:24 AM	10.79	65.91	1047.69	143.91	
9/5/2018	10:07:24 AM	10.64	66.02	1038.33	149.46	
9/5/2018	10:08:24 AM	10.48	66.08	1047.69	157.08	
9/5/2018	10:09:24 AM	10.33	66.19	1062.43	165.98	
9/5/2018	10:10:24 AM	10.17	66.47	1063.72	175.4	
9/5/2018	10:11:24 AM	9.98	66.53	1055.59	185.09	
9/5/2018	10:12:24 AM	9.84	66.59	1026.4	193.78	
9/5/2018	10:13:25 AM	9.7	66.64	1020.4	201.96	
9/5/2018	10:14:25 AM	9.52	66.7	1063.83	211.2	
9/5/2018	10:15:25 AM	9.34	66.92	1128.82	221.46	
9/5/2018	10:16:25 AM	9.17	66.98	1168.33	232.05	
9/5/2018	10:17:25 AM	9.01	67.03	1131.51	241.29	
9/5/2018	10:18:25 AM	8.82	67.26	1154.43	250.93	
9/5/2018	10:19:25 AM	8.64	67.31	1213.77	260.9	
9/5/2018	10:20:25 AM	8.45	67.48	1235.23	270.76	
9/5/2018	10:21:25 AM	8.27	67.59	1248.06	280.01	
9/5/2018	10:22:25 AM	8.08	67.82	1260.44	288.52	
9/5/2018	10:23:25 AM	7.87	68.1	1246.38	296.42	
9/5/2018	10:24:25 AM	7.66	68.21	1245.37	303.76	
9/5/2018	10:25:25 AM	7.46	68.27	1240.33	310.66	
9/5/2018	10:26:25 AM	7.29	68.27	1234.27	316.88	
9/5/2018	10:27:25 AM	7.1	68.55	1214.72	322.48	
9/5/2018	10:28:25 AM	6.89	68.71	1210.18	327.86	
9/5/2018	10:29:25 AM	6.69	68.88	1205.03	332.79	
9/5/2018	10:30:25 AM	6.49	69.22	1198.08	337.89	
9/5/2018	10:31:25 AM	6.32	69.33	1190.18	342.48	
9/5/2018	10:32:25 AM	6.12	69.22	1195.67	346.85	
9/5/2018	10:33:25 AM	5.91	69.95	1201.27	351.34	
9/5/2018	10:34:25 AM	5.74	69.5	1205.53	355.54	
9/5/2018	10:35:25 AM	5.54	69.84	1200.32	359.8	
9/5/2018	10:36:25 AM	5.37	70.06	1191.3	363.72	
9/5/2018	10:37:25 AM	5.2	70.17	1188.94	367.53	
9/5/2018	10:38:25 AM	5	70.12	1186.37	371.11	
9/5/2018	10:39:25 AM	4.83	70.12	1187.66	374.87	
9/5/2018	10:40:25 AM	4.64	70.51	1190.79	378.73	
9/5/2018	10:41:25 AM	4.49	70.4	1191.13	382.26	
9/5/2018	10:42:26 AM	4.33	70.51	1188.89	385.35	
9/5/2018	10:43:26 AM	4.15	70.12	1186.14	388.09	
9/5/2018	10:44:26 AM	4	70.51	1181.27	390.84	
9/5/2018	10:45:26 AM	3.83	71.52	1173.2	393.02	
9/5/2018	10:46:26 AM	3.68	70.84	1165.8	395.32	
9/5/2018	10:47:26 AM	3.56	70.84	1163.84	397.34	
9/5/2018	10:48:26 AM	3.37	71.12	1160.59	399.07	
9/5/2018	10:49:26 AM	3.2	70.96	1157.12	400.53	
9/5/2018	10:50:26 AM	3.06	72.08	1154.65	401.54	
9/5/2018	10:51:26 AM	2.93	72.41	1159.3	402.38	
9/5/2018	10:52:26 AM	2.81	72.08	1167.54	403.39	
9/5/2018	10:53:26 AM	2.68	72.3	1168.44	404.56	
9/5/2018	10:54:26 AM	2.57	71.52	1158.46	406.13	
9/5/2018	10:55:26 AM	2.46	71.68	1127.81	407.93	
9/5/2018	10:56:26 AM	2.37	71.74	1107.98	409.27	
9/5/2018	10:57:26 AM	2.25	71.96	1089.1	410.62	
9/5/2018	10:58:26 AM	2.16	73.93	1074.59	411.91	
9/5/2018	10:59:26 AM	2.08	72.41	1069.88	413.19	
9/5/2018	11:00:26 AM	1.95	71.96	1068.53	414.15	
9/5/2018	11:01:26 AM	1.87	72.02	1050.27	414.2	
9/5/2018	11:02:26 AM	1.79	75.49	1031.55	414.31	
9/5/2018	11:03:26 AM	1.7	72.69	1002.81	414.31	
9/5/2018	11:04:26 AM	1.62	72.08	958.15	413.87	
9/5/2018	11:05:26 AM	1.54	72.75	926.83	413.31	
9/5/2018	11:06:26 AM	1.49	72.69	909.01	412.52	
9/5/2018	11:07:26 AM	1.42	72.41	896.35	411.62	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/5/2018	11:08:26 AM	1.36	72.52	877.86	410.62	
9/5/2018	11:09:26 AM	1.29	72.92	864.41	409.5	
9/5/2018	11:10:26 AM	1.25	72.3	854.94	408.09	
9/5/2018	11:11:26 AM	1.19	72.24	852.53	406.81	
9/5/2018	11:12:27 AM	1.16	73.03	854.78	405.41	
9/5/2018	11:13:27 AM	1.11	72.24	874.16	403.5	
9/5/2018	11:14:27 AM	1.07	72.19	892.99	401.26	
9/5/2018	11:15:27 AM	1.01	71.96	888.39	398.57	
9/5/2018	11:16:27 AM	12.51	72.3	898.2	395.94	
9/5/2018	11:17:27 AM	15.41	72.02	809.33	396.27	
9/5/2018	11:18:27 AM	18.38	71.85	766.97	398.07	**Added 17 lbs 20-23% MC, Medium High Air Setting**
9/5/2018	11:19:27 AM	18.22	74.77	925.77	398.57	
9/5/2018	11:20:27 AM	17.97	72.97	1065.68	397.51	
9/5/2018	11:21:27 AM	17.74	72.41	1152.69	396.78	
9/5/2018	11:22:27 AM	17.48	71.57	1130.62	395.77	
9/5/2018	11:23:27 AM	17.2	72.02	1164.96	395.38	
9/5/2018	11:24:27 AM	16.95	79.53	1215.62	395.15	
9/5/2018	11:25:27 AM	16.69	75.49	1214.66	395.38	
9/5/2018	11:26:27 AM	16.44	74.71	1220.6	395.71	
9/5/2018	11:27:27 AM	16.16	75.21	1236.46	396.61	
9/5/2018	11:28:27 AM	15.88	74.82	1200.38	397.28	
9/5/2018	11:29:27 AM	15.61	73.48	1205.7	397.56	
9/5/2018	11:30:27 AM	15.32	73.03	1217.41	398.68	
9/5/2018	11:31:27 AM	15.08	74.71	1217.58	399.86	
9/5/2018	11:32:27 AM	14.77	73.98	1211.58	401.43	
9/5/2018	11:33:27 AM	14.48	74.04	1200.94	402.66	
9/5/2018	11:34:27 AM	14.19	77.79	1202.78	403.95	
9/5/2018	11:35:27 AM	13.92	74.49	1197.13	405.35	
9/5/2018	11:36:27 AM	13.63	76.11	1197.91	406.3	
9/5/2018	11:37:27 AM	13.36	74.54	1195.28	407.42	
9/5/2018	11:38:27 AM	13.05	78.02	1181.21	408.49	
9/5/2018	11:39:28 AM	12.76	77.79	1169	409.1	
9/5/2018	11:40:28 AM	12.49	75.16	1171.52	409.78	
9/5/2018	11:41:28 AM	12.19	77.74	1168.72	410.39	
9/5/2018	11:42:28 AM	11.94	74.93	1160.54	411.01	
9/5/2018	11:43:28 AM	11.64	83.62	1141.99	411.34	
9/5/2018	11:44:28 AM	11.36	75.05	1122.94	411.57	
9/5/2018	11:45:28 AM	11.09	82.61	1107.25	411.4	
9/5/2018	11:46:28 AM	10.83	76.11	1096.16	411.01	
9/5/2018	11:47:28 AM	10.54	80.14	1082.26	410.67	
9/5/2018	11:48:28 AM	10.26	75.27	1068.03	410.11	
9/5/2018	11:49:28 AM	10.01	78.07	1065.56	409.66	
9/5/2018	11:50:28 AM	9.77	77.06	1081.08	409.55	
9/5/2018	11:51:28 AM	9.53	77.29	1099.8	409.83	
9/5/2018	11:52:28 AM	9.31	78.18	1104.45	410.17	
9/5/2018	11:53:28 AM	9.09	77.74	1109.1	410.62	
9/5/2018	11:54:28 AM	8.89	78.63	1107.98	410.9	
9/5/2018	11:55:28 AM	8.68	77.85	1102.15	411.29	
9/5/2018	11:56:28 AM	8.48	75.94	1121.37	411.74	
9/5/2018	11:57:28 AM	8.28	78.46	1132.52	412.35	
9/5/2018	11:58:28 AM	8.08	78.3	1132.63	413.19	
9/5/2018	11:59:28 AM	7.92	78.97	1133.7	414.15	
9/5/2018	12:00:28 PM	7.73	78.74	1132.63	415.1	
9/5/2018	12:01:28 PM	7.57	84.85	1157.79	416.33	
9/5/2018	12:02:28 PM	7.38	79.53	1192.36	417.9	
9/5/2018	12:03:29 PM	7.22	77.74	1194.1	419.36	
9/5/2018	12:04:29 PM	7.08	85.75	1207.6	420.59	
9/5/2018	12:05:29 PM	6.95	77.34	1227.83	421.71	
9/5/2018	12:06:29 PM	6.78	79.08	1226.04	422.83	
9/5/2018	12:07:29 PM	6.67	80.37	1225.87	424.4	
9/5/2018	12:08:29 PM	6.54	83.62	1227.66	425.18	
9/5/2018	12:09:29 PM	6.43	78.35	1222.28	425.63	
9/5/2018	12:10:29 PM	6.33	78.07	1211.86	425.52	
9/5/2018	12:11:29 PM	6.2	77.74	1203.4	425.35	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/5/2018	12:12:29 PM	6.09	83.23	1197.41	425.58	
9/5/2018	12:13:29 PM	5.96	78.07	1191.91	426.25	
9/5/2018	12:14:29 PM	5.85	78.02	1179.14	426.87	
9/5/2018	12:15:29 PM	5.74	76.95	1175.61	427.71	
9/5/2018	12:16:29 PM	5.61	78.3	1174.49	428.49	
9/5/2018	12:17:29 PM	5.48	77.29	1171.35	429.55	
9/5/2018	12:18:29 PM	5.36	78.74	1173.14	430.79	
9/5/2018	12:19:29 PM	5.26	77.85	1173.98	432.08	
9/5/2018	12:20:30 PM	5.13	80.03	1197.91	433.87	
9/5/2018	12:21:30 PM	5.03	78.13	1203.23	435.77	
9/5/2018	12:22:30 PM	4.92	78.02	1173.98	437.57	
9/5/2018	12:23:30 PM	4.82	77.18	1147.71	438.97	
9/5/2018	12:24:30 PM	4.72	77.29	1107.42	439.92	
9/5/2018	12:25:30 PM	4.65	78.18	1073.63	440.54	
9/5/2018	12:26:30 PM	4.57	78.74	1053.24	440.93	
9/5/2018	12:27:30 PM	4.49	78.07	1030.04	441.38	
9/5/2018	12:28:30 PM	4.43	76.84	1006.51	441.55	
9/5/2018	12:29:30 PM	4.37	78.18	993.9	441.55	
9/5/2018	12:30:30 PM	4.3	77.79	990.37	441.15	
9/5/2018	12:31:30 PM	4.24	77.46	975.47	440.2	
9/5/2018	12:32:30 PM	4.16	77.4	962.52	439.08	
9/5/2018	12:33:30 PM	4.12	76.78	957.14	437.85	
9/5/2018	12:34:30 PM	4.08	77.18	945.15	436.5	
9/5/2018	12:35:30 PM	4.03	77.51	936.02	435.27	
9/5/2018	12:36:30 PM	3.97	79.47	931.87	433.93	
9/5/2018	12:37:30 PM	3.95	77.68	924.25	432.58	
9/5/2018	12:38:30 PM	3.87	77.51	915.68	431.18	
9/5/2018	12:39:30 PM	3.82	79.02	912.66	429.55	
9/5/2018	12:40:30 PM	3.78	78.46	909.52	427.93	
9/5/2018	12:41:31 PM	3.76	77.29	906.16	426.14	
9/5/2018	12:42:31 PM	3.7	77.85	911.65	424.12	
9/5/2018	12:43:31 PM	3.66	76.73	927.78	421.99	
9/5/2018	12:44:31 PM	3.61	77.12	934.96	420.03	
9/5/2018	12:45:31 PM	19.01	76.28	864.92	423	**Added 15 lbs 20-23% MC, Medium High Air Setting**
9/5/2018	12:46:31 PM	18.83	77.62	922.8	423.9	
9/5/2018	12:47:31 PM	18.62	77.18	1120.31	423.73	
9/5/2018	12:48:31 PM	18.38	77.46	1151.57	422.38	
9/5/2018	12:49:31 PM	18.09	76.39	1084.5	418.85	
9/5/2018	12:50:31 PM	17.81	77.62	1062.54	414.76	
9/5/2018	12:51:31 PM	17.52	77.12	1070.61	410.78	
9/5/2018	12:52:31 PM	17.21	78.97	1078.96	407.37	
9/5/2018	12:53:31 PM	16.91	77.18	1081.48	404.45	
9/5/2018	12:54:31 PM	16.58	76.89	1078	401.88	
9/5/2018	12:55:31 PM	16.28	77.06	1077.83	399.8	
9/5/2018	12:56:31 PM	15.96	76.95	1070.66	398.07	
9/5/2018	12:57:31 PM	15.66	77.51	1062.31	396.27	
9/5/2018	12:58:31 PM	15.33	77.06	1053.24	394.87	
9/5/2018	12:59:31 PM	15.02	77.62	1043.88	393.53	
9/5/2018	1:00:31 PM	14.69	76.95	1039.34	392.46	
9/5/2018	1:01:32 PM	14.38	77.06	1047.47	391.73	
9/5/2018	1:02:32 PM	14.06	77.51	1048.31	391.23	
9/5/2018	1:03:32 PM	13.77	77.4	1048.47	391.06	
9/5/2018	1:04:32 PM	13.45	78.13	1038.11	390.56	
9/5/2018	1:05:32 PM	13.16	79.47	1034.64	390.39	
9/5/2018	1:06:32 PM	12.85	78.35	1032.45	390.28	
9/5/2018	1:07:32 PM	12.54	77.34	1028.98	390.61	
9/5/2018	1:08:32 PM	12.25	77.62	1023.82	390.89	
9/5/2018	1:09:32 PM	11.97	79.02	1020.35	391.06	
9/5/2018	1:10:32 PM	11.7	77.74	1034.75	391.29	
9/5/2018	1:11:32 PM	11.43	77.12	1068.42	392.18	
9/5/2018	1:12:32 PM	11.18	77.18	1081.03	393.75	
9/5/2018	1:13:32 PM	10.92	77.46	1079.68	395.43	
9/5/2018	1:14:32 PM	10.66	77.46	1078.68	397.51	
9/5/2018	1:15:32 PM	10.4	77.79	1084.05	399.69	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/5/2018	1:16:32 PM	10.13	77.4	1085.85	401.82	
9/5/2018	1:17:32 PM	9.89	77.96	1072.34	403.78	
9/5/2018	1:18:32 PM	9.64	77.62	1088.31	405.74	
9/5/2018	1:19:33 PM	9.42	78.69	1111.68	407.81	
9/5/2018	1:20:33 PM	9.21	77.96	1123.33	410.06	
9/5/2018	1:21:33 PM	9.01	77.68	1122.77	411.85	
9/5/2018	1:22:33 PM	8.79	79.08	1128.04	412.58	
9/5/2018	1:23:33 PM	8.63	78.97	1140.76	412.69	
9/5/2018	1:24:33 PM	8.45	78.3	1149.05	412.58	
9/5/2018	1:25:33 PM	8.29	77.96	1153.98	412.63	
9/5/2018	1:26:33 PM	8.15	78.3	1180.71	412.8	
9/5/2018	1:27:33 PM	8.01	78.02	1199.48	413.19	
9/5/2018	1:28:33 PM	7.89	78.02	1234.16	414.15	
9/5/2018	1:29:33 PM	7.74	78.3	1269.35	415.21	
9/5/2018	1:30:33 PM	7.6	78.3	1314.4	416.33	
9/5/2018	1:31:33 PM	7.51	78.07	1333.73	417.4	
9/5/2018	1:32:33 PM	7.39	77.85	1292.27	418.57	
9/5/2018	1:33:33 PM	7.27	78.18	1268.62	419.25	
9/5/2018	1:34:33 PM	7.14	78.41	1258.03	419.47	
9/5/2018	1:35:33 PM	7.02	78.07	1250.24	419.47	
9/5/2018	1:36:33 PM	6.92	77.74	1244.14	419.36	
9/5/2018	1:37:33 PM	6.81	77.85	1240.66	419.25	
9/5/2018	1:38:33 PM	6.69	78.3	1237.58	419.41	
9/5/2018	1:39:34 PM	6.54	77.96	1211.13	419.58	
9/5/2018	1:40:34 PM	6.46	77.85	1198.81	419.69	
9/5/2018	1:41:34 PM	6.36	77.85	1190.68	420.25	
9/5/2018	1:42:34 PM	6.25	77.74	1183.06	420.93	
9/5/2018	1:43:34 PM	6.14	77.85	1168.77	421.6	
9/5/2018	1:44:34 PM	6.05	78.46	1160.99	421.93	
9/5/2018	1:45:34 PM	5.95	77.96	1152.3	421.93	
9/5/2018	1:46:34 PM	5.87	78.41	1148.55	421.49	
9/5/2018	1:47:34 PM	5.79	78.74	1143.22	420.87	
9/5/2018	1:48:34 PM	5.66	77.96	1136.22	419.97	
9/5/2018	1:49:34 PM	5.56	78.02	1135.38	418.85	
9/5/2018	1:50:34 PM	5.49	78.18	1143	417.62	
9/5/2018	1:51:34 PM	5.4	78.13	1150	416.28	
9/5/2018	1:52:34 PM	5.31	78.18	1156.28	415.21	
9/5/2018	1:53:34 PM	5.21	78.35	1155.38	414.48	
9/5/2018	1:54:34 PM	5.13	78.18	1163	414.48	
9/5/2018	1:55:35 PM	5.01	78.41	1180.54	415.27	
9/5/2018	1:56:35 PM	4.92	78.69	1180.43	416	
9/5/2018	1:57:35 PM	4.81	78.35	1171.86	416.61	
9/5/2018	1:58:35 PM	4.75	78.52	1167.54	417.45	
9/5/2018	1:59:35 PM	4.65	78.52	1168.33	418.52	
9/5/2018	2:00:35 PM	4.58	79.42	1148.6	419.64	
9/5/2018	2:01:35 PM	4.5	78.97	1120.25	420.65	
9/5/2018	2:02:35 PM	4.41	78.52	1095.15	421.71	
9/5/2018	2:03:35 PM	4.35	78.74	1091.67	422.38	
9/5/2018	2:04:35 PM	4.27	78.13	1081.2	422.72	
9/5/2018	2:05:35 PM	4.18	78.13	1071.34	422.55	
9/5/2018	2:06:35 PM	4.14	77.74	1064.16	421.93	
9/5/2018	2:07:35 PM	4.06	77.85	1057.5	421.21	
9/5/2018	2:08:35 PM	3.99	78.07	1053.18	419.81	
9/5/2018	2:09:35 PM	3.93	77.74	1061.64	418.18	
9/5/2018	2:10:35 PM	3.89	78.18	1062.54	416.56	
9/5/2018	2:11:35 PM	3.82	77.68	1059.74	414.48	
9/5/2018	2:12:36 PM	3.75	77.85	1056.99	412.3	
9/5/2018	2:13:36 PM	3.7	77.96	1049.32	410.06	
9/5/2018	2:14:36 PM	3.66	78.07	1032.56	407.59	
9/5/2018	2:15:36 PM	3.59	78.13	1015.14	405.41	
9/5/2018	2:16:36 PM	3.53	77.79	1006.62	402.94	
9/5/2018	2:17:36 PM	3.49	77.85	997.43	400.92	
9/5/2018	2:18:36 PM	3.44	77.79	995.13	399.07	
9/5/2018	2:19:36 PM	3.38	77.74	989.25	397.45	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/5/2018	2:20:36 PM	3.33	78.69	979.67	395.82	
9/5/2018	2:21:36 PM	3.29	78.18	984.15	393.92	
9/5/2018	2:22:36 PM	3.22	78.46	989.64	392.13	
9/5/2018	2:23:36 PM	3.19	78.52	996.76	390.56	
9/5/2018	2:24:36 PM	3.13	78.41	1006.12	388.88	
9/5/2018	2:25:36 PM	3.08	78.41	1013.68	387.59	
9/5/2018	2:26:36 PM	3.02	78.52	1016.14	386.41	
9/5/2018	2:27:36 PM	2.97	78.74	1013.85	385.29	
9/5/2018	2:28:36 PM	2.92	78.63	983.25	383.89	
9/5/2018	2:29:36 PM	2.88	78.35	969.86	382.43	
9/5/2018	2:30:36 PM	2.82	78.69	967.17	381.14	
9/5/2018	2:31:36 PM	2.77	78.74	968.18	379.97	
9/5/2018	2:32:36 PM	2.71	78.52	970.54	379.07	
9/5/2018	2:33:36 PM	2.66	78.41	972.22	378.51	
9/5/2018	2:34:36 PM	2.61	78.41	972.89	378.01	
9/5/2018	2:35:36 PM	2.55	78.74	958.38	377.39	
9/5/2018	2:36:36 PM	2.49	78.63	941.18	376.72	
9/5/2018	2:37:36 PM	2.43	78.8	929.35	376.55	
9/5/2018	2:38:36 PM	2.37	78.86	921.96	376.66	
9/5/2018	2:39:36 PM	2.32	78.74	912.49	376.94	
9/5/2018	2:40:36 PM	2.27	78.63	906.77	377.39	
9/5/2018	2:41:36 PM	2.22	78.69	907.5	378.01	
9/5/2018	2:42:36 PM	2.16	78.52	915.18	378.79	
9/5/2018	2:43:36 PM	2.1	78.8	925.71	379.69	
9/5/2018	2:44:36 PM	2.07	78.74	928.34	380.3	
9/5/2018	2:45:36 PM	2.04	78.74	931.93	380.75	
9/5/2018	2:46:36 PM	1.98	78.63	936.69	380.64	
9/5/2018	2:47:37 PM	1.93	78.41	935.8	379.97	
9/5/2018	2:48:37 PM	1.91	78.13	932.49	378.79	
9/5/2018	2:49:37 PM	1.86	78.52	930.19	377.5	
9/5/2018	2:50:37 PM	1.84	79.19	926.78	375.99	
9/5/2018	2:51:37 PM	1.8	78.74	925.32	374.25	
9/5/2018	2:52:37 PM	1.77	78.63	922.85	372.63	
9/5/2018	2:53:37 PM	1.75	78.41	921.45	371.06	
9/5/2018	2:54:37 PM	1.71	78.18	918.31	369.55	
9/5/2018	2:55:37 PM	1.68	77.79	913.83	367.98	
9/5/2018	2:56:37 PM	1.65	77.46	911.76	366.41	
9/5/2018	2:57:37 PM	1.61	77.46	911.03	364.78	
9/5/2018	2:58:37 PM	1.57	78.3	906.16	363.16	
9/5/2018	2:59:37 PM	1.54	77.12	900.78	361.65	
9/5/2018	3:00:37 PM	1.51	77.06	896.97	359.96	
9/5/2018	3:01:37 PM	1.47	77.12	897.47	358.62	
9/5/2018	3:02:37 PM	1.43	77.34	898.14	357.39	
9/5/2018	3:03:37 PM	1.41	76.89	897.86	356.1	
9/5/2018	3:04:37 PM	1.36	76.95	890.92	354.75	
9/5/2018	3:05:37 PM	1.33	77.06	880.21	353.24	
9/5/2018	3:06:37 PM	1.3	76.95	873.32	351.95	
9/5/2018	3:07:37 PM	1.26	76.89	870.74	350.78	
9/5/2018	3:08:37 PM	1.23	76.84	868.67	349.6	
9/5/2018	3:09:37 PM	1.19	76.78	867.49	348.65	
9/5/2018	3:10:37 PM	1.15	76.89	867.33	347.92	
9/5/2018	3:11:37 PM	1.13	76.56	867.83	347.13	
9/5/2018	3:12:37 PM	1.09	76.56	869.01	346.46	
9/5/2018	3:13:37 PM	1.06	76.5	868.73	345.84	
9/5/2018	3:14:37 PM	1.02	76.56	867.27	345.28	
9/5/2018	3:15:38 PM	0.99	76.45	866.71	344.84	
9/5/2018	3:16:38 PM	0.93	76.56	865.87	344.44	
9/5/2018	3:17:38 PM	0.92	76.56	863.46	344.11	
9/5/2018	3:18:38 PM	0.87	76.5	860.15	343.72	
9/5/2018	3:19:38 PM	0.83	76.39	857.74	343.49	
9/5/2018	3:20:38 PM	0.81	76.45	856.74	343.38	
9/5/2018	3:21:38 PM	0.77	76.73	855.67	343.1	
9/5/2018	3:22:38 PM	0.73	76.56	855.9	342.87	
9/5/2018	3:23:38 PM	0.71	76.39	858.14	342.82	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/5/2018	3:24:38 PM	0.66	76.17	859.87	342.76	
9/5/2018	3:25:38 PM	0.64	76.45	861.33	342.65	
9/5/2018	3:26:38 PM	0.6	76.45	857.86	342.48	
9/5/2018	3:27:38 PM	0.57	76.11	855.56	342.31	
9/5/2018	3:28:38 PM	0.54	76.11	855.34	342.03	
9/5/2018	3:29:38 PM	0.51	76.56	856.06	341.92	
9/5/2018	3:30:38 PM	0.48	76.22	855.84	341.75	
9/5/2018	3:31:38 PM	0.44	76.28	855.06	341.53	
9/5/2018	3:32:38 PM	0.41	76.05	855.22	341.31	
9/5/2018	3:33:38 PM	0.37	76.11	855	340.97	
9/5/2018	3:34:38 PM	0.35	76.11	854.33	340.69	
9/5/2018	3:35:38 PM	0.32	75.83	853.6	340.35	
9/5/2018	3:36:38 PM	0.28	76.11	852.93	340.07	
9/5/2018	3:37:38 PM	0.24	76.28	852.98	339.91	
9/5/2018	3:38:38 PM	0.23	76.11	852.76	339.57	
9/5/2018	3:39:38 PM	0.2	76.11	851.75	339.34	
9/5/2018	3:40:38 PM	0.15	76.45	851.53	339.18	
9/5/2018	3:41:38 PM	0.12	75.83	850.52	339.01	
9/5/2018	3:42:39 PM	0.09	75.83	851.3	338.84	
9/5/2018	3:43:39 PM	0	75.94	851.02	338.5	
9/10/2018	11:54:24 AM	11.68	70.62	304.33	88.66	**Added 12 lbs 20-23% MC, Medium High Air Setting**
9/10/2018	11:55:24 AM	11.61	70.45	650.6	98.07	
9/10/2018	11:56:24 AM	11.51	69.84	742.54	104.52	
9/10/2018	11:57:24 AM	11.42	69.95	797.46	110.35	
9/10/2018	11:58:24 AM	11.33	70.12	849.51	116.06	
9/10/2018	11:59:24 AM	11.24	69.84	873.38	119.81	
9/10/2018	12:00:24 PM	11.16	70.17	894.56	123.57	
9/10/2018	12:01:24 PM	11.07	70.12	898.7	127.55	
9/10/2018	12:02:24 PM	10.98	70.28	883.91	131.75	
9/10/2018	12:03:24 PM	10.9	70.4	876.01	136.51	
9/10/2018	12:04:24 PM	10.82	70.34	862.68	141.84	
9/10/2018	12:05:24 PM	10.77	70.17	838.19	147.05	
9/10/2018	12:06:24 PM	10.68	70.12	819.98	152.65	
9/10/2018	12:07:24 PM	10.62	70.34	809.5	157.69	
9/10/2018	12:08:24 PM	10.48	70.62	857.3	163.46	
9/10/2018	12:09:24 PM	10.39	71.01	934.28	170.13	
9/10/2018	12:10:25 PM	10.29	71.07	958.71	177.3	
9/10/2018	12:11:25 PM	10.2	71.52	960.79	183.91	
9/10/2018	12:12:25 PM	10.1	71.63	966.78	190.47	
9/10/2018	12:13:25 PM	9.98	71.63	988.91	197.36	
9/10/2018	12:14:25 PM	9.86	71.85	1049.43	205.49	
9/10/2018	12:15:25 PM	9.74	72.02	1095.54	215.18	
9/10/2018	12:16:25 PM	9.55	71.96	1161.27	226.61	
9/10/2018	12:17:25 PM	9.43	71.96	1143.5	237.14	
9/10/2018	12:18:25 PM	9.25	72.19	1187.1	248.07	
9/10/2018	12:19:25 PM	9.1	71.85	1195.84	259.95	
9/10/2018	12:20:25 PM	8.96	71.74	1169	270.54	
9/10/2018	12:21:25 PM	8.82	71.29	1147.99	279.95	
9/10/2018	12:22:25 PM	8.67	71.07	1155.77	288.52	
9/10/2018	12:23:25 PM	8.56	71.12	1144.57	296.65	
9/10/2018	12:24:25 PM	8.39	71.18	1150.23	305.56	
9/10/2018	12:25:25 PM	8.22	71.12	1139.92	314.52	
9/10/2018	12:26:25 PM	8.07	70.84	1141.43	323.66	
9/10/2018	12:27:25 PM	7.93	71.4	1165.47	332.4	
9/10/2018	12:28:25 PM	7.76	71.63	1187.26	337.66	
9/10/2018	12:29:25 PM	7.59	71.85	1184.97	341.08	
9/10/2018	12:30:25 PM	7.43	71.96	1195.33	344.39	
9/10/2018	12:31:25 PM	7.28	71.91	1173.31	347.02	
9/10/2018	12:32:25 PM	7.15	72.24	1179.7	349.88	
9/10/2018	12:33:25 PM	6.95	72.36	1203.18	353.63	
9/10/2018	12:34:25 PM	6.8	72.24	1208.11	357.5	
9/10/2018	12:35:25 PM	6.62	72.97	1216.12	361.36	
9/10/2018	12:36:25 PM	6.46	72.92	1209.62	365.51	
9/10/2018	12:37:25 PM	6.27	72.58	1211.47	369.04	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/10/2018	12:38:25 PM	6.1	72.58	1206.71	372.85	
9/10/2018	12:39:26 PM	5.94	72.75	1198.25	376.61	
9/10/2018	12:40:26 PM	5.76	72.97	1199.31	379.86	
9/10/2018	12:41:26 PM	5.61	72.58	1201.33	383.22	
9/10/2018	12:42:26 PM	5.46	72.86	1199.59	386.41	
9/10/2018	12:43:26 PM	5.3	72.92	1210.63	389.6	
9/10/2018	12:44:26 PM	5.14	73.03	1204.19	392.41	
9/10/2018	12:45:26 PM	5.01	72.97	1192.53	394.87	
9/10/2018	12:46:26 PM	4.87	73.03	1179.98	396.78	
9/10/2018	12:47:26 PM	4.73	73.2	1183.01	398.79	
9/10/2018	12:48:26 PM	4.57	73.14	1195.5	400.87	
9/10/2018	12:49:26 PM	4.4	73.65	1200.77	403.33	
9/10/2018	12:50:26 PM	4.27	73.53	1180.76	405.52	
9/10/2018	12:51:26 PM	4.12	73.81	1176.84	407.65	
9/10/2018	12:52:26 PM	3.97	73.65	1175.11	409.72	
9/10/2018	12:53:26 PM	3.83	73.98	1183.17	411.62	
9/10/2018	12:54:26 PM	3.69	73.65	1185.41	413.47	
9/10/2018	12:55:26 PM	3.54	73.65	1190.18	415.21	
9/10/2018	12:56:26 PM	3.4	73.81	1191.41	416.95	
9/10/2018	12:57:26 PM	3.26	73.98	1188.16	418.46	
9/10/2018	12:58:26 PM	3.12	73.98	1190.63	419.69	
9/10/2018	12:59:26 PM	3.02	73.93	1189.45	420.87	
9/10/2018	1:00:27 PM	2.9	74.21	1184.57	421.88	
9/10/2018	1:01:27 PM	2.77	74.15	1174.1	422.89	
9/10/2018	1:02:27 PM	2.67	74.37	1157.79	423.78	
9/10/2018	1:03:27 PM	2.54	74.37	1140.59	424.18	
9/10/2018	1:04:27 PM	2.46	74.37	1093.3	424.12	
9/10/2018	1:05:27 PM	2.35	74.26	1054.97	423.62	
9/10/2018	1:06:27 PM	2.28	74.49	1039.45	422.78	
9/10/2018	1:07:27 PM	2.23	74.04	1016.93	421.6	
9/10/2018	1:08:27 PM	2.15	74.32	996.31	420.65	
9/10/2018	1:09:27 PM	2.09	74.04	992.84	419.47	
9/10/2018	1:10:27 PM	2.02	74.32	973.22	417.96	
9/10/2018	1:11:27 PM	1.96	74.26	966.45	416.33	
9/10/2018	1:12:27 PM	1.9	74.04	965.44	414.48	
9/10/2018	1:13:27 PM	1.85	74.37	991.43	412.63	
9/10/2018	1:14:27 PM	1.78	74.26	1010.37	410.78	
9/10/2018	1:15:27 PM	1.75	74.54	1026.01	408.99	
9/10/2018	1:16:27 PM	1.67	74.37	1007.85	406.36	
9/10/2018	1:17:27 PM	1.63	74.6	1000.18	403.44	
9/10/2018	1:18:27 PM	1.61	74.37	1013.79	400.47	
9/10/2018	1:19:27 PM	1.54	74.54	992.22	396.78	
9/10/2018	1:20:27 PM	1.49	74.49	973.95	393.19	
9/10/2018	1:21:27 PM	1.44	74.37	959.44	389.72	
9/10/2018	1:22:27 PM	9.85	74.88	951.71	387.59	
9/10/2018	1:23:27 PM	19.07	74.82	792.36	388.88	**Added 19 lbs 20-23% MC, Medium High Air Setting**
9/10/2018	1:24:27 PM	18.83	75.38	861.27	389.38	
9/10/2018	1:25:28 PM	18.57	75.16	1058.5	389.1	
9/10/2018	1:26:28 PM	18.32	74.88	1175.16	388.99	
9/10/2018	1:27:28 PM	18.06	75.05	1201.38	388.65	
9/10/2018	1:28:28 PM	17.78	74.88	1233.83	388.43	
9/10/2018	1:29:28 PM	17.52	74.88	1261.67	388.54	
9/10/2018	1:30:28 PM	17.28	74.82	1267.05	388.48	
9/10/2018	1:31:28 PM	17.03	74.88	1302.52	389.38	
9/10/2018	1:32:28 PM	16.77	75.1	1291.15	390.33	
9/10/2018	1:33:28 PM	16.48	75.27	1292.66	391.12	
9/10/2018	1:34:28 PM	16.21	75.1	1296.69	391.85	
9/10/2018	1:35:28 PM	15.94	75.1	1295.85	392.97	
9/10/2018	1:36:28 PM	15.67	75.38	1295.57	394.09	
9/10/2018	1:37:28 PM	15.41	75.27	1287.22	395.1	
9/10/2018	1:38:28 PM	15.07	75.21	1282.63	395.99	
9/10/2018	1:39:28 PM	14.81	75.21	1273.27	396.78	
9/10/2018	1:40:28 PM	14.54	75.44	1261.51	397.45	
9/10/2018	1:41:28 PM	14.27	75.61	1256.18	398.29	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/10/2018	1:42:28 PM	14.01	75.21	1246.94	399.07	
9/10/2018	1:43:28 PM	13.74	75.55	1239.37	399.69	
9/10/2018	1:44:28 PM	13.46	75.38	1231.02	400.19	
9/10/2018	1:45:28 PM	13.22	75.21	1217.18	400.47	
9/10/2018	1:46:28 PM	12.94	75.77	1201.66	400.53	
9/10/2018	1:47:28 PM	12.68	75.49	1192.98	400.47	
9/10/2018	1:48:28 PM	12.43	75.89	1184.52	400.36	
9/10/2018	1:49:28 PM	12.15	75.77	1172.81	400.36	
9/10/2018	1:50:28 PM	11.9	75.61	1171.07	400.36	
9/10/2018	1:51:28 PM	11.65	75.94	1164.68	400.36	
9/10/2018	1:52:28 PM	11.41	75.72	1153.98	400.59	
9/10/2018	1:53:28 PM	11.15	75.77	1139.92	400.64	
9/10/2018	1:54:29 PM	10.91	75.89	1131.34	400.64	
9/10/2018	1:55:29 PM	10.66	76.39	1128.77	400.75	
9/10/2018	1:56:29 PM	10.43	76.5	1128.82	400.98	
9/10/2018	1:57:29 PM	10.2	76.28	1135.6	401.32	
9/10/2018	1:58:29 PM	9.98	76.73	1136.22	401.76	
9/10/2018	1:59:29 PM	9.76	76.39	1137.17	402.27	
9/10/2018	2:00:29 PM	9.53	76.45	1129.61	402.66	
9/10/2018	2:01:29 PM	9.33	76.61	1120.75	403.28	
9/10/2018	2:02:29 PM	9.1	76.61	1113.13	403.89	
9/10/2018	2:03:29 PM	8.93	77.29	1102.99	404.56	
9/10/2018	2:04:29 PM	8.7	77.74	1095.37	405.24	
9/10/2018	2:05:29 PM	8.49	77.51	1096.89	406.02	
9/10/2018	2:06:29 PM	8.31	77.62	1102.21	406.86	
9/10/2018	2:07:29 PM	8.12	77.85	1107.42	407.81	
9/10/2018	2:08:29 PM	7.95	77.79	1111.23	408.88	
9/10/2018	2:09:29 PM	7.76	78.02	1113.98	410.06	
9/10/2018	2:10:29 PM	7.61	77.74	1120.19	411.4	
9/10/2018	2:11:29 PM	7.46	78.02	1152.97	412.97	
9/10/2018	2:12:29 PM	7.29	77.85	1173.87	414.54	
9/10/2018	2:13:29 PM	7.13	78.07	1176.62	416.05	
9/10/2018	2:14:29 PM	7	77.85	1179.7	417.51	
9/10/2018	2:15:29 PM	6.85	78.13	1188.22	418.85	
9/10/2018	2:16:30 PM	6.7	78.02	1206.82	420.37	
9/10/2018	2:17:30 PM	6.58	78.3	1222.96	421.49	
9/10/2018	2:18:30 PM	6.46	78.18	1244.98	422.89	
9/10/2018	2:19:30 PM	6.33	78.69	1258.82	425.07	
9/10/2018	2:20:30 PM	6.23	78.18	1212.65	426.42	
9/10/2018	2:21:30 PM	6.12	78.35	1194.1	427.37	
9/10/2018	2:22:30 PM	6.01	78.52	1178.02	427.93	
9/10/2018	2:23:30 PM	5.91	78.41	1163.39	427.93	
9/10/2018	2:24:30 PM	5.79	78.63	1157.12	427.76	
9/10/2018	2:25:30 PM	5.69	78.46	1149.78	427.93	
9/10/2018	2:26:30 PM	5.6	78.13	1143	427.99	
9/10/2018	2:27:30 PM	5.47	78.69	1155.05	428.71	
9/10/2018	2:28:30 PM	5.36	78.41	1156.17	430.12	
9/10/2018	2:29:30 PM	5.24	78.69	1144.23	431.46	
9/10/2018	2:30:30 PM	5.15	78.63	1136.28	432.75	
9/10/2018	2:31:30 PM	5.03	78.35	1147.76	433.53	
9/10/2018	2:32:30 PM	4.95	78.13	1140.87	433.36	
9/10/2018	2:33:30 PM	4.88	78.13	1137.28	433.14	
9/10/2018	2:34:30 PM	4.78	78.07	1130	432.97	
9/10/2018	2:35:30 PM	4.72	78.41	1122.04	432.8	
9/10/2018	2:36:30 PM	4.67	78.02	1123.05	432.47	
9/10/2018	2:37:30 PM	4.6	77.74	1119.58	432.36	
9/10/2018	2:38:30 PM	4.53	77.74	1096.49	432.24	
9/10/2018	2:39:30 PM	4.47	77.62	1069.54	431.85	
9/10/2018	2:40:30 PM	4.42	77.34	1051.33	431.07	
9/10/2018	2:41:30 PM	4.36	77.18	1038.05	430.23	
9/10/2018	2:42:30 PM	4.3	77.34	1029.26	429.33	
9/10/2018	2:43:31 PM	4.25	77.4	1028.75	428.38	
9/10/2018	2:44:31 PM	4.2	77.18	1031.5	427.37	
9/10/2018	2:45:31 PM	4.15	77.29	1030.82	426.19	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/10/2018	2:46:31 PM	4.11	76.84	1025.17	425.02	
9/10/2018	2:47:31 PM	4.06	77.06	1011.1	423.5	
9/10/2018	2:48:31 PM	4.01	77.06	999.62	421.77	
9/10/2018	2:49:31 PM	3.98	76.89	991.49	419.92	
9/10/2018	2:50:31 PM	3.93	77.06	968.69	417.73	
9/10/2018	2:51:31 PM	3.9	77.18	949.75	415.1	
9/10/2018	2:52:31 PM	3.86	76.89	939.44	412.63	
9/10/2018	2:53:31 PM	3.82	77.46	932.71	409.94	
9/10/2018	2:54:31 PM	3.77	77.46	928.57	407.42	
9/10/2018	2:55:31 PM	3.73	77.34	925.09	405.07	
9/10/2018	2:56:31 PM	3.7	77.51	922.63	402.72	
9/10/2018	2:57:31 PM	3.67	77.34	923.58	400.98	
9/10/2018	2:58:31 PM	17.8	76.78	841.78	404.68	**Added 18 lbs 20-23% MC, Medium High Air Setting**
9/10/2018	2:59:31 PM	17.64	77.85	927.56	406.41	
9/10/2018	3:00:31 PM	17.43	77.79	1080.41	407.25	
9/10/2018	3:01:31 PM	17.19	77.85	1186.14	406.86	
9/10/2018	3:02:31 PM	16.96	77.96	1222.84	406.3	
9/10/2018	3:03:31 PM	16.74	78.86	1222.68	405.24	
9/10/2018	3:04:31 PM	16.51	79.02	1226.54	404.17	
9/10/2018	3:05:31 PM	16.29	79.36	1232.14	403.11	
9/10/2018	3:06:31 PM	16.06	79.19	1235.39	402.04	
9/10/2018	3:07:31 PM	15.84	79.3	1230.91	401.32	
9/10/2018	3:08:31 PM	15.6	79.75	1228.45	400.59	
9/10/2018	3:09:31 PM	15.37	79.53	1226.6	400.03	
9/10/2018	3:10:31 PM	15.14	79.7	1220.27	399.63	
9/10/2018	3:11:32 PM	14.92	79.75	1212.87	399.3	
9/10/2018	3:12:32 PM	14.67	80.03	1207.72	399.13	
9/10/2018	3:13:32 PM	14.45	80.31	1198.08	398.91	
9/10/2018	3:14:32 PM	14.22	79.98	1196.17	398.68	
9/10/2018	3:15:32 PM	13.98	79.98	1183.06	398.68	
9/10/2018	3:16:32 PM	13.75	79.75	1173.98	398.51	
9/10/2018	3:17:32 PM	13.53	80.37	1172.42	398.57	
9/10/2018	3:18:32 PM	13.3	80.26	1160.87	398.85	
9/10/2018	3:19:32 PM	13.06	80.82	1147.65	398.91	
9/10/2018	3:20:32 PM	12.84	80.14	1144.4	399.02	
9/10/2018	3:21:32 PM	12.62	80.59	1152.64	399.07	
9/10/2018	3:22:32 PM	12.39	80.48	1168.21	399.35	
9/10/2018	3:23:32 PM	12.18	81.15	1166.64	400.25	
9/10/2018	3:24:32 PM	11.99	80.82	1161.83	401.43	
9/10/2018	3:25:33 PM	11.78	80.59	1160.82	402.77	
9/10/2018	3:26:33 PM	11.56	80.59	1154.93	404.45	
9/10/2018	3:27:33 PM	11.34	80.82	1148.32	406.3	
9/10/2018	3:28:33 PM	11.12	82.05	1147.93	408.09	
9/10/2018	3:29:33 PM	10.93	80.76	1158.41	410.06	
9/10/2018	3:30:33 PM	10.74	81.38	1168.66	411.85	
9/10/2018	3:31:33 PM	10.56	80.93	1186.09	413.59	
9/10/2018	3:32:33 PM	10.39	81.38	1202.78	415.27	
9/10/2018	3:33:33 PM	10.23	82.95	1222.96	416.39	
9/10/2018	3:34:33 PM	10.09	80.99	1239.32	417.73	
9/10/2018	3:35:33 PM	9.94	81.32	1241.45	418.8	
9/10/2018	3:36:33 PM	9.79	81.38	1233.21	419.97	
9/10/2018	3:37:33 PM	9.64	81.99	1229.51	420.93	
9/10/2018	3:38:33 PM	9.49	81.49	1225.65	421.82	
9/10/2018	3:39:34 PM	9.35	81.15	1220.27	422.61	
9/10/2018	3:40:34 PM	9.17	81.1	1206.54	423.62	
9/10/2018	3:41:34 PM	9.01	81.1	1167.88	424.18	
9/10/2018	3:42:34 PM	8.84	81.43	1160.31	424.57	
9/10/2018	3:43:34 PM	8.66	81.38	1168.77	424.4	
9/10/2018	3:44:34 PM	8.5	81.38	1178.8	424.18	
9/10/2018	3:45:34 PM	8.34	81.38	1184.57	423.95	
9/10/2018	3:46:34 PM	8.19	81.77	1184.18	423.78	
9/10/2018	3:47:34 PM	8.04	81.38	1179.87	423.73	
9/10/2018	3:48:34 PM	7.89	81.66	1180.93	423.62	
9/10/2018	3:49:34 PM	7.74	81.49	1175.72	423.39	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/10/2018	3:50:34 PM	7.59	83.9	1172.36	423.17	
9/10/2018	3:51:34 PM	7.46	81.71	1168.38	423.06	
9/10/2018	3:52:34 PM	7.32	82.72	1169.56	422.78	
9/10/2018	3:53:34 PM	7.19	81.94	1168.1	422.61	
9/10/2018	3:54:35 PM	7.04	81.49	1160.59	422.78	
9/10/2018	3:55:35 PM	6.9	82.11	1149.44	423	
9/10/2018	3:56:35 PM	6.77	81.71	1146.36	423.28	
9/10/2018	3:57:35 PM	6.64	81.43	1143.67	423.62	
9/10/2018	3:58:35 PM	6.51	81.6	1147.09	423.9	
9/10/2018	3:59:35 PM	6.38	81.43	1150.45	424.18	
9/10/2018	4:00:35 PM	6.25	83.23	1145.63	424.79	
9/10/2018	4:01:35 PM	6.12	81.77	1136.78	425.35	
9/10/2018	4:02:35 PM	6.01	81.43	1134.99	426.08	
9/10/2018	4:03:35 PM	5.87	81.66	1132.97	426.87	
9/10/2018	4:04:35 PM	5.76	81.99	1133.64	427.48	
9/10/2018	4:05:35 PM	5.65	81.43	1137.96	428.38	
9/10/2018	4:06:35 PM	5.52	84.01	1145.3	429.11	
9/10/2018	4:07:36 PM	5.41	81.27	1152.64	430.23	
9/10/2018	4:08:36 PM	5.32	82.22	1159.08	431.12	
9/10/2018	4:09:36 PM	5.2	81.27	1161.43	431.91	
9/10/2018	4:10:36 PM	5.12	82.39	1158.35	432.41	
9/10/2018	4:11:36 PM	5.03	81.43	1141.54	432.69	
9/10/2018	4:12:36 PM	4.94	82.95	1122.6	432.58	
9/10/2018	4:13:36 PM	4.85	81.6	1105.68	431.91	
9/10/2018	4:14:36 PM	4.78	81.49	1091.34	431.07	
9/10/2018	4:15:36 PM	4.71	81.71	1082.32	429.67	
9/10/2018	4:16:36 PM	4.62	81.32	1071	428.49	
9/10/2018	4:17:36 PM	4.55	81.66	1058.5	427.09	
9/10/2018	4:18:36 PM	4.48	81.32	1047.75	425.91	
9/10/2018	4:19:36 PM	4.4	82.67	1043.71	424.62	
9/10/2018	4:20:36 PM	4.33	81.94	1037.1	423.5	
9/10/2018	4:21:36 PM	4.27	81.88	1026.06	422.38	
9/10/2018	4:22:37 PM	4.2	82.95	1023.93	421.49	
9/10/2018	4:23:37 PM	4.13	81.88	1017.04	420.59	
9/10/2018	4:24:37 PM	4.06	81.38	1017.15	419.97	
9/10/2018	4:25:37 PM	3.98	82.55	1017.94	419.41	
9/10/2018	4:26:37 PM	3.92	81.38	1013.57	419.02	
9/10/2018	4:27:37 PM	3.85	81.49	1001.07	418.18	
9/10/2018	4:28:37 PM	3.77	81.49	984.99	417.17	
9/10/2018	4:29:37 PM	3.72	82.22	976.81	416	
9/10/2018	4:30:37 PM	3.66	81.38	973.95	415.04	
9/10/2018	4:31:37 PM	3.6	81.49	972.33	414.2	
9/10/2018	4:32:37 PM	3.53	81.49	970.37	413.42	
9/10/2018	4:33:37 PM	3.47	81.6	962.13	412.58	
9/10/2018	4:34:37 PM	3.41	81.15	961.01	411.74	
9/10/2018	4:35:37 PM	3.35	83.23	961.4	410.78	
9/10/2018	4:36:38 PM	3.3	81.6	961.46	410.11	
9/10/2018	4:37:38 PM	3.24	81.27	958.66	409.44	
9/10/2018	4:38:38 PM	3.2	81.6	954.79	408.54	
9/10/2018	4:39:38 PM	3.13	81.38	951.71	407.76	
9/10/2018	4:40:38 PM	3.08	81.38	957.14	406.97	
9/10/2018	4:41:38 PM	3.02	81.38	953.45	406.19	
9/10/2018	4:42:38 PM	2.97	81.66	944.54	405.13	
9/10/2018	4:43:38 PM	2.91	81.66	938.37	404	
9/10/2018	4:44:38 PM	2.87	81.27	939.16	403.11	
9/10/2018	4:45:38 PM	2.83	81.27	938.09	402.21	
9/10/2018	4:46:38 PM	2.76	81.88	935.46	401.48	
9/10/2018	4:47:38 PM	2.7	81.6	930.92	400.87	
9/10/2018	4:48:38 PM	2.66	81.49	924.81	400.31	
9/10/2018	4:49:38 PM	2.61	81.71	919.04	400.03	
9/10/2018	4:50:38 PM	2.56	80.82	920.05	399.97	
9/10/2018	4:51:38 PM	2.5	81.43	934.06	399.86	
9/10/2018	4:52:38 PM	2.44	81.27	943.7	399.8	
9/10/2018	4:53:39 PM	2.4	81.15	950.76	399.8	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/10/2018	4:54:39 PM	2.36	81.66	951.6	399.63	
9/10/2018	4:55:39 PM	2.32	80.93	947.39	399.19	
9/10/2018	4:56:39 PM	2.25	81.88	942.02	398.74	
9/10/2018	4:57:39 PM	2.2	80.93	936.24	398.4	
9/10/2018	4:58:39 PM	2.16	81.49	928.01	397.84	
9/10/2018	4:59:39 PM	2.1	82.33	928.4	397.28	
9/10/2018	5:00:39 PM	2.05	81.1	927.22	396.78	
9/10/2018	5:01:39 PM	2	82.11	905.32	396.05	
9/10/2018	5:02:39 PM	1.94	81.71	884.7	395.15	
9/10/2018	5:03:39 PM	1.9	80.99	880.72	394.09	
9/10/2018	5:04:39 PM	1.84	81.04	882.17	392.97	
9/10/2018	5:05:39 PM	1.8	81.49	882.57	391.85	
9/10/2018	5:06:40 PM	1.73	80.93	882.57	390.67	
9/10/2018	5:07:40 PM	1.7	81.15	879.65	389.32	
9/10/2018	5:08:40 PM	1.65	80.71	880.55	387.92	
9/10/2018	5:09:40 PM	1.62	81.66	911.53	386.64	
9/10/2018	5:10:40 PM	1.59	81.04	930.47	385.46	
9/10/2018	5:11:40 PM	1.54	80.76	941.68	384.17	
9/10/2018	5:12:40 PM	1.51	81.15	945.43	382.71	
9/10/2018	5:13:40 PM	1.48	80.99	944.42	381.09	
9/10/2018	5:14:40 PM	1.44	81.49	942.63	379.13	
9/10/2018	5:15:40 PM	1.4	80.82	939.21	377.11	
9/10/2018	5:16:40 PM	1.38	80.93	934.4	375.37	
9/10/2018	5:17:40 PM	1.35	83.73	931.54	373.41	
9/10/2018	5:18:40 PM	1.31	81.38	926.16	371.39	
9/10/2018	5:19:40 PM	1.29	80.93	918.82	369.32	
9/10/2018	5:20:40 PM	1.24	81.04	911.98	367.3	
9/10/2018	5:21:41 PM	1.21	80.65	909.29	365.29	
9/10/2018	5:22:41 PM	1.19	81.27	907.67	363.33	
9/10/2018	5:23:41 PM	1.16	81.04	906.44	361.48	
9/10/2018	5:24:41 PM	1.13	81.04	905.15	359.68	
9/10/2018	5:25:41 PM	1.1	81.1	908.17	358.06	
9/10/2018	5:26:41 PM	1.06	80.82	908.85	356.55	
9/10/2018	5:27:41 PM	1.05	80.93	906.88	355.03	
9/10/2018	5:28:41 PM	1	81.04	904.31	353.58	
9/10/2018	5:29:41 PM	0.98	81.32	901.28	352.06	
9/10/2018	5:30:41 PM	0.95	80.99	899.1	350.66	
9/10/2018	5:31:41 PM	0.93	81.1	895.9	349.21	
9/10/2018	5:32:41 PM	0.9	80.48	892.65	347.81	
9/10/2018	5:33:42 PM	0.87	80.99	890.86	346.4	
9/10/2018	5:34:42 PM	0.84	80.65	887.72	345.06	
9/10/2018	5:35:42 PM	0.79	80.48	884.42	343.72	
9/10/2018	5:36:42 PM	0.77	80.65	879.15	342.43	
9/10/2018	5:37:42 PM	0.74	80.93	876.57	341.14	
9/10/2018	5:38:42 PM	0.71	81.43	873.43	340.13	
9/10/2018	5:39:42 PM	0.67	81.04	869.29	339.12	
9/10/2018	5:40:42 PM	0.64	80.76	863.07	338.17	
9/10/2018	5:41:42 PM	0.6	80.71	855.56	337.38	
9/10/2018	5:42:42 PM	0.58	80.76	849.23	336.71	
9/10/2018	5:43:42 PM	0.54	81.27	843.96	336.04	
9/10/2018	5:44:42 PM	0.52	80.82	839.48	335.42	
9/10/2018	5:45:42 PM	0.48	80.71	836.68	334.69	
9/10/2018	5:46:42 PM	0.45	80.37	835.78	334.19	
9/10/2018	5:47:42 PM	0.42	81.15	834.38	333.52	
9/10/2018	5:48:43 PM	0.39	80.59	834.66	333.13	
9/10/2018	5:49:43 PM	0.35	80.42	834.72	332.68	
9/10/2018	5:50:43 PM	0.32	80.48	834.77	332.17	
9/10/2018	5:51:43 PM	0.29	80.71	834.83	331.78	
9/10/2018	5:52:43 PM	0.27	81.15	834.38	331.33	
9/10/2018	5:53:43 PM	0.24	80.76	833.04	331.22	
9/10/2018	5:54:43 PM	0.2	80.42	832.19	331.11	
9/10/2018	5:55:43 PM	0.17	80.59	831.75	330.77	
9/10/2018	5:56:43 PM	0.13	80.48	831.24	330.6	
9/10/2018	5:57:43 PM	0.1	80.37	827.15	330.38	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/10/2018	5:58:43 PM	0	80.59	823.06	330.1	
9/24/2018	7:28:06 AM	11.83	62.78	112.25	66.25	**Added 12 lbs 20-23% MC, Medium High Air Setting**
9/24/2018	7:29:06 AM	11.77	62.66	135.22	67.26	
9/24/2018	7:30:06 AM	11.66	62.78	191.14	72.86	
9/24/2018	7:31:06 AM	11.34	62.66	330.04	87.43	
9/24/2018	7:32:06 AM	11.2	62.66	712.4	98.58	
9/24/2018	7:33:06 AM	11.03	62.66	916.07	108.5	
9/24/2018	7:34:06 AM	10.89	62.78	912.38	116.9	
9/24/2018	7:35:06 AM	10.78	62.83	930.92	123.18	
9/24/2018	7:36:06 AM	10.64	62.94	972.61	127.72	
9/24/2018	7:37:06 AM	10.5	63.17	966.33	132.42	
9/24/2018	7:38:06 AM	10.37	63.22	998.89	136.68	
9/24/2018	7:39:06 AM	10.23	63.56	1028.53	140.43	
9/24/2018	7:40:06 AM	10.08	63.5	1102.99	145.25	
9/24/2018	7:41:06 AM	9.87	63.56	1159.19	151.86	
9/24/2018	7:42:06 AM	9.68	63.56	1158.69	160.61	
9/24/2018	7:43:07 AM	9.51	64.34	1134.09	169.63	
9/24/2018	7:44:07 AM	9.33	64.68	1119.97	178.59	
9/24/2018	7:45:07 AM	9.14	64.06	1119.8	187.44	
9/24/2018	7:46:07 AM	8.94	64.06	1154.65	196.97	
9/24/2018	7:47:07 AM	8.75	63.62	1178.47	206.61	
9/24/2018	7:48:07 AM	8.53	63.62	1186.2	216.36	
9/24/2018	7:49:07 AM	8.33	63.73	1190.01	225.83	
9/24/2018	7:50:07 AM	8.13	63.95	1180.48	234.51	
9/24/2018	7:51:07 AM	7.93	63.78	1187.49	242.86	
9/24/2018	7:52:07 AM	7.73	63.78	1186.76	250.76	
9/24/2018	7:53:07 AM	7.49	63.73	1192.81	258.55	
9/24/2018	7:54:07 AM	7.29	63.78	1184.97	265.83	
9/24/2018	7:55:07 AM	7.1	64.34	1169.33	273.06	
9/24/2018	7:56:07 AM	6.92	64.4	1150.84	280.01	
9/24/2018	7:57:07 AM	6.75	64.29	1140.81	286.51	
9/24/2018	7:58:07 AM	6.58	64.34	1145.86	293.23	
9/24/2018	7:59:07 AM	6.4	64.34	1145.24	299.45	
9/24/2018	8:00:07 AM	6.22	64.29	1166.31	305.05	
9/24/2018	8:01:08 AM	6.04	64.79	1161.38	310.43	
9/24/2018	8:02:08 AM	5.85	64.74	1184.63	316.32	
9/24/2018	8:03:08 AM	5.7	64.29	1163.51	321.81	
9/24/2018	8:04:08 AM	5.57	64.57	1119.41	326.12	
9/24/2018	8:05:08 AM	5.44	65.35	1090.44	329.71	
9/24/2018	8:06:08 AM	5.31	65.52	1066.35	332.68	
9/24/2018	8:07:08 AM	5.19	64.9	1045.95	335.03	
9/24/2018	8:08:08 AM	5.08	65.07	1034.47	337.1	
9/24/2018	8:09:08 AM	4.96	64.96	1033.46	338.67	
9/24/2018	8:10:08 AM	4.83	65.02	1046.91	340.41	
9/24/2018	8:11:08 AM	4.7	65.24	1049.65	342.26	
9/24/2018	8:12:08 AM	4.58	65.24	1037.16	343.66	
9/24/2018	8:13:08 AM	4.47	64.96	1037.04	345	
9/24/2018	8:14:08 AM	4.28	64.9	1058.34	347.02	
9/24/2018	8:15:09 AM	4.2	65.35	1074.02	349.15	
9/24/2018	8:16:09 AM	4.08	64.9	1061.25	351.17	
9/24/2018	8:17:09 AM	3.93	64.79	1126.58	354.19	
9/24/2018	8:18:09 AM	3.8	65.35	1173.65	357.67	
9/24/2018	8:19:09 AM	3.68	65.07	1166.08	360.97	
9/24/2018	8:20:09 AM	3.56	65.02	1160.87	363.94	
9/24/2018	8:21:09 AM	3.43	65.69	1123	366.3	
9/24/2018	8:22:09 AM	3.28	65.63	1139.69	368.37	
9/24/2018	8:23:09 AM	3.15	65.69	1131.85	370.27	
9/24/2018	8:24:09 AM	3.04	65.41	1108.04	371.84	
9/24/2018	8:25:09 AM	2.92	66.19	1097.39	373.02	
9/24/2018	8:26:09 AM	2.81	65.74	1087.58	374.08	
9/24/2018	8:27:09 AM	2.7	65.74	1073.58	375.15	
9/24/2018	8:28:09 AM	2.59	66.7	1067.97	376.27	
9/24/2018	8:29:09 AM	2.47	66.53	1049.2	377.28	
9/24/2018	8:30:10 AM	2.37	66.31	1035.42	377.95	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/24/2018	8:31:10 AM	2.24	65.97	1055.76	378.96	
9/24/2018	8:32:10 AM	2.13	65.69	1061.31	380.3	
9/24/2018	8:33:10 AM	2.01	66.47	1046.35	381.54	
9/24/2018	8:34:10 AM	1.89	66.36	1046.29	383.05	
9/24/2018	8:35:10 AM	1.78	66.59	1042.26	384.84	
9/24/2018	8:36:10 AM	1.69	66.64	1030.88	386.58	
9/24/2018	8:37:10 AM	1.59	66.92	992	387.59	
9/24/2018	8:38:10 AM	1.52	66.81	957.26	388.09	
9/24/2018	8:39:10 AM	1.43	67.59	932.94	388.43	
9/24/2018	8:40:10 AM	1.38	67.37	922.01	388.82	
9/24/2018	8:41:10 AM	1.31	66.81	930.36	389.38	
9/24/2018	8:42:10 AM	1.23	66.87	920.78	389.88	
9/24/2018	8:43:10 AM	1.19	67.26	908.57	390.22	
9/24/2018	8:44:11 AM	1.12	67.59	896.01	389.94	
9/24/2018	8:45:11 AM	1.06	68.15	886.43	389.1	
9/24/2018	8:46:11 AM	1	66.92	873.1	387.7	
9/24/2018	8:47:11 AM	0.95	67.15	867.72	386.02	
9/24/2018	8:48:11 AM	0.89	66.81	859.48	384	
9/24/2018	8:49:11 AM	8.04	66.31	801.04	385.68	
9/24/2018	8:50:11 AM	19.55	67.15	826.87	389.88	**Added 19 lbs 20-23% MC, Medium High Air Setting**
9/24/2018	8:51:11 AM	19.33	66.81	1021.92	392.97	
9/24/2018	8:52:11 AM	19.08	66.53	1180.6	395.15	
9/24/2018	8:53:11 AM	18.84	68.83	1220.88	395.94	
9/24/2018	8:54:11 AM	18.61	67.87	1251.53	395.77	
9/24/2018	8:55:11 AM	18.35	66.64	1267.22	395.32	
9/24/2018	8:56:11 AM	18.1	67.37	1277.25	394.48	
9/24/2018	8:57:11 AM	17.83	67.93	1303.58	393.75	
9/24/2018	8:58:11 AM	17.55	67.76	1312.55	393.3	
9/24/2018	8:59:11 AM	17.29	67.37	1298.26	392.8	
9/24/2018	9:00:11 AM	17.02	67.26	1302.97	392.46	
9/24/2018	9:01:12 AM	16.73	67.54	1305.99	392.01	
9/24/2018	9:02:12 AM	16.45	67.37	1307.39	391.51	
9/24/2018	9:03:12 AM	16.19	67.82	1306.39	391.45	
9/24/2018	9:04:12 AM	15.91	67.65	1302.74	391.4	
9/24/2018	9:05:12 AM	15.62	67.93	1291.15	391.57	
9/24/2018	9:06:12 AM	15.34	66.87	1288.79	391.4	
9/24/2018	9:07:12 AM	15.06	67.82	1275.23	391.51	
9/24/2018	9:08:12 AM	14.77	67.48	1261.95	391.73	
9/24/2018	9:09:12 AM	14.5	67.65	1259.1	391.68	
9/24/2018	9:10:12 AM	14.22	67.59	1244.02	391.79	
9/24/2018	9:11:12 AM	13.9	66.92	1220.43	391.51	
9/24/2018	9:12:12 AM	13.63	65.97	1212.48	391.12	
9/24/2018	9:13:13 AM	13.36	65.91	1211.02	390.78	
9/24/2018	9:14:13 AM	13.09	65.74	1195.89	390.5	
9/24/2018	9:15:13 AM	12.81	65.69	1175.33	390.22	
9/24/2018	9:16:13 AM	12.53	65.58	1157.51	389.88	
9/24/2018	9:17:13 AM	12.27	65.74	1152.86	389.66	
9/24/2018	9:18:13 AM	12.02	66.08	1146.87	389.6	
9/24/2018	9:19:13 AM	11.76	66.02	1146.19	389.66	
9/24/2018	9:20:13 AM	11.48	65.91	1146.14	390.05	
9/24/2018	9:21:13 AM	11.22	66.47	1144.57	390.33	
9/24/2018	9:22:13 AM	10.99	66.59	1142.16	390.84	
9/24/2018	9:23:13 AM	10.73	66.59	1136.22	391.17	
9/24/2018	9:24:13 AM	10.47	66.19	1129.66	391.68	
9/24/2018	9:25:13 AM	10.23	66.47	1127.98	392.18	
9/24/2018	9:26:14 AM	9.95	66.53	1129.61	392.97	
9/24/2018	9:27:14 AM	9.72	66.31	1139.81	393.36	
9/24/2018	9:28:14 AM	9.52	68.21	1198.25	394.14	
9/24/2018	9:29:14 AM	9.3	67.37	1240.77	394.7	
9/24/2018	9:30:14 AM	9.08	67.2	1263.8	395.71	
9/24/2018	9:31:14 AM	8.87	66.47	1261.67	396.55	
9/24/2018	9:32:14 AM	8.68	66.31	1260.1	397.34	
9/24/2018	9:33:14 AM	8.53	66.7	1262.18	398.12	
9/24/2018	9:34:14 AM	8.35	67.37	1266.66	398.91	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/24/2018	9:35:14 AM	8.22	66.53	1285.6	401.04	
9/24/2018	9:36:14 AM	8.09	66.7	1267.61	403.11	
9/24/2018	9:37:14 AM	7.96	67.31	1241.5	403.33	
9/24/2018	9:38:14 AM	7.85	66.47	1217.3	402.94	
9/24/2018	9:39:15 AM	7.73	67.15	1206.26	402.55	
9/24/2018	9:40:15 AM	7.62	66.98	1202.11	402.21	
9/24/2018	9:41:15 AM	7.5	67.15	1203.91	401.99	
9/24/2018	9:42:15 AM	7.36	67.37	1169.11	401.54	
9/24/2018	9:43:15 AM	7.25	66.64	1161.6	401.15	
9/24/2018	9:44:15 AM	7.13	67.59	1162.44	400.81	
9/24/2018	9:45:15 AM	7.04	67.76	1170.29	400.64	
9/24/2018	9:46:15 AM	6.92	67.54	1174.66	400.59	
9/24/2018	9:47:15 AM	6.82	67.59	1174.38	400.53	
9/24/2018	9:48:15 AM	6.72	66.87	1160.76	400.19	
9/24/2018	9:49:15 AM	6.6	67.2	1159.25	399.52	
9/24/2018	9:50:15 AM	6.51	67.48	1157.62	398.4	
9/24/2018	9:51:16 AM	6.42	67.93	1153.81	397	
9/24/2018	9:52:16 AM	6.29	67.59	1157.29	395.94	
9/24/2018	9:53:16 AM	6.18	67.76	1163.62	395.38	
9/24/2018	9:54:16 AM	6.04	66.98	1172.25	395.38	
9/24/2018	9:55:16 AM	5.93	67.54	1182.95	395.94	
9/24/2018	9:56:16 AM	5.79	67.65	1191.41	396.94	
9/24/2018	9:57:16 AM	5.68	67.76	1192.31	398.23	
9/24/2018	9:58:16 AM	5.56	68.1	1196.17	399.47	
9/24/2018	9:59:16 AM	5.46	67.76	1188.78	401.04	
9/24/2018	10:00:16 AM	5.33	68.21	1182.5	402.94	
9/24/2018	10:01:16 AM	5.21	67.82	1192.64	404.23	
9/24/2018	10:02:16 AM	5.13	66.87	1161.88	405.41	
9/24/2018	10:03:16 AM	5.03	66.98	1121.32	406.08	
9/24/2018	10:04:16 AM	4.93	67.37	1115.04	406.64	
9/24/2018	10:05:16 AM	4.85	67.93	1096.66	407.14	
9/24/2018	10:06:16 AM	4.76	67.59	1076.1	407.53	
9/24/2018	10:07:16 AM	4.66	67.87	1056.38	407.59	
9/24/2018	10:08:16 AM	4.61	68.27	1037.16	407.25	
9/24/2018	10:09:16 AM	4.53	67.48	1021.86	406.97	
9/24/2018	10:10:17 AM	4.48	68.71	1008.24	406.3	
9/24/2018	10:11:17 AM	4.42	68.55	1002.25	405.13	
9/24/2018	10:12:17 AM	4.36	68.04	986.39	403.95	
9/24/2018	10:13:17 AM	4.26	68.49	972.78	402.55	
9/24/2018	10:14:17 AM	4.21	68.55	966.16	401.04	
9/24/2018	10:15:17 AM	4.13	68.55	960.39	399.63	
9/24/2018	10:16:17 AM	4.08	67.65	952.38	398.4	
9/24/2018	10:17:17 AM	4.02	68.27	939.16	396.89	
9/24/2018	10:18:17 AM	3.97	68.15	929.3	395.32	
9/24/2018	10:19:17 AM	3.93	67.2	921.68	393.92	
9/24/2018	10:20:17 AM	3.87	67.54	917.03	392.52	
9/24/2018	10:21:18 AM	3.81	67.15	915.23	391.17	
9/24/2018	10:22:18 AM	3.76	67.65	912.94	389.88	
9/24/2018	10:23:18 AM	3.72	68.21	907.84	388.48	
9/24/2018	10:24:18 AM	3.66	67.15	903.07	387.2	
9/24/2018	10:25:18 AM	18.59	67.59	842.73	389.66	**Added 15 lbs 20-23% MC, Medium High Air Setting**
9/24/2018	10:26:18 AM	18.38	67.87	957.87	392.52	
9/24/2018	10:27:18 AM	18.17	67.76	1113.69	394.98	
9/24/2018	10:28:18 AM	17.94	68.04	1183.29	395.94	
9/24/2018	10:29:18 AM	17.71	67.37	1214.83	396.05	
9/24/2018	10:30:18 AM	17.5	67.54	1239.37	395.77	
9/24/2018	10:31:18 AM	17.28	67.65	1268.06	395.82	
9/24/2018	10:32:18 AM	17.04	67.76	1282.74	396.05	
9/24/2018	10:33:18 AM	16.81	67.76	1294.73	396.38	
9/24/2018	10:34:18 AM	16.56	67.76	1303.25	396.78	
9/24/2018	10:35:18 AM	16.3	67.2	1299.27	397.28	
9/24/2018	10:36:18 AM	16.05	67.59	1292.21	397.62	
9/24/2018	10:37:19 AM	15.79	67.2	1284.14	398.18	
9/24/2018	10:38:19 AM	15.54	67.87	1279.55	398.51	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/24/2018	10:39:19 AM	15.28	67.65	1269.52	398.68	
9/24/2018	10:40:19 AM	15.02	68.04	1258.87	399.02	
9/24/2018	10:41:19 AM	14.77	67.48	1247.78	399.3	
9/24/2018	10:42:19 AM	14.52	66.98	1226.93	399.47	
9/24/2018	10:43:19 AM	14.24	68.49	1210.24	399.41	
9/24/2018	10:44:19 AM	13.99	67.2	1202.84	399.3	
9/24/2018	10:45:19 AM	13.75	66.92	1193.54	399.19	
9/24/2018	10:46:19 AM	13.47	67.26	1173.87	399.3	
9/24/2018	10:47:19 AM	13.2	66.81	1161.04	399.07	
9/24/2018	10:48:19 AM	12.96	67.03	1158.91	398.79	
9/24/2018	10:49:19 AM	12.68	67.48	1169.61	398.51	
9/24/2018	10:50:20 AM	12.46	67.65	1178.02	398.4	
9/24/2018	10:51:20 AM	12.23	69.95	1174.21	398.68	
9/24/2018	10:52:20 AM	11.98	67.76	1183.34	399.3	
9/24/2018	10:53:20 AM	11.77	66.98	1223.91	400.25	
9/24/2018	10:54:20 AM	11.58	67.2	1206.37	401.71	
9/24/2018	10:55:20 AM	11.38	67.15	1190.12	402.72	
9/24/2018	10:56:20 AM	11.21	67.37	1193.37	403.16	
9/24/2018	10:57:20 AM	11.04	66.98	1195.84	403.89	
9/24/2018	10:58:20 AM	10.85	67.76	1189.62	404.28	
9/24/2018	10:59:20 AM	10.67	67.37	1181.66	404.56	
9/24/2018	11:00:20 AM	10.49	67.76	1171.07	404.79	
9/24/2018	11:01:20 AM	10.32	68.55	1180.43	405.18	
9/24/2018	11:02:20 AM	10.14	69.16	1174.71	405.85	
9/24/2018	11:03:20 AM	9.95	69.33	1169.84	406.75	
9/24/2018	11:04:20 AM	9.78	69.33	1203.01	407.7	
9/24/2018	11:05:21 AM	9.6	69.78	1219.15	408.71	
9/24/2018	11:06:21 AM	9.41	70.51	1215.39	409.89	
9/24/2018	11:07:21 AM	9.21	71.01	1223.8	411.06	
9/24/2018	11:08:21 AM	9.04	70.96	1210.91	411.68	
9/24/2018	11:09:21 AM	8.81	71.01	1197.74	412.52	
9/24/2018	11:10:21 AM	8.62	71.35	1189.79	413.31	
9/24/2018	11:11:21 AM	8.44	71.57	1198.13	414.31	
9/24/2018	11:12:21 AM	8.23	71.85	1204.75	415.49	
9/24/2018	11:13:21 AM	8.06	72.08	1224.64	417.17	
9/24/2018	11:14:21 AM	7.91	72.24	1219.15	419.02	
9/24/2018	11:15:21 AM	7.76	71.68	1215.28	421.09	
9/24/2018	11:16:21 AM	7.58	72.58	1216.23	423.17	
9/24/2018	11:17:22 AM	7.43	72.64	1210.01	425.07	
9/24/2018	11:18:22 AM	7.31	72.36	1209.12	426.81	
9/24/2018	11:19:22 AM	7.19	72.52	1201.05	428.21	
9/24/2018	11:20:22 AM	7.05	72.64	1191.63	428.94	
9/24/2018	11:21:22 AM	6.92	72.52	1185.08	429.33	
9/24/2018	11:22:22 AM	6.79	72.69	1180.04	429.55	
9/24/2018	11:23:22 AM	6.65	71.68	1161.6	429.67	
9/24/2018	11:24:22 AM	6.53	72.3	1161.32	429.72	
9/24/2018	11:25:22 AM	6.4	73.2	1163.34	429.95	
9/24/2018	11:26:22 AM	6.28	73.14	1167.6	430.4	
9/24/2018	11:27:22 AM	6.15	73.48	1177.07	430.9	
9/24/2018	11:28:22 AM	6.03	72.75	1196.73	431.8	
9/24/2018	11:29:22 AM	5.89	72.86	1207.38	432.92	
9/24/2018	11:30:22 AM	5.78	72.97	1203.4	433.98	
9/24/2018	11:31:22 AM	5.62	72.52	1202.73	435.16	
9/24/2018	11:32:22 AM	5.52	73.36	1204.41	436.22	
9/24/2018	11:33:23 AM	5.38	73.87	1202.84	437.34	
9/24/2018	11:34:23 AM	5.23	73.93	1195.67	438.63	
9/24/2018	11:35:23 AM	5.1	73.98	1184.07	440.2	
9/24/2018	11:36:23 AM	4.97	73.36	1182.95	441.99	
9/24/2018	11:37:23 AM	4.83	72.75	1177.23	443.67	
9/24/2018	11:38:23 AM	4.68	74.32	1166.64	445.3	
9/24/2018	11:39:23 AM	4.55	73.25	1164.35	446.53	
9/24/2018	11:40:23 AM	4.43	73.81	1180.54	447.88	
9/24/2018	11:41:23 AM	4.32	74.26	1180.04	449.39	
9/24/2018	11:42:23 AM	4.2	73.65	1171.58	450.68	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/24/2018	11:43:23 AM	4.09	74.15	1182.89	451.8	
9/24/2018	11:44:23 AM	4	73.81	1197.24	452.75	
9/24/2018	11:45:23 AM	3.88	71.68	1181.16	452.36	
9/24/2018	11:46:23 AM	3.82	73.7	1136.28	450.73	
9/24/2018	11:47:24 AM	3.75	74.21	1089.38	447.76	
9/24/2018	11:48:24 AM	3.67	72.75	1056.94	444.57	
9/24/2018	11:49:24 AM	3.6	71.68	1033.35	441.1	
9/24/2018	11:50:24 AM	3.55	73.59	1024.89	437.46	
9/24/2018	11:51:24 AM	3.5	72.92	1019.62	433.98	
9/24/2018	11:52:24 AM	3.42	73.93	1012.56	430.4	
9/24/2018	11:53:24 AM	3.37	75.44	1005.11	426.87	
9/24/2018	11:54:24 AM	3.32	75.1	994.24	423.39	
9/24/2018	11:55:24 AM	3.27	75.05	984.77	420.09	
9/24/2018	11:56:24 AM	3.19	74.32	977.88	417.12	
9/24/2018	11:57:24 AM	3.14	74.77	975.3	414.48	
9/24/2018	11:58:24 AM	3.09	75.05	976.42	412.35	
9/24/2018	11:59:24 AM	3.02	75.16	971.26	410.34	
9/24/2018	12:00:24 PM	2.97	74.88	971.54	408.38	
9/24/2018	12:01:24 PM	2.92	74.54	970.98	406.41	
9/24/2018	12:02:24 PM	2.84	74.26	962.3	404.28	
9/24/2018	12:03:24 PM	2.78	72.02	961.23	402.38	
9/24/2018	12:04:24 PM	2.75	71.91	966.28	400.81	
9/24/2018	12:05:25 PM	2.7	71.4	970.7	399.13	
9/24/2018	12:06:25 PM	2.63	72.41	972.38	397.79	
9/24/2018	12:07:25 PM	2.58	72.3	967.57	396.33	
9/24/2018	12:08:25 PM	2.53	71.96	964.2	395.04	
9/24/2018	12:09:25 PM	2.48	72.02	968.85	394.14	
9/24/2018	12:10:25 PM	2.42	71.29	970.14	393.58	
9/24/2018	12:11:25 PM	2.37	71.35	970.37	393.25	
9/24/2018	12:12:25 PM	2.32	71.63	965.83	392.8	
9/24/2018	12:13:25 PM	2.26	70.96	963.53	392.24	
9/24/2018	12:14:25 PM	2.21	71.85	962.52	391.57	
9/24/2018	12:15:25 PM	2.15	71.85	956.42	390.67	
9/24/2018	12:16:25 PM	2.08	71.63	950.92	389.83	
9/24/2018	12:17:25 PM	2.04	71.57	945.66	388.88	
9/24/2018	12:18:25 PM	2	70.73	944.99	388.2	
9/24/2018	12:19:25 PM	1.93	70.84	944.54	387.53	
9/24/2018	12:20:25 PM	1.9	71.63	947.9	386.92	
9/24/2018	12:21:25 PM	1.85	71.52	949.41	386.3	
9/24/2018	12:22:25 PM	1.82	70.68	946.22	385.63	
9/24/2018	12:23:25 PM	1.77	71.12	943.53	384.84	
9/24/2018	12:24:25 PM	1.72	71.74	940.28	384.11	
9/24/2018	12:25:25 PM	1.65	70.96	941.18	383.55	
9/24/2018	12:26:26 PM	1.65	71.12	939.05	383.05	
9/24/2018	12:27:26 PM	1.59	71.29	936.3	382.77	
9/24/2018	12:28:26 PM	1.52	71.01	935.74	382.66	
9/24/2018	12:29:26 PM	1.48	71.07	937.42	382.38	
9/24/2018	12:30:26 PM	1.44	70.96	938.71	381.7	
9/24/2018	12:31:26 PM	1.39	71.35	940.17	380.86	
9/24/2018	12:32:26 PM	1.36	70.84	938.21	379.86	
9/24/2018	12:33:26 PM	1.31	71.4	934.68	378.68	
9/24/2018	12:34:26 PM	1.25	70.96	938.49	377.05	
9/24/2018	12:35:26 PM	1.2	71.07	937.7	375.37	
9/24/2018	12:36:26 PM	1.2	70.34	935.85	373.3	
9/24/2018	12:37:26 PM	1.15	71.57	937.2	371.28	
9/24/2018	12:38:26 PM	1.11	70.73	931.93	369.32	
9/24/2018	12:39:26 PM	1.09	70.84	921.51	367.42	
9/24/2018	12:40:27 PM	1.06	73.59	914.78	365.57	
9/24/2018	12:41:27 PM	1.03	72.08	909.07	363.72	
9/24/2018	12:42:27 PM	0.99	73.25	903.35	362.09	
9/24/2018	12:43:27 PM	0.95	72.02	903.02	360.64	
9/24/2018	12:44:27 PM	0.92	72.02	901.84	359.35	
9/24/2018	12:45:27 PM	0.87	71.07	899.26	357.95	
9/24/2018	12:46:27 PM	0.85	71.4	897.75	356.55	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/24/2018	12:47:27 PM	0.83	70.17	899.88	355.15	
9/24/2018	12:48:27 PM	0.81	71.85	908	353.8	
9/24/2018	12:49:27 PM	0.76	75.21	911.03	352.51	
9/24/2018	12:50:27 PM	0.73	72.52	910.64	351.17	
9/24/2018	12:51:27 PM	0.69	72.36	910.81	350.1	
9/24/2018	12:52:27 PM	0.66	72.52	910.13	348.98	
9/24/2018	12:53:27 PM	0.63	71.85	908.23	347.92	
9/24/2018	12:54:27 PM	0.59	71.4	904.92	346.8	
9/24/2018	12:55:27 PM	0.55	72.08	900.94	345.79	
9/24/2018	12:56:27 PM	0.5	71.63	898.14	344.61	
9/24/2018	12:57:27 PM	0.48	71.4	895.17	343.38	
9/24/2018	12:58:27 PM	0.43	71.29	890.07	342.09	
9/24/2018	12:59:28 PM	0.42	71.52	881.05	340.91	
9/24/2018	1:00:28 PM	0.39	70.96	872.31	339.51	
9/24/2018	1:01:28 PM	0.36	71.07	863.18	338.34	
9/24/2018	1:02:28 PM	0.32	71.12	855.39	337.16	
9/24/2018	1:03:28 PM	0.3	70.84	849.73	336.15	
9/24/2018	1:04:28 PM	0.27	70.79	844.63	335.14	
9/24/2018	1:05:28 PM	0.23	70.79	840.99	334.08	
9/24/2018	1:06:28 PM	0.2	70.84	838.36	333.13	
9/24/2018	1:07:28 PM	0.17	71.01	835.78	332.23	
9/24/2018	1:08:28 PM	0.15	71.01	832.42	331.5	
9/24/2018	1:09:28 PM	0.12	70.96	830.57	330.6	
9/24/2018	1:10:28 PM	0	70.84	828.78	329.65	
9/25/2018	6:26:32 AM	11.35	64.74	605.16	114.72	**Added 12 lbs 20-23% MC, Medium High Air Setting**
9/25/2018	6:27:32 AM	11.31	64.79	577.98	115.56	
9/25/2018	6:28:33 AM	11.26	64.96	573.95	116.96	
9/25/2018	6:29:33 AM	11.19	65.02	582.35	118.64	
9/25/2018	6:30:33 AM	11.13	65.13	624.88	120.94	
9/25/2018	6:31:33 AM	11.08	65.13	636.48	123.12	
9/25/2018	6:32:33 AM	10.98	64.96	608.24	124.8	
9/25/2018	6:33:33 AM	10.91	65.35	663.04	127.49	
9/25/2018	6:34:33 AM	10.85	65.35	691.72	130.4	
9/25/2018	6:35:33 AM	10.78	65.41	689.76	133.09	
9/25/2018	6:36:33 AM	10.69	65.41	715.76	135.95	
9/25/2018	6:37:33 AM	10.61	65.58	749.55	139.37	
9/25/2018	6:38:33 AM	10.54	65.52	768.88	142.84	
9/25/2018	6:39:33 AM	10.45	65.63	779.3	146.21	
9/25/2018	6:40:33 AM	10.36	65.63	789.22	149.51	
9/25/2018	6:41:33 AM	10.26	65.63	794.77	152.82	
9/25/2018	6:42:33 AM	10.16	65.69	811.58	156.68	
9/25/2018	6:43:33 AM	10.06	65.74	841.66	160.77	
9/25/2018	6:44:34 AM	9.91	65.63	865.48	165.42	
9/25/2018	6:45:34 AM	9.82	65.58	894.95	170.3	
9/25/2018	6:46:34 AM	9.79	65.69	899.26	174.84	
9/25/2018	6:47:34 AM	9.61	65.86	910.25	179.32	
9/25/2018	6:48:34 AM	9.45	65.86	953.89	184.59	
9/25/2018	6:49:34 AM	9.32	65.69	982.86	190.41	
9/25/2018	6:50:34 AM	9.16	65.74	1006.17	196.52	
9/25/2018	6:51:34 AM	9.02	65.58	1022.81	203.3	
9/25/2018	6:52:34 AM	8.88	65.63	1045.39	210.36	
9/25/2018	6:53:34 AM	8.73	65.69	1092.74	218.09	
9/25/2018	6:54:34 AM	8.58	65.52	1105.85	225.71	
9/25/2018	6:55:34 AM	8.42	66.25	1116.44	233.22	
9/25/2018	6:56:34 AM	8.27	65.74	1121.2	240.11	
9/25/2018	6:57:35 AM	8.11	65.86	1109.16	247.12	
9/25/2018	6:58:35 AM	7.95	65.91	1110.39	253.56	
9/25/2018	6:59:35 AM	7.75	66.36	1117.51	260.12	
9/25/2018	7:00:35 AM	7.6	65.91	1149.67	266.84	
9/25/2018	7:01:35 AM	7.41	65.86	1141.37	273.4	
9/25/2018	7:02:35 AM	7.2	65.91	1180.6	280.29	
9/25/2018	7:03:35 AM	7.03	65.91	1179.08	287.63	
9/25/2018	7:04:35 AM	6.84	66.64	1189.11	294.52	
9/25/2018	7:05:35 AM	6.67	66.08	1187.71	301.24	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	7:06:35 AM	6.5	66.02	1175.83	307.24	
9/25/2018	7:07:35 AM	6.34	65.97	1146.87	312.45	
9/25/2018	7:08:36 AM	6.18	65.74	1136.33	316.93	
9/25/2018	7:09:36 AM	6.01	65.86	1132.19	321.25	
9/25/2018	7:10:36 AM	5.86	66.02	1121.99	325.34	
9/25/2018	7:11:36 AM	5.7	65.97	1109.77	328.92	
9/25/2018	7:12:36 AM	5.55	65.97	1120.64	332.68	
9/25/2018	7:13:36 AM	5.44	65.97	1099.58	336.04	
9/25/2018	7:14:36 AM	5.27	65.97	1099.8	339.29	
9/25/2018	7:15:36 AM	5.13	66.02	1110.33	342.93	
9/25/2018	7:16:36 AM	4.98	65.97	1132.13	346.74	
9/25/2018	7:17:36 AM	4.83	66.08	1175.61	351	
9/25/2018	7:18:36 AM	4.66	66.53	1200.21	355.54	
9/25/2018	7:19:36 AM	4.51	66.53	1211.86	360.02	
9/25/2018	7:20:37 AM	4.35	66.81	1214.05	364.5	
9/25/2018	7:21:37 AM	4.21	66.31	1197.24	368.71	
9/25/2018	7:22:37 AM	4.06	66.31	1186.7	372.46	
9/25/2018	7:23:37 AM	3.9	66.31	1183.01	376.27	
9/25/2018	7:24:37 AM	3.75	66.53	1176.95	379.69	
9/25/2018	7:25:37 AM	3.6	66.53	1189.51	383.16	
9/25/2018	7:26:37 AM	3.47	66.31	1205.42	386.69	
9/25/2018	7:27:37 AM	3.33	66.47	1211.47	390.05	
9/25/2018	7:28:37 AM	3.19	66.47	1217.97	393.36	
9/25/2018	7:29:37 AM	3.05	66.31	1213.71	396.27	
9/25/2018	7:30:37 AM	2.92	66.36	1214.21	398.91	
9/25/2018	7:31:37 AM	2.77	66.47	1193.2	401.2	
9/25/2018	7:32:37 AM	2.65	66.31	1173.82	403	
9/25/2018	7:33:37 AM	2.52	66.31	1162.05	404.4	
9/25/2018	7:34:37 AM	2.42	66.53	1155.77	405.52	
9/25/2018	7:35:37 AM	2.29	66.25	1161.55	406.69	
9/25/2018	7:36:38 AM	2.16	66.59	1178.3	407.98	
9/25/2018	7:37:38 AM	2.05	66.47	1170.51	408.82	
9/25/2018	7:38:38 AM	1.94	66.59	1162.89	410.22	
9/25/2018	7:39:38 AM	1.85	66.59	1142.21	412.07	
9/25/2018	7:40:38 AM	1.73	66.64	1144.68	414.76	
9/25/2018	7:41:38 AM	1.63	66.53	1158.8	417.62	
9/25/2018	7:42:38 AM	1.52	66.81	1143.9	420.42	
9/25/2018	7:43:38 AM	1.42	66.81	1137.73	422.89	
9/25/2018	7:44:38 AM	1.33	66.53	1115.1	424.34	
9/25/2018	7:45:38 AM	1.27	66.47	1081.93	424.9	
9/25/2018	7:46:38 AM	1.19	66.31	1035.81	424.4	
9/25/2018	7:47:38 AM	1.11	66.31	994.74	423.17	
9/25/2018	7:48:38 AM	1.07	66.64	968.07	421.21	
9/25/2018	7:49:38 AM	1.39	66.31	915.96	420.98	
9/25/2018	7:50:38 AM	19.43	66.59	809.17	423.73	**Added 18 lbs 20-23% MC, Medium High Air Setting**
9/25/2018	7:51:38 AM	19.25	66.59	885.37	424.96	
9/25/2018	7:52:39 AM	19.04	66.64	1124.96	424.85	
9/25/2018	7:53:39 AM	18.81	66.7	1254.67	424.68	
9/25/2018	7:54:39 AM	18.56	66.59	1290.92	424.29	
9/25/2018	7:55:39 AM	18.31	66.64	1307.11	423.11	
9/25/2018	7:56:39 AM	18.05	67.03	1314.45	421.49	
9/25/2018	7:57:39 AM	17.81	67.2	1328.52	420.03	
9/25/2018	7:58:39 AM	17.56	67.37	1332.55	418.52	
9/25/2018	7:59:39 AM	17.32	68.49	1348.19	417.17	
9/25/2018	8:00:39 AM	17.06	67.37	1363.26	416.16	
9/25/2018	8:01:39 AM	16.81	67.59	1371.1	415.32	
9/25/2018	8:02:39 AM	16.56	68.1	1360.68	414.65	
9/25/2018	8:03:39 AM	16.29	67.65	1352.39	413.75	
9/25/2018	8:04:39 AM	16.05	67.59	1362.19	413.14	
9/25/2018	8:05:40 AM	15.78	68.15	1371.89	412.69	
9/25/2018	8:06:40 AM	15.53	67.59	1374.86	412.35	
9/25/2018	8:07:40 AM	15.26	67.15	1372.22	412.19	
9/25/2018	8:08:40 AM	15	67.93	1371.27	412.02	
9/25/2018	8:09:40 AM	14.73	67.82	1356.53	411.74	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	8:10:40 AM	14.47	67.87	1351.04	411.12	
9/25/2018	8:11:40 AM	14.25	67.82	1336.81	410.39	
9/25/2018	8:12:40 AM	13.98	67.76	1327.45	409.72	
9/25/2018	8:13:40 AM	13.73	68.04	1313	409.1	
9/25/2018	8:14:40 AM	13.47	67.76	1297.31	408.32	
9/25/2018	8:15:40 AM	13.21	67.48	1272.43	407.59	
9/25/2018	8:16:40 AM	12.96	68.43	1244.81	406.53	
9/25/2018	8:17:40 AM	12.69	68.15	1220.15	405.24	
9/25/2018	8:18:40 AM	12.43	67.93	1211.58	403.89	
9/25/2018	8:19:40 AM	12.19	68.15	1203.01	402.72	
9/25/2018	8:20:40 AM	11.92	68.27	1198.75	401.54	
9/25/2018	8:21:41 AM	11.68	68.1	1200.38	400.64	
9/25/2018	8:22:41 AM	11.44	68.71	1193.43	399.86	
9/25/2018	8:23:41 AM	11.21	68.49	1187.82	399.3	
9/25/2018	8:24:41 AM	10.96	68.1	1186.14	398.79	
9/25/2018	8:25:41 AM	10.74	68.55	1185.86	398.4	
9/25/2018	8:26:41 AM	10.51	67.93	1185.36	398.18	
9/25/2018	8:27:41 AM	10.29	67.93	1168.44	397.95	
9/25/2018	8:28:41 AM	10.07	68.71	1157.96	398.07	
9/25/2018	8:29:41 AM	9.86	68.21	1159.92	398.12	
9/25/2018	8:30:41 AM	9.62	68.66	1173.37	398.51	
9/25/2018	8:31:41 AM	9.42	68.27	1168.72	399.02	
9/25/2018	8:32:41 AM	9.2	68.21	1177.96	399.86	
9/25/2018	8:33:41 AM	9	68.83	1181.66	401.15	
9/25/2018	8:34:41 AM	8.79	68.55	1185.53	402.21	
9/25/2018	8:35:41 AM	8.61	68.38	1190.96	403.28	
9/25/2018	8:36:42 AM	8.41	68.43	1193.99	404.56	
9/25/2018	8:37:42 AM	8.22	68.15	1200.09	405.91	
9/25/2018	8:38:42 AM	8.06	68.27	1210.52	407.37	
9/25/2018	8:39:42 AM	7.87	68.21	1212.31	408.94	
9/25/2018	8:40:42 AM	7.69	68.66	1224.52	410.67	
9/25/2018	8:41:42 AM	7.54	68.21	1233.1	412.35	
9/25/2018	8:42:42 AM	7.36	68.15	1239.48	414.43	
9/25/2018	8:43:42 AM	7.22	67.76	1242.73	416.44	
9/25/2018	8:44:42 AM	7.05	68.04	1240.44	418.46	
9/25/2018	8:45:42 AM	6.9	68.27	1237.19	420.37	
9/25/2018	8:46:42 AM	6.74	68.04	1235.9	422.16	
9/25/2018	8:47:42 AM	6.59	68.15	1227.44	424.06	
9/25/2018	8:48:43 AM	6.45	68.21	1219.82	425.63	
9/25/2018	8:49:43 AM	6.31	68.15	1212.87	427.2	
9/25/2018	8:50:43 AM	6.18	68.43	1199.76	428.6	
9/25/2018	8:51:43 AM	6.05	69.16	1195.5	429.89	
9/25/2018	8:52:43 AM	5.91	68.66	1187.26	431.24	
9/25/2018	8:53:43 AM	5.79	68.77	1187.82	432.75	
9/25/2018	8:54:43 AM	5.65	68.66	1189.62	434.15	
9/25/2018	8:55:43 AM	5.52	68.77	1191.97	435.49	
9/25/2018	8:56:43 AM	5.41	68.77	1191.07	436.5	
9/25/2018	8:57:43 AM	5.3	68.77	1184.07	437.62	
9/25/2018	8:58:43 AM	5.19	68.49	1161.15	438.24	
9/25/2018	8:59:43 AM	5.09	68.88	1175.33	438.97	
9/25/2018	9:00:44 AM	4.97	69.05	1180.04	440.14	
9/25/2018	9:01:44 AM	4.88	68.71	1178.35	440.31	
9/25/2018	9:02:44 AM	4.79	68.55	1174.71	440.31	
9/25/2018	9:03:44 AM	4.69	68.83	1167.54	440.14	
9/25/2018	9:04:44 AM	4.6	68.49	1166.36	439.98	
9/25/2018	9:05:44 AM	4.51	68.66	1165.86	439.92	
9/25/2018	9:06:44 AM	4.43	68.99	1160.82	439.98	
9/25/2018	9:07:44 AM	4.34	68.21	1135.94	439.64	
9/25/2018	9:08:44 AM	4.28	69.05	1095.93	439.08	
9/25/2018	9:09:44 AM	4.21	68.88	1070.66	438.3	
9/25/2018	9:10:44 AM	4.15	68.43	1037.94	437.06	
9/25/2018	9:11:44 AM	4.11	68.38	1014.91	435.55	
9/25/2018	9:12:44 AM	4.05	68.83	1003.93	434.15	
9/25/2018	9:13:45 AM	3.98	68.66	992.05	432.58	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	9:14:45 AM	3.92	68.71	981.18	430.9	
9/25/2018	9:15:45 AM	3.93	68.99	973.11	429.5	
9/25/2018	9:16:45 AM	3.83	68.55	965.83	427.93	
9/25/2018	9:17:45 AM	3.8	69.11	958.49	425.69	
9/25/2018	9:18:45 AM	3.77	68.77	948.91	423.34	
9/25/2018	9:19:45 AM	3.72	69.16	940.56	420.59	
9/25/2018	9:20:45 AM	3.68	69.05	935.85	418.18	
9/25/2018	9:21:45 AM	3.64	68.71	932.15	415.88	
9/25/2018	9:22:45 AM	3.6	68.71	929.52	413.53	
9/25/2018	9:23:45 AM	3.54	68.88	926.78	411.34	
9/25/2018	9:24:45 AM	3.53	68.71	924.98	409.16	
9/25/2018	9:25:46 AM	3.48	69.22	923.41	407.03	
9/25/2018	9:26:46 AM	3.43	68.83	922.46	404.9	
9/25/2018	9:27:46 AM	3.39	68.66	921.28	402.49	
9/25/2018	9:28:46 AM	3.35	69.33	915.4	400.03	
9/25/2018	9:29:46 AM	3.32	68.49	915.57	397.84	
9/25/2018	9:30:46 AM	3.29	68.49	915.23	395.66	
9/25/2018	9:31:46 AM	3.26	68.71	914.11	393.3	
9/25/2018	9:32:46 AM	3.22	70	913.61	391.12	
9/25/2018	9:33:46 AM	3.18	69.11	913.83	388.88	
9/25/2018	9:34:46 AM	3.15	68.55	916.02	386.69	
9/25/2018	9:35:46 AM	3.11	69.16	917.7	384.79	
9/25/2018	9:36:46 AM	3.07	69.33	918.54	382.99	
9/25/2018	9:37:46 AM	3.03	68.88	919.83	381.14	
9/25/2018	9:38:46 AM	3	68.43	923.97	379.69	
9/25/2018	9:39:47 AM	2.97	68.71	911.14	378.12	
9/25/2018	9:40:47 AM	2.93	68.49	900.61	376.44	
9/25/2018	9:41:47 AM	2.91	68.77	897.08	374.81	
9/25/2018	9:42:47 AM	2.86	69.16	894.56	373.19	
9/25/2018	9:43:47 AM	2.83	68.27	891.48	371.67	
9/25/2018	9:44:47 AM	2.79	68.99	888.62	370.39	
9/25/2018	9:45:47 AM	2.76	68.38	884.75	369.27	
9/25/2018	9:46:47 AM	2.74	68.49	879.65	368.31	
9/25/2018	9:47:47 AM	2.69	68.71	871.98	367.53	
9/25/2018	9:48:47 AM	2.65	68.49	868.67	367.02	
9/25/2018	9:49:47 AM	2.63	68.83	866.65	366.35	
9/25/2018	9:50:47 AM	2.59	68.88	864.02	365.74	
9/25/2018	9:51:47 AM	2.56	68.83	858.92	365.12	
9/25/2018	9:52:47 AM	2.51	68.66	854.61	364.45	
9/25/2018	9:53:47 AM	2.48	68.77	851.02	363.77	
9/25/2018	9:54:47 AM	2.45	68.1	848.28	363.1	
9/25/2018	9:55:47 AM	2.41	68.04	845.81	362.26	
9/25/2018	9:56:47 AM	2.4	68.38	856.23	361.53	
9/25/2018	9:57:47 AM	2.36	68.77	861.11	360.41	
9/25/2018	9:58:48 AM	2.35	68.66	861.39	358.96	
9/25/2018	9:59:48 AM	2.05	68.49	820.09	359.18	
9/25/2018	10:00:48 AM	21.2	68.55	700.3	360.75	**Added 18 lbs 20-23% MC, Medium High Air Setting**
9/25/2018	10:01:48 AM	21.07	68.83	761.32	362.77	
9/25/2018	10:02:48 AM	20.88	69.11	897.69	362.82	
9/25/2018	10:03:48 AM	20.64	69.11	1108.43	364.56	
9/25/2018	10:04:48 AM	20.42	68.43	1173.31	366.58	
9/25/2018	10:05:48 AM	20.19	68.49	1199.53	368.14	
9/25/2018	10:06:48 AM	19.96	68.49	1217.02	369.38	
9/25/2018	10:07:48 AM	19.74	69.11	1212.14	370.05	
9/25/2018	10:08:48 AM	19.52	69.95	1233.88	370.55	
9/25/2018	10:09:48 AM	19.31	68.66	1249.29	371.45	
9/25/2018	10:10:48 AM	19.09	68.21	1262.35	372.52	
9/25/2018	10:11:48 AM	18.86	68.55	1274.9	373.64	
9/25/2018	10:12:48 AM	18.64	69.22	1276.63	375.09	
9/25/2018	10:13:48 AM	18.38	70.73	1269.24	376.27	
9/25/2018	10:14:48 AM	18.13	69.67	1276.97	377.33	
9/25/2018	10:15:49 AM	17.9	68.77	1276.47	378.29	
9/25/2018	10:16:49 AM	17.66	68.04	1283.81	379.13	
9/25/2018	10:17:49 AM	17.41	68.55	1290.81	380.08	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	10:18:49 AM	17.17	68.21	1291.65	381.48	
9/25/2018	10:19:49 AM	16.93	68.1	1294.17	382.71	
9/25/2018	10:20:49 AM	16.68	68.27	1294.4	384.11	
9/25/2018	10:21:49 AM	16.43	68.43	1284.03	385.4	
9/25/2018	10:22:49 AM	16.18	68.43	1273.38	386.52	
9/25/2018	10:23:49 AM	15.96	68.43	1259.88	387.31	
9/25/2018	10:24:49 AM	15.68	68.43	1243.18	388.32	
9/25/2018	10:25:49 AM	15.42	69.72	1226.54	388.99	
9/25/2018	10:26:49 AM	15.17	68.55	1206.43	389.38	
9/25/2018	10:27:49 AM	14.89	69.5	1192.36	389.55	
9/25/2018	10:28:49 AM	14.64	68.88	1186.48	389.55	
9/25/2018	10:29:49 AM	14.36	69.05	1183.06	389.6	
9/25/2018	10:30:49 AM	14.12	69.22	1171.91	389.66	
9/25/2018	10:31:49 AM	13.84	69.05	1160.54	389.66	
9/25/2018	10:32:49 AM	13.59	68.83	1155.89	389.88	
9/25/2018	10:33:49 AM	13.33	69.22	1151.68	390.05	
9/25/2018	10:34:49 AM	13.09	69.39	1157.12	390.39	
9/25/2018	10:35:49 AM	12.84	69.5	1163	390.78	
9/25/2018	10:36:49 AM	12.6	70.73	1174.38	391.12	
9/25/2018	10:37:49 AM	12.33	69.72	1180.54	391.45	
9/25/2018	10:38:50 AM	12.11	70.06	1200.66	391.79	
9/25/2018	10:39:50 AM	11.89	70.45	1201.1	392.35	
9/25/2018	10:40:50 AM	11.65	70.73	1189.17	393.02	
9/25/2018	10:41:50 AM	11.44	69.84	1183.34	393.75	
9/25/2018	10:42:50 AM	11.2	69.5	1175.83	394.48	
9/25/2018	10:43:50 AM	10.98	69.22	1173.37	395.15	
9/25/2018	10:44:50 AM	10.75	69.22	1175.16	395.94	
9/25/2018	10:45:50 AM	10.54	69.55	1168.49	396.66	
9/25/2018	10:46:50 AM	10.32	69.78	1163.45	397.56	
9/25/2018	10:47:50 AM	10.15	70.06	1170.45	398.57	
9/25/2018	10:48:50 AM	9.9	69.95	1190.4	399.8	
9/25/2018	10:49:50 AM	9.72	69.33	1279.32	401.32	
9/25/2018	10:50:50 AM	9.52	69.67	1275.62	403.61	
9/25/2018	10:51:50 AM	9.34	70.06	1260.05	405.85	
9/25/2018	10:52:50 AM	9.17	69.84	1253.04	408.21	
9/25/2018	10:53:50 AM	8.98	69.44	1252.26	410.34	
9/25/2018	10:54:50 AM	8.8	70.34	1249.85	412.24	
9/25/2018	10:55:50 AM	8.62	70.06	1247.5	414.31	
9/25/2018	10:56:50 AM	8.44	69.67	1257.69	416.61	
9/25/2018	10:57:50 AM	8.28	69.55	1287.9	420.76	
9/25/2018	10:58:51 AM	8.12	70.06	1290.53	424.4	
9/25/2018	10:59:51 AM	7.99	69.78	1255.12	427.03	
9/25/2018	11:00:51 AM	7.86	69.33	1219.82	428.66	
9/25/2018	11:01:51 AM	7.73	70.17	1211.97	429.72	
9/25/2018	11:02:51 AM	7.62	70.12	1201.1	430.56	
9/25/2018	11:03:51 AM	7.49	69.39	1182.05	431.52	
9/25/2018	11:04:51 AM	7.38	69.84	1156.89	432.13	
9/25/2018	11:05:51 AM	7.26	69.72	1144.79	432.8	
9/25/2018	11:06:51 AM	7.15	69.84	1133.19	433.25	
9/25/2018	11:07:51 AM	7.02	70.28	1128.88	433.7	
9/25/2018	11:08:51 AM	6.92	70.12	1132.07	434.21	
9/25/2018	11:09:51 AM	6.82	70.34	1122.72	434.32	
9/25/2018	11:10:51 AM	6.73	70.34	1114.26	433.93	
9/25/2018	11:11:52 AM	6.63	70.17	1117.95	433.08	
9/25/2018	11:12:52 AM	6.56	70.45	1128.43	432.64	
9/25/2018	11:13:52 AM	6.46	70.28	1132.8	432.02	
9/25/2018	11:14:52 AM	6.37	69.95	1142.72	431.4	
9/25/2018	11:15:52 AM	6.28	69.95	1143.06	431.18	
9/25/2018	11:16:52 AM	6.19	70.12	1143.78	431.18	
9/25/2018	11:17:52 AM	6.1	70.28	1142.72	431.12	
9/25/2018	11:18:52 AM	6	70.51	1142.1	431.12	
9/25/2018	11:19:52 AM	5.91	70.17	1132.86	430.9	
9/25/2018	11:20:52 AM	5.82	70.51	1134.15	430.9	
9/25/2018	11:21:52 AM	5.74	69.95	1138.85	430.56	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	11:22:52 AM	5.66	70.12	1138.68	430.17	
9/25/2018	11:23:52 AM	5.57	70.62	1134.87	429.44	
9/25/2018	11:24:52 AM	5.5	70.51	1125.07	428.38	
9/25/2018	11:25:52 AM	5.42	70.28	1102.99	427.03	
9/25/2018	11:26:52 AM	5.35	70.17	1095.43	425.69	
9/25/2018	11:27:52 AM	5.27	70.45	1083.49	424.46	
9/25/2018	11:28:52 AM	5.22	70.45	1067.58	423.28	
9/25/2018	11:29:53 AM	5.16	70.28	1044.78	421.88	
9/25/2018	11:30:53 AM	5.09	70.34	1019.34	420.59	
9/25/2018	11:31:53 AM	5.04	70.79	1013.85	419.41	
9/25/2018	11:32:53 AM	4.98	70.4	1003.93	418.18	
9/25/2018	11:33:53 AM	4.93	70.84	990.37	416.95	
9/25/2018	11:34:53 AM	4.87	70.79	974.85	415.72	
9/25/2018	11:35:53 AM	4.83	70.96	958.21	414.37	
9/25/2018	11:36:53 AM	4.78	70.79	940.22	412.91	
9/25/2018	11:37:53 AM	4.73	71.07	921.12	411.57	
9/25/2018	11:38:53 AM	4.7	71.07	907.67	409.89	
9/25/2018	11:39:53 AM	4.65	71.01	899.82	408.26	
9/25/2018	11:40:53 AM	4.61	71.29	894.78	406.64	
9/25/2018	11:41:53 AM	4.56	70.68	890.92	404.9	
9/25/2018	11:42:53 AM	4.53	70.84	888.51	403.11	
9/25/2018	11:43:53 AM	4.48	70.96	886.71	401.32	
9/25/2018	11:44:54 AM	4.44	70.96	884.86	399.52	
9/25/2018	11:45:54 AM	4.4	70.96	886.88	397.9	
9/25/2018	11:46:54 AM	4.38	71.12	888.39	395.99	
9/25/2018	11:47:54 AM	4.34	71.57	888.51	394.42	
9/25/2018	11:48:54 AM	4.28	71.85	888.67	392.8	
9/25/2018	11:49:54 AM	4.27	72.02	888.9	391.12	
9/25/2018	11:50:54 AM	4.2	71.01	888.9	391.12	
9/25/2018	11:51:54 AM	20.79	71.52	817.18	395.99	
9/25/2018	11:52:54 AM	20.63	71.52	884.92	398.46	
9/25/2018	11:53:54 AM	20.4	71.57	1039.12	400.03	
9/25/2018	11:54:54 AM	20.17	71.52	1158.8	400.59	
9/25/2018	11:55:54 AM	19.93	71.12	1235.34	400.92	
9/25/2018	11:56:54 AM	19.69	71.57	1245.31	400.59	
9/25/2018	11:57:54 AM	19.45	71.96	1254.67	400.19	
9/25/2018	11:58:54 AM	19.2	71.35	1265.2	399.8	
9/25/2018	11:59:54 AM	18.95	71.57	1268	399.41	
9/25/2018	12:00:54 PM	18.71	71.4	1269.35	398.91	
9/25/2018	12:01:54 PM	18.47	71.18	1273.1	398.68	
9/25/2018	12:02:55 PM	18.23	71.29	1275.68	398.74	
9/25/2018	12:03:55 PM	17.98	71.52	1270.75	399.02	
9/25/2018	12:04:55 PM	17.73	71.29	1271.03	399.3	
9/25/2018	12:05:55 PM	17.5	71.68	1264.53	399.75	
9/25/2018	12:06:55 PM	17.24	71.4	1264.47	400.19	
9/25/2018	12:07:55 PM	17.01	71.4	1264.08	400.75	
9/25/2018	12:08:55 PM	16.77	71.85	1258.37	401.54	
9/25/2018	12:09:55 PM	16.52	71.4	1253.32	402.21	
9/25/2018	12:10:55 PM	16.31	71.63	1246.66	403	
9/25/2018	12:11:55 PM	16.07	72.19	1239.37	403.67	
9/25/2018	12:12:55 PM	15.84	72.41	1236.68	404.17	
9/25/2018	12:13:55 PM	15.6	72.3	1233.66	404.79	
9/25/2018	12:14:55 PM	15.37	72.69	1230.52	405.46	
9/25/2018	12:15:55 PM	15.13	72.75	1219.48	405.74	
9/25/2018	12:16:55 PM	14.91	72.36	1216.51	405.85	
9/25/2018	12:17:55 PM	14.7	72.52	1212.65	405.91	
9/25/2018	12:18:55 PM	14.49	72.97	1205.31	406.19	
9/25/2018	12:19:55 PM	14.28	72.36	1193.88	406.75	
9/25/2018	12:20:55 PM	14.06	72.3	1182.11	407.53	
9/25/2018	12:21:55 PM	13.85	72.19	1167.77	408.49	
9/25/2018	12:22:55 PM	13.61	72.3	1147.65	409.27	
9/25/2018	12:23:55 PM	13.4	72.36	1147.54	409.55	
9/25/2018	12:24:55 PM	13.21	72.08	1189.56	409.83	
9/25/2018	12:25:56 PM	13.05	72.24	1205.81	410.22	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	12:26:56 PM	12.89	72.97	1201.33	410.9	
9/25/2018	12:27:56 PM	12.73	72.86	1198.47	411.57	
9/25/2018	12:28:56 PM	12.57	72.41	1221.33	412.86	
9/25/2018	12:29:56 PM	12.43	72.36	1222.4	413.87	
9/25/2018	12:30:56 PM	12.29	72.69	1195.16	414.43	
9/25/2018	12:31:56 PM	12.14	72.36	1193.15	414.54	
9/25/2018	12:32:56 PM	12	72.52	1221.33	415.72	
9/25/2018	12:33:56 PM	11.85	72.58	1232.59	417.17	
9/25/2018	12:34:56 PM	11.69	73.25	1238.2	418.57	
9/25/2018	12:35:56 PM	11.53	73.14	1241.28	420.31	
9/25/2018	12:36:56 PM	11.38	73.03	1243.24	421.93	
9/25/2018	12:37:56 PM	11.23	73.03	1243.69	423.45	
9/25/2018	12:38:56 PM	11.09	72.92	1241.17	424.79	
9/25/2018	12:39:56 PM	10.92	72.97	1234.11	425.8	
9/25/2018	12:40:56 PM	10.77	73.14	1236.35	426.75	
9/25/2018	12:41:56 PM	10.61	73.03	1239.32	427.76	
9/25/2018	12:42:56 PM	10.46	73.36	1240.83	428.66	
9/25/2018	12:43:56 PM	10.29	73.25	1234.5	429.44	
9/25/2018	12:44:56 PM	10.15	72.97	1234.22	430.17	
9/25/2018	12:45:57 PM	9.98	73.25	1233.49	430.84	
9/25/2018	12:46:57 PM	9.82	73.14	1236.12	431.18	
9/25/2018	12:47:57 PM	9.69	73.87	1238.2	431.52	
9/25/2018	12:48:57 PM	9.54	73.31	1248.17	431.85	
9/25/2018	12:49:57 PM	9.37	73.31	1243.18	432.24	
9/25/2018	12:50:57 PM	9.21	73.2	1211.58	431.85	
9/25/2018	12:51:57 PM	9.07	73.2	1188.5	431.18	
9/25/2018	12:52:57 PM	8.92	73.2	1181.72	430.68	
9/25/2018	12:53:57 PM	8.77	73.36	1182	430.17	
9/25/2018	12:54:57 PM	8.62	72.86	1180.93	429.72	
9/25/2018	12:55:57 PM	8.44	73.2	1182.5	429.55	
9/25/2018	12:56:57 PM	8.29	73.48	1186.82	429.61	
9/25/2018	12:57:57 PM	8.1	73.53	1188.33	429.89	
9/25/2018	12:58:57 PM	7.96	73.48	1188.61	430.4	
9/25/2018	12:59:57 PM	7.79	73.31	1184.13	430.84	
9/25/2018	1:00:57 PM	7.64	73.48	1173.76	431.18	
9/25/2018	1:01:57 PM	7.49	73.93	1161.55	431.63	
9/25/2018	1:02:57 PM	7.36	73.87	1153.87	431.85	
9/25/2018	1:03:57 PM	7.19	73.65	1156.17	432.13	
9/25/2018	1:04:57 PM	7.08	73.7	1168.21	432.47	
9/25/2018	1:05:57 PM	6.93	73.59	1168.66	432.69	
9/25/2018	1:06:57 PM	6.79	73.93	1163.62	432.92	
9/25/2018	1:07:58 PM	6.65	73.98	1160.48	432.97	
9/25/2018	1:08:58 PM	6.53	74.04	1159.64	433.36	
9/25/2018	1:09:58 PM	6.4	73.65	1165.52	433.81	
9/25/2018	1:10:58 PM	6.27	73.81	1167.82	434.04	
9/25/2018	1:11:58 PM	6.14	73.65	1154.09	434.37	
9/25/2018	1:12:58 PM	6.03	73.87	1151.07	434.6	
9/25/2018	1:13:58 PM	5.91	73.93	1155.49	434.71	
9/25/2018	1:14:58 PM	5.81	73.87	1157.29	434.6	
9/25/2018	1:15:58 PM	5.72	74.49	1146.64	434.37	
9/25/2018	1:16:58 PM	5.63	74.04	1136.67	434.04	
9/25/2018	1:17:58 PM	5.54	73.36	1131.18	433.59	
9/25/2018	1:18:58 PM	5.47	75.1	1113.58	432.64	
9/25/2018	1:19:58 PM	5.39	75.1	1098.96	431.4	
9/25/2018	1:20:58 PM	5.31	74.15	1090.05	430.17	
9/25/2018	1:21:58 PM	5.24	74.21	1083.49	429.22	
9/25/2018	1:22:58 PM	5.15	74.15	1072.62	428.21	
9/25/2018	1:23:58 PM	5.08	74.26	1060.8	427.09	
9/25/2018	1:24:58 PM	5	74.15	1048.08	425.97	
9/25/2018	1:25:58 PM	4.92	74.04	1038.22	424.85	
9/25/2018	1:26:58 PM	4.85	74.71	1028.81	423.9	
9/25/2018	1:27:58 PM	4.78	73.93	1024.05	422.72	
9/25/2018	1:28:59 PM	4.7	73.36	1026.17	421.71	
9/25/2018	1:29:59 PM	4.62	74.26	1035.48	420.93	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	1:30:59 PM	4.55	74.15	1041.47	420.31	
9/25/2018	1:31:59 PM	4.46	74.54	1040.41	419.81	
9/25/2018	1:32:59 PM	4.39	74.49	1026.51	419.36	
9/25/2018	1:33:59 PM	4.33	74.32	1016.48	418.4	
9/25/2018	1:34:59 PM	4.27	74.26	1008.19	417	
9/25/2018	1:35:59 PM	4.21	74.04	995.64	415.21	
9/25/2018	1:36:59 PM	4.15	75.05	986.06	413.42	
9/25/2018	1:37:59 PM	4.09	74.54	981.63	411.46	
9/25/2018	1:38:59 PM	4.03	74.37	977.43	409.83	
9/25/2018	1:39:59 PM	3.98	74.15	973.79	408.26	
9/25/2018	1:40:59 PM	3.93	73.93	969.92	407.03	
9/25/2018	1:41:59 PM	3.85	74.71	965.27	405.74	
9/25/2018	1:42:59 PM	3.79	74.49	961.46	404.62	
9/25/2018	1:43:59 PM	3.74	74.21	957.37	403.67	
9/25/2018	1:44:59 PM	3.68	74.77	954.12	402.55	
9/25/2018	1:45:59 PM	3.63	75.05	946.27	401.2	
9/25/2018	1:46:59 PM	3.6	75.21	939.21	399.86	
9/25/2018	1:47:59 PM	3.54	74.04	937.42	398.79	
9/25/2018	1:49:00 PM	3.49	74.21	934.12	397.62	
9/25/2018	1:50:00 PM	3.46	74.32	928.79	396.5	
9/25/2018	1:51:00 PM	3.39	75.21	923.58	395.32	
9/25/2018	1:52:00 PM	3.33	74.88	918.65	394.26	
9/25/2018	1:53:00 PM	3.3	74.54	917.03	393.3	
9/25/2018	1:54:00 PM	3.24	74.15	912.6	392.35	
9/25/2018	1:55:00 PM	3.18	73.98	910.13	391.45	
9/25/2018	1:56:00 PM	3.13	73.87	909.91	390.67	
9/25/2018	1:57:00 PM	3.07	74.37	910.86	390.05	
9/25/2018	1:58:00 PM	3.03	74.71	913.44	389.55	
9/25/2018	1:59:00 PM	2.95	74.82	917.25	389.16	
9/25/2018	2:00:00 PM	2.91	73.81	918.93	389.04	
9/25/2018	2:01:00 PM	2.85	75.05	914.73	388.71	
9/25/2018	2:02:00 PM	2.8	75.61	897.3	388.09	
9/25/2018	2:03:00 PM	2.75	74.15	881.28	387.59	
9/25/2018	2:04:00 PM	2.71	73.87	879.37	387.25	
9/25/2018	2:05:00 PM	2.66	74.21	878.98	386.75	
9/25/2018	2:06:00 PM	2.59	75.1	878.03	386.35	
9/25/2018	2:07:01 PM	2.54	74.26	877.24	385.96	
9/25/2018	2:08:01 PM	2.51	75.16	878.7	385.57	
9/25/2018	2:09:01 PM	2.44	74.71	878.14	385.07	
9/25/2018	2:10:01 PM	2.39	74.82	878.03	384.56	
9/25/2018	2:11:01 PM	2.34	74.21	876.07	383.83	
9/25/2018	2:12:01 PM	2.3	74.71	875.79	383.16	
9/25/2018	2:13:01 PM	2.26	74.49	879.43	382.49	
9/25/2018	2:14:01 PM	2.21	74.82	888.17	381.76	
9/25/2018	2:15:01 PM	2.17	74.15	894.89	380.92	
9/25/2018	2:16:01 PM	2.13	75.44	901.51	379.86	
9/25/2018	2:17:01 PM	2.11	76.61	896.13	378.4	
9/25/2018	2:18:01 PM	2.06	75.1	884.75	376.55	
9/25/2018	2:19:01 PM	2.03	74.82	878.03	374.53	
9/25/2018	2:20:01 PM	2	74.77	874.16	372.46	
9/25/2018	2:21:01 PM	1.95	74.49	869.12	370.5	
9/25/2018	2:22:01 PM	1.92	75.21	864.36	368.59	
9/25/2018	2:23:01 PM	1.89	74.71	860.94	366.69	
9/25/2018	2:24:01 PM	1.85	75.1	861.84	364.95	
9/25/2018	2:25:01 PM	1.82	74.71	863.57	363.38	
9/25/2018	2:26:01 PM	1.79	74.88	855.84	361.87	
9/25/2018	2:27:02 PM	1.73	74.32	845.59	360.36	
9/25/2018	2:28:02 PM	1.71	74.49	840.77	358.9	
9/25/2018	2:29:02 PM	1.68	74.26	835.89	357.5	
9/25/2018	2:30:02 PM	1.63	74.54	832.03	356.21	
9/25/2018	2:31:02 PM	1.6	75.44	831.35	355.03	
9/25/2018	2:32:02 PM	1.57	74.71	839.37	353.97	
9/25/2018	2:33:02 PM	1.54	74.54	841.78	352.85	
9/25/2018	2:34:02 PM	1.5	74.54	839.59	351.84	

Applied Conditioning Data

Date	Time	[0]Fuel(lbs)	[1]Ambient	[2]Combustor	[3]Flue	Notes
9/25/2018	2:35:02 PM	1.47	74.82	834.44	350.72	
9/25/2018	2:36:02 PM	1.44	75.16	830.35	349.6	
9/25/2018	2:37:02 PM	1.41	74.88	828.33	348.42	
9/25/2018	2:38:02 PM	1.37	75.1	825.69	347.36	
9/25/2018	2:39:02 PM	1.33	76.22	822.61	346.24	
9/25/2018	2:40:02 PM	1.31	76.39	819.98	345.06	
9/25/2018	2:41:02 PM	1.28	76.05	817.35	344.16	
9/25/2018	2:42:02 PM	1.25	75.1	814.82	343.21	
9/25/2018	2:43:03 PM	1.22	75.44	813.87	342.48	
9/25/2018	2:44:03 PM	1.18	75.77	813.65	341.98	
9/25/2018	2:45:03 PM	1.13	74.93	812.53	341.64	
9/25/2018	2:46:03 PM	1.12	75.77	810.96	341.14	
9/25/2018	2:47:03 PM	1.09	74.82	809.17	340.91	
9/25/2018	2:48:03 PM	1.05	74.88	808.16	340.41	
9/25/2018	2:49:03 PM	1.01	75.16	807.2	340.02	
9/25/2018	2:50:03 PM	0.98	75.05	806.53	339.57	
9/25/2018	2:51:03 PM	0.94	76.17	806.31	339.29	
9/25/2018	2:52:03 PM	0.91	75.49	806.31	339.34	
9/25/2018	2:53:03 PM	0.89	74.88	805.52	339.34	
9/25/2018	2:54:03 PM	0.84	75.27	805.13	339.46	
9/25/2018	2:55:03 PM	0.82	74.88	805.13	339.57	
9/25/2018	2:56:03 PM	0.76	75.55	806.53	339.51	
9/25/2018	2:57:03 PM	0.75	75.16	808.16	339.51	
9/25/2018	2:58:03 PM	0.72	75.27	803.79	339.62	
9/25/2018	2:59:03 PM	0.68	76.22	792.13	339.62	
9/25/2018	3:00:03 PM	0.65	75.61	788.38	339.34	
9/25/2018	3:01:03 PM	0.62	75.21	787.99	339.01	
9/25/2018	3:02:03 PM	0.59	75.49	789.22	338.84	
9/25/2018	3:03:03 PM	0.56	75.61	790.34	338.56	
9/25/2018	3:04:03 PM	0.51	76.05	792.58	338.22	
9/25/2018	3:05:04 PM	0.51	75.83	793.7	337.78	
9/25/2018	3:06:04 PM	0.48	76.05	793.98	337.44	
9/25/2018	3:07:04 PM	0.44	76.17	792.97	337.16	
9/25/2018	3:08:04 PM	0.4	75.94	793.2	336.88	
9/25/2018	3:09:04 PM	0.38	76.05	792.92	336.6	
9/25/2018	3:10:04 PM	0.35	75.77	792.58	336.21	
9/25/2018	3:11:04 PM	0.31	75.77	791.91	335.87	
9/25/2018	3:12:04 PM	0.3	76.22	791.07	335.42	
9/25/2018	3:13:04 PM	0.27	75.72	791.24	334.86	
9/25/2018	3:14:04 PM	0.24	75.77	790.9	334.25	
9/25/2018	3:15:04 PM	0.22	75.72	792.02	333.46	
9/25/2018	3:16:04 PM	0.19	75.83	794.09	332.85	
9/25/2018	3:17:04 PM	0.16	75.27	795.61	332.23	
9/25/2018	3:18:04 PM	0.14	75.83	795.72	331.44	
9/25/2018	3:19:04 PM	0.13	75.49	795.1	330.66	
9/25/2018	3:20:04 PM	0	75.83	793.42	329.99	

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 1 Data Summary

Client:	Blaze King
Model:	PE32
Job #:	24-273
Tracking #:	183
Test Date:	3/4/2024

Techician Signature

5/3/2024
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Burn Rate (kg/hr):	1.09

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	34.950	71.667	69.739	8.528
Average Gas Velocity in Dilution Tunnel (ft/sec)	19.6			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	13290.7			
Average Gas Meter Temperature (°F)	63.9	90.9	90.5	75.5
Total Sample Volume (dscf)	35.604	69.382	67.613	8.443
Average Tunnel Temperature (°F)	77.5			
Total Time of Test (min)	389			
Total Particulate Catch (mg)	0.0	1.6	1.5	0.5
Particulate Concentration, dry-standard (g/dscf)	0.0000000	0.0000231	0.0000222	0.0000592
Total PM Emissions (g)	0.00	1.99	1.91	0.79
Particulate Emission Rate (g/hr)	0.00	0.31	0.29	0.79
Emissions Factor (g/kg)	-	0.28	0.27	-
Difference from Average Total Particulate Emissions (g)	-	0.04	0.04	-
Difference from Average Total Particulate Emissions (%)	-	1.9%	1.9%	
Difference from Average Emissions Factor (g/kg)	-	0.01	0.01	-

Final Average Results	
Total Particulate Emissions (g)	1.95
Particulate Emission Rate (g/hr)	0.30
Emissions Factor (g/kg)	0.28
HHV Efficiency (%)	82.9%
LHV Efficiency (%)	89.7%
CO Emissions (g/min)	0.18

Quality Checks	Requirement	Observed	Result
Dual Train Precision	Each train within 7.5% of average emissions (in grams), or emission factors within 0.5 g/kg	See Above	OK
Filter Temps	<90 °F	72.1	OK
Face Velocity	< 30 ft/min	11.3	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:62.4/Max:65.1	OK
Negative Probe Weight Evaluation	<5% of Total Catch	Probe Catch Not Negative	OK
Pro-Rate Variation	90% of readings between 90-110%; none greater than 120% or less than 80%	See Data Tabs	OK
Stove Surface ΔT	<126°F	8.5	OK

B415.1 Efficiency Results

Manufacturer:	Blaze King
Model:	PE32
Date:	03/04/24
Run:	1
Control #:	24-273
Test Duration:	389
Output Category:	2

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	82.9%	89.7%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	83.4%	90.1%

Output Rate (kJ/h)	17,763	16,850	**(Btu/h)**
Burn Rate (kg/h)	1.08	2.38	**(lb/h)**
Input (kJ/h)	21,414	20,313	**(Btu/h)**

Test Load Weight (dry kg)	7.01	15.45	**dry lb**
MC wet (%)	18.14		
MC dry (%)	22.17		
Particulate (g)	1.95		
CO (g)	71		
Test Duration (h)	6.48		

Emissions	**Particulate**	**CO**
g/MJ Output	0.02	0.62
g/kg Dry Fuel	0.28	10.19
g/h	0.30	11.01
g/min	0.01	0.18
lb/MM Btu Output	0.04	1.44

Air/Fuel Ratio (A/F)	10.33

VERSION: **2.4** **4/15/2010**

WOODSTOVE FUEL DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.00	21.7	2x4	17.00	19.8
2x4	17.00	19.8	2x4	17.00	20.0
2x4	17.00	19.6			
2x4	17.00	20.2			
2x4	17.00	22.1			
2x4	17.00	19.4			
2x4	17.00	19.3			
2x4	17.00	21.1			

Total Fuel Weight (lbs): 18.32
Average Moisture (%DB): 20.3

Firebox Volume (ft^3): 2.86
Total 2x4 Crib Weight, with spacers (lbs): 9.35
Total 4x4 Crib Weight, with spacers (lbs): 9.52
Total Wet Fuel Weight, with spacers (lbs): 18.87

Coal Bed Range (20-25%):
Min (lbs): 3.77
Max (lbs): 4.72

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	16.75	4.34	23.9	20.1	24.2	3.54
4x4	16.75	4.26	20.0	24.1	23.3	3.48
2x4	16.75	1.76	23.2	20.3	23.8	1.44
2x4	16.75	1.74	20.3	19.7	20.2	1.45
2x4	16.75	1.85	24.4	23.0	19.4	1.51
2x4	16.75	1.98	24.3	22.6	22.2	1.61

Total Dry Weight, no spacers (lbs): 13.02
Total Dry Weight, with spacers (lbs): 15.59

Spacer Moisture Readings (%DB)

14.5	15.5	15.0					
13.1	13.1	13.2					
15.0	14.5	15.3					
13.1	13.9	12.7					
14.7	14.4	15.3					
15.5	15.1	15.4					
13.5	14.0	14.3					
14.8	14.8	15.2					

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	29.5	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.60	OK
2x4 Fuel Mix	35 - 65 % of total weight	50%	OK

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	Blaze King	Job #:	24-273
Model:	PE32	Tracking #:	183
Run #:	1	Technician:	AK
Test Start Time:	13:59	Date:	3/4/2024

Total Sampling Time (min):	389	
Recording Interval (min):	1	
Meter Box γ Factor:	1.004	(A)
Meter Box γ Factor:	1.005	(B)
Meter Box γ Factor:	1.004	(C)
Meter Box γ Factor:	1.013	(Ambient)

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	29.90	29.83	29.87
Relative Humidity (%)	28.3	30.3	
Room Air Velocity (ft/min)	<50	<50	
Pitot Tube Leak Check	0	0	
Ambient Sample Volume:		34.950	ft^3

Induced Draft Check (in. H_2O):	0
Smoke Capture Check (%):	100%
Date Flue Pipe Last Cleaned:	3/4/2024
Test Fuel Scale Audit (lbs)	10.00
Platform Scale Audit (lbs)	10.0

Sample Train Leak Checks

	Pre-test	Post-test		
(A)	0.000	0.000	cfm @	-7 in. Hg
(B)	0.000	0.000	cfm @	-7 in. Hg
(C)	0.000	0.000	cfm @	-9 in. Hg
(Ambient)	0.000	0.000	cfm @	-12 in. Hg

DILUTION TUNNEL FLOW

Traverse Data

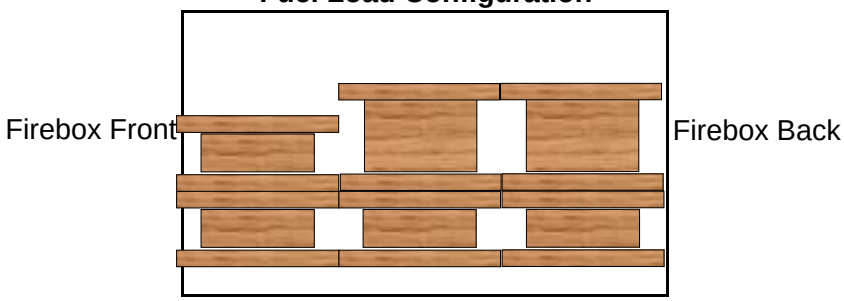
Point	dP (in H_2O)	Temp (°F)
1	0.064	68
2	0.098	68
3	0.098	68
4	0.082	68
5	0.072	68
6	0.096	68
7	0.098	68
8	0.070	68
Center	0.096	68

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	6	inches
Pitot Tube Cp:	0.99	[unitless]
Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Tunnel Area:	0.1963	ft^2
V_{strav}:	19.24	ft/sec
V_{scent}:	20.55	ft/sec
F_p:	0.936	[ratio]
Initial Tunnel Flow:	221.8	scf/min

Static Pressure: -0.170 in. H_2O

TEST FUEL PROPERTIES

Fuel Load Configuration



Firebox Side View

Actual Fuel Used Properties

Fuel Type:	D. Fir
HHV (kJ/kg)	19,810
%C	48.73
%H	6.87
%O	43.9
%Ash	0.5
MC (%DB)	22.2

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Recording Interval (min): 1
Run Time (min): 60

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
0	4.71	-0.060	631	728	298	613	546	563.2	395	67
1	4.66	-0.060	631	723	304	609	548	563.0	324	67
2	4.61	-0.058	627	713	308	602	549	559.7	284	67
3	4.58	-0.052	620	702	309	595	549	555.1	257	67
4	4.55	-0.052	612	690	309	589	550	549.8	237	67
5	4.53	-0.049	603	677	308	582	549	543.8	223	67
6	4.50	-0.046	594	664	306	575	549	537.6	211	67
7	4.48	-0.045	585	651	305	568	548	531.4	203	67
8	4.46	-0.045	576	639	303	561	546	525.0	196	67
9	4.44	-0.043	567	627	300	554	544	518.7	190	66
10	4.42	-0.042	559	615	298	547	543	512.3	184	67
11	4.40	-0.041	550	604	296	540	540	506.1	180	66
12	4.38	-0.040	542	593	293	534	538	500.1	177	67
13	4.37	-0.039	534	583	291	528	536	494.2	173	66
14	4.35	-0.038	527	573	288	521	533	488.3	170	66
15	4.33	-0.038	519	563	285	516	531	482.7	167	67
16	4.32	-0.037	511	554	282	509	528	476.9	165	67
17	4.29	-0.035	504	545	279	504	525	471.4	162	66
18	4.28	-0.035	497	536	277	499	522	466.1	160	66
19	4.28	-0.035	490	528	274	493	519	460.8	157	66
20	4.26	-0.034	484	520	271	487	516	455.6	154	66
21	4.25	-0.032	477	512	268	481	514	450.4	153	66
22	4.24	-0.032	471	504	266	475	511	445.4	150	66
23	4.22	-0.032	465	497	263	469	508	440.5	148	66
24	4.21	-0.031	459	490	260	463	505	435.3	146	66
25	4.21	-0.031	453	483	258	456	502	430.3	145	66
26	4.21	-0.030	448	476	255	449	499	425.3	143	66
27	4.20	-0.030	442	469	252	442	496	420.3	140	66
28	4.20	-0.030	436	463	249	435	494	415.3	138	66
29	4.19	-0.027	431	456	247	428	491	410.5	136	66
30	4.19	-0.025	426	450	245	421	488	405.9	135	66
31	4.19	-0.028	420	444	242	414	485	401.1	133	65
32	4.18	-0.027	415	438	240	406	482	396.3	132	65
33	4.18	-0.026	410	432	237	400	480	391.8	130	66
34	4.18	-0.026	405	426	235	393	477	387.3	129	66
35	4.19	-0.025	400	421	233	386	474	382.9	128	66
36	4.19	-0.026	395	415	231	380	472	378.6	127	66
37	4.19	-0.025	391	410	228	374	469	374.3	128	66
38	4.19	-0.026	386	404	226	368	466	370.0	128	65
39	4.18	-0.026	382	399	223	362	464	365.9	130	65
40	4.17	-0.026	377	394	221	356	461	361.9	132	65
41	4.18	-0.027	373	389	219	351	458	358.1	135	65
42	4.16	-0.028	369	384	216	347	456	354.4	139	65
43	4.15	-0.028	365	380	214	342	453	350.9	143	65
44	4.16	-0.030	361	375	212	339	451	347.5	147	65

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Recording Interval (min): 1
Run Time (min): 60

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
45	4.15	-0.029	357	371	210	335	449	344.2	150	65
46	4.14	-0.030	354	367	208	332	446	341.4	154	65
47	4.14	-0.030	351	363	207	330	444	338.7	157	65
48	4.12	-0.032	348	359	205	328	442	336.5	161	65
49	4.10	-0.031	345	355	204	327	441	334.4	164	65
50	4.09	-0.032	343	352	203	327	440	332.8	169	65
51	4.07	-0.030	341	350	202	326	439	331.4	171	65
52	4.05	-0.032	340	347	201	325	439	330.3	173	65
53	4.03	-0.032	338	345	201	324	438	329.3	176	65
54	4.02	-0.033	337	343	201	323	438	328.6	179	65
55	4.00	-0.031	336	342	201	322	439	327.9	180	65
56	3.98	-0.034	335	341	201	321	439	327.4	182	65
57	3.96	-0.034	335	340	201	320	439	327.1	185	65
58	3.95	-0.034	334	340	201	319	440	326.9	186	65
59	3.93	-0.034	334	339	202	318	441	326.8	188	65
60	3.91	-0.035	334	339	202	317	442	326.9	189	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
0	0.000		0.098	0.49	71	0.6		18.87		84	229	68	65
1	0.121	0.121	0.096	2.74	70	1.1	-	18.83	-0.04	94	243	70	65
2	0.280	0.159	0.096	2.80	71	1.1	-	18.80	-0.03	84	223	69	65
3	0.435	0.155	0.098	2.83	71	1.1	-	18.77	-0.03	81	215	69	65
4	0.595	0.160	0.097	2.84	71	1.1	-	18.74	-0.03	79	213	69	65
5	0.752	0.157	0.096	2.87	71	1.1	-	18.69	-0.05	78	212	69	65
6	0.913	0.161	0.099	2.89	71	1.1	-	18.66	-0.03	78	212	69	65
7	1.076	0.163	0.098	2.93	71	1.1	-	18.61	-0.05	78	213	69	65
8	1.235	0.159	0.098	2.93	71	1.1	-	18.57	-0.04	78	213	69	65
9	1.399	0.164	0.097	2.95	71	1.1	-	18.54	-0.03	78	213	69	65
10	1.563	0.164	0.096	2.97	71	1.1	89	18.49	-0.05	78	216	69	65
11	1.723	0.160	0.098	2.99	71	1.1	-	18.44	-0.05	78	218	69	65
12	1.891	0.168	0.099	3.03	72	1.1	-	18.38	-0.06	78	220	70	65
13	2.053	0.162	0.098	3.03	72	1.2	-	18.35	-0.03	78	222	70	65
14	2.217	0.164	0.098	3.03	72	1.1	-	18.30	-0.05	78	224	70	65
15	2.385	0.168	0.099	3.05	72	1.1	-	18.24	-0.06	78	225	70	65
16	2.549	0.164	0.098	3.07	73	1.1	-	18.19	-0.05	78	227	70	65
17	2.715	0.166	0.098	3.08	73	1.1	-	18.12	-0.07	78	230	70	65
18	2.884	0.169	0.098	3.09	73	1.1	-	18.07	-0.05	78	233	70	65
19	3.048	0.164	0.097	3.10	73	1.2	-	18.00	-0.07	79	235	70	65
20	3.216	0.168	0.097	3.12	74	1.1	93	17.94	-0.06	79	238	70	65
21	3.387	0.171	0.097	3.12	74	1.2	-	17.89	-0.05	79	240	70	65
22	3.552	0.165	0.097	3.15	74	1.2	-	17.82	-0.07	79	241	70	65
23	3.720	0.168	0.098	3.15	75	1.1	-	17.75	-0.07	79	244	70	65
24	3.892	0.172	0.098	3.16	75	1.2	-	17.69	-0.06	79	244	70	65
25	4.061	0.169	0.096	3.17	75	1.1	-	17.63	-0.06	79	246	70	65
26	4.227	0.166	0.098	3.17	76	1.2	-	17.56	-0.07	79	247	70	65
27	4.399	0.172	0.099	3.18	76	1.1	-	17.49	-0.07	79	249	70	65
28	4.570	0.171	0.097	3.20	76	1.1	-	17.42	-0.07	80	250	70	64
29	4.739	0.169	0.097	3.19	77	1.2	-	17.35	-0.07	80	252	70	65
30	4.910	0.171	0.097	3.20	77	1.1	95	17.28	-0.07	80	253	70	65
31	5.083	0.173	0.098	3.20	77	1.1	-	17.20	-0.08	80	254	70	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
32	5.252	0.169	0.098	3.21	78	1.2	-	17.12	-0.08	80	257	70	65
33	5.421	0.169	0.098	3.21	78	1.1	-	17.04	-0.08	80	259	70	65
34	5.595	0.174	0.098	3.22	79	1.2	-	16.98	-0.06	80	262	70	65
35	5.768	0.173	0.098	3.23	79	1.2	-	16.90	-0.08	81	263	70	65
36	5.939	0.171	0.097	3.22	79	1.2	-	16.83	-0.07	81	264	70	65
37	6.111	0.172	0.097	3.23	79	1.1	-	16.75	-0.08	81	266	70	65
38	6.286	0.175	0.098	3.23	80	1.2	-	16.68	-0.07	81	267	70	65
39	6.459	0.173	0.097	3.26	80	1.2	-	16.59	-0.09	81	267	70	65
40	6.629	0.170	0.098	3.24	80	1.2	96	16.51	-0.08	81	269	70	65
41	6.803	0.174	0.099	3.26	81	1.2	-	16.43	-0.08	81	271	70	65
42	6.978	0.175	0.098	3.26	81	1.2	-	16.35	-0.08	81	273	70	65
43	7.150	0.172	0.096	3.26	81	1.2	-	16.28	-0.07	81	275	70	65
44	7.322	0.172	0.098	3.26	82	1.2	-	16.18	-0.10	81	277	71	65
45	7.498	0.176	0.097	3.26	82	1.2	-	16.10	-0.08	81	276	71	65
46	7.674	0.176	0.098	3.28	82	1.2	-	16.01	-0.09	81	279	71	65
47	7.846	0.172	0.097	3.29	83	1.2	-	15.92	-0.09	82	282	71	65
48	8.019	0.173	0.097	3.28	83	1.2	-	15.83	-0.09	82	284	71	65
49	8.196	0.177	0.099	3.29	83	1.2	-	15.75	-0.08	82	282	71	65
50	8.372	0.176	0.097	3.29	83	1.2	97	15.67	-0.08	82	283	71	65
51	8.545	0.173	0.097	3.30	84	1.2	-	15.58	-0.09	82	284	71	65
52	8.719	0.174	0.098	3.30	84	1.2	-	15.49	-0.09	82	287	71	65
53	8.896	0.177	0.097	3.29	84	1.2	-	15.41	-0.08	82	289	71	65
54	9.073	0.177	0.097	3.30	85	1.2	-	15.33	-0.08	82	288	71	65
55	9.246	0.173	0.096	3.32	85	1.2	-	15.26	-0.07	82	288	71	65
56	9.420	0.174	0.097	3.31	85	1.2	-	15.18	-0.08	82	287	71	65
57	9.598	0.178	0.098	3.31	85	1.2	-	15.11	-0.07	82	287	71	65
58	9.776	0.178	0.097	3.31	85	1.2	-	15.03	-0.08	82	287	71	65
59	9.951	0.175	0.098	3.32	86	1.2	-	14.96	-0.07	82	289	71	65
60	10.125	0.174	0.097	3.32	86	1.2	97	14.87	-0.09	82	291	71	65
61	10.306	0.181	0.099	3.32	86	1.2	-	14.79	-0.08	83	291	71	65
62	10.482	0.176	0.098	3.33	86	1.2	-	14.72	-0.07	82	293	71	65
63	10.662	0.180	0.098	3.33	87	1.2	-	14.65	-0.07	82	294	71	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
64	10.833	0.171	0.097	3.33	87	1.2	-	14.56	-0.09	82	294	71	65
65	11.010	0.177	0.097	3.33	87	1.2	-	14.49	-0.07	82	294	71	65
66	11.188	0.178	0.097	3.34	87	1.2	-	14.40	-0.09	83	294	71	65
67	11.365	0.177	0.096	3.34	87	1.2	-	14.32	-0.08	83	293	71	65
68	11.540	0.175	0.097	3.35	88	1.2	-	14.24	-0.08	83	294	71	65
69	11.717	0.177	0.099	3.34	88	1.2	-	14.16	-0.08	83	295	71	65
70	11.896	0.179	0.097	3.35	88	1.2	98	14.07	-0.09	83	295	71	65
71	12.075	0.179	0.097	3.34	88	1.2	-	13.99	-0.08	83	295	71	65
72	12.252	0.177	0.098	3.35	88	1.2	-	13.90	-0.09	83	296	71	65
73	12.428	0.176	0.098	3.35	89	1.2	-	13.82	-0.08	83	294	71	65
74	12.606	0.178	0.098	3.35	89	1.2	-	13.72	-0.10	83	295	71	65
75	12.786	0.180	0.098	3.35	89	1.2	-	13.64	-0.08	83	294	71	65
76	12.964	0.178	0.098	3.36	89	1.2	-	13.55	-0.09	83	295	71	65
77	13.148	0.184	0.096	3.36	89	1.2	-	13.47	-0.08	83	295	71	65
78	13.339	0.191	0.098	3.35	90	1.2	-	13.37	-0.10	83	294	71	65
79	13.531	0.192	0.098	3.36	90	1.2	-	13.27	-0.10	83	294	71	65
80	13.733	0.202	0.098	3.36	90	1.2	101	13.19	-0.08	83	294	71	65
81	13.924	0.191	0.098	3.38	90	1.2	-	13.11	-0.08	82	292	71	65
82	14.105	0.181	0.096	3.37	90	1.2	-	13.02	-0.09	82	291	71	65
83	14.284	0.179	0.097	3.35	90	1.2	-	12.94	-0.08	82	289	71	65
84	14.464	0.180	0.096	3.36	90	1.2	-	12.87	-0.07	82	287	71	65
85	14.641	0.177	0.098	3.37	91	1.2	-	12.78	-0.09	82	287	71	65
86	14.815	0.174	0.097	3.38	91	1.2	-	12.71	-0.07	82	286	71	65
87	14.992	0.177	0.098	3.37	91	1.2	-	12.64	-0.07	82	286	71	65
88	15.173	0.181	0.099	3.35	91	1.2	-	12.57	-0.07	82	283	71	65
89	15.356	0.183	0.097	3.37	91	1.2	-	12.48	-0.09	82	282	71	65
90	15.538	0.182	0.098	3.38	91	1.2	98	12.42	-0.06	82	280	71	65
91	15.716	0.178	0.098	3.38	91	1.2	-	12.35	-0.07	82	278	71	65
92	15.899	0.183	0.098	3.37	91	1.2	-	12.28	-0.07	82	277	70	65
93	16.084	0.185	0.098	3.37	91	1.2	-	12.20	-0.08	81	275	70	65
94	16.270	0.186	0.096	3.37	92	1.2	-	12.12	-0.08	82	277	70	65
95	16.459	0.189	0.099	3.37	92	1.3	-	12.02	-0.10	82	280	70	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
96	16.646	0.187	0.097	3.38	92	1.2	-	11.95	-0.07	82	279	70	65
97	16.835	0.189	0.097	3.38	92	1.2	-	11.84	-0.11	82	280	70	65
98	17.023	0.188	0.098	3.37	92	1.2	-	11.74	-0.10	82	279	70	65
99	17.213	0.190	0.099	3.39	92	1.2	-	11.65	-0.09	82	278	70	65
100	17.406	0.193	0.099	3.38	92	1.2	101	11.57	-0.08	82	275	70	65
101	17.597	0.191	0.098	3.38	92	1.2	-	11.47	-0.10	82	274	70	65
102	17.790	0.193	0.098	3.38	92	1.2	-	11.42	-0.05	81	270	70	65
103	17.985	0.195	0.098	3.38	93	1.2	-	11.34	-0.08	81	265	70	65
104	18.179	0.194	0.096	3.39	93	1.2	-	11.28	-0.06	81	261	70	65
105	18.372	0.193	0.097	3.38	93	1.2	-	11.22	-0.06	80	256	70	65
106	18.566	0.194	0.098	3.39	93	1.2	-	11.17	-0.05	80	252	69	65
107	18.761	0.195	0.097	3.38	93	1.2	-	11.12	-0.05	80	248	69	65
108	18.956	0.195	0.098	3.39	93	1.2	-	11.07	-0.05	80	244	69	65
109	19.149	0.193	0.098	3.40	93	1.2	-	11.02	-0.05	80	240	69	65
110	19.344	0.195	0.098	3.39	93	1.2	105	10.98	-0.04	79	238	69	65
111	19.538	0.194	0.099	3.39	93	1.2	-	10.94	-0.04	79	234	69	65
112	19.733	0.195	0.096	3.39	93	1.2	-	10.89	-0.05	79	231	69	65
113	19.926	0.193	0.097	3.39	93	1.2	-	10.85	-0.04	79	228	69	65
114	20.119	0.193	0.099	3.39	93	1.2	-	10.80	-0.05	79	227	69	65
115	20.313	0.194	0.096	3.39	93	1.2	-	10.77	-0.03	79	224	69	65
116	20.508	0.195	0.097	3.39	94	1.2	-	10.73	-0.04	79	222	69	65
117	20.702	0.194	0.098	3.39	94	1.2	-	10.69	-0.04	79	221	69	65
118	20.897	0.195	0.096	3.40	94	1.2	-	10.64	-0.05	78	220	69	65
119	21.091	0.194	0.099	3.38	94	1.2	-	10.60	-0.04	78	220	69	65
120	21.286	0.195	0.097	3.40	94	1.2	105	10.56	-0.04	78	220	69	65
121	21.482	0.196	0.097	3.39	94	1.2	-	10.52	-0.04	78	221	69	65
122	21.677	0.195	0.097	3.41	94	1.2	-	10.48	-0.04	78	221	69	64
123	21.872	0.195	0.099	3.40	94	1.2	-	10.44	-0.04	78	221	69	64
124	22.067	0.195	0.097	3.40	94	1.2	-	10.40	-0.04	78	221	68	64
125	22.262	0.195	0.097	3.39	94	1.2	-	10.36	-0.04	78	222	68	64
126	22.459	0.197	0.098	3.40	94	1.2	-	10.31	-0.05	78	224	68	64
127	22.654	0.195	0.098	3.40	94	1.2	-	10.27	-0.04	78	224	68	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
128	22.849	0.195	0.097	3.39	94	1.2	-	10.22	-0.05	78	225	68	64
129	23.043	0.194	0.098	3.39	94	1.2	-	10.19	-0.03	78	226	68	64
130	23.238	0.195	0.096	3.40	94	1.2	106	10.14	-0.05	78	227	68	64
131	23.434	0.196	0.098	3.40	94	1.2	-	10.10	-0.04	78	228	68	64
132	23.628	0.194	0.098	3.40	95	1.2	-	10.06	-0.04	78	228	68	64
133	23.822	0.194	0.098	3.41	95	1.2	-	10.02	-0.04	78	231	68	64
134	24.016	0.194	0.098	3.40	95	1.2	-	9.97	-0.05	78	231	68	64
135	24.211	0.195	0.097	3.40	95	1.2	-	9.92	-0.05	78	232	68	64
136	24.406	0.195	0.097	3.41	95	1.2	-	9.87	-0.05	78	234	68	64
137	24.601	0.195	0.096	3.41	95	1.2	-	9.83	-0.04	78	236	68	64
138	24.796	0.195	0.097	3.40	95	1.2	-	9.77	-0.06	78	238	68	64
139	24.990	0.194	0.098	3.41	95	1.2	-	9.73	-0.04	78	238	68	64
140	25.186	0.196	0.098	3.41	95	1.2	105	9.68	-0.05	78	239	68	64
141	25.381	0.195	0.099	3.40	95	1.2	-	9.62	-0.06	78	242	68	64
142	25.578	0.197	0.099	3.41	95	1.2	-	9.57	-0.05	79	243	68	64
143	25.773	0.195	0.098	3.41	95	1.2	-	9.52	-0.05	79	243	68	64
144	25.969	0.196	0.097	3.41	95	1.2	-	9.46	-0.06	79	245	68	65
145	26.164	0.195	0.098	3.41	95	1.2	-	9.42	-0.04	79	246	68	65
146	26.359	0.195	0.098	3.41	95	1.2	-	9.37	-0.05	79	246	68	65
147	26.556	0.197	0.099	3.41	95	1.2	-	9.32	-0.05	79	246	68	65
148	26.753	0.197	0.098	3.41	95	1.2	-	9.26	-0.06	79	246	68	65
149	26.950	0.197	0.098	3.42	95	1.2	-	9.22	-0.04	79	247	68	64
150	27.148	0.198	0.097	3.41	95	1.2	106	9.16	-0.06	79	246	68	64
151	27.346	0.198	0.097	3.41	95	1.2	-	9.11	-0.05	79	247	68	64
152	27.545	0.199	0.097	3.41	95	1.2	-	9.06	-0.05	79	247	68	64
153	27.745	0.200	0.097	3.42	95	1.2	-	9.01	-0.05	79	248	68	64
154	27.944	0.199	0.097	3.42	95	1.2	-	8.94	-0.07	79	248	68	64
155	28.144	0.200	0.097	3.41	95	1.2	-	8.90	-0.04	79	248	68	64
156	28.345	0.201	0.097	3.41	96	1.2	-	8.85	-0.05	79	249	68	64
157	28.546	0.201	0.098	3.42	96	1.2	-	8.79	-0.06	79	249	68	64
158	28.751	0.205	0.098	3.43	96	1.2	-	8.75	-0.04	79	250	68	64
159	28.950	0.199	0.097	3.41	96	1.2	-	8.70	-0.05	79	251	68	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
160	29.156	0.206	0.098	3.41	96	1.2	108	8.64	-0.06	79	252	68	65
161	29.356	0.200	0.096	3.41	96	1.2	-	8.60	-0.04	79	251	68	64
162	29.567	0.211	0.097	3.43	95	1.2	-	8.54	-0.06	79	253	68	64
163	29.756	0.189	0.097	3.42	94	1.2	-	8.49	-0.05	79	253	68	65
164	29.941	0.185	0.098	3.42	94	1.2	-	8.44	-0.05	79	253	69	65
165	30.127	0.186	0.097	3.41	94	1.2	-	8.39	-0.05	79	254	69	64
166	30.309	0.182	0.098	3.42	93	1.2	-	8.33	-0.06	79	254	69	65
167	30.497	0.188	0.097	3.42	93	1.2	-	8.28	-0.05	79	254	69	64
168	30.681	0.184	0.097	3.43	93	1.2	-	8.22	-0.06	79	254	69	65
169	30.868	0.187	0.098	3.43	93	1.2	-	8.16	-0.06	79	255	69	64
170	31.052	0.184	0.099	3.41	93	1.2	102	8.11	-0.05	79	256	69	64
171	31.239	0.187	0.098	3.41	93	1.2	-	8.04	-0.07	79	258	69	64
172	31.424	0.185	0.097	3.42	93	1.2	-	7.98	-0.06	79	259	69	64
173	31.606	0.182	0.097	3.41	93	1.2	-	7.92	-0.06	79	260	69	64
174	31.791	0.185	0.096	3.41	93	1.2	-	7.86	-0.06	79	259	69	64
175	31.974	0.183	0.097	3.41	93	1.2	-	7.80	-0.06	79	260	69	64
176	32.162	0.188	0.098	3.41	93	1.2	-	7.74	-0.06	79	259	69	64
177	32.346	0.184	0.098	3.42	93	1.2	-	7.68	-0.06	79	259	69	64
178	32.533	0.187	0.098	3.42	93	1.2	-	7.62	-0.06	79	260	69	63
179	32.717	0.184	0.096	3.41	93	1.2	-	7.56	-0.06	79	259	69	63
180	32.901	0.184	0.097	3.41	93	1.2	100	7.49	-0.07	79	259	69	63
181	33.084	0.183	0.098	3.41	93	1.2	-	7.42	-0.07	79	259	69	63
182	33.268	0.184	0.097	3.42	93	1.2	-	7.36	-0.06	79	260	69	63
183	33.456	0.188	0.098	3.42	93	1.2	-	7.30	-0.06	79	263	69	63
184	33.639	0.183	0.098	3.42	93	1.2	-	7.24	-0.06	79	263	69	63
185	33.828	0.189	0.098	3.42	93	1.2	-	7.18	-0.06	79	265	69	63
186	34.007	0.179	0.098	3.44	93	1.2	-	7.11	-0.07	79	267	69	63
187	34.195	0.188	0.097	3.42	93	1.2	-	7.04	-0.07	79	270	69	63
188	34.376	0.181	0.098	3.43	93	1.2	-	6.97	-0.07	79	270	69	63
189	34.566	0.190	0.099	3.41	93	1.2	-	6.89	-0.08	79	271	68	63
190	34.752	0.186	0.098	3.42	93	1.2	100	6.83	-0.06	79	273	68	63
191	34.937	0.185	0.098	3.42	93	1.2	-	6.75	-0.08	79	272	68	62

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
192	35.123	0.186	0.097	3.42	93	1.2	-	6.64	-0.11	80	275	68	63
193	35.305	0.182	0.099	3.42	93	1.2	-	6.61	-0.03	79	273	68	63
194	35.486	0.181	0.097	3.42	93	1.2	-	6.55	-0.06	79	273	68	63
195	35.675	0.189	0.098	3.42	93	1.2	-	6.48	-0.07	80	273	69	63
196	35.860	0.185	0.096	3.42	93	1.2	-	6.41	-0.07	80	272	69	63
197	36.048	0.188	0.098	3.43	93	1.2	-	6.35	-0.06	79	268	69	63
198	36.233	0.185	0.098	3.42	93	1.2	-	6.29	-0.06	79	266	69	63
199	36.413	0.180	0.096	3.42	93	1.2	-	6.22	-0.07	79	263	69	63
200	36.597	0.184	0.098	3.43	93	1.2	100	6.15	-0.07	79	260	69	63
201	36.784	0.187	0.097	3.42	93	1.2	-	6.09	-0.06	79	259	69	63
202	36.971	0.187	0.097	3.43	93	1.2	-	6.02	-0.07	79	258	69	63
203	37.156	0.185	0.098	3.44	93	1.2	-	5.96	-0.06	79	257	69	63
204	37.340	0.184	0.098	3.43	93	1.2	-	5.90	-0.06	79	255	69	63
205	37.527	0.187	0.097	3.43	93	1.2	-	5.84	-0.06	79	253	69	63
206	37.707	0.180	0.098	3.42	93	1.2	-	5.79	-0.05	79	251	69	63
207	37.892	0.185	0.098	3.43	93	1.2	-	5.72	-0.07	79	250	69	63
208	38.076	0.184	0.099	3.43	93	1.2	-	5.67	-0.05	78	249	69	63
209	38.263	0.187	0.098	3.43	93	1.2	-	5.61	-0.06	78	247	69	64
210	38.450	0.187	0.097	3.43	93	1.2	100	5.56	-0.05	78	246	69	63
211	38.639	0.189	0.097	3.42	93	1.2	-	5.51	-0.05	78	244	69	64
212	38.821	0.182	0.097	3.43	94	1.2	-	5.44	-0.07	78	242	69	64
213	39.006	0.185	0.098	3.42	93	1.2	-	5.40	-0.04	78	240	69	64
214	39.191	0.185	0.098	3.43	93	1.2	-	5.34	-0.06	78	239	69	64
215	39.373	0.182	0.098	3.44	94	1.2	-	5.30	-0.04	78	238	69	64
216	39.559	0.186	0.097	3.42	94	1.2	-	5.24	-0.06	78	237	69	64
217	39.749	0.190	0.097	3.42	94	1.2	-	5.19	-0.05	77	235	69	64
218	39.931	0.182	0.098	3.44	94	1.2	-	5.14	-0.05	77	234	69	64
219	40.119	0.188	0.097	3.43	94	1.2	-	5.09	-0.05	77	234	69	64
220	40.302	0.183	0.098	3.44	94	1.2	100	5.05	-0.04	77	233	69	64
221	40.483	0.181	0.096	3.42	94	1.2	-	5.01	-0.04	77	232	69	64
222	40.670	0.187	0.098	3.42	94	1.2	-	4.95	-0.06	77	232	69	64
223	40.855	0.185	0.097	3.43	94	1.2	-	4.91	-0.04	77	232	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
224	41.043	0.188	0.098	3.42	94	1.2	-	4.86	-0.05	77	231	69	64
225	41.227	0.184	0.098	3.44	94	1.2	-	4.82	-0.04	77	230	69	64
226	41.412	0.185	0.098	3.43	94	1.2	-	4.77	-0.05	77	230	69	64
227	41.598	0.186	0.097	3.43	94	1.2	-	4.72	-0.05	77	229	69	64
228	41.783	0.185	0.096	3.43	94	1.2	-	4.67	-0.05	77	229	69	64
229	41.967	0.184	0.099	3.43	94	1.2	-	4.64	-0.03	77	228	69	64
230	42.155	0.188	0.097	3.42	94	1.2	100	4.58	-0.06	77	227	69	64
231	42.342	0.187	0.097	3.44	94	1.2	-	4.54	-0.04	77	227	69	64
232	42.524	0.182	0.098	3.44	94	1.2	-	4.49	-0.05	77	227	69	64
233	42.708	0.184	0.098	3.44	94	1.2	-	4.45	-0.04	76	226	69	64
234	42.893	0.185	0.097	3.42	94	1.2	-	4.41	-0.04	76	226	69	64
235	43.079	0.186	0.097	3.43	94	1.2	-	4.36	-0.05	76	226	69	64
236	43.264	0.185	0.096	3.43	94	1.2	-	4.32	-0.04	76	225	69	64
237	43.449	0.185	0.098	3.44	94	1.2	-	4.27	-0.05	76	224	69	64
238	43.636	0.187	0.097	3.43	94	1.2	-	4.23	-0.04	76	222	69	64
239	43.821	0.185	0.098	3.44	94	1.2	-	4.19	-0.04	76	222	69	64
240	44.005	0.184	0.097	3.43	94	1.2	100	4.16	-0.03	76	221	69	64
241	44.193	0.188	0.098	3.43	94	1.2	-	4.11	-0.05	76	222	69	64
242	44.377	0.184	0.097	3.43	94	1.2	-	4.07	-0.04	76	221	69	64
243	44.562	0.185	0.098	3.43	94	1.2	-	4.03	-0.04	76	221	69	64
244	44.750	0.188	0.099	3.45	94	1.2	-	3.99	-0.04	76	221	69	64
245	44.934	0.184	0.097	3.42	94	1.2	-	3.95	-0.04	76	220	69	64
246	45.122	0.188	0.097	3.43	94	1.2	-	3.91	-0.04	76	221	69	64
247	45.303	0.181	0.096	3.42	94	1.2	-	3.87	-0.04	76	221	69	64
248	45.488	0.185	0.097	3.44	94	1.2	-	3.83	-0.04	76	220	69	64
249	45.675	0.187	0.097	3.43	94	1.2	-	3.79	-0.04	75	218	68	64
250	45.860	0.185	0.098	3.43	94	1.2	100	3.76	-0.03	75	219	69	64
251	46.049	0.189	0.097	3.44	94	1.2	-	3.72	-0.04	75	220	68	64
252	46.236	0.187	0.099	3.42	94	1.2	-	3.67	-0.05	75	219	69	64
253	46.419	0.183	0.097	3.44	94	1.2	-	3.63	-0.04	75	218	68	64
254	46.601	0.182	0.098	3.43	94	1.2	-	3.60	-0.03	75	218	69	64
255	46.787	0.186	0.097	3.42	94	1.2	-	3.56	-0.04	75	217	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
256	46.972	0.185	0.097	3.45	94	1.2	-	3.52	-0.04	75	217	68	64
257	47.162	0.190	0.097	3.43	94	1.2	-	3.47	-0.05	75	217	68	64
258	47.345	0.183	0.098	3.44	94	1.2	-	3.44	-0.03	75	218	68	64
259	47.532	0.187	0.096	3.42	94	1.2	-	3.40	-0.04	75	218	68	64
260	47.717	0.185	0.098	3.45	94	1.2	100	3.36	-0.04	75	217	68	64
261	47.904	0.187	0.099	3.43	94	1.2	-	3.32	-0.04	75	217	68	64
262	48.086	0.182	0.097	3.43	94	1.2	-	3.29	-0.03	75	216	68	64
263	48.270	0.184	0.097	3.44	94	1.2	-	3.24	-0.05	75	217	68	64
264	48.458	0.188	0.098	3.42	94	1.2	-	3.20	-0.04	75	217	68	64
265	48.647	0.189	0.096	3.44	94	1.2	-	3.16	-0.04	75	217	68	64
266	48.830	0.183	0.097	3.43	94	1.2	-	3.12	-0.04	75	218	68	64
267	49.018	0.188	0.096	3.43	94	1.2	-	3.07	-0.05	75	218	68	64
268	49.202	0.184	0.096	3.44	94	1.2	-	3.03	-0.04	75	218	68	64
269	49.384	0.182	0.097	3.44	94	1.2	-	2.99	-0.04	75	218	68	64
270	49.569	0.185	0.097	3.44	94	1.2	100	2.95	-0.04	75	219	68	64
271	49.757	0.188	0.098	3.43	94	1.2	-	2.92	-0.03	75	219	68	64
272	49.945	0.188	0.098	3.45	94	1.2	-	2.87	-0.05	75	219	68	63
273	50.129	0.184	0.097	3.44	94	1.2	-	2.84	-0.03	75	218	68	63
274	50.315	0.186	0.098	3.45	94	1.2	-	2.79	-0.05	75	218	68	63
275	50.498	0.183	0.097	3.42	94	1.2	-	2.75	-0.04	75	219	68	64
276	50.683	0.185	0.097	3.42	94	1.2	-	2.71	-0.04	75	218	68	63
277	50.868	0.185	0.097	3.44	94	1.2	-	2.67	-0.04	75	217	68	63
278	51.055	0.187	0.097	3.43	94	1.2	-	2.63	-0.04	75	217	68	63
279	51.241	0.186	0.098	3.44	94	1.2	-	2.60	-0.03	75	218	68	63
280	51.427	0.186	0.098	3.44	94	1.2	100	2.55	-0.05	75	217	68	63
281	51.616	0.189	0.098	3.44	94	1.2	-	2.53	-0.02	75	217	68	63
282	51.796	0.180	0.098	3.42	94	1.2	-	2.50	-0.03	75	217	68	63
283	51.982	0.186	0.098	3.43	94	1.2	-	2.44	-0.06	75	216	68	63
284	52.166	0.184	0.098	3.44	94	1.2	-	2.41	-0.03	75	215	68	63
285	52.357	0.191	0.097	3.43	94	1.2	-	2.38	-0.03	75	215	68	63
286	52.540	0.183	0.097	3.44	94	1.2	-	2.35	-0.03	75	215	68	63
287	52.726	0.186	0.097	3.44	94	1.2	-	2.30	-0.05	75	215	68	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
288	52.913	0.187	0.098	3.44	94	1.2	-	2.28	-0.02	75	217	68	63
289	53.099	0.186	0.098	3.43	94	1.2	-	2.24	-0.04	75	215	68	63
290	53.281	0.182	0.097	3.43	94	1.2	100	2.21	-0.03	75	213	68	63
291	53.465	0.184	0.098	3.44	94	1.2	-	2.18	-0.03	75	213	68	63
292	53.656	0.191	0.097	3.43	94	1.2	-	2.15	-0.03	75	211	68	63
293	53.839	0.183	0.098	3.44	94	1.2	-	2.12	-0.03	75	210	68	63
294	54.026	0.187	0.096	3.44	94	1.2	-	2.09	-0.03	75	209	68	63
295	54.212	0.186	0.096	3.44	94	1.2	-	2.06	-0.03	75	207	68	63
296	54.395	0.183	0.099	3.43	94	1.2	-	2.03	-0.03	75	207	68	63
297	54.584	0.189	0.097	3.43	94	1.2	-	2.00	-0.03	75	207	68	63
298	54.765	0.181	0.098	3.44	94	1.2	-	1.97	-0.03	75	206	68	63
299	54.953	0.188	0.098	3.44	94	1.2	-	1.94	-0.03	75	205	68	63
300	55.139	0.186	0.098	3.44	94	1.2	100	1.91	-0.03	75	205	68	63
301	55.329	0.190	0.099	3.44	94	1.2	-	1.88	-0.03	75	205	68	63
302	55.512	0.183	0.098	3.43	94	1.2	-	1.86	-0.02	74	205	68	63
303	55.694	0.182	0.096	3.43	94	1.2	-	1.82	-0.04	74	205	68	63
304	55.880	0.186	0.098	3.43	94	1.2	-	1.80	-0.02	75	206	68	63
305	56.067	0.187	0.097	3.44	94	1.2	-	1.77	-0.03	75	206	68	63
306	56.252	0.185	0.096	3.43	94	1.2	-	1.73	-0.04	75	206	68	63
307	56.438	0.186	0.097	3.44	94	1.2	-	1.71	-0.02	75	205	68	63
308	56.625	0.187	0.097	3.43	94	1.2	-	1.68	-0.03	75	205	68	63
309	56.811	0.186	0.098	3.43	94	1.2	-	1.65	-0.03	75	206	68	63
310	56.994	0.183	0.098	3.43	94	1.2	100	1.62	-0.03	75	205	68	63
311	57.183	0.189	0.097	3.43	94	1.2	-	1.59	-0.03	75	206	68	63
312	57.364	0.181	0.098	3.43	94	1.2	-	1.55	-0.04	75	208	68	63
313	57.554	0.190	0.097	3.43	94	1.2	-	1.52	-0.03	75	209	68	63
314	57.741	0.187	0.099	3.44	94	1.2	-	1.48	-0.04	75	209	68	63
315	57.925	0.184	0.097	3.42	94	1.2	-	1.45	-0.03	75	211	68	63
316	58.110	0.185	0.096	3.44	94	1.2	-	1.42	-0.03	75	211	68	63
317	58.293	0.183	0.098	3.43	94	1.2	-	1.38	-0.04	75	211	68	63
318	58.479	0.186	0.097	3.43	94	1.2	-	1.34	-0.04	75	211	68	63
319	58.664	0.185	0.098	3.44	94	1.2	-	1.31	-0.03	75	211	68	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
320	58.854	0.190	0.098	3.43	94	1.2	100	1.28	-0.03	75	211	68	63
321	59.037	0.183	0.098	3.43	94	1.2	-	1.24	-0.04	75	210	68	63
322	59.227	0.190	0.097	3.43	94	1.2	-	1.22	-0.02	75	209	68	63
323	59.410	0.183	0.098	3.44	94	1.2	-	1.19	-0.03	75	209	68	63
324	59.593	0.183	0.096	3.43	94	1.2	-	1.16	-0.03	74	208	68	63
325	59.778	0.185	0.097	3.45	94	1.2	-	1.13	-0.03	74	207	68	63
326	59.965	0.187	0.096	3.43	94	1.2	-	1.10	-0.03	74	206	68	63
327	60.151	0.186	0.097	3.43	94	1.2	-	1.09	-0.01	74	204	68	63
328	60.340	0.189	0.098	3.43	94	1.2	-	1.06	-0.03	74	203	68	63
329	60.524	0.184	0.097	3.43	94	1.2	-	1.04	-0.02	74	203	68	63
330	60.709	0.185	0.098	3.43	94	1.2	100	1.00	-0.04	75	201	68	63
331	60.897	0.188	0.097	3.42	94	1.2	-	0.99	-0.01	75	200	68	63
332	61.081	0.184	0.097	3.43	94	1.2	-	0.96	-0.03	75	199	68	63
333	61.265	0.184	0.097	3.43	94	1.2	-	0.95	-0.01	75	197	68	63
334	61.450	0.185	0.098	3.45	94	1.2	-	0.93	-0.02	74	196	68	63
335	61.636	0.186	0.097	3.44	94	1.2	-	0.91	-0.02	74	194	68	63
336	61.823	0.187	0.098	3.43	94	1.2	-	0.88	-0.03	74	192	68	63
337	62.009	0.186	0.097	3.44	94	1.2	-	0.87	-0.01	74	191	68	63
338	62.197	0.188	0.097	3.43	94	1.2	-	0.85	-0.02	74	190	68	63
339	62.379	0.182	0.099	3.44	94	1.2	-	0.83	-0.02	74	188	68	63
340	62.566	0.187	0.098	3.44	94	1.2	100	0.81	-0.02	73	186	68	63
341	62.751	0.185	0.097	3.44	94	1.2	-	0.79	-0.02	73	185	68	63
342	62.937	0.186	0.098	3.45	94	1.2	-	0.78	-0.01	74	184	68	63
343	63.124	0.187	0.097	3.43	94	1.2	-	0.76	-0.02	74	183	68	63
344	63.309	0.185	0.099	3.43	94	1.2	-	0.75	-0.01	74	182	68	63
345	63.494	0.185	0.098	3.43	94	1.2	-	0.73	-0.02	74	181	68	63
346	63.679	0.185	0.098	3.44	94	1.2	-	0.71	-0.02	74	179	68	63
347	63.863	0.184	0.097	3.44	94	1.2	-	0.70	-0.01	73	179	68	63
348	64.051	0.188	0.097	3.43	94	1.2	-	0.67	-0.03	73	177	68	63
349	64.237	0.186	0.098	3.45	94	1.2	-	0.66	-0.01	73	177	68	63
350	64.425	0.188	0.097	3.43	94	1.2	100	0.64	-0.02	73	176	68	63
351	64.609	0.184	0.097	3.44	94	1.2	-	0.63	-0.01	73	175	68	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
352	64.795	0.186	0.097	3.43	94	1.2	-	0.60	-0.03	73	175	67	63
353	64.979	0.184	0.099	3.43	94	1.2	-	0.59	-0.01	73	175	68	63
354	65.163	0.184	0.099	3.44	94	1.2	-	0.57	-0.02	73	174	67	63
355	65.351	0.188	0.097	3.43	94	1.2	-	0.56	-0.01	73	173	67	63
356	65.537	0.186	0.097	3.44	94	1.2	-	0.54	-0.02	73	173	68	63
357	65.725	0.188	0.097	3.43	94	1.2	-	0.53	-0.01	73	172	68	63
358	65.913	0.188	0.098	3.43	94	1.2	-	0.50	-0.03	73	171	68	63
359	66.095	0.182	0.098	3.43	94	1.2	-	0.48	-0.02	73	171	68	63
360	66.282	0.187	0.098	3.44	94	1.2	100	0.47	-0.01	73	171	67	63
361	66.464	0.182	0.097	3.42	94	1.2	-	0.46	-0.01	73	170	67	63
362	66.653	0.189	0.097	3.44	94	1.2	-	0.44	-0.02	73	170	67	63
363	66.837	0.184	0.098	3.44	94	1.2	-	0.42	-0.02	73	170	67	63
364	67.025	0.188	0.097	3.42	94	1.2	-	0.40	-0.02	73	169	67	63
365	67.213	0.188	0.097	3.44	94	1.2	-	0.40	0.00	73	169	67	63
366	67.396	0.183	0.097	3.44	94	1.2	-	0.38	-0.02	73	170	67	63
367	67.579	0.183	0.098	3.44	94	1.2	-	0.36	-0.02	73	170	67	63
368	67.765	0.186	0.098	3.44	94	1.2	-	0.34	-0.02	73	170	67	63
369	67.951	0.186	0.099	3.44	94	1.2	-	0.33	-0.01	73	169	67	63
370	68.137	0.186	0.097	3.43	94	1.2	100	0.32	-0.01	73	169	67	63
371	68.326	0.189	0.097	3.44	94	1.2	-	0.30	-0.02	73	168	67	63
372	68.511	0.185	0.098	3.44	94	1.2	-	0.27	-0.03	73	169	67	63
373	68.700	0.189	0.097	3.44	94	1.2	-	0.26	-0.01	72	169	67	63
374	68.883	0.183	0.097	3.44	94	1.2	-	0.25	-0.01	72	169	67	63
375	69.066	0.183	0.098	3.44	94	1.2	-	0.23	-0.02	72	169	67	63
376	69.254	0.188	0.098	3.45	94	1.2	-	0.21	-0.02	72	170	67	63
377	69.438	0.184	0.099	3.44	94	1.2	-	0.21	0.00	72	171	67	63
378	69.628	0.190	0.098	3.44	94	1.2	-	0.18	-0.03	72	171	67	63
379	69.811	0.183	0.098	3.43	94	1.2	-	0.16	-0.02	72	172	67	63
380	70.002	0.191	0.098	3.45	94	1.2	100	0.14	-0.02	73	172	67	63
381	70.184	0.182	0.098	3.44	94	1.2	-	0.12	-0.02	73	173	67	63
382	70.367	0.183	0.098	3.45	94	1.2	-	0.13	0.01	73	174	67	63
383	70.552	0.185	0.096	3.43	94	1.2	-	0.10	-0.03	73	173	67	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
384	70.739	0.187	0.097	3.43	94	1.2	-	0.08	-0.02	73	175	67	63
385	70.927	0.188	0.097	3.45	94	1.2	-	0.07	-0.01	73	174	67	63
386	71.112	0.185	0.099	3.44	94	1.2	-	0.04	-0.03	73	176	67	63
387	71.299	0.187	0.098	3.44	94	1.2	-	0.02	-0.02	72	176	67	63
388	71.482	0.183	0.097	3.44	94	1.2	-	0.01	-0.01	72	178	67	63
389	71.667	0.185	0.098	3.43	94	1.2	99	0.00	-0.01	72	179	67	63
Avg/Tot	71.667	0.184	0.098	3.37	90.9	1.2	100			77.5	232.8	68.8	63.9

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
0	0.000		0.01	70	0.6		70	-0.044	8.74	0.128
1	0.125	0.125	3.14	70	1.9	-	71	-0.041	2.91	0.508
2	0.298	0.173	3.15	70	1.7	-	71	-0.043	5.21	0.015
3	0.468	0.170	3.14	70	1.7	-	71	-0.044	6.37	0.009
4	0.639	0.171	3.13	70	1.9	-	71	-0.044	6.38	0.008
5	0.813	0.174	3.14	70	2.1	-	71	-0.044	6.00	0.007
6	0.986	0.173	3.15	70	1.8	-	71	-0.045	6.30	0.010
7	1.157	0.171	3.14	71	2.1	-	71	-0.044	6.64	0.009
8	1.329	0.172	3.15	71	1.7	-	71	-0.045	6.42	0.006
9	1.504	0.175	3.16	71	1.7	-	71	-0.045	6.38	0.007
10	1.677	0.173	3.16	71	1.9	98	71	-0.046	6.64	0.008
11	1.848	0.171	3.16	71	1.7	-	71	-0.047	6.77	0.008
12	2.021	0.173	3.16	71	1.9	-	71	-0.047	6.93	0.010
13	2.196	0.175	3.16	72	2.1	-	71	-0.047	7.15	0.008
14	2.369	0.173	3.17	72	2.0	-	71	-0.047	7.23	0.009
15	2.540	0.171	3.17	72	1.6	-	71	-0.047	7.65	0.010
16	2.714	0.174	3.17	72	2.1	-	71	-0.048	7.67	0.008
17	2.889	0.175	3.17	73	1.9	-	71	-0.049	7.63	0.010
18	3.063	0.174	3.17	73	1.7	-	71	-0.049	7.93	0.009
19	3.235	0.172	3.17	73	1.7	-	71	-0.050	7.91	0.009
20	3.409	0.174	3.17	74	1.9	100	71	-0.050	7.90	0.006
21	3.585	0.176	3.18	74	1.6	-	71	-0.050	7.80	0.009
22	3.759	0.174	3.18	74	2.1	-	71	-0.051	7.83	0.006
23	3.932	0.173	3.18	75	2.1	-	71	-0.051	8.19	0.012
24	4.106	0.174	3.19	75	1.6	-	71	-0.051	8.46	0.009
25	4.282	0.176	3.19	75	2.0	-	71	-0.051	8.51	0.004
26	4.457	0.175	3.19	76	2.1	-	71	-0.052	8.58	0.005
27	4.629	0.172	3.18	76	1.6	-	71	-0.052	8.66	0.006
28	4.804	0.175	3.19	76	1.7	-	71	-0.052	8.87	0.008
29	4.980	0.176	3.20	76	1.6	-	71	-0.052	8.94	0.007
30	5.157	0.177	3.19	77	1.9	101	71	-0.052	9.25	0.008
31	5.331	0.174	3.20	77	2.1	-	71	-0.053	9.41	0.005

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
32	5.505	0.174	3.20	77	1.7	-	71	-0.053	9.45	0.009
33	5.682	0.177	3.20	78	2.1	-	71	-0.056	9.30	0.008
34	5.859	0.177	3.21	78	1.9	-	71	-0.054	9.20	0.006
35	6.034	0.175	3.22	78	1.6	-	71	-0.053	9.00	0.007
36	6.207	0.173	3.21	79	2.1	-	71	-0.055	9.01	0.007
37	6.383	0.176	3.20	79	1.7	-	71	-0.055	9.38	0.006
38	6.561	0.178	3.21	79	2.0	-	72	-0.055	9.48	0.007
39	6.737	0.176	3.21	80	1.7	-	72	-0.055	10.27	0.005
40	6.911	0.174	3.21	80	2.1	100	72	-0.056	10.31	0.011
41	7.088	0.177	3.22	80	1.7	-	72	-0.055	10.06	0.010
42	7.266	0.178	3.22	81	2.1	-	72	-0.057	9.80	0.008
43	7.443	0.177	3.22	81	2.1	-	72	-0.057	9.85	0.011
44	7.620	0.177	3.22	81	1.6	-	72	-0.056	10.14	0.007
45	7.794	0.174	3.23	81	2.1	-	72	-0.056	10.73	0.010
46	7.971	0.177	3.22	82	1.8	-	72	-0.056	11.39	0.005
47	8.149	0.178	3.22	82	1.9	-	72	-0.058	11.05	0.008
48	8.326	0.177	3.22	82	1.6	-	72	-0.058	11.07	0.007
49	8.502	0.176	3.23	83	2.1	-	72	-0.058	11.01	0.009
50	8.678	0.176	3.23	83	1.6	101	72	-0.058	10.96	0.010
51	8.857	0.179	3.23	83	1.6	-	72	-0.059	10.63	0.005
52	9.035	0.178	3.24	83	1.6	-	72	-0.058	10.85	0.013
53	9.212	0.177	3.23	84	1.6	-	72	-0.059	10.48	0.007
54	9.387	0.175	3.23	84	1.8	-	72	-0.058	10.70	0.008
55	9.564	0.177	3.24	84	1.7	-	72	-0.058	10.49	0.008
56	9.744	0.180	3.24	84	1.8	-	72	-0.058	10.97	0.006
57	9.922	0.178	3.24	85	2.1	-	72	-0.058	11.02	0.004
58	10.100	0.178	3.24	85	2.1	-	72	-0.058	10.76	0.008
59	10.275	0.175	3.24	85	2.1	-	72	-0.058	10.81	0.007
60	10.453	0.178	3.24	85	1.6	101	72	-0.059	10.86	0.007
61	10.635	0.182	3.25	86	1.6	-	72	-0.060	10.75	0.006
62	10.812	0.177	3.24	86	1.6	-	72	-0.058	10.96	0.006
63	10.992	0.180	3.25	86	1.8	-	72	-0.057	11.04	0.006

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
64	11.165	0.173	3.24	86	1.7	-	72	-0.060	11.27	0.009
65	11.343	0.178	3.24	86	2.0	-	72	-0.059	11.33	0.003
66	11.522	0.179	3.24	87	1.7	-	72	-0.061	11.52	0.007
67	11.702	0.180	3.25	87	1.7	-	72	-0.062	11.76	0.006
68	11.879	0.177	3.24	87	1.7	-	72	-0.061	12.22	0.007
69	12.056	0.177	3.26	87	1.7	-	72	-0.059	12.03	0.006
70	12.234	0.178	3.24	87	1.6	101	72	-0.060	12.28	0.005
71	12.413	0.179	3.24	88	2.0	-	72	-0.060	12.53	0.008
72	12.593	0.180	3.25	88	1.6	-	72	-0.058	12.51	0.006
73	12.770	0.177	3.25	88	1.6	-	72	-0.059	12.79	0.008
74	12.948	0.178	3.25	88	2.0	-	72	-0.063	13.09	0.012
75	13.126	0.178	3.25	88	1.6	-	72	-0.060	13.10	0.008
76	13.305	0.179	3.24	88	2.0	-	72	-0.061	13.27	0.007
77	13.485	0.180	3.25	89	1.9	-	72	-0.062	13.26	0.008
78	13.663	0.178	3.24	89	2.0	-	72	-0.061	13.37	0.012
79	13.840	0.177	3.25	89	1.9	-	72	-0.061	13.80	0.010
80	14.019	0.179	3.25	89	1.7	100	72	-0.061	13.34	0.012
81	14.198	0.179	3.25	89	1.6	-	72	-0.060	13.25	0.022
82	14.379	0.181	3.25	89	2.0	-	72	-0.060	13.44	0.023
83	14.557	0.178	3.25	89	2.1	-	72	-0.060	13.50	0.011
84	14.734	0.177	3.25	90	2.1	-	72	-0.060	13.28	0.008
85	14.913	0.179	3.25	90	2.1	-	72	-0.058	12.96	0.008
86	15.093	0.180	3.25	90	1.9	-	72	-0.059	12.68	0.006
87	15.273	0.180	3.25	90	1.7	-	72	-0.060	12.72	0.005
88	15.452	0.179	3.25	90	2.0	-	72	-0.057	13.04	0.007
89	15.628	0.176	3.25	90	1.9	-	72	-0.061	12.57	0.006
90	15.807	0.179	3.25	90	1.6	100	72	-0.059	13.12	0.011
91	15.988	0.181	3.25	90	2.1	-	72	-0.057	13.09	0.009
92	16.169	0.181	3.26	90	2.1	-	72	-0.059	13.14	0.011
93	16.347	0.178	3.26	91	1.7	-	72	-0.058	12.87	0.018
94	16.524	0.177	3.25	91	2.2	-	72	-0.058	12.87	0.018
95	16.704	0.180	3.26	91	1.7	-	72	-0.060	13.59	0.202

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
96	16.885	0.181	3.26	91	1.6	-	72	-0.061	13.82	0.743
97	17.065	0.180	3.26	91	2.1	-	72	-0.060	14.14	1.068
98	17.244	0.179	3.26	91	2.1	-	72	-0.059	13.75	1.292
99	17.422	0.178	3.26	91	1.8	-	72	-0.060	13.61	1.353
100	17.601	0.179	3.26	91	2.0	100	72	-0.060	13.52	1.470
101	17.782	0.181	3.27	91	1.8	-	72	-0.060	13.67	0.910
102	17.962	0.180	3.27	91	1.6	-	72	-0.058	13.13	0.394
103	18.142	0.180	3.27	91	2.0	-	72	-0.057	13.26	0.163
104	18.321	0.179	3.27	92	2.0	-	72	-0.056	12.77	0.057
105	18.500	0.179	3.27	92	1.7	-	72	-0.050	12.60	0.015
106	18.679	0.179	3.27	92	1.9	-	72	-0.052	12.22	0.009
107	18.860	0.181	3.27	92	2.1	-	72	-0.052	11.98	0.006
108	19.041	0.181	3.26	92	1.7	-	72	-0.051	11.60	0.006
109	19.221	0.180	3.27	92	1.9	-	72	-0.050	11.34	0.007
110	19.398	0.177	3.27	92	1.9	100	72	-0.049	11.45	0.007
111	19.578	0.180	3.27	92	2.1	-	72	-0.050	11.06	0.005
112	19.759	0.181	3.27	92	1.8	-	72	-0.048	11.20	0.008
113	19.940	0.181	3.28	92	2.1	-	72	-0.047	11.21	0.005
114	20.120	0.180	3.27	92	2.1	-	72	-0.049	11.23	0.005
115	20.299	0.179	3.27	92	2.1	-	72	-0.048	10.87	0.006
116	20.478	0.179	3.27	92	2.1	-	71	-0.049	11.08	0.008
117	20.659	0.181	3.27	92	2.1	-	71	-0.048	11.14	0.005
118	20.839	0.180	3.27	92	1.6	-	71	-0.046	11.04	0.009
119	21.021	0.182	3.27	93	2.1	-	71	-0.043	11.10	0.005
120	21.201	0.180	3.27	93	2.0	100	71	-0.049	11.00	0.007
121	21.378	0.177	3.27	93	1.7	-	71	-0.046	10.90	0.007
122	21.558	0.180	3.26	93	1.7	-	71	-0.047	11.04	0.006
123	21.740	0.182	3.27	93	1.6	-	71	-0.047	10.84	0.006
124	21.922	0.182	3.28	93	1.9	-	71	-0.047	11.04	0.007
125	22.101	0.179	3.27	93	1.6	-	71	-0.046	10.93	0.007
126	22.279	0.178	3.28	93	2.0	-	71	-0.048	10.76	0.009
127	22.459	0.180	3.26	93	2.0	-	71	-0.048	10.98	0.006

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
128	22.640	0.181	3.28	93	1.8	-	71	-0.047	11.07	0.005
129	22.821	0.181	3.26	93	2.0	-	71	-0.048	10.92	0.006
130	23.002	0.181	3.27	93	1.6	101	71	-0.049	11.21	0.007
131	23.181	0.179	3.26	93	1.7	-	71	-0.049	11.23	0.005
132	23.359	0.178	3.27	93	2.0	-	71	-0.049	11.34	0.008
133	23.539	0.180	3.26	93	2.1	-	71	-0.049	11.24	0.004
134	23.721	0.182	3.27	93	2.0	-	71	-0.050	11.25	0.009
135	23.903	0.182	3.27	93	1.7	-	71	-0.049	11.48	0.008
136	24.082	0.179	3.27	93	1.8	-	71	-0.048	11.68	0.008
137	24.260	0.178	3.27	93	1.6	-	71	-0.050	11.51	0.007
138	24.441	0.181	3.27	93	1.6	-	71	-0.051	11.60	0.007
139	24.622	0.181	3.27	93	2.0	-	71	-0.052	11.67	0.008
140	24.803	0.181	3.27	93	1.7	100	71	-0.050	11.83	0.007
141	24.984	0.181	3.27	93	1.8	-	71	-0.050	11.89	0.011
142	25.163	0.179	3.26	93	2.0	-	71	-0.050	12.08	0.006
143	25.342	0.179	3.27	93	1.6	-	71	-0.050	12.24	0.008
144	25.522	0.180	3.26	93	2.0	-	71	-0.051	12.29	0.009
145	25.704	0.182	3.28	93	1.6	-	71	-0.052	12.13	0.009
146	25.886	0.182	3.27	94	1.9	-	71	-0.051	12.16	0.008
147	26.065	0.179	3.27	94	1.6	-	71	-0.051	12.19	0.010
148	26.243	0.178	3.28	94	2.1	-	71	-0.050	12.20	0.007
149	26.424	0.181	3.27	94	1.6	-	71	-0.052	12.25	0.005
150	26.605	0.181	3.28	94	2.2	100	71	-0.053	12.27	0.007
151	26.786	0.181	3.28	94	1.6	-	71	-0.049	12.32	0.006
152	26.967	0.181	3.28	94	1.8	-	71	-0.052	12.00	0.007
153	27.147	0.180	3.27	94	2.1	-	71	-0.051	12.05	0.008
154	27.325	0.178	3.27	94	2.1	-	71	-0.052	12.14	0.009
155	27.506	0.181	3.26	94	2.0	-	71	-0.052	11.85	0.009
156	27.688	0.182	3.27	94	1.9	-	71	-0.053	11.77	0.009
157	27.870	0.182	3.27	94	1.6	-	71	-0.054	12.00	0.009
158	28.052	0.182	3.28	94	1.6	-	71	-0.054	11.87	0.008
159	28.229	0.177	3.28	94	1.6	-	71	-0.054	11.39	0.007

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
160	28.412	0.183	3.27	94	2.0	100	71	-0.052	12.04	0.010
161	28.589	0.177	3.27	94	1.6	-	71	-0.053	12.27	0.004
162	28.773	0.184	3.28	94	1.9	-	71	-0.052	12.01	0.008
163	28.953	0.180	3.28	94	1.7	-	71	-0.053	11.85	0.008
164	29.133	0.180	3.28	94	1.7	-	71	-0.052	12.05	0.008
165	29.311	0.178	3.28	94	2.1	-	71	-0.052	12.09	0.009
166	29.492	0.181	3.28	94	1.6	-	71	-0.052	12.27	0.008
167	29.677	0.185	3.28	94	2.0	-	71	-0.054	12.34	0.008
168	29.858	0.181	3.28	94	1.6	-	71	-0.054	12.04	0.009
169	30.039	0.181	3.28	94	1.8	-	71	-0.054	12.20	0.005
170	30.216	0.177	3.28	94	2.1	100	71	-0.053	12.56	0.008
171	30.398	0.182	3.27	94	2.0	-	71	-0.056	12.49	0.009
172	30.578	0.180	3.27	94	1.6	-	71	-0.054	12.72	0.005
173	30.761	0.183	3.28	94	1.6	-	71	-0.055	11.92	0.008
174	30.943	0.182	3.28	94	1.6	-	71	-0.055	12.51	0.009
175	31.119	0.176	3.28	94	2.0	-	71	-0.055	12.37	0.009
176	31.302	0.183	3.28	94	1.8	-	71	-0.055	12.23	0.009
177	31.479	0.177	3.27	94	1.6	-	71	-0.057	12.01	0.010
178	31.663	0.184	3.28	94	2.0	-	71	-0.053	12.41	0.009
179	31.844	0.181	3.28	94	1.7	-	71	-0.053	12.70	0.009
180	32.027	0.183	3.27	94	2.0	100	71	-0.055	12.69	0.010
181	32.207	0.180	3.28	94	2.1	-	71	-0.055	12.90	0.006
182	32.382	0.175	3.27	95	2.1	-	71	-0.056	13.04	0.008
183	32.566	0.184	3.28	94	1.6	-	71	-0.051	13.59	0.008
184	32.745	0.179	3.28	94	2.0	-	71	-0.055	13.12	0.008
185	32.929	0.184	3.28	95	2.1	-	71	-0.054	13.79	0.010
186	33.107	0.178	3.28	94	1.9	-	70	-0.057	14.16	0.008
187	33.291	0.184	3.28	94	1.9	-	70	-0.054	13.66	0.008
188	33.468	0.177	3.28	94	1.8	-	70	-0.056	14.31	0.018
189	33.650	0.182	3.28	94	2.0	-	70	-0.058	14.53	0.104
190	33.833	0.183	3.28	94	2.1	100	70	-0.056	14.53	0.125
191	34.015	0.182	3.29	94	1.9	-	70	-0.058	14.48	0.141

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
192	34.195	0.180	3.28	94	1.9	-	70	-0.063	14.89	0.150
193	34.373	0.178	3.28	94	1.7	-	70	-0.054	14.57	0.227
194	34.552	0.179	3.28	94	1.8	-	70	-0.057	14.41	0.314
195	34.736	0.184	3.28	94	1.9	-	70	-0.055	13.99	0.325
196	34.912	0.176	3.27	94	2.2	-	70	-0.054	14.13	0.399
197	35.093	0.181	3.27	94	1.7	-	70	-0.056	14.12	0.444
198	35.273	0.180	3.27	94	2.0	-	70	-0.055	13.80	0.567
199	35.449	0.176	3.27	94	1.9	-	70	-0.055	14.27	0.886
200	35.629	0.180	3.27	94	1.7	99	70	-0.055	14.18	0.923
201	35.814	0.185	3.27	94	1.9	-	70	-0.054	14.39	0.898
202	35.996	0.182	3.27	94	1.8	-	70	-0.054	14.21	0.927
203	36.175	0.179	3.27	94	1.9	-	70	-0.056	13.90	1.003
204	36.351	0.176	3.27	94	1.8	-	70	-0.054	14.00	0.990
205	36.535	0.184	3.27	94	2.1	-	70	-0.055	13.66	0.915
206	36.713	0.178	3.27	94	2.0	-	70	-0.053	13.74	0.878
207	36.894	0.181	3.27	94	2.1	-	70	-0.053	13.95	0.864
208	37.075	0.181	3.26	94	1.6	-	70	-0.053	13.60	0.792
209	37.255	0.180	3.27	94	2.1	-	70	-0.053	13.59	0.834
210	37.434	0.179	3.27	94	2.0	100	70	-0.052	13.71	0.806
211	37.617	0.183	3.27	94	2.0	-	70	-0.052	13.45	0.739
212	37.796	0.179	3.26	94	1.6	-	70	-0.053	13.67	0.689
213	37.981	0.185	3.28	94	2.0	-	70	-0.052	13.85	0.668
214	38.161	0.180	3.27	94	1.7	-	70	-0.052	13.68	0.591
215	38.336	0.175	3.27	94	1.9	-	70	-0.051	13.91	0.576
216	38.517	0.181	3.26	94	1.6	-	70	-0.052	13.35	0.382
217	38.701	0.184	3.27	94	1.6	-	70	-0.051	13.61	0.351
218	38.879	0.178	3.27	94	1.9	-	70	-0.051	13.09	0.284
219	39.063	0.184	3.26	94	2.1	-	70	-0.051	13.44	0.233
220	39.243	0.180	3.26	94	2.1	100	70	-0.051	13.35	0.240
221	39.418	0.175	3.27	94	1.8	-	70	-0.051	13.47	0.207
222	39.599	0.181	3.27	94	2.1	-	70	-0.048	13.28	0.231
223	39.781	0.182	3.27	94	2.0	-	70	-0.050	13.57	0.217

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
224	39.962	0.181	3.26	94	1.7	-	70	-0.048	13.58	0.252
225	40.142	0.180	3.27	94	1.6	-	70	-0.050	13.74	0.272
226	40.320	0.178	3.26	94	1.8	-	70	-0.049	12.97	0.282
227	40.504	0.184	3.26	94	2.1	-	70	-0.050	13.46	0.314
228	40.685	0.181	3.27	94	2.0	-	70	-0.051	13.64	0.309
229	40.863	0.178	3.27	94	1.7	-	70	-0.048	13.50	0.351
230	41.048	0.185	3.27	94	1.8	100	70	-0.049	13.59	0.359
231	41.228	0.180	3.26	94	1.8	-	70	-0.048	13.58	0.391
232	41.403	0.175	3.26	94	2.0	-	70	-0.049	13.60	0.331
233	41.583	0.180	3.26	94	1.9	-	70	-0.048	13.47	0.323
234	41.765	0.182	3.26	94	1.9	-	70	-0.047	13.45	0.310
235	41.949	0.184	3.27	94	1.6	-	70	-0.047	13.56	0.257
236	42.126	0.177	3.27	94	2.1	-	70	-0.046	13.55	0.216
237	42.305	0.179	3.27	94	2.1	-	70	-0.048	13.48	0.174
238	42.485	0.180	3.26	94	2.1	-	70	-0.047	13.53	0.137
239	42.666	0.181	3.27	94	1.8	-	70	-0.048	13.51	0.163
240	42.847	0.181	3.27	94	1.6	100	70	-0.046	13.39	0.161
241	43.032	0.185	3.27	94	2.0	-	70	-0.048	13.60	0.179
242	43.212	0.180	3.27	94	2.1	-	70	-0.047	13.57	0.183
243	43.387	0.175	3.27	94	2.1	-	70	-0.047	13.95	0.140
244	43.571	0.184	3.26	94	2.0	-	70	-0.048	13.53	0.080
245	43.750	0.179	3.27	94	1.7	-	70	-0.047	13.07	0.014
246	43.934	0.184	3.27	94	1.6	-	70	-0.046	12.98	0.015
247	44.112	0.178	3.27	94	1.6	-	70	-0.047	12.62	0.012
248	44.291	0.179	3.27	94	2.1	-	70	-0.048	12.70	0.012
249	44.474	0.183	3.27	94	1.9	-	70	-0.049	12.89	0.012
250	44.651	0.177	3.27	94	2.0	100	70	-0.048	13.11	0.012
251	44.836	0.185	3.27	94	2.1	-	70	-0.047	13.09	0.008
252	45.018	0.182	3.27	94	1.7	-	70	-0.047	13.27	0.012
253	45.195	0.177	3.27	94	1.6	-	70	-0.047	12.96	0.012
254	45.373	0.178	3.27	94	2.0	-	70	-0.047	12.90	0.016
255	45.554	0.181	3.27	94	1.9	-	70	-0.045	13.13	0.013

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
256	45.735	0.181	3.27	94	1.6	-	70	-0.047	13.24	0.012
257	45.919	0.184	3.27	94	1.7	-	70	-0.046	13.04	0.023
258	46.097	0.178	3.27	94	1.8	-	70	-0.046	13.27	0.027
259	46.277	0.180	3.27	94	2.1	-	70	-0.047	13.00	0.020
260	46.457	0.180	3.27	94	1.6	100	70	-0.046	13.24	0.043
261	46.639	0.182	3.26	94	1.8	-	69	-0.048	13.23	0.046
262	46.818	0.179	3.27	94	1.6	-	69	-0.046	13.63	0.055
263	47.000	0.182	3.26	94	1.8	-	70	-0.046	13.48	0.057
264	47.180	0.180	3.27	94	1.7	-	70	-0.046	13.35	0.061
265	47.362	0.182	3.27	94	1.7	-	69	-0.047	13.45	0.099
266	47.539	0.177	3.27	94	1.6	-	69	-0.046	13.88	0.086
267	47.723	0.184	3.27	94	2.1	-	69	-0.047	13.54	0.091
268	47.904	0.181	3.27	94	1.7	-	70	-0.046	13.59	0.064
269	48.082	0.178	3.27	94	2.0	-	69	-0.047	13.69	0.043
270	48.262	0.180	3.26	94	1.6	100	70	-0.046	14.19	0.037
271	48.441	0.179	3.27	94	2.1	-	69	-0.047	14.13	0.023
272	48.624	0.183	3.27	94	1.9	-	69	-0.047	14.11	0.013
273	48.803	0.179	3.27	94	2.1	-	69	-0.047	14.26	0.013
274	48.985	0.182	3.27	94	2.1	-	69	-0.047	14.02	0.013
275	49.165	0.180	3.27	94	2.0	-	69	-0.047	13.39	0.011
276	49.343	0.178	3.27	94	2.1	-	69	-0.046	13.70	0.015
277	49.524	0.181	3.26	94	1.8	-	69	-0.046	13.33	0.011
278	49.705	0.181	3.27	94	2.0	-	69	-0.048	13.48	0.016
279	49.886	0.181	3.26	94	1.8	-	69	-0.046	13.09	0.009
280	50.067	0.181	3.27	94	2.1	100	69	-0.045	13.14	0.011
281	50.251	0.184	3.28	94	1.6	-	69	-0.046	13.35	0.009
282	50.425	0.174	3.27	94	1.7	-	69	-0.046	13.03	0.011
283	50.606	0.181	3.27	94	1.7	-	69	-0.045	13.53	0.013
284	50.788	0.182	3.27	94	2.1	-	69	-0.045	13.49	0.009
285	50.972	0.184	3.27	94	1.7	-	69	-0.045	13.45	0.013
286	51.150	0.178	3.27	94	1.6	-	69	-0.045	13.30	0.012
287	51.329	0.179	3.27	94	2.0	-	69	-0.044	13.38	0.012

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
288	51.509	0.180	3.27	94	2.0	-	69	-0.044	13.50	0.012
289	51.692	0.183	3.27	94	1.7	-	69	-0.043	12.16	0.014
290	51.871	0.179	3.27	94	1.8	100	69	-0.044	11.57	0.012
291	52.053	0.182	3.27	94	2.0	-	69	-0.043	11.89	0.014
292	52.235	0.182	3.27	94	2.1	-	69	-0.043	10.94	0.011
293	52.411	0.176	3.27	94	1.8	-	69	-0.044	11.59	0.012
294	52.592	0.181	3.27	94	2.1	-	69	-0.044	11.08	0.012
295	52.773	0.181	3.27	94	1.8	-	69	-0.043	11.26	0.011
296	52.954	0.181	3.27	94	2.1	-	69	-0.043	11.12	0.013
297	53.138	0.184	3.27	94	2.1	-	69	-0.042	11.10	0.014
298	53.315	0.177	3.27	94	2.1	-	69	-0.041	11.37	0.009
299	53.495	0.180	3.27	94	1.6	-	69	-0.042	11.69	0.011
300	53.675	0.180	3.27	94	1.8	100	69	-0.043	11.70	0.013
301	53.859	0.184	3.27	94	1.7	-	69	-0.042	11.33	0.011
302	54.038	0.179	3.26	94	2.1	-	69	-0.043	11.74	0.014
303	54.218	0.180	3.27	94	1.6	-	69	-0.043	11.47	0.014
304	54.396	0.178	3.26	94	1.9	-	69	-0.042	11.02	0.011
305	54.580	0.184	3.26	94	1.8	-	69	-0.042	11.62	0.013
306	54.759	0.179	3.27	94	2.1	-	69	-0.044	11.00	0.012
307	54.939	0.180	3.27	94	1.6	-	69	-0.042	11.35	0.013
308	55.120	0.181	3.27	94	1.6	-	69	-0.041	11.22	0.012
309	55.300	0.180	3.27	94	1.6	-	69	-0.043	11.58	0.014
310	55.479	0.179	3.28	94	1.7	100	69	-0.044	11.35	0.013
311	55.662	0.183	3.27	94	1.7	-	69	-0.045	11.63	0.014
312	55.841	0.179	3.27	94	1.6	-	69	-0.045	11.60	0.012
313	56.026	0.185	3.28	94	1.8	-	69	-0.043	11.95	0.021
314	56.206	0.180	3.27	94	1.7	-	69	-0.044	12.48	0.040
315	56.381	0.175	3.26	94	1.9	-	69	-0.044	11.61	0.061
316	56.562	0.181	3.27	94	1.8	-	69	-0.044	12.46	0.076
317	56.743	0.181	3.27	94	2.1	-	69	-0.045	11.77	0.057
318	56.924	0.181	3.27	94	2.0	-	69	-0.043	12.21	0.050
319	57.106	0.182	3.27	94	1.6	-	69	-0.043	11.88	0.027

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
320	57.289	0.183	3.27	94	2.1	100	69	-0.043	12.07	0.014
321	57.464	0.175	3.26	94	1.6	-	69	-0.044	12.14	0.012
322	57.647	0.183	3.26	94	1.9	-	69	-0.044	11.89	0.011
323	57.826	0.179	3.27	94	1.6	-	69	-0.044	11.76	0.013
324	58.008	0.182	3.27	94	2.1	-	69	-0.044	11.55	0.014
325	58.188	0.180	3.26	94	1.6	-	69	-0.043	11.52	0.011
326	58.370	0.182	3.27	94	1.8	-	69	-0.043	11.34	0.015
327	58.547	0.177	3.26	94	1.9	-	69	-0.041	11.33	0.013
328	58.730	0.183	3.27	94	2.1	-	69	-0.042	11.32	0.014
329	58.908	0.178	3.27	94	2.0	-	69	-0.044	11.21	0.013
330	59.090	0.182	3.27	94	1.6	99	69	-0.042	11.21	0.015
331	59.273	0.183	3.28	94	1.6	-	69	-0.040	11.57	0.015
332	59.451	0.178	3.27	94	1.8	-	69	-0.040	10.99	0.011
333	59.632	0.181	3.27	94	2.1	-	69	-0.042	11.34	0.012
334	59.811	0.179	3.27	94	1.9	-	69	-0.038	10.93	0.012
335	59.992	0.181	3.27	94	2.0	-	69	-0.038	11.26	0.015
336	60.172	0.180	3.27	94	1.6	-	69	-0.040	11.22	0.014
337	60.352	0.180	3.27	94	1.6	-	69	-0.038	10.94	0.011
338	60.535	0.183	3.28	94	1.6	-	69	-0.040	10.84	0.015
339	60.712	0.177	3.28	94	2.1	-	69	-0.036	10.66	0.011
340	60.897	0.185	3.27	94	2.0	100	69	-0.038	10.78	0.012
341	61.076	0.179	3.27	94	1.8	-	69	-0.039	10.50	0.011
342	61.256	0.180	3.27	94	1.9	-	69	-0.036	10.20	0.014
343	61.434	0.178	3.27	94	1.7	-	69	-0.036	10.30	0.015
344	61.615	0.181	3.27	94	1.6	-	69	-0.035	10.43	0.015
345	61.797	0.182	3.27	94	2.0	-	69	-0.035	11.03	0.012
346	61.978	0.181	3.27	94	2.0	-	69	-0.034	10.95	0.011
347	62.158	0.180	3.27	94	1.9	-	69	-0.038	10.92	0.012
348	62.339	0.181	3.27	94	1.9	-	69	-0.036	11.18	0.011
349	62.518	0.179	3.28	94	1.8	-	69	-0.034	10.94	0.013
350	62.698	0.180	3.27	94	1.6	100	69	-0.034	11.01	0.014
351	62.880	0.182	3.26	94	2.1	-	69	-0.037	10.83	0.011

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
352	63.062	0.182	3.27	94	2.0	-	69	-0.036	11.02	0.014
353	63.241	0.179	3.27	94	1.9	-	69	-0.035	10.95	0.012
354	63.420	0.179	3.26	94	1.7	-	69	-0.035	10.73	0.012
355	63.601	0.181	3.27	94	1.9	-	69	-0.034	11.14	0.015
356	63.782	0.181	3.27	94	2.1	-	69	-0.033	10.69	0.011
357	63.963	0.181	3.27	94	2.0	-	69	-0.034	11.01	0.013
358	64.148	0.185	3.27	94	2.1	-	69	-0.034	10.69	0.013
359	64.324	0.176	3.27	94	1.6	-	69	-0.034	11.03	0.013
360	64.506	0.182	3.27	94	1.9	100	69	-0.033	10.86	0.010
361	64.683	0.177	3.26	94	2.0	-	69	-0.035	10.84	0.010
362	64.868	0.185	3.27	94	1.6	-	69	-0.034	10.88	0.013
363	65.047	0.179	3.27	94	2.1	-	69	-0.033	10.58	0.014
364	65.227	0.180	3.27	94	2.1	-	69	-0.034	10.58	0.011
365	65.410	0.183	3.27	94	1.9	-	69	-0.033	10.77	0.008
366	65.586	0.176	3.27	94	1.7	-	69	-0.034	10.13	0.015
367	65.767	0.181	3.27	94	2.1	-	69	-0.034	10.63	0.015
368	65.948	0.181	3.27	94	1.6	-	69	-0.033	10.29	0.011
369	66.131	0.183	3.27	94	1.7	-	69	-0.036	10.61	0.014
370	66.311	0.180	3.27	94	1.6	100	69	-0.034	10.82	0.013
371	66.489	0.178	3.27	94	2.1	-	68	-0.033	10.94	0.012
372	66.670	0.181	3.26	94	2.1	-	68	-0.032	10.72	0.014
373	66.855	0.185	3.27	93	1.6	-	68	-0.034	10.70	0.013
374	67.036	0.181	3.27	93	1.6	-	68	-0.034	10.55	0.012
375	67.213	0.177	3.27	93	2.1	-	68	-0.032	10.63	0.016
376	67.397	0.184	3.27	94	2.0	-	68	-0.033	10.51	0.014
377	67.573	0.176	3.28	94	1.8	-	68	-0.033	10.57	0.012
378	67.755	0.182	3.27	94	1.9	-	68	-0.034	10.83	0.010
379	67.935	0.180	3.27	94	2.1	-	68	-0.035	10.09	0.013
380	68.120	0.185	3.27	94	1.7	100	68	-0.033	10.44	0.016
381	68.300	0.180	3.27	94	2.0	-	68	-0.034	10.45	0.012
382	68.475	0.175	3.27	94	1.8	-	68	-0.036	10.81	0.014
383	68.656	0.181	3.27	94	2.1	-	68	-0.034	10.38	0.011

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
384	68.838	0.182	3.27	94	1.9	-	68	-0.035	10.84	0.017
385	69.019	0.181	3.27	93	1.7	-	68	-0.035	10.52	0.011
386	69.200	0.181	3.27	93	1.6	-	68	-0.033	10.46	0.014
387	69.380	0.180	3.27	93	1.6	-	68	-0.035	10.62	0.016
388	69.559	0.179	3.27	93	1.7	-	68	-0.034	10.71	0.013
389	69.739	0.180	3.27	93	1.9	99	68	-0.036	10.46	0.012
Avg/Tot	69.739	0.179	3.25	90.5	1.8	100	70.2	-0.048	11.75	0.094

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
0	-0.002		0.00	70	0.0		68
1	0.107	0.109	0.91	69	1.6	-	69
2	0.244	0.137	0.91	69	1.7	-	69
3	0.380	0.136	0.92	69	1.7	-	69
4	0.517	0.137	0.92	69	1.5	-	69
5	0.653	0.136	0.93	69	1.7	-	69
6	0.791	0.138	0.93	70	1.5	-	69
7	0.928	0.137	0.93	70	1.7	-	69
8	1.067	0.139	0.95	70	1.7	-	69
9	1.204	0.137	0.94	70	1.5	-	69
10	1.345	0.141	0.96	70	1.6	96	69
11	1.483	0.138	0.95	71	1.6	-	69
12	1.623	0.140	0.96	71	1.7	-	69
13	1.763	0.140	0.96	71	1.7	-	69
14	1.903	0.140	0.95	71	1.8	-	69
15	2.044	0.141	0.97	71	1.6	-	69
16	2.184	0.140	0.97	72	1.7	-	69
17	2.324	0.140	0.96	72	1.8	-	69
18	2.466	0.142	0.97	72	1.7	-	69
19	2.606	0.140	0.97	72	1.7	-	69
20	2.746	0.140	0.96	73	1.7	100	69
21	2.888	0.142	0.98	73	1.6	-	69
22	3.030	0.142	0.98	74	1.5	-	69
23	3.170	0.140	0.97	74	1.6	-	69
24	3.312	0.142	0.98	74	1.6	-	69
25	3.454	0.142	0.98	74	1.6	-	69
26	3.596	0.142	0.98	75	1.8	-	69
27	3.738	0.142	0.98	75	1.7	-	69
28	3.881	0.143	0.99	75	1.8	-	69
29	4.024	0.143	0.99	76	1.6	-	69
30	4.166	0.142	0.98	76	1.8	101	69
31	4.308	0.142	0.99	76	1.8	-	69

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
32	4.453	0.145	1.00	76	1.6	-	69
33	4.596	0.143	1.00	77	1.6	-	69
34	4.739	0.143	0.99	77	1.7	-	69
35	4.882	0.143	0.99	77	1.5	-	69
36	5.027	0.145	1.00	78	1.7	-	69
37	5.172	0.145	1.01	78	1.6	-	70
38	5.316	0.144	1.01	78	1.6	-	70
39	5.460	0.144	1.00	78	1.6	-	70
40	5.605	0.145	1.00	79	1.8	101	70
41	5.749	0.144	1.01	79	1.7	-	70
42	5.895	0.146	1.02	79	1.7	-	70
43	6.041	0.146	1.02	79	1.8	-	70
44	6.186	0.145	1.01	79	1.8	-	70
45	6.331	0.145	1.01	79	1.6	-	70
46	6.476	0.145	1.01	80	1.6	-	70
47	6.622	0.146	1.01	80	1.6	-	70
48	6.767	0.145	1.02	80	1.8	-	70
49	6.914	0.147	1.02	80	1.7	-	70
50	7.061	0.147	1.02	81	1.6	102	70
51	7.206	0.145	1.02	81	1.7	-	70
52	7.353	0.147	1.02	81	1.8	-	70
53	7.499	0.146	1.01	81	1.8	-	70
54	7.645	0.146	1.02	81	1.6	-	70
55	7.791	0.146	1.01	81	1.7	-	70
56	7.937	0.146	1.02	81	1.6	-	70
57	8.084	0.147	1.02	81	1.7	-	70
58	8.231	0.147	1.03	82	1.7	-	70
59	8.379	0.148	1.03	82	1.6	-	70
60	8.526	0.147	1.03	82	1.7	103	70
Avg/Tot	8.528	0.142	0.97	75.5	1.6	100	69.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	334	339	221	329	444	333.3	565.2
1	331	336	220	326	446	331.6	547.1
2	327	332	208	321	447	327.0	528.4
3	323	328	200	320	448	323.6	581.5
4	318	323	194	319	448	320.4	605.4
5	313	318	189	318	449	317.2	607.5
6	308	313	185	318	449	314.4	612.7
7	303	308	181	318	448	311.6	623.0
8	299	303	178	318	448	309.0	624.2
9	294	298	175	318	447	306.4	624.0
10	290	293	172	318	447	304.0	628.9
11	285	289	170	319	446	301.8	635.2
12	281	286	168	319	445	299.7	645.3
13	277	282	166	320	444	297.9	662.3
14	274	278	165	321	443	296.2	678.4
15	270	275	163	323	442	294.7	692.7
16	267	272	161	325	441	293.2	705.8
17	264	270	160	327	440	292.1	717.7
18	261	268	158	329	439	291.1	729.1
19	259	267	157	331	438	290.2	736.2
20	257	265	155	333	437	289.5	736.7
21	255	264	154	335	436	288.9	736.4
22	254	263	153	337	435	288.3	738.4
23	252	263	152	339	434	288.0	743.8
24	251	262	151	340	433	287.6	747.7
25	250	262	150	343	433	287.6	755.0
26	249	262	150	345	432	287.5	760.2
27	248	262	149	347	432	287.6	764.8
28	248	262	149	349	431	287.8	770.7
29	248	263	149	352	431	288.3	778.5
30	248	263	148	355	431	288.9	788.4
31	248	264	148	358	430	289.6	796.0
32	249	265	148	361	430	290.3	806.8
33	249	265	148	364	430	291.2	813.7
34	250	266	148	367	430	292.0	816.8
35	250	267	148	369	430	292.8	818.4
36	251	268	148	372	430	293.6	818.7
37	251	269	148	374	430	294.4	820.3
38	252	270	148	377	430	295.4	824.6
39	253	271	148	380	430	296.5	832.2
40	254	273	149	383	430	297.7	840.9
41	255	274	149	387	431	299.0	845.6
42	256	276	149	390	431	300.3	846.1
43	257	278	149	393	431	301.6	846.8
44	259	280	150	396	431	303.1	861.9
45	261	282	150	401	431	304.8	881.2
46	262	284	151	406	431	306.7	897.3
47	264	286	151	411	431	308.7	906.7

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	266	289	151	417	431	310.8	910.9
49	268	291	151	422	431	312.6	917.9
50	270	294	152	427	431	314.6	924.5
51	271	296	152	432	431	316.4	934.9
52	273	298	153	437	431	318.2	947.2
53	275	299	153	441	431	319.8	945.3
54	276	301	154	444	431	321.1	937.1
55	278	302	155	447	431	322.5	936.9
56	279	303	155	450	431	323.7	942.8
57	281	305	156	453	431	325.0	951.3
58	282	306	157	456	431	326.1	961.0
59	283	307	157	460	431	327.6	972.7
60	284	308	158	464	431	328.9	980.2
61	285	309	159	468	431	330.3	990.2
62	286	310	159	472	431	331.8	1000.1
63	287	311	160	477	432	333.2	1009.0
64	288	312	161	481	432	334.8	1017.5
65	289	313	162	485	433	336.3	1024.0
66	291	314	162	490	433	337.8	1034.2
67	292	315	163	494	434	339.4	1036.3
68	293	316	164	497	434	340.9	1033.9
69	294	318	165	501	435	342.4	1026.4
70	296	320	166	503	435	343.9	1021.2
71	297	322	166	505	436	345.3	1011.6
72	299	324	167	507	437	346.7	1007.8
73	300	326	169	509	437	348.3	1015.0
74	302	329	170	512	438	350.3	1024.0
75	305	332	172	515	439	352.4	1032.4
76	307	335	174	518	439	354.5	1035.0
77	309	339	175	522	439	356.6	1037.2
78	311	342	177	524	439	358.6	1036.0
79	313	346	178	527	440	360.6	1037.6
80	315	350	178	530	439	362.5	1035.0
81	317	353	179	531	440	364.0	1024.2
82	319	357	179	533	440	365.6	1024.3
83	320	361	180	535	439	367.0	1030.9
84	322	365	180	538	439	368.6	1041.9
85	323	369	180	540	439	370.1	1046.9
86	324	371	180	543	439	371.5	1049.9
87	325	374	180	546	439	372.8	1056.9
88	326	376	180	548	439	373.9	1053.9
89	327	378	181	549	439	374.8	1053.0
90	328	379	181	550	439	375.5	1042.6
91	329	381	181	550	439	376.1	1033.6
92	330	382	182	550	440	376.6	1032.9
93	331	384	183	550	440	377.3	1032.9
94	333	385	185	549	439	378.3	1034.4
95	336	387	188	548	439	379.6	1021.9

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	338	390	191	547	439	381.0	1009.7
97	341	393	194	545	439	382.2	1005.3
98	344	397	196	543	438	383.6	996.3
99	347	401	199	540	438	384.9	987.5
100	350	404	201	538	437	385.9	984.0
101	352	407	202	537	436	386.8	1016.5
102	354	410	203	538	435	387.8	1022.9
103	355	412	203	538	434	388.3	1011.4
104	356	413	202	538	433	388.3	1002.3
105	356	413	202	537	432	388.0	990.5
106	356	413	201	535	432	387.2	972.7
107	356	412	200	532	431	386.2	953.8
108	356	411	200	528	430	384.8	935.0
109	355	410	199	523	430	383.4	918.0
110	355	409	198	518	430	381.8	903.6
111	354	408	198	512	430	380.3	891.3
112	353	407	197	507	429	378.6	880.7
113	353	405	196	502	429	377.1	872.3
114	352	404	196	497	430	375.6	864.6
115	351	403	195	491	430	374.1	857.7
116	350	402	194	487	430	372.7	851.8
117	349	401	194	482	430	371.2	847.5
118	349	400	193	478	430	369.9	844.3
119	348	399	192	475	430	368.8	843.3
120	347	398	192	472	430	367.6	842.3
121	346	397	191	469	430	366.5	840.8
122	345	396	191	466	430	365.4	839.7
123	344	394	190	464	431	364.4	840.6
124	343	393	189	462	431	363.4	841.4
125	342	392	188	460	431	362.5	842.0
126	341	391	187	458	431	361.7	842.2
127	340	390	187	457	432	361.0	842.1
128	339	389	187	456	432	360.4	841.2
129	338	389	186	455	433	359.9	840.5
130	337	388	185	453	433	359.4	842.2
131	336	388	185	452	434	359.0	843.4
132	335	388	185	452	434	358.7	849.0
133	335	388	184	452	435	358.7	856.6
134	334	388	184	452	435	358.6	862.3
135	334	389	184	452	436	358.7	865.5
136	333	389	184	453	436	358.8	867.8
137	333	389	183	453	437	359.0	869.7
138	333	390	183	453	438	359.4	872.5
139	332	390	184	453	440	359.8	876.1
140	332	390	184	454	441	360.3	879.4
141	332	391	184	455	443	360.8	882.6
142	332	392	184	456	444	361.6	886.5
143	332	392	185	456	446	362.4	888.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	333	393	186	456	448	363.1	882.6
145	333	394	186	457	450	364.1	877.9
146	334	395	186	457	452	364.8	874.7
147	335	396	187	456	454	365.6	873.2
148	336	397	187	456	457	366.3	874.3
149	336	398	188	456	459	367.2	878.0
150	337	399	188	456	461	368.3	882.1
151	338	400	189	456	464	369.3	882.0
152	339	401	189	457	466	370.4	880.7
153	339	402	190	457	469	371.4	882.9
154	340	403	190	458	471	372.5	884.0
155	341	404	190	458	474	373.4	884.5
156	341	405	190	459	476	374.3	887.0
157	342	405	190	460	479	375.2	896.2
158	343	406	190	461	481	376.2	902.2
159	343	406	190	463	483	377.2	903.9
160	344	406	191	464	485	378.1	904.4
161	344	407	191	466	487	378.9	906.9
162	345	407	191	468	489	379.6	911.0
163	345	407	191	469	490	380.4	913.1
164	346	407	191	470	491	381.0	916.2
165	346	407	191	471	493	381.7	920.6
166	347	408	191	473	494	382.5	929.6
167	347	408	191	475	496	383.2	935.7
168	347	408	191	477	498	384.2	938.0
169	348	408	191	479	499	385.0	939.6
170	348	409	191	481	500	385.9	946.9
171	349	409	192	483	501	386.7	955.3
172	349	409	192	485	502	387.4	958.7
173	350	410	192	488	501	388.1	960.2
174	351	410	192	490	501	388.7	962.8
175	352	410	193	492	501	389.3	964.5
176	353	410	193	493	501	389.8	966.7
177	354	410	193	495	500	390.3	967.4
178	354	410	193	496	500	390.8	971.7
179	356	410	193	498	500	391.4	978.2
180	356	410	194	500	501	392.2	979.8
181	357	411	194	503	501	393.1	992.9
182	358	411	194	506	501	394.1	1004.4
183	359	412	195	509	502	395.3	1004.1
184	360	413	195	512	502	396.5	1007.0
185	361	414	196	515	503	397.6	1017.1
186	362	415	197	518	503	399.1	1027.1
187	364	417	197	522	503	400.6	1031.6
188	365	418	198	526	503	402.1	1045.2
189	367	420	199	530	503	403.8	1052.6
190	369	422	200	534	503	405.4	1055.4
191	370	424	201	537	503	406.9	1056.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	372	425	201	541	503	408.5	1056.9
193	374	427	202	543	503	410.0	1054.2
194	376	429	204	546	503	411.4	1051.3
195	378	431	204	547	503	412.6	1048.3
196	380	432	205	549	503	413.7	1045.5
197	381	434	206	550	503	414.8	1040.2
198	382	435	207	552	503	415.5	1058.2
199	383	434	207	555	502	416.2	1069.0
200	383	434	207	558	503	416.9	1070.9
201	384	433	207	561	503	417.4	1070.6
202	384	432	207	565	503	418.0	1069.6
203	384	431	207	566	503	418.3	1066.3
204	385	430	207	569	503	418.7	1063.2
205	385	429	207	570	504	418.9	1060.6
206	385	428	207	571	504	419.0	1059.4
207	386	427	207	571	504	419.1	1058.2
208	386	427	207	572	504	419.1	1056.8
209	386	426	207	571	505	419.0	1053.6
210	387	425	207	571	505	418.8	1049.6
211	387	424	207	571	505	418.6	1045.9
212	387	424	207	570	505	418.5	1042.7
213	387	423	207	568	506	418.2	1039.4
214	387	422	207	568	506	417.9	1036.3
215	387	422	207	567	506	417.7	1033.5
216	387	421	207	566	506	417.5	1033.1
217	387	420	207	565	506	417.0	1031.4
218	387	419	207	564	506	416.7	1028.6
219	387	418	208	563	507	416.4	1025.5
220	387	418	208	561	507	415.9	1022.2
221	387	417	208	559	507	415.4	1019.6
222	387	416	208	558	507	414.9	1016.8
223	387	415	208	556	508	414.5	1014.3
224	387	414	208	555	508	414.1	1011.8
225	387	413	208	553	508	413.7	1009.6
226	387	412	208	552	508	413.2	1008.0
227	386	412	208	550	509	412.9	1007.0
228	386	411	208	549	509	412.6	1006.9
229	386	410	208	548	509	412.3	1005.8
230	387	410	208	547	509	412.1	1005.7
231	387	409	208	547	509	411.9	1004.8
232	387	409	208	546	509	411.7	1004.6
233	387	408	208	546	509	411.6	1003.8
234	387	408	208	545	509	411.3	1002.1
235	387	407	208	544	509	411.0	999.6
236	386	407	209	543	509	410.6	996.8
237	386	406	209	542	508	410.2	994.2
238	386	406	209	541	508	409.9	993.7
239	386	405	209	540	508	409.4	993.9

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
240	386	405	209	539	507	409.1	994.6
241	386	404	209	538	507	408.8	995.6
242	386	404	209	538	507	408.6	996.7
243	386	403	209	537	507	408.4	998.3
244	386	403	209	538	506	408.2	999.2
245	385	402	209	537	506	407.7	998.3
246	385	401	209	536	506	407.3	996.0
247	384	401	209	535	505	406.8	992.1
248	383	400	209	535	504	406.2	987.6
249	383	400	209	533	503	405.5	985.8
250	382	399	208	533	502	405.0	986.6
251	382	399	208	531	502	404.3	986.8
252	381	398	209	531	501	403.9	986.0
253	381	397	208	531	500	403.4	985.2
254	380	397	209	530	499	403.0	984.2
255	380	397	209	529	498	402.5	983.9
256	379	396	209	529	498	402.0	983.7
257	379	396	209	528	497	401.6	983.0
258	378	395	209	528	497	401.3	982.3
259	378	395	209	527	496	400.9	982.1
260	378	394	209	526	496	400.5	981.3
261	377	394	209	526	496	400.2	981.4
262	377	393	209	526	495	400.0	982.0
263	377	393	209	525	495	399.8	983.7
264	376	392	209	526	495	399.6	985.6
265	376	392	209	526	495	399.5	987.9
266	376	392	209	526	495	399.5	990.9
267	376	391	210	527	495	399.5	994.1
268	376	391	210	527	495	399.5	997.0
269	375	391	210	527	495	399.5	999.5
270	375	391	210	528	495	399.7	1001.7
271	375	390	210	529	495	399.8	1002.6
272	375	390	211	529	495	399.9	1002.6
273	375	390	211	530	495	400.2	1002.2
274	375	389	211	530	495	400.2	1000.3
275	375	389	211	531	495	400.3	998.3
276	375	389	211	530	495	400.2	996.2
277	375	389	212	529	495	400.0	993.5
278	375	389	212	529	495	399.9	990.5
279	375	389	212	529	496	400.0	987.2
280	375	389	212	528	496	399.8	983.8
281	374	389	213	527	496	399.6	980.0
282	374	388	213	526	496	399.4	976.6
283	374	388	213	524	496	399.0	974.5
284	374	388	213	523	496	398.8	972.8
285	375	388	213	521	496	398.4	969.8
286	374	388	213	520	496	398.4	966.6
287	375	388	213	518	496	398.1	963.5

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
288	375	389	214	516	496	398.1	952.9
289	376	390	215	513	496	397.8	920.2
290	377	391	215	508	496	397.3	892.1
291	378	391	216	502	497	396.7	875.2
292	379	391	217	495	497	395.7	861.9
293	379	392	217	489	498	395.0	852.3
294	380	391	217	483	499	394.2	844.8
295	381	391	217	478	499	393.2	837.9
296	382	391	217	472	499	392.3	833.4
297	382	391	218	467	500	391.5	829.0
298	383	390	218	462	500	390.7	827.4
299	383	389	218	458	501	390.0	827.3
300	384	389	219	455	501	389.6	826.0
301	384	388	219	452	502	389.0	823.7
302	385	388	219	449	503	388.6	820.5
303	385	387	220	446	503	388.2	816.8
304	385	387	220	442	504	387.7	813.8
305	386	386	221	440	505	387.5	811.5
306	386	386	221	437	505	387.0	809.9
307	387	386	221	435	506	386.9	807.9
308	387	385	222	432	506	386.4	804.5
309	387	385	222	430	506	386.1	800.7
310	388	384	223	428	506	386.0	796.1
311	389	384	224	426	506	385.7	790.4
312	389	383	225	424	506	385.5	788.4
313	390	383	227	422	506	385.6	799.0
314	390	383	229	422	506	385.7	811.9
315	391	383	231	422	506	386.2	820.6
316	392	383	232	421	506	386.7	823.1
317	393	383	235	422	506	387.4	823.7
318	394	383	237	422	506	388.1	821.5
319	395	383	239	421	506	388.6	810.3
320	396	383	242	419	506	389.1	795.4
321	397	383	245	417	506	389.5	779.9
322	398	383	247	415	506	389.8	761.6
323	399	384	249	412	506	389.9	746.4
324	400	384	252	409	506	390.1	734.8
325	401	384	253	406	507	390.1	727.2
326	402	384	255	403	507	390.2	722.0
327	403	384	256	400	508	390.3	718.0
328	403	384	258	398	509	390.3	714.5
329	403	385	259	396	509	390.4	711.1
330	403	385	260	394	509	390.2	707.7
331	403	385	262	392	510	390.2	704.1
332	403	385	262	390	510	389.8	699.6
333	402	384	263	388	509	389.3	694.9
334	401	384	264	386	509	388.7	690.9
335	400	383	265	384	508	388.1	686.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
336	399	383	266	381	508	387.4	682.4
337	398	382	267	380	507	386.7	677.5
338	397	382	267	377	506	385.7	672.1
339	395	381	268	376	504	384.7	668.6
340	394	380	268	374	503	383.7	666.2
341	392	380	267	373	501	382.7	664.0
342	390	379	267	371	500	381.4	662.7
343	389	378	267	370	498	380.3	662.7
344	387	377	266	369	496	378.9	661.0
345	386	376	264	367	494	377.3	653.9
346	384	374	263	365	492	375.8	646.5
347	383	373	263	363	490	374.2	640.8
348	381	372	262	362	488	372.9	637.9
349	380	371	261	360	486	371.5	637.9
350	378	369	261	358	484	370.1	637.0
351	377	368	260	357	482	368.8	634.8
352	376	367	260	356	480	367.6	633.9
353	375	366	260	355	478	366.4	633.3
354	374	365	259	354	476	365.3	636.0
355	372	364	260	353	474	364.4	638.9
356	371	363	260	352	472	363.5	639.7
357	371	362	259	352	470	362.6	641.6
358	370	361	259	351	468	361.6	643.2
359	369	360	259	351	466	360.7	645.3
360	368	358	258	351	464	359.8	648.7
361	367	357	258	350	462	359.0	649.4
362	366	356	258	350	461	358.2	647.4
363	366	355	258	349	459	357.2	646.2
364	365	354	257	349	457	356.4	644.3
365	364	353	257	348	455	355.4	644.3
366	363	352	257	348	454	354.7	645.6
367	363	351	256	348	452	353.8	647.0
368	362	350	256	347	450	353.1	648.3
369	362	349	255	347	449	352.4	649.5
370	361	348	255	347	447	351.5	650.8
371	361	347	254	347	446	350.7	652.1
372	360	346	254	347	444	350.0	653.5
373	360	344	253	347	442	349.2	655.0
374	359	343	253	347	441	348.5	656.7
375	359	343	252	347	440	348.0	658.1
376	358	342	252	347	438	347.4	659.7
377	358	341	252	347	437	346.8	661.2
378	358	340	251	348	435	346.3	659.4
379	358	339	252	347	434	345.9	656.9
380	358	339	252	347	433	345.4	654.9
381	357	338	252	346	431	344.8	654.2
382	357	337	252	346	430	344.4	654.3
383	358	336	252	346	429	343.9	655.1

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

Stove ΔT: 8

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
384	358	335	252	346	428	343.5	655.9
385	358	334	252	346	426	343.1	654.9
386	358	334	252	345	425	342.7	653.8
387	358	333	252	345	424	342.4	653.1
388	359	332	252	345	423	342.1	653.1
389	359	332	252	344	422	341.8	653.7
Average	348.7	371.8	203.6	459.9	470.4	370.9	877.6

LAB SAMPLE DATA - ASTM E2515

Client: Blaze King
Model: PE32
Run #: 1

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/4/2024

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00915	240.2	241.2	1.0
	B	G00916	238.7	239.9	1.2
	C - 1st Hour	G00917	239.7	239.9	0.2
	Amb	G00918	238.6	238.6	0.0
Probes	**A**	3A	115880.4	115880.4	0.0
	B	3B	116120.4	116120.7	0.3
	C - 1st Hour	3C	116618.3	116618.5	0.2
O-rings	**A**	3A	3580.2	3580.8	0.6
	B	3B	3569.0	3569.0	0.0
	C - 1st Hour	3C	3623.2	3623.3	0.1

Placed in Dessicator on:	3/5/24 07:30

		200.0		200.0					
Balance Audit (mg):		Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time
Filters	**A**	241.1	3/7 16:00	241.2	3/8 8:00				
	B	239.7	3/7 16:00	239.9	3/8 8:00				
	C - 1st Hour	239.8	3/7 16:00	239.9	3/8 8:00				
	Amb	238.6	3/7 16:00	238.6	3/8 8:00				
Probes	**A**	115880.4	3/7 16:00	115880.4	3/8 8:00				
	B	116120.6	3/7 16:00	116120.7	3/8 8:00				
	C - 1st Hour	116618.4	3/7 16:00	116618.5	3/8 8:00				
O-Rings	**A**	3580.9	3/7 16:00	3580.8	3/8 8:00				
	B	3569.1	3/7 16:00	3569.0	3/8 8:00				
	C - 1st Hour	3623.3	3/7 16:00	3623.3	3/8 8:00				

Train A Aggregate, mg:	**1.6**
Train B Aggregate, mg:	**1.5**
Train C Aggregate, mg:	**0.5**
Ambient, mg:	**0.0**

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 1 Test Date: 3/4/24

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Knob to 70º
Targeted Burn Category: II

Preburn Notes

Time	Notes
	-None-

Test Notes

Test Burn Start Time: 13:59 Test Fuel Loaded by: 30 seconds
Door Closed: 40 seconds Air Control Set at: 0 seconds
Other Loading Notes: Bypass open @ 0 sec, closed @ 40 sec, fan on medium low @ 0 sec

Time	Notes
	-None-

Test Burn End Time: 20:28

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 16.98 CO (%): 4.300
Mid Gas CO_2 (%): 10.09 CO (%): 2.530

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	11:44	11:46	11:47	3/5 10:24	3/5 10:25	3/5 10:26
CO_2	0.00	17.00	10.11	0.05	17.07	10.09
CO	0.000	4.301	2.529	0.011	4.306	2.516

Flue Gas Probe Leak Check: Initial: No Leakage Final: No Leakage

Technician Signature: Date: 3/18/24

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 1 Test Date: 3/4/24

Test Fuel Front/Side View

Test Fuel Iso View

Test Fuel Loaded in Stove

Air Setting

Technician Signature: Date: 3/18/24

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 2 Test Date: 3/5/24

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Knob to 80º
Targeted Burn Category: I

Preburn Notes

Time	Notes
	-None-

Test Notes

Test Burn Start Time: 12:01 Test Fuel Loaded by: 30 seconds
Door Closed: 35 seconds Air Control Set at: 0 seconds
Other Loading Notes: Bypass open @ 0 sec, closed @ 35 sec, fan on low @0 sec

Time	Notes
	-None-

Test Burn End Time: 21:37

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 16.98 CO (%): 4.300
Mid Gas CO_2 (%): 10.09 CO (%): 2.530

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	10:24	10:25	10:26	21:46	21:47	21:48
CO_2	0.05	17.07	10.09	0.08	16.96	10.09
CO	0.011	4.306	2.516	-0.007	4.257	2.520

Flue Gas Probe Leak Check: Initial: No Leakage Final: No Leakage

Technician Signature: Date: 3/18/24

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 2 Test Date: 3/5/24

Test Fuel Front/Side View

Test Fuel Iso View

Test Fuel Loaded in Stove

Air Setting

Technician Signature: Date: 3/18/24

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 2 Data Summary

Client:	Blaze King
Model:	PE32
Job #:	24-273
Tracking #:	183
Test Date:	3/5/2024

Technician Signature — Date: 5/3/2024

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Burn Rate (kg/hr):	0.73

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	50.719	106.717	102.510	8.399
Average Gas Velocity in Dilution Tunnel (ft/sec)	19.4			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	13228.8			
Average Gas Meter Temperature (°F)	64.9	92.9	92.4	75.2
Total Sample Volume (dscf)	51.609	103.032	99.107	8.328
Average Tunnel Temperature (°F)	75.1			
Total Time of Test (min)	576			
Total Particulate Catch (mg)	0.0	1.1	1.0	0.5
Particulate Concentration, dry-standard (g/dscf)	0.0000000	0.0000107	0.0000101	0.0000600
Total PM Emissions (g)	0.00	1.36	1.28	0.79
Particulate Emission Rate (g/hr)	0.00	0.14	0.13	0.79
Emissions Factor (g/kg)	-	0.19	0.18	-
Difference from Average Total Particulate Emissions (g)	-	0.04	0.04	-
Difference from Average Total Particulate Emissions (%)	-	2.8%	2.8%	
Difference from Average Emissions Factor (g/kg)	-	0.01	0.01	-

Final Average Results	
Total Particulate Emissions (g)	1.32
Particulate Emission Rate (g/hr)	0.14
Emissions Factor (g/kg)	0.19
HHV Efficiency (%)	83.9%
LHV Efficiency (%)	90.7%
CO Emissions (g/min)	0.03

Quality Checks	Requirement	Observed	Result
Dual Train Precision	Each train within 7.5% of average emissions (in grams), or emission factors within 0.5 g/kg	See Above	OK
Filter Temps	<90 °F	71.3	OK
Face Velocity	< 30 ft/min	10.3	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:62.9/Max:66.1	OK
Negative Probe Weight Evaluation	<5% of Total Catch	Probe Catch Not Negative	OK
Pro-Rate Variation	90% of readings between 90-110%; none greater than 120% or less than 80%	See Data Tabs	OK
Stove Surface ΔT	<126°F	30.2	OK

B415.1 Efficiency Results

Manufacturer:	Blaze King
Model:	PE32
Date:	03/05/24
Run:	2
Control #:	24-273
Test Duration:	576
Output Category:	1

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	83.9%	90.7%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	84.3%	91.2%

Output Rate (kJ/h)	11,974	11,358	**(Btu/h)**
Burn Rate (kg/h)	0.72	1.59	**(lb/h)**
Input (kJ/h)	14,267	13,534	**(Btu/h)**

Test Load Weight (dry kg)	6.91	15.24	**dry lb**
MC wet (%)	18.12		
MC dry (%)	22.13		
Particulate (g)	1.32		
CO (g)	17		
Test Duration (h)	9.60		

Emissions	**Particulate**	**CO**
g/MJ Output	0.01	0.15
g/kg Dry Fuel	0.19	2.43
g/h	0.14	1.75
g/min	0.00	0.03
lb/MM Btu Output	0.03	0.34

Air/Fuel Ratio (A/F)	12.67

VERSION: **2.4** **4/15/2010**

WOODSTOVE FUEL DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.00	24.1	2x4	17.00	19.3
2x4	17.00	22.4	2x4	17.00	19.9
2x4	17.00	21.7			
2x4	17.00	23.3			
2x4	17.00	20.6			
2x4	17.00	24.4			
2x4	17.00	19.1			
2x4	17.00	21.9			

Total Fuel Weight (lbs): 18.27
Average Moisture (%DB): 21.7

Firebox Volume (ft^3): 2.86
Total 2x4 Crib Weight, with spacers (lbs): 9.22
Total 4x4 Crib Weight, with spacers (lbs): 9.50
Total Wet Fuel Weight, with spacers (lbs): 18.72

Coal Bed Range (20-25%):
Min (lbs): 3.74
Max (lbs): 4.68

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	16.75	4.41	21.5	20.8	22.7	3.62
4x4	16.75	4.25	22.1	24.1	24.5	3.44
2x4	16.75	1.87	24.4	23.2	23.7	1.51
2x4	16.75	1.96	23.3	23.1	19.5	1.61
2x4	16.75	1.68	20.8	20.3	19.2	1.40
2x4	16.75	1.87	19.8	21.3	24.0	1.54

Total Dry Weight, no spacers (lbs): 13.12
Total Dry Weight, with spacers (lbs): 15.49

Spacer Moisture Readings (%DB)

12.4	12.6	12.4					
12.7	14.5	14.2					
12.9	14.5	13.0					
11.3	11.5	14.2					
14.2	13.6	11.7					
14.2	13.6	14.0					
12.0	12.4	11.3					
13.8	13.2	13.4					

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	29.7	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.55	OK
2x4 Fuel Mix	35 - 65 % of total weight	49%	OK

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	Blaze King	Job #:	24-273
Model:	PE32	Tracking #:	183
Run #:	2	Technician:	AK
Test Start Time:	12:01	Date:	3/5/2024

Total Sampling Time (min):	576
Recording Interval (min):	1

Meter Box γ Factor:	1.004	(A)
Meter Box γ Factor:	1.005	(B)
Meter Box γ Factor:	1.004	(C)
Meter Box γ Factor:	1.013	(Ambient)

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	29.90	29.88	29.89
Relative Humidity (%)	29.7	24.5	
Room Air Velocity (ft/min)	<50	<50	
Pitot Tube Leak Check	0	0	
Ambient Sample Volume:		50.719	ft^3

Induced Draft Check (in. H_2O):	0
Smoke Capture Check (%):	100%
Date Flue Pipe Last Cleaned:	3/4/2024
Test Fuel Scale Audit (lbs)	10.00
Platform Scale Audit (lbs)	10.0

Sample Train Leak Checks

	Pre-test	Post-test			
(A)	0.000	0.000	cfm @	-8	in. Hg
(B)	0.000	0.000	cfm @	-7	in. Hg
(C)	0.000	0.000	cfm @	-9	in. Hg
(Ambient)	0.000	0.000	cfm @	-12	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

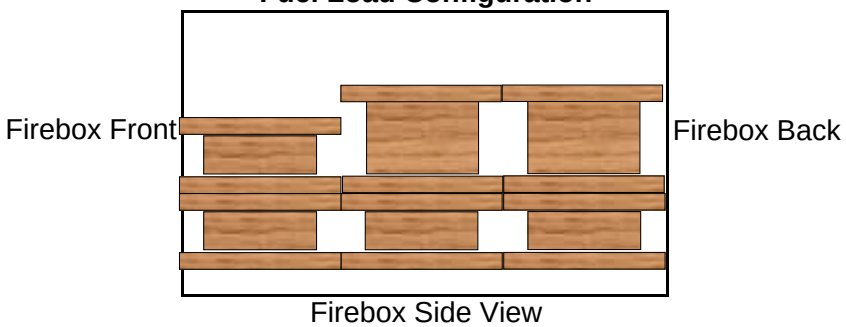
Point	dP (in H_2O)	Temp (°F)
1	0.060	67
2	0.096	67
3	0.100	67
4	0.078	67
5	0.080	67
6	0.098	67
7	0.098	67
8	0.072	67
Center	0.098	67

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	6	inches
Pitot Tube Cp:	0.99	[unitless]
Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Tunnel Area:	0.1963	ft^2
V_{strav}:	19.27	ft/sec
V_{scent}:	20.74	ft/sec
F_p:	0.929	[ratio]
Initial Tunnel Flow:	222.7	scf/min

Static Pressure: -0.170 in. H_2O

TEST FUEL PROPERTIES

Fuel Load Configuration



Firebox Side View

Actual Fuel Used Properties

Fuel Type:	D. Fir
HHV (kJ/kg)	19,810
%C	48.73
%H	6.87
%O	43.9
%Ash	0.5
MC (%DB)	22.1

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Recording Interval (min): 1
Run Time (min): 60

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
0	4.86	-0.063	629	702	304	609	529	554.6	365	67
1	4.83	-0.059	627	696	308	605	531	553.5	310	67
2	4.79	-0.057	622	686	311	602	533	550.8	276	67
3	4.75	-0.054	616	676	312	596	534	546.7	252	67
4	4.71	-0.052	609	664	312	591	534	542.0	236	67
5	4.69	-0.049	601	652	312	586	534	536.8	223	67
6	4.67	-0.049	593	640	311	581	534	531.8	212	67
7	4.63	-0.047	584	629	310	576	533	526.3	204	67
8	4.62	-0.045	576	617	308	571	532	520.8	196	67
9	4.61	-0.042	567	607	306	566	530	515.2	190	67
10	4.59	-0.041	559	596	304	560	528	509.6	185	67
11	4.57	-0.040	551	585	302	555	526	503.9	180	67
12	4.57	-0.040	543	575	299	548	524	497.9	176	66
13	4.55	-0.038	536	566	297	542	522	492.5	172	66
14	4.54	-0.038	529	556	295	536	520	487.0	168	66
15	4.52	-0.036	521	547	292	529	517	481.4	165	66
16	4.52	-0.037	514	538	290	522	515	475.8	163	66
17	4.50	-0.036	507	530	288	515	512	470.3	160	66
18	4.50	-0.035	500	521	285	509	509	464.9	158	66
19	4.50	-0.035	493	513	282	501	507	459.3	155	66
20	4.49	-0.034	487	506	280	495	504	454.2	153	66
21	4.47	-0.032	481	498	277	487	502	448.9	151	66
22	4.47	-0.034	475	491	274	482	499	444.0	148	66
23	4.47	-0.031	469	484	272	475	496	439.0	146	66
24	4.46	-0.030	463	477	269	468	494	434.1	145	66
25	4.46	-0.029	457	470	267	462	491	429.2	143	66
26	4.46	-0.030	451	463	264	455	488	424.2	141	66
27	4.46	-0.029	446	457	261	447	486	419.3	139	66
28	4.46	-0.028	440	450	259	440	483	414.5	137	66
29	4.45	-0.026	435	444	257	434	481	409.9	136	66
30	4.46	-0.028	430	438	254	427	478	405.3	134	65
31	4.45	-0.027	425	432	252	420	476	400.9	133	65
32	4.44	-0.026	420	427	250	414	473	396.5	132	65
33	4.45	-0.025	415	421	248	407	471	392.3	130	66
34	4.45	-0.026	410	415	246	402	468	388.2	129	65
35	4.44	-0.024	406	410	243	396	466	384.1	128	65
36	4.45	-0.025	401	405	241	390	464	380.1	127	65
37	4.45	-0.024	397	400	239	384	461	376.0	126	65
38	4.45	-0.023	393	395	237	378	459	372.3	125	65
39	4.45	-0.023	389	390	235	373	456	368.6	123	65
40	4.44	-0.023	385	385	233	368	454	364.9	122	65
41	4.45	-0.022	381	381	231	363	452	361.4	121	65
42	4.44	-0.022	377	376	229	358	449	357.8	121	65
43	4.45	-0.022	373	372	227	354	447	354.4	119	65
44	4.45	-0.022	369	368	225	349	445	351.1	119	65

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Recording Interval (min): 1
Run Time (min): 60

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
45	4.44	-0.021	365	364	223	345	442	347.8	118	65
46	4.45	-0.020	362	359	221	341	440	344.5	117	65
47	4.44	-0.020	358	355	219	337	438	341.4	116	65
48	4.44	-0.021	355	351	217	333	435	338.3	115	65
49	4.44	-0.020	351	348	216	329	433	335.3	114	65
50	4.44	-0.019	348	344	214	326	431	332.3	113	65
51	4.44	-0.019	345	340	212	323	428	329.6	113	65
52	4.44	-0.017	342	336	211	319	426	326.7	112	65
53	4.43	-0.017	338	332	209	316	424	323.8	111	65
54	4.44	-0.018	335	329	207	313	421	321.1	110	65
55	4.43	-0.017	332	326	206	310	419	318.6	110	65
56	4.43	-0.016	329	322	204	308	417	316.1	110	65
57	4.43	-0.014	326	319	203	305	415	313.6	110	65
58	4.43	-0.016	323	316	202	303	413	311.3	109	65
59	4.42	-0.016	320	313	200	301	411	309.1	109	65
60	4.42	-0.018	318	310	199	299	409	307.0	109	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
0	0.000		0.098	0.04	71	0.1		18.61		76	137	69	65
1	0.116	0.116	0.098	2.93	71	1.1	-	18.61	0.00	85	174	69	65
2	0.283	0.167	0.098	2.97	71	1.1	-	18.59	-0.02	79	156	69	65
3	0.455	0.172	0.098	2.99	71	1.1	-	18.58	-0.01	76	146	69	65
4	0.624	0.169	0.097	3.01	71	1.1	-	18.56	-0.02	75	142	69	65
5	0.789	0.165	0.097	3.02	71	1.1	-	18.55	-0.01	75	140	69	65
6	0.962	0.173	0.097	3.03	71	1.2	-	18.54	-0.01	75	140	69	65
7	1.132	0.170	0.097	3.04	71	1.1	-	18.51	-0.03	75	141	69	65
8	1.301	0.169	0.096	3.05	71	1.1	-	18.49	-0.02	75	144	69	65
9	1.473	0.172	0.097	3.07	71	1.1	-	18.46	-0.03	74	145	69	65
10	1.646	0.173	0.098	3.07	71	1.2	92	18.44	-0.02	74	148	69	65
11	1.815	0.169	0.097	3.08	72	1.1	-	18.42	-0.02	74	151	69	65
12	1.986	0.171	0.098	3.11	72	1.2	-	18.38	-0.04	75	154	69	65
13	2.161	0.175	0.098	3.12	72	1.2	-	18.36	-0.02	74	156	69	65
14	2.335	0.174	0.097	3.12	72	1.1	-	18.33	-0.03	75	160	69	65
15	2.506	0.171	0.097	3.13	72	1.1	-	18.30	-0.03	75	163	69	65
16	2.680	0.174	0.097	3.15	73	1.1	-	18.28	-0.02	75	165	69	65
17	2.856	0.176	0.098	3.17	73	1.1	-	18.24	-0.04	75	169	69	65
18	3.031	0.175	0.097	3.17	73	1.1	-	18.20	-0.04	75	172	69	65
19	3.203	0.172	0.099	3.18	74	1.1	-	18.16	-0.04	75	175	69	65
20	3.378	0.175	0.097	3.19	74	1.2	97	18.13	-0.03	75	178	69	64
21	3.555	0.177	0.096	3.20	74	1.2	-	18.08	-0.05	75	182	69	65
22	3.731	0.176	0.098	3.21	75	1.1	-	18.04	-0.04	75	185	69	65
23	3.903	0.172	0.097	3.21	75	1.1	-	17.98	-0.06	75	188	69	65
24	4.079	0.176	0.097	3.22	75	1.2	-	17.94	-0.04	75	190	69	64
25	4.255	0.176	0.098	3.22	76	1.2	-	17.89	-0.05	76	193	69	65
26	4.434	0.179	0.097	3.22	76	1.2	-	17.84	-0.05	76	197	69	65
27	4.608	0.174	0.097	3.23	76	1.1	-	17.78	-0.06	76	200	69	65
28	4.784	0.176	0.097	3.23	76	1.2	-	17.71	-0.07	76	204	69	65
29	4.963	0.179	0.098	3.23	77	1.2	-	17.66	-0.05	76	206	69	65
30	5.142	0.179	0.098	3.24	77	1.1	98	17.60	-0.06	76	208	69	65
31	5.319	0.177	0.097	3.26	77	1.2	-	17.55	-0.05	76	209	69	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
32	5.495	0.176	0.097	3.28	78	1.1	-	17.49	-0.06	76	209	69	65
33	5.674	0.179	0.098	3.28	78	1.2	-	17.44	-0.05	76	210	69	65
34	5.854	0.180	0.097	3.28	79	1.1	-	17.38	-0.06	77	212	69	65
35	6.033	0.179	0.098	3.27	79	1.2	-	17.33	-0.05	77	213	69	65
36	6.210	0.177	0.098	3.27	79	1.2	-	17.27	-0.06	77	214	69	65
37	6.387	0.177	0.098	3.27	79	1.2	-	17.21	-0.06	77	216	69	65
38	6.569	0.182	0.098	3.30	80	1.1	-	17.15	-0.06	77	217	69	65
39	6.750	0.181	0.096	3.31	80	1.2	-	17.09	-0.06	77	220	69	65
40	6.930	0.180	0.098	3.32	80	1.1	99	17.02	-0.07	77	221	69	65
41	7.106	0.176	0.098	3.32	81	1.2	-	16.95	-0.07	77	223	69	65
42	7.285	0.179	0.098	3.30	81	1.2	-	16.87	-0.08	78	227	69	65
43	7.467	0.182	0.097	3.32	81	1.2	-	16.77	-0.10	78	233	69	65
44	7.649	0.182	0.098	3.32	82	1.2	-	16.68	-0.09	78	238	69	65
45	7.829	0.180	0.097	3.33	82	1.2	-	16.59	-0.09	78	242	69	65
46	8.007	0.178	0.097	3.34	82	1.2	-	16.50	-0.09	79	246	69	65
47	8.186	0.179	0.099	3.33	83	1.2	-	16.41	-0.09	79	249	69	65
48	8.369	0.183	0.097	3.33	83	1.2	-	16.32	-0.09	79	252	69	65
49	8.552	0.183	0.098	3.34	83	1.1	-	16.23	-0.09	79	255	69	65
50	8.733	0.181	0.096	3.35	83	1.2	100	16.14	-0.09	79	257	70	65
51	8.911	0.178	0.096	3.33	84	1.2	-	16.05	-0.09	80	258	70	65
52	9.092	0.181	0.098	3.34	84	1.2	-	15.95	-0.10	80	260	70	65
53	9.274	0.182	0.098	3.35	84	1.2	-	15.87	-0.08	80	260	70	65
54	9.456	0.182	0.098	3.34	84	1.2	-	15.81	-0.06	80	256	70	65
55	9.639	0.183	0.097	3.35	85	1.2	-	15.75	-0.06	79	253	70	65
56	9.821	0.182	0.097	3.35	85	1.2	-	15.70	-0.05	79	249	70	65
57	10.000	0.179	0.098	3.35	85	1.2	-	15.64	-0.06	79	245	70	65
58	10.181	0.181	0.097	3.36	85	1.2	-	15.58	-0.06	79	243	70	65
59	10.365	0.184	0.098	3.37	86	1.2	-	15.54	-0.04	79	240	70	65
60	10.549	0.184	0.099	3.37	86	1.2	100	15.48	-0.06	79	237	70	65
61	10.728	0.179	0.098	3.37	86	1.2	-	15.44	-0.04	79	235	70	65
62	10.911	0.183	0.096	3.38	86	1.2	-	15.40	-0.04	78	233	70	65
63	11.093	0.182	0.098	3.37	86	1.2	-	15.35	-0.05	78	232	70	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
64	11.275	0.182	0.095	3.38	87	1.2	-	15.30	-0.05	78	229	70	65
65	11.458	0.183	0.097	3.36	87	1.2	-	15.25	-0.05	78	229	70	65
66	11.644	0.186	0.097	3.39	87	1.2	-	15.22	-0.03	78	227	70	65
67	11.826	0.182	0.097	3.39	87	1.2	-	15.17	-0.05	78	226	70	65
68	12.006	0.180	0.097	3.38	87	1.2	-	15.13	-0.04	78	226	70	65
69	12.185	0.179	0.097	3.39	88	1.2	-	15.08	-0.05	78	226	70	65
70	12.370	0.185	0.098	3.39	88	1.2	99	15.04	-0.04	78	225	70	65
71	12.556	0.186	0.097	3.39	88	1.2	-	14.99	-0.05	78	224	70	65
72	12.738	0.182	0.096	3.39	88	1.2	-	14.95	-0.04	78	224	70	65
73	12.922	0.184	0.096	3.39	88	1.2	-	14.90	-0.05	78	224	70	65
74	13.105	0.183	0.098	3.38	88	1.2	-	14.85	-0.05	78	224	70	65
75	13.288	0.183	0.097	3.40	89	1.2	-	14.81	-0.04	78	225	70	65
76	13.472	0.184	0.097	3.40	89	1.2	-	14.76	-0.05	78	225	70	65
77	13.656	0.184	0.096	3.40	89	1.2	-	14.71	-0.05	78	225	70	65
78	13.842	0.186	0.098	3.40	89	1.2	-	14.66	-0.05	78	224	70	65
79	14.025	0.183	0.097	3.40	89	1.2	-	14.61	-0.05	78	226	70	65
80	14.203	0.178	0.096	3.41	89	1.2	100	14.57	-0.04	78	226	70	65
81	14.386	0.183	0.097	3.39	90	1.2	-	14.52	-0.05	78	227	70	65
82	14.571	0.185	0.098	3.40	90	1.2	-	14.46	-0.06	78	228	70	65
83	14.755	0.184	0.098	3.41	90	1.2	-	14.40	-0.06	78	228	70	65
84	14.941	0.186	0.097	3.40	90	1.2	-	14.35	-0.05	78	229	70	65
85	15.124	0.183	0.098	3.41	90	1.2	-	14.30	-0.05	78	232	70	65
86	15.307	0.183	0.098	3.40	90	1.2	-	14.25	-0.05	79	233	70	65
87	15.490	0.183	0.098	3.41	90	1.2	-	14.20	-0.05	79	234	70	65
88	15.673	0.183	0.098	3.41	90	1.2	-	14.14	-0.06	79	235	70	65
89	15.863	0.190	0.098	3.41	91	1.2	-	14.09	-0.05	79	235	70	65
90	16.048	0.185	0.098	3.41	91	1.2	101	14.03	-0.06	79	235	70	66
91	16.232	0.184	0.097	3.41	91	1.2	-	13.97	-0.06	79	236	70	65
92	16.414	0.182	0.097	3.42	91	1.2	-	13.91	-0.06	79	237	70	65
93	16.595	0.181	0.097	3.42	91	1.2	-	13.85	-0.06	79	240	70	66
94	16.783	0.188	0.097	3.42	91	1.2	-	13.80	-0.05	79	240	70	65
95	16.968	0.185	0.098	3.42	91	1.2	-	13.74	-0.06	79	240	70	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
96	17.150	0.182	0.098	3.42	91	1.2	-	13.68	-0.06	79	241	70	65
97	17.340	0.190	0.098	3.42	91	1.2	-	13.64	-0.04	79	241	70	65
98	17.523	0.183	0.096	3.42	92	1.2	-	13.57	-0.07	79	241	70	65
99	17.706	0.183	0.098	3.41	92	1.2	-	13.52	-0.05	79	241	70	65
100	17.890	0.184	0.098	3.42	92	1.2	100	13.48	-0.04	79	241	70	65
101	18.074	0.184	0.097	3.42	92	1.2	-	13.42	-0.06	79	242	70	66
102	18.261	0.187	0.098	3.42	92	1.2	-	13.37	-0.05	79	240	70	66
103	18.446	0.185	0.098	3.42	92	1.2	-	13.31	-0.06	79	239	70	65
104	18.631	0.185	0.098	3.42	92	1.2	-	13.27	-0.04	79	239	70	65
105	18.816	0.185	0.097	3.42	92	1.2	-	13.21	-0.06	79	237	70	66
106	18.999	0.183	0.097	3.43	92	1.2	-	13.17	-0.04	79	237	70	66
107	19.183	0.184	0.098	3.41	92	1.2	-	13.12	-0.05	79	236	70	66
108	19.368	0.185	0.096	3.43	92	1.2	-	13.06	-0.06	79	235	70	66
109	19.553	0.185	0.097	3.42	93	1.2	-	13.02	-0.04	79	234	70	66
110	19.741	0.188	0.097	3.42	93	1.2	100	12.97	-0.05	79	234	70	66
111	19.926	0.185	0.097	3.43	93	1.2	-	12.92	-0.05	79	233	70	66
112	20.110	0.184	0.098	3.43	93	1.2	-	12.89	-0.03	78	232	70	66
113	20.291	0.181	0.098	3.44	93	1.2	-	12.83	-0.06	78	231	70	66
114	20.477	0.186	0.098	3.43	93	1.2	-	12.79	-0.04	78	230	70	66
115	20.664	0.187	0.096	3.43	93	1.2	-	12.75	-0.04	78	228	70	66
116	20.849	0.185	0.097	3.44	93	1.2	-	12.71	-0.04	78	227	70	66
117	21.036	0.187	0.097	3.43	93	1.2	-	12.66	-0.05	78	225	70	65
118	21.221	0.185	0.098	3.43	93	1.2	-	12.62	-0.04	78	225	70	66
119	21.405	0.184	0.097	3.42	93	1.2	-	12.59	-0.03	78	223	70	66
120	21.590	0.185	0.098	3.45	93	1.2	100	12.54	-0.05	78	221	70	66
121	21.773	0.183	0.096	3.44	93	1.2	-	12.50	-0.04	78	219	70	66
122	21.961	0.188	0.096	3.44	93	1.2	-	12.47	-0.03	78	217	70	65
123	22.146	0.185	0.098	3.43	93	1.2	-	12.43	-0.04	78	217	70	66
124	22.333	0.187	0.098	3.43	94	1.2	-	12.40	-0.03	78	216	70	66
125	22.518	0.185	0.097	3.44	94	1.2	-	12.36	-0.04	78	215	70	65
126	22.701	0.183	0.098	3.42	94	1.2	-	12.32	-0.04	78	215	70	66
127	22.887	0.186	0.098	3.43	94	1.2	-	12.28	-0.04	78	214	70	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
128	23.071	0.184	0.095	3.45	94	1.2	-	12.25	-0.03	78	214	70	66
129	23.258	0.187	0.096	3.44	94	1.2	-	12.21	-0.04	78	214	70	65
130	23.444	0.186	0.098	3.43	94	1.2	100	12.18	-0.03	78	214	70	66
131	23.631	0.187	0.098	3.43	94	1.2	-	12.13	-0.05	78	214	70	66
132	23.817	0.186	0.097	3.44	94	1.2	-	12.09	-0.04	78	213	70	66
133	24.000	0.183	0.097	3.43	94	1.2	-	12.05	-0.04	78	212	70	66
134	24.185	0.185	0.097	3.44	94	1.2	-	12.01	-0.04	77	213	70	66
135	24.370	0.185	0.098	3.44	94	1.2	-	11.97	-0.04	78	213	70	66
136	24.557	0.187	0.098	3.44	94	1.2	-	11.92	-0.05	78	214	70	66
137	24.743	0.186	0.098	3.44	94	1.2	-	11.88	-0.04	77	214	70	66
138	24.930	0.187	0.096	3.44	94	1.2	-	11.84	-0.04	77	213	70	65
139	25.113	0.183	0.097	3.43	94	1.2	-	11.80	-0.04	78	214	70	66
140	25.296	0.183	0.098	3.44	94	1.2	100	11.76	-0.04	78	214	70	66
141	25.485	0.189	0.097	3.42	94	1.2	-	11.72	-0.04	77	214	70	66
142	25.666	0.181	0.098	3.43	94	1.2	-	11.66	-0.06	78	214	70	65
143	25.857	0.191	0.097	3.44	94	1.2	-	11.62	-0.04	78	214	70	66
144	26.040	0.183	0.097	3.45	94	1.2	-	11.59	-0.03	77	214	70	66
145	26.230	0.190	0.098	3.43	94	1.2	-	11.54	-0.05	77	213	70	66
146	26.415	0.185	0.097	3.44	94	1.2	-	11.51	-0.03	77	214	70	66
147	26.599	0.184	0.097	3.43	94	1.2	-	11.46	-0.05	78	213	70	66
148	26.784	0.185	0.098	3.44	94	1.2	-	11.41	-0.05	78	214	70	66
149	26.969	0.185	0.096	3.44	95	1.2	-	11.37	-0.04	78	215	70	66
150	27.156	0.187	0.098	3.44	94	1.2	100	11.33	-0.04	78	215	70	66
151	27.342	0.186	0.098	3.45	95	1.2	-	11.28	-0.05	78	215	70	66
152	27.526	0.184	0.098	3.44	95	1.2	-	11.24	-0.04	77	215	70	66
153	27.715	0.189	0.099	3.45	95	1.2	-	11.19	-0.05	78	215	70	66
154	27.896	0.181	0.097	3.44	95	1.2	-	11.15	-0.04	78	216	70	66
155	28.085	0.189	0.098	3.44	95	1.2	-	11.11	-0.04	78	216	70	66
156	28.269	0.184	0.096	3.44	95	1.2	-	11.07	-0.04	78	217	70	66
157	28.457	0.188	0.097	3.44	95	1.2	-	11.02	-0.05	78	217	70	66
158	28.640	0.183	0.097	3.44	95	1.2	-	10.98	-0.04	78	217	70	66
159	28.828	0.188	0.098	3.44	95	1.2	-	10.95	-0.03	78	216	70	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
160	29.016	0.188	0.098	3.44	95	1.2	100	10.89	-0.06	78	216	70	66
161	29.201	0.185	0.097	3.44	95	1.2	-	10.85	-0.04	78	215	70	66
162	29.383	0.182	0.097	3.44	95	1.2	-	10.81	-0.04	78	215	70	66
163	29.570	0.187	0.098	3.45	95	1.2	-	10.77	-0.04	78	214	70	66
164	29.759	0.189	0.097	3.45	95	1.2	-	10.72	-0.05	78	215	70	66
165	29.942	0.183	0.097	3.46	95	1.2	-	10.68	-0.04	77	214	70	66
166	30.130	0.188	0.097	3.45	95	1.2	-	10.64	-0.04	78	214	70	66
167	30.318	0.188	0.099	3.45	95	1.2	-	10.60	-0.04	77	214	70	66
168	30.504	0.186	0.098	3.45	95	1.2	-	10.56	-0.04	77	213	70	66
169	30.685	0.181	0.097	3.45	95	1.2	-	10.52	-0.04	77	213	70	66
170	30.869	0.184	0.097	3.44	95	1.2	100	10.48	-0.04	77	213	70	66
171	31.060	0.191	0.098	3.45	95	1.2	-	10.44	-0.04	77	211	70	66
172	31.247	0.187	0.097	3.44	95	1.2	-	10.40	-0.04	77	211	70	66
173	31.432	0.185	0.098	3.45	95	1.2	-	10.36	-0.04	77	210	70	66
174	31.620	0.188	0.099	3.44	95	1.2	-	10.33	-0.03	77	209	70	66
175	31.807	0.187	0.097	3.44	95	1.2	-	10.29	-0.04	77	210	70	66
176	31.991	0.184	0.097	3.45	95	1.2	-	10.24	-0.05	77	209	70	66
177	32.177	0.186	0.099	3.44	95	1.2	-	10.22	-0.02	77	209	70	66
178	32.362	0.185	0.096	3.44	95	1.2	-	10.17	-0.05	77	209	70	66
179	32.550	0.188	0.098	3.43	95	1.2	-	10.13	-0.04	77	208	70	66
180	32.736	0.186	0.097	3.45	95	1.2	101	10.09	-0.04	77	207	70	66
181	32.924	0.188	0.098	3.44	95	1.2	-	10.05	-0.04	77	208	70	66
182	33.107	0.183	0.098	3.45	95	1.2	-	10.02	-0.03	77	208	70	66
183	33.290	0.183	0.097	3.45	95	1.2	-	9.99	-0.03	77	208	70	66
184	33.476	0.186	0.098	3.45	95	1.2	-	9.95	-0.04	77	207	70	66
185	33.664	0.188	0.097	3.45	95	1.2	-	9.90	-0.05	77	207	70	66
186	33.850	0.186	0.098	3.44	95	1.2	-	9.87	-0.03	77	206	70	66
187	34.036	0.186	0.097	3.45	95	1.2	-	9.83	-0.04	77	205	70	66
188	34.224	0.188	0.097	3.43	95	1.2	-	9.80	-0.03	77	204	70	66
189	34.410	0.186	0.097	3.44	95	1.2	-	9.76	-0.04	77	204	70	66
190	34.598	0.188	0.097	3.43	95	1.2	101	9.72	-0.04	77	204	70	66
191	34.782	0.184	0.098	3.45	95	1.2	-	9.69	-0.03	77	204	70	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
192	34.964	0.182	0.096	3.44	95	1.2	-	9.66	-0.03	77	204	70	66
193	35.156	0.192	0.097	3.45	95	1.2	-	9.62	-0.04	77	203	70	66
194	35.342	0.186	0.097	3.45	95	1.2	-	9.59	-0.03	77	203	70	66
195	35.530	0.188	0.097	3.44	96	1.2	-	9.54	-0.05	77	203	70	66
196	35.712	0.182	0.097	3.45	96	1.2	-	9.51	-0.03	77	203	70	66
197	35.902	0.190	0.097	3.45	95	1.2	-	9.48	-0.03	77	202	70	66
198	36.082	0.180	0.097	3.43	95	1.2	-	9.45	-0.03	77	202	70	66
199	36.272	0.190	0.098	3.44	96	1.2	-	9.41	-0.04	77	202	70	66
200	36.458	0.186	0.098	3.46	95	1.2	100	9.38	-0.03	77	201	70	66
201	36.642	0.184	0.099	3.45	95	1.2	-	9.34	-0.04	77	201	70	66
202	36.833	0.191	0.097	3.45	96	1.2	-	9.31	-0.03	77	200	70	66
203	37.020	0.187	0.098	3.44	96	1.2	-	9.28	-0.03	77	200	70	66
204	37.207	0.187	0.096	3.44	96	1.2	-	9.25	-0.03	77	200	70	66
205	37.390	0.183	0.095	3.44	96	1.2	-	9.22	-0.03	77	199	70	66
206	37.573	0.183	0.097	3.44	96	1.2	-	9.19	-0.03	77	198	70	66
207	37.762	0.189	0.097	3.46	96	1.2	-	9.15	-0.04	77	198	70	66
208	37.950	0.188	0.096	3.45	96	1.2	-	9.12	-0.03	77	198	70	66
209	38.133	0.183	0.097	3.45	96	1.2	-	9.09	-0.03	77	198	70	66
210	38.322	0.189	0.096	3.43	96	1.2	101	9.05	-0.04	77	198	70	66
211	38.507	0.185	0.097	3.45	96	1.2	-	9.02	-0.03	77	198	70	66
212	38.692	0.185	0.097	3.44	96	1.2	-	8.98	-0.04	77	198	70	66
213	38.880	0.188	0.097	3.44	96	1.2	-	8.95	-0.03	77	197	70	66
214	39.067	0.187	0.098	3.44	96	1.2	-	8.91	-0.04	77	197	70	66
215	39.252	0.185	0.097	3.45	96	1.2	-	8.89	-0.02	77	197	70	66
216	39.441	0.189	0.098	3.45	96	1.2	-	8.86	-0.03	77	196	70	66
217	39.630	0.189	0.097	3.45	96	1.2	-	8.84	-0.02	77	195	70	66
218	39.815	0.185	0.098	3.44	96	1.2	-	8.80	-0.04	77	195	70	66
219	39.999	0.184	0.097	3.45	96	1.2	-	8.77	-0.03	77	194	70	66
220	40.186	0.187	0.098	3.46	96	1.2	101	8.74	-0.03	77	194	70	66
221	40.373	0.187	0.097	3.45	96	1.2	-	8.71	-0.03	77	193	70	66
222	40.558	0.185	0.096	3.46	96	1.2	-	8.69	-0.02	77	193	70	66
223	40.744	0.186	0.098	3.45	96	1.2	-	8.66	-0.03	77	192	70	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
224	40.931	0.187	0.098	3.45	96	1.2	-	8.63	-0.03	77	191	70	66
225	41.122	0.191	0.097	3.45	96	1.2	-	8.61	-0.02	77	192	70	66
226	41.307	0.185	0.096	3.45	96	1.2	-	8.58	-0.03	77	192	70	66
227	41.494	0.187	0.096	3.43	96	1.2	-	8.56	-0.02	76	192	70	66
228	41.678	0.184	0.098	3.45	96	1.2	-	8.53	-0.03	76	190	70	66
229	41.865	0.187	0.097	3.46	96	1.2	-	8.50	-0.03	76	190	70	66
230	42.052	0.187	0.098	3.47	96	1.2	100	8.48	-0.02	76	190	70	66
231	42.239	0.187	0.097	3.45	96	1.2	-	8.45	-0.03	76	189	70	66
232	42.428	0.189	0.098	3.47	96	1.2	-	8.43	-0.02	76	189	70	66
233	42.611	0.183	0.097	3.46	96	1.2	-	8.41	-0.02	76	189	70	66
234	42.798	0.187	0.098	3.45	96	1.2	-	8.38	-0.03	76	188	70	66
235	42.986	0.188	0.098	3.47	96	1.2	-	8.35	-0.03	76	188	70	66
236	43.169	0.183	0.096	3.46	96	1.2	-	8.32	-0.03	76	188	70	66
237	43.356	0.187	0.098	3.48	96	1.2	-	8.29	-0.03	76	187	70	66
238	43.547	0.191	0.098	3.47	96	1.2	-	8.28	-0.01	76	187	70	66
239	43.734	0.187	0.097	3.46	96	1.2	-	8.24	-0.04	76	187	70	66
240	43.923	0.189	0.097	3.47	96	1.2	101	8.21	-0.03	76	187	70	66
241	44.110	0.187	0.098	3.47	96	1.2	-	8.19	-0.02	76	188	70	66
242	44.293	0.183	0.098	3.47	96	1.2	-	8.15	-0.04	76	188	70	66
243	44.477	0.184	0.097	3.47	96	1.2	-	8.12	-0.03	76	189	70	66
244	44.668	0.191	0.097	3.47	96	1.3	-	8.08	-0.04	76	191	70	66
245	44.854	0.186	0.097	3.47	96	1.2	-	8.04	-0.04	76	193	70	66
246	45.043	0.189	0.098	3.46	96	1.2	-	8.00	-0.04	77	194	70	66
247	45.227	0.184	0.097	3.47	96	1.2	-	7.95	-0.05	76	196	70	66
248	45.419	0.192	0.098	3.46	96	1.2	-	7.91	-0.04	77	198	70	66
249	45.602	0.183	0.098	3.47	96	1.2	-	7.86	-0.05	77	199	70	66
250	45.787	0.185	0.097	3.46	96	1.2	100	7.82	-0.04	77	201	70	66
251	45.973	0.186	0.097	3.47	96	1.2	-	7.77	-0.05	77	204	70	66
252	46.163	0.190	0.098	3.46	96	1.2	-	7.73	-0.04	77	205	70	66
253	46.350	0.187	0.097	3.47	96	1.2	-	7.68	-0.05	77	206	70	66
254	46.538	0.188	0.097	3.47	96	1.2	-	7.62	-0.06	77	208	70	66
255	46.726	0.188	0.097	3.48	96	1.2	-	7.58	-0.04	77	210	70	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
256	46.914	0.188	0.099	3.47	96	1.2	-	7.54	-0.04	77	210	70	66
257	47.101	0.187	0.099	3.47	96	1.2	-	7.49	-0.05	77	212	70	66
258	47.282	0.181	0.098	3.46	96	1.2	-	7.44	-0.05	77	213	70	66
259	47.469	0.187	0.097	3.46	96	1.2	-	7.39	-0.05	77	215	70	66
260	47.658	0.189	0.098	3.46	96	1.2	101	7.33	-0.06	77	215	70	66
261	47.844	0.186	0.098	3.46	96	1.2	-	7.28	-0.05	77	215	70	66
262	48.034	0.190	0.098	3.47	96	1.2	-	7.23	-0.05	77	215	70	66
263	48.223	0.189	0.098	3.48	96	1.2	-	7.18	-0.05	77	215	70	66
264	48.407	0.184	0.098	3.47	96	1.2	-	7.12	-0.06	77	213	70	66
265	48.597	0.190	0.097	3.46	96	1.2	-	7.07	-0.05	77	212	70	66
266	48.781	0.184	0.098	3.47	96	1.2	-	7.04	-0.03	77	210	70	66
267	48.969	0.188	0.096	3.46	96	1.2	-	6.98	-0.06	77	209	70	66
268	49.152	0.183	0.098	3.48	96	1.2	-	6.93	-0.05	77	206	70	66
269	49.343	0.191	0.098	3.47	96	1.2	-	6.88	-0.05	77	204	70	66
270	49.530	0.187	0.097	3.47	96	1.2	101	6.83	-0.05	77	201	70	66
271	49.719	0.189	0.097	3.46	96	1.2	-	6.78	-0.05	77	199	70	66
272	49.906	0.187	0.098	3.48	96	1.2	-	6.74	-0.04	77	197	70	66
273	50.090	0.184	0.097	3.46	96	1.2	-	6.71	-0.03	77	195	70	66
274	50.278	0.188	0.097	3.47	96	1.2	-	6.66	-0.05	77	194	70	66
275	50.461	0.183	0.098	3.47	96	1.2	-	6.61	-0.05	77	192	70	66
276	50.651	0.190	0.097	3.47	96	1.2	-	6.58	-0.03	77	190	70	66
277	50.839	0.188	0.097	3.46	96	1.2	-	6.54	-0.04	76	188	70	66
278	51.024	0.185	0.097	3.46	96	1.2	-	6.50	-0.04	76	187	70	66
279	51.215	0.191	0.098	3.46	96	1.2	-	6.47	-0.03	76	185	70	66
280	51.401	0.186	0.098	3.46	96	1.2	101	6.43	-0.04	76	182	70	66
281	51.588	0.187	0.096	3.46	96	1.2	-	6.39	-0.04	76	181	70	66
282	51.772	0.184	0.099	3.46	96	1.2	-	6.36	-0.03	76	178	70	66
283	51.960	0.188	0.096	3.47	96	1.2	-	6.33	-0.03	76	176	70	66
284	52.144	0.184	0.097	3.46	96	1.2	-	6.30	-0.03	76	174	70	66
285	52.335	0.191	0.097	3.46	96	1.2	-	6.26	-0.04	76	173	70	66
286	52.522	0.187	0.099	3.47	96	1.2	-	6.23	-0.03	76	172	70	66
287	52.711	0.189	0.097	3.46	96	1.2	-	6.20	-0.03	76	171	70	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
288	52.897	0.186	0.096	3.47	96	1.2	-	6.17	-0.03	76	169	70	66
289	53.083	0.186	0.098	3.46	96	1.2	-	6.15	-0.02	76	168	70	66
290	53.269	0.186	0.096	3.46	96	1.2	101	6.11	-0.04	76	167	70	66
291	53.454	0.185	0.096	3.46	96	1.2	-	6.09	-0.02	76	167	70	66
292	53.643	0.189	0.097	3.47	96	1.2	-	6.06	-0.03	76	166	70	66
293	53.830	0.187	0.098	3.46	96	1.2	-	6.02	-0.04	76	165	70	66
294	54.020	0.190	0.098	3.47	96	1.2	-	6.00	-0.02	76	164	70	66
295	54.206	0.186	0.096	3.45	96	1.2	-	5.98	-0.02	76	162	70	66
296	54.394	0.188	0.097	3.47	96	1.2	-	5.94	-0.04	75	162	70	66
297	54.574	0.180	0.097	3.47	96	1.2	-	5.92	-0.02	75	161	70	66
298	54.765	0.191	0.098	3.47	96	1.2	-	5.89	-0.03	75	160	70	66
299	54.948	0.183	0.098	3.47	96	1.2	-	5.86	-0.03	75	159	70	66
300	55.140	0.192	0.097	3.46	96	1.2	101	5.85	-0.01	75	157	70	66
301	55.327	0.187	0.098	3.46	96	1.2	-	5.83	-0.02	75	156	70	66
302	55.516	0.189	0.098	3.47	96	1.2	-	5.80	-0.03	75	155	70	66
303	55.698	0.182	0.098	3.47	96	1.2	-	5.79	-0.01	75	154	70	66
304	55.889	0.191	0.097	3.46	96	1.2	-	5.76	-0.03	75	153	70	66
305	56.074	0.185	0.099	3.47	96	1.2	-	5.74	-0.02	75	151	70	66
306	56.261	0.187	0.097	3.47	96	1.2	-	5.73	-0.01	75	151	70	66
307	56.447	0.186	0.098	3.47	96	1.2	-	5.71	-0.02	75	150	70	66
308	56.636	0.189	0.099	3.47	96	1.2	-	5.70	-0.01	75	149	70	66
309	56.824	0.188	0.096	3.48	96	1.2	-	5.67	-0.03	75	149	70	66
310	57.012	0.188	0.097	3.46	96	1.2	101	5.65	-0.02	75	150	70	66
311	57.199	0.187	0.098	3.48	96	1.2	-	5.63	-0.02	75	150	70	66
312	57.386	0.187	0.098	3.46	96	1.2	-	5.61	-0.02	74	151	70	66
313	57.570	0.184	0.097	3.47	96	1.2	-	5.59	-0.02	74	151	70	66
314	57.754	0.184	0.097	3.45	96	1.2	-	5.58	-0.01	74	151	70	66
315	57.944	0.190	0.098	3.46	96	1.2	-	5.55	-0.03	74	151	70	66
316	58.133	0.189	0.098	3.46	96	1.2	-	5.54	-0.01	74	152	70	66
317	58.320	0.187	0.098	3.46	96	1.2	-	5.51	-0.03	74	153	70	66
318	58.509	0.189	0.098	3.46	96	1.2	-	5.49	-0.02	74	154	70	66
319	58.695	0.186	0.097	3.47	96	1.2	-	5.48	-0.01	74	155	70	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
320	58.882	0.187	0.098	3.46	96	1.2	100	5.45	-0.03	74	156	70	66
321	59.064	0.182	0.097	3.47	96	1.2	-	5.43	-0.02	74	158	70	66
322	59.253	0.189	0.099	3.45	96	1.2	-	5.41	-0.02	74	158	70	66
323	59.441	0.188	0.097	3.47	96	1.2	-	5.38	-0.03	74	158	70	66
324	59.629	0.188	0.098	3.47	96	1.2	-	5.36	-0.02	74	159	70	66
325	59.817	0.188	0.097	3.47	96	1.2	-	5.33	-0.03	74	161	70	66
326	60.005	0.188	0.098	3.46	96	1.2	-	5.31	-0.02	74	162	70	66
327	60.192	0.187	0.096	3.47	96	1.2	-	5.28	-0.03	74	163	70	66
328	60.373	0.181	0.098	3.46	96	1.2	-	5.26	-0.02	74	165	70	66
329	60.564	0.191	0.098	3.48	96	1.2	-	5.24	-0.02	74	165	70	66
330	60.749	0.185	0.096	3.46	96	1.2	100	5.20	-0.04	74	166	70	66
331	60.938	0.189	0.096	3.46	96	1.2	-	5.17	-0.03	74	166	70	66
332	61.125	0.187	0.097	3.46	96	1.2	-	5.14	-0.03	75	168	70	66
333	61.315	0.190	0.096	3.47	96	1.2	-	5.12	-0.02	75	169	70	65
334	61.501	0.186	0.096	3.46	96	1.2	-	5.10	-0.02	75	170	70	65
335	61.689	0.188	0.098	3.47	96	1.2	-	5.07	-0.03	75	170	70	65
336	61.873	0.184	0.097	3.46	96	1.2	-	5.03	-0.04	75	171	70	65
337	62.057	0.184	0.096	3.46	96	1.2	-	5.01	-0.02	74	171	70	65
338	62.246	0.189	0.097	3.45	96	1.2	-	4.99	-0.02	75	173	70	65
339	62.435	0.189	0.097	3.47	96	1.2	-	4.95	-0.04	75	174	70	65
340	62.620	0.185	0.098	3.48	96	1.2	101	4.91	-0.04	75	175	70	65
341	62.811	0.191	0.098	3.46	96	1.3	-	4.88	-0.03	75	175	70	65
342	62.998	0.187	0.096	3.47	96	1.2	-	4.86	-0.02	75	176	69	65
343	63.185	0.187	0.097	3.47	96	1.2	-	4.82	-0.04	75	178	70	65
344	63.370	0.185	0.098	3.48	96	1.2	-	4.79	-0.03	75	178	69	65
345	63.557	0.187	0.096	3.46	96	1.2	-	4.73	-0.06	75	180	69	65
346	63.743	0.186	0.097	3.47	96	1.2	-	4.72	-0.01	75	181	69	65
347	63.932	0.189	0.099	3.47	96	1.2	-	4.68	-0.04	75	182	69	65
348	64.119	0.187	0.097	3.48	96	1.2	-	4.64	-0.04	75	183	69	65
349	64.308	0.189	0.098	3.46	96	1.2	-	4.60	-0.04	75	183	69	65
350	64.495	0.187	0.096	3.47	96	1.2	101	4.57	-0.03	75	184	69	65
351	64.678	0.183	0.099	3.47	96	1.2	-	4.53	-0.04	75	184	69	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
352	64.867	0.189	0.098	3.48	96	1.2	-	4.50	-0.03	75	186	69	65
353	65.054	0.187	0.096	3.47	96	1.2	-	4.45	-0.05	75	186	69	65
354	65.237	0.183	0.098	3.47	96	1.2	-	4.43	-0.02	75	187	69	65
355	65.429	0.192	0.098	3.47	96	1.2	-	4.39	-0.04	75	188	69	65
356	65.616	0.187	0.098	3.48	96	1.2	-	4.35	-0.04	75	188	69	65
357	65.805	0.189	0.098	3.47	96	1.2	-	4.31	-0.04	75	189	69	65
358	65.988	0.183	0.098	3.47	96	1.2	-	4.28	-0.03	75	188	69	65
359	66.179	0.191	0.097	3.46	96	1.2	-	4.25	-0.03	75	189	69	65
360	66.363	0.184	0.097	3.47	96	1.2	101	4.21	-0.04	75	189	69	65
361	66.550	0.187	0.097	3.46	96	1.2	-	4.17	-0.04	75	188	69	65
362	66.735	0.185	0.098	3.47	96	1.2	-	4.14	-0.03	75	188	69	65
363	66.926	0.191	0.099	3.46	96	1.2	-	4.11	-0.03	75	187	69	65
364	67.113	0.187	0.097	3.47	96	1.2	-	4.07	-0.04	75	186	69	65
365	67.302	0.189	0.098	3.46	96	1.2	-	4.05	-0.02	75	186	69	65
366	67.488	0.186	0.098	3.46	96	1.2	-	4.01	-0.04	75	186	69	65
367	67.674	0.186	0.097	3.46	96	1.2	-	3.97	-0.04	75	185	69	65
368	67.857	0.183	0.098	3.46	96	1.2	-	3.95	-0.02	75	184	69	65
369	68.046	0.189	0.098	3.46	96	1.2	-	3.91	-0.04	75	183	69	65
370	68.234	0.188	0.096	3.47	96	1.2	101	3.88	-0.03	75	182	69	65
371	68.422	0.188	0.097	3.46	96	1.2	-	3.86	-0.02	75	181	69	65
372	68.610	0.188	0.098	3.46	96	1.2	-	3.82	-0.04	74	180	69	65
373	68.797	0.187	0.097	3.47	96	1.2	-	3.79	-0.03	74	180	69	65
374	68.985	0.188	0.098	3.47	96	1.2	-	3.76	-0.03	74	179	69	65
375	69.169	0.184	0.099	3.47	96	1.2	-	3.73	-0.03	74	178	69	65
376	69.357	0.188	0.097	3.47	96	1.2	-	3.70	-0.03	74	177	69	65
377	69.542	0.185	0.097	3.46	96	1.2	-	3.68	-0.02	74	177	69	65
378	69.731	0.189	0.098	3.46	96	1.2	-	3.65	-0.03	74	177	69	65
379	69.918	0.187	0.096	3.46	96	1.2	-	3.62	-0.03	74	176	69	65
380	70.107	0.189	0.097	3.47	96	1.2	101	3.60	-0.02	74	174	69	65
381	70.293	0.186	0.097	3.46	96	1.2	-	3.56	-0.04	74	174	69	65
382	70.481	0.188	0.099	3.47	96	1.2	-	3.54	-0.02	74	173	69	65
383	70.665	0.184	0.097	3.47	96	1.2	-	3.51	-0.03	74	173	69	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
384	70.852	0.187	0.097	3.46	96	1.2	-	3.49	-0.02	74	171	69	65
385	71.038	0.186	0.098	3.48	96	1.2	-	3.46	-0.03	74	171	69	65
386	71.227	0.189	0.098	3.46	96	1.2	-	3.44	-0.02	74	171	69	65
387	71.415	0.188	0.098	3.48	96	1.2	-	3.41	-0.03	74	170	69	65
388	71.603	0.188	0.098	3.46	96	1.2	-	3.39	-0.02	74	169	69	65
389	71.786	0.183	0.098	3.46	96	1.2	-	3.36	-0.03	74	168	69	65
390	71.977	0.191	0.098	3.46	96	1.2	100	3.34	-0.02	74	169	69	65
391	72.162	0.185	0.098	3.48	96	1.2	-	3.31	-0.03	74	168	69	65
392	72.349	0.187	0.097	3.47	96	1.2	-	3.28	-0.03	74	168	69	65
393	72.535	0.186	0.098	3.46	96	1.2	-	3.26	-0.02	74	167	69	65
394	72.724	0.189	0.098	3.46	96	1.2	-	3.23	-0.03	74	167	69	65
395	72.911	0.187	0.097	3.48	96	1.2	-	3.21	-0.02	74	168	69	65
396	73.100	0.189	0.098	3.47	96	1.2	-	3.19	-0.02	74	167	69	65
397	73.286	0.186	0.098	3.48	96	1.2	-	3.17	-0.02	74	166	69	65
398	73.474	0.188	0.098	3.47	96	1.2	-	3.14	-0.03	73	165	69	65
399	73.657	0.183	0.098	3.47	96	1.2	-	3.12	-0.02	73	165	69	65
400	73.845	0.188	0.097	3.47	96	1.2	100	3.09	-0.03	73	166	69	65
401	74.031	0.186	0.097	3.47	96	1.2	-	3.06	-0.03	73	165	69	65
402	74.220	0.189	0.098	3.47	96	1.2	-	3.04	-0.02	73	165	69	65
403	74.408	0.188	0.096	3.48	96	1.2	-	3.01	-0.03	73	165	69	65
404	74.596	0.188	0.097	3.47	96	1.2	-	2.98	-0.03	73	164	69	65
405	74.781	0.185	0.098	3.46	96	1.2	-	2.97	-0.01	73	164	69	65
406	74.969	0.188	0.098	3.46	96	1.2	-	2.94	-0.03	73	165	69	65
407	75.154	0.185	0.098	3.48	96	1.2	-	2.91	-0.03	73	165	69	65
408	75.341	0.187	0.098	3.47	96	1.2	-	2.89	-0.02	73	165	69	65
409	75.529	0.188	0.097	3.47	96	1.2	-	2.86	-0.03	73	165	69	65
410	75.717	0.188	0.098	3.46	96	1.2	100	2.84	-0.02	73	164	69	65
411	75.905	0.188	0.099	3.46	96	1.2	-	2.81	-0.03	73	164	69	65
412	76.092	0.187	0.099	3.47	96	1.2	-	2.78	-0.03	73	164	69	65
413	76.280	0.188	0.099	3.45	96	1.2	-	2.76	-0.02	73	163	69	65
414	76.464	0.184	0.098	3.48	96	1.2	-	2.74	-0.02	73	164	69	65
415	76.651	0.187	0.097	3.46	96	1.2	-	2.71	-0.03	73	164	69	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
416	76.836	0.185	0.097	3.46	96	1.2	-	2.69	-0.02	73	164	69	65
417	77.023	0.187	0.099	3.46	96	1.2	-	2.67	-0.02	73	164	69	65
418	77.210	0.187	0.098	3.47	95	1.2	-	2.65	-0.02	73	164	69	64
419	77.399	0.189	0.099	3.46	96	1.2	-	2.62	-0.03	73	164	69	64
420	77.588	0.189	0.099	3.47	96	1.2	100	2.59	-0.03	73	163	69	64
421	77.776	0.188	0.098	3.46	96	1.2	-	2.57	-0.02	73	163	69	64
422	77.960	0.184	0.097	3.46	96	1.2	-	2.55	-0.02	73	164	69	64
423	78.147	0.187	0.097	3.47	96	1.2	-	2.52	-0.03	73	164	69	64
424	78.333	0.186	0.097	3.47	95	1.2	-	2.50	-0.02	73	163	69	64
425	78.522	0.189	0.099	3.47	95	1.2	-	2.47	-0.03	73	163	69	64
426	78.709	0.187	0.098	3.47	95	1.2	-	2.45	-0.02	73	162	69	64
427	78.895	0.186	0.098	3.46	95	1.2	-	2.43	-0.02	73	163	69	64
428	79.085	0.190	0.098	3.47	95	1.2	-	2.40	-0.03	73	163	68	64
429	79.271	0.186	0.097	3.45	95	1.2	-	2.38	-0.02	73	162	69	64
430	79.456	0.185	0.098	3.47	95	1.2	100	2.36	-0.02	73	162	69	64
431	79.643	0.187	0.099	3.46	95	1.2	-	2.33	-0.03	73	162	68	64
432	79.829	0.186	0.098	3.47	95	1.2	-	2.30	-0.03	73	162	68	64
433	80.018	0.189	0.098	3.46	95	1.2	-	2.29	-0.01	73	162	68	64
434	80.205	0.187	0.097	3.47	95	1.2	-	2.27	-0.02	73	162	68	64
435	80.394	0.189	0.097	3.46	95	1.2	-	2.25	-0.02	73	160	68	64
436	80.580	0.186	0.098	3.47	95	1.2	-	2.22	-0.03	73	160	68	64
437	80.766	0.186	0.099	3.46	95	1.2	-	2.21	-0.01	73	160	68	64
438	80.951	0.185	0.097	3.46	95	1.2	-	2.18	-0.03	73	160	68	64
439	81.138	0.187	0.098	3.46	95	1.2	-	2.16	-0.02	73	160	68	64
440	81.325	0.187	0.097	3.46	95	1.2	100	2.14	-0.02	73	160	68	64
441	81.513	0.188	0.096	3.46	95	1.2	-	2.13	-0.01	73	159	68	64
442	81.701	0.188	0.098	3.46	95	1.2	-	2.11	-0.02	72	159	68	64
443	81.888	0.187	0.098	3.46	95	1.2	-	2.10	-0.01	73	158	68	64
444	82.076	0.188	0.099	3.47	95	1.2	-	2.07	-0.03	73	157	68	64
445	82.260	0.184	0.098	3.47	95	1.2	-	2.06	-0.01	72	157	68	64
446	82.447	0.187	0.098	3.45	95	1.2	-	2.03	-0.03	72	157	68	64
447	82.632	0.185	0.098	3.45	95	1.2	-	2.02	-0.01	72	157	68	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
448	82.821	0.189	0.097	3.45	95	1.2	-	2.00	-0.02	72	156	68	64
449	83.008	0.187	0.097	3.46	95	1.2	-	1.98	-0.02	72	156	68	64
450	83.197	0.189	0.098	3.47	95	1.2	100	1.97	-0.01	72	156	68	64
451	83.383	0.186	0.098	3.47	95	1.2	-	1.96	-0.01	72	156	68	64
452	83.571	0.188	0.098	3.46	95	1.2	-	1.93	-0.03	72	155	68	64
453	83.755	0.184	0.098	3.47	95	1.2	-	1.92	-0.01	72	155	68	64
454	83.942	0.187	0.098	3.46	95	1.2	-	1.90	-0.02	72	155	68	64
455	84.128	0.186	0.097	3.47	95	1.2	-	1.88	-0.02	72	154	68	64
456	84.317	0.189	0.098	3.46	95	1.2	-	1.88	0.00	72	155	68	64
457	84.501	0.184	0.097	3.47	95	1.2	-	1.85	-0.03	72	154	68	64
458	84.693	0.192	0.098	3.47	95	1.2	-	1.84	-0.01	72	154	68	64
459	84.879	0.186	0.098	3.46	95	1.2	-	1.82	-0.02	72	154	68	64
460	85.066	0.187	0.098	3.46	95	1.2	100	1.80	-0.02	72	154	68	64
461	85.250	0.184	0.096	3.46	95	1.2	-	1.79	-0.01	72	154	68	64
462	85.438	0.188	0.097	3.46	95	1.2	-	1.78	-0.01	72	154	68	64
463	85.623	0.185	0.097	3.46	95	1.2	-	1.75	-0.03	72	153	68	64
464	85.812	0.189	0.097	3.46	95	1.2	-	1.74	-0.01	72	153	68	64
465	86.000	0.188	0.098	3.46	95	1.2	-	1.73	-0.01	72	154	68	64
466	86.188	0.188	0.097	3.47	95	1.2	-	1.71	-0.02	72	154	68	64
467	86.374	0.186	0.098	3.46	95	1.2	-	1.69	-0.02	72	154	68	64
468	86.560	0.186	0.097	3.46	95	1.2	-	1.67	-0.02	72	154	68	64
469	86.746	0.186	0.097	3.47	95	1.2	-	1.65	-0.02	72	154	68	64
470	86.931	0.185	0.098	3.46	95	1.2	100	1.64	-0.01	72	154	68	64
471	87.120	0.189	0.097	3.45	95	1.2	-	1.63	-0.01	72	155	68	64
472	87.307	0.187	0.097	3.46	95	1.2	-	1.61	-0.02	72	155	68	64
473	87.496	0.189	0.098	3.46	95	1.2	-	1.59	-0.02	72	155	68	64
474	87.682	0.186	0.098	3.47	95	1.2	-	1.57	-0.02	72	155	68	64
475	87.870	0.188	0.097	3.47	95	1.2	-	1.56	-0.01	72	155	68	64
476	88.054	0.184	0.098	3.46	95	1.2	-	1.54	-0.02	72	155	68	64
477	88.241	0.187	0.097	3.46	95	1.2	-	1.52	-0.02	72	155	68	64
478	88.426	0.185	0.097	3.46	95	1.2	-	1.51	-0.01	72	155	68	64
479	88.615	0.189	0.098	3.46	95	1.2	-	1.50	-0.01	72	155	68	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
480	88.802	0.187	0.099	3.46	95	1.2	100	1.48	-0.02	72	155	68	64
481	88.991	0.189	0.099	3.45	95	1.2	-	1.46	-0.02	72	155	68	64
482	89.177	0.186	0.098	3.48	95	1.2	-	1.45	-0.01	72	156	68	64
483	89.364	0.187	0.099	3.47	95	1.2	-	1.43	-0.02	72	155	68	64
484	89.548	0.184	0.098	3.46	95	1.2	-	1.40	-0.03	72	155	68	64
485	89.735	0.187	0.098	3.46	95	1.2	-	1.40	0.00	72	156	68	64
486	89.921	0.186	0.098	3.46	95	1.2	-	1.37	-0.03	72	156	68	64
487	90.110	0.189	0.098	3.45	95	1.2	-	1.37	0.00	72	155	68	64
488	90.297	0.187	0.098	3.45	95	1.2	-	1.35	-0.02	72	156	68	64
489	90.485	0.188	0.099	3.46	95	1.2	-	1.33	-0.02	72	156	68	64
490	90.671	0.186	0.099	3.47	95	1.2	99	1.31	-0.02	72	155	68	64
491	90.857	0.186	0.097	3.47	95	1.2	-	1.30	-0.01	72	155	68	64
492	91.040	0.183	0.098	3.46	95	1.2	-	1.28	-0.02	72	155	68	64
493	91.228	0.188	0.097	3.46	95	1.2	-	1.27	-0.01	72	156	68	64
494	91.417	0.189	0.098	3.48	95	1.2	-	1.25	-0.02	72	156	68	64
495	91.603	0.186	0.097	3.46	95	1.2	-	1.24	-0.01	72	155	68	64
496	91.792	0.189	0.097	3.46	95	1.2	-	1.23	-0.01	72	156	68	64
497	91.978	0.186	0.098	3.45	95	1.2	-	1.20	-0.03	72	156	68	64
498	92.165	0.187	0.096	3.46	95	1.2	-	1.18	-0.02	72	156	68	64
499	92.349	0.184	0.098	3.46	95	1.2	-	1.17	-0.01	72	156	68	64
500	92.536	0.187	0.099	3.46	95	1.2	99	1.16	-0.01	72	157	67	64
501	92.722	0.186	0.098	3.48	95	1.2	-	1.14	-0.02	72	157	68	63
502	92.910	0.188	0.098	3.46	95	1.2	-	1.12	-0.02	72	156	68	63
503	93.097	0.187	0.098	3.47	95	1.2	-	1.11	-0.01	72	157	68	63
504	93.286	0.189	0.098	3.47	95	1.2	-	1.10	-0.01	72	156	68	63
505	93.471	0.185	0.098	3.45	95	1.2	-	1.08	-0.02	71	156	67	63
506	93.653	0.182	0.097	3.48	95	1.2	-	1.06	-0.02	71	156	67	63
507	93.842	0.189	0.099	3.46	95	1.2	-	1.04	-0.02	71	156	67	63
508	94.028	0.186	0.099	3.46	95	1.2	-	1.03	-0.01	71	156	67	63
509	94.216	0.188	0.098	3.45	95	1.2	-	1.01	-0.02	71	156	67	63
510	94.403	0.187	0.098	3.46	95	1.2	100	1.00	-0.01	71	156	67	64
511	94.592	0.189	0.099	3.46	95	1.2	-	0.98	-0.02	71	156	67	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
512	94.778	0.186	0.098	3.46	95	1.2	-	0.96	-0.02	71	156	67	63
513	94.966	0.188	0.098	3.48	95	1.2	-	0.95	-0.01	71	156	67	63
514	95.154	0.188	0.099	3.47	95	1.2	-	0.94	-0.01	71	156	67	63
515	95.333	0.179	0.099	3.46	95	1.2	-	0.93	-0.01	71	156	67	63
516	95.521	0.188	0.099	3.45	95	1.2	-	0.90	-0.03	71	156	67	63
517	95.710	0.189	0.098	3.47	95	1.2	-	0.89	-0.01	71	156	67	63
518	95.894	0.184	0.098	3.47	95	1.2	-	0.88	-0.01	71	155	67	63
519	96.086	0.192	0.099	3.46	95	1.2	-	0.86	-0.02	71	155	67	63
520	96.272	0.186	0.100	3.47	95	1.2	99	0.85	-0.01	71	155	67	63
521	96.459	0.187	0.098	3.46	95	1.2	-	0.83	-0.02	71	155	67	63
522	96.640	0.181	0.096	3.47	95	1.2	-	0.82	-0.01	71	156	67	63
523	96.826	0.186	0.098	3.45	95	1.2	-	0.81	-0.01	71	155	67	63
524	97.013	0.187	0.099	3.46	95	1.2	-	0.79	-0.02	71	155	67	63
525	97.204	0.191	0.099	3.45	95	1.2	-	0.78	-0.01	71	155	67	63
526	97.391	0.187	0.098	3.47	95	1.2	-	0.75	-0.03	71	155	67	63
527	97.579	0.188	0.097	3.46	95	1.2	-	0.74	-0.01	71	156	67	63
528	97.765	0.186	0.098	3.47	95	1.2	-	0.73	-0.01	71	156	67	63
529	97.950	0.185	0.098	3.46	95	1.2	-	0.72	-0.01	71	155	67	63
530	98.136	0.186	0.099	3.47	95	1.2	99	0.70	-0.02	71	155	67	63
531	98.321	0.185	0.098	3.46	95	1.2	-	0.68	-0.02	71	155	67	63
532	98.507	0.186	0.098	3.47	95	1.2	-	0.67	-0.01	71	156	67	63
533	98.696	0.189	0.098	3.46	95	1.2	-	0.65	-0.02	71	156	67	63
534	98.885	0.189	0.097	3.46	95	1.2	-	0.64	-0.01	71	156	67	63
535	99.071	0.186	0.098	3.47	94	1.2	-	0.63	-0.01	71	155	67	63
536	99.258	0.187	0.098	3.46	94	1.2	-	0.61	-0.02	71	155	67	63
537	99.442	0.184	0.099	3.46	95	1.2	-	0.60	-0.01	71	157	67	63
538	99.625	0.183	0.098	3.46	94	1.2	-	0.59	-0.01	71	156	67	63
539	99.814	0.189	0.099	3.46	94	1.2	-	0.57	-0.02	71	156	67	63
540	99.999	0.185	0.098	3.46	94	1.2	99	0.56	-0.01	71	157	67	63
541	100.190	0.191	0.098	3.46	94	1.2	-	0.53	-0.03	71	157	67	63
542	100.378	0.188	0.097	3.45	94	1.2	-	0.52	-0.01	71	157	67	63
543	100.564	0.186	0.099	3.47	94	1.2	-	0.51	-0.01	71	158	67	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
544	100.749	0.185	0.099	3.46	94	1.2	-	0.49	-0.02	71	158	67	63
545	100.935	0.186	0.098	3.46	94	1.2	-	0.48	-0.01	71	158	67	63
546	101.117	0.182	0.098	3.47	94	1.2	-	0.46	-0.02	71	159	67	63
547	101.309	0.192	0.096	3.46	94	1.2	-	0.44	-0.02	71	159	67	63
548	101.495	0.186	0.098	3.46	94	1.2	-	0.42	-0.02	71	159	67	63
549	101.684	0.189	0.096	3.46	94	1.2	-	0.41	-0.01	71	160	67	63
550	101.870	0.186	0.099	3.47	94	1.2	100	0.40	-0.01	71	159	67	63
551	102.056	0.186	0.099	3.45	94	1.2	-	0.38	-0.02	71	161	67	63
552	102.241	0.185	0.098	3.47	94	1.2	-	0.36	-0.02	72	161	67	63
553	102.427	0.186	0.097	3.45	94	1.2	-	0.35	-0.01	72	160	67	63
554	102.612	0.185	0.098	3.47	94	1.2	-	0.34	-0.01	72	160	67	63
555	102.801	0.189	0.099	3.46	94	1.2	-	0.31	-0.03	72	160	67	63
556	102.986	0.185	0.097	3.47	94	1.2	-	0.30	-0.01	72	160	67	63
557	103.172	0.186	0.098	3.46	94	1.2	-	0.29	-0.01	72	160	67	63
558	103.360	0.188	0.099	3.47	94	1.2	-	0.27	-0.02	72	161	67	63
559	103.543	0.183	0.098	3.46	94	1.2	-	0.25	-0.02	71	161	67	63
560	103.733	0.190	0.099	3.47	94	1.2	99	0.23	-0.02	71	161	67	63
561	103.918	0.185	0.099	3.46	94	1.2	-	0.22	-0.01	71	160	67	63
562	104.107	0.189	0.098	3.47	94	1.2	-	0.20	-0.02	71	161	67	63
563	104.293	0.186	0.098	3.46	94	1.2	-	0.19	-0.01	71	160	67	63
564	104.485	0.192	0.098	3.45	94	1.2	-	0.18	-0.01	71	161	67	63
565	104.668	0.183	0.099	3.47	94	1.2	-	0.16	-0.02	72	163	67	63
566	104.855	0.187	0.097	3.45	94	1.2	-	0.16	0.00	72	162	67	63
567	105.039	0.184	0.098	3.46	94	1.2	-	0.12	-0.04	72	162	67	63
568	105.222	0.183	0.099	3.47	94	1.2	-	0.11	-0.01	72	161	67	63
569	105.411	0.189	0.099	3.47	94	1.2	-	0.10	-0.01	72	161	67	63
570	105.600	0.189	0.097	3.46	94	1.2	100	0.08	-0.02	72	162	67	63
571	105.786	0.186	0.098	3.46	94	1.2	-	0.06	-0.02	72	162	67	63
572	105.975	0.189	0.098	3.45	94	1.2	-	0.06	0.00	72	162	67	63
573	106.161	0.186	0.097	3.47	94	1.2	-	0.04	-0.02	72	162	67	63
574	106.346	0.185	0.097	3.45	94	1.2	-	0.02	-0.02	72	162	67	63
575	106.529	0.183	0.099	3.46	94	1.2	-	0.01	-0.01	72	163	67	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
576	106.717	0.188	0.099	3.46	94	1.2	100	0.00	-0.01	72	164	67	63
Avg/Tot	106.717	0.185	0.098	3.42	92.9	1.2	100			75.1	185.6	69.1	64.9

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
0	-0.004		0.06	71	1.1		70	-0.022	12.02	0.292
1	0.118	0.122	3.08	71	2.0	-	70	-0.030	2.96	0.208
2	0.289	0.171	3.08	71	2.0	-	70	-0.025	2.50	0.051
3	0.461	0.172	3.09	71	2.0	-	70	-0.025	5.68	0.015
4	0.631	0.170	3.09	71	2.1	-	70	-0.026	6.15	0.014
5	0.798	0.167	3.08	71	1.7	-	70	-0.025	5.79	0.011
6	0.970	0.172	3.09	71	2.0	-	70	-0.028	5.78	0.015
7	1.137	0.167	3.08	71	2.1	-	70	-0.026	6.03	0.013
8	1.308	0.171	3.09	71	2.1	-	70	-0.027	6.02	0.012
9	1.479	0.171	3.10	71	2.2	-	70	-0.028	6.19	0.013
10	1.652	0.173	3.10	71	1.6	97	70	-0.030	6.24	0.013
11	1.823	0.171	3.11	72	1.8	-	70	-0.031	6.21	0.015
12	1.992	0.169	3.11	72	1.7	-	70	-0.032	6.31	0.013
13	2.163	0.171	3.10	72	2.1	-	70	-0.032	6.83	0.010
14	2.336	0.173	3.11	72	1.7	-	70	-0.033	6.46	0.012
15	2.506	0.170	3.11	72	1.7	-	70	-0.032	6.56	0.014
16	2.675	0.169	3.12	73	1.9	-	70	-0.035	6.74	0.012
17	2.848	0.173	3.11	73	1.8	-	70	-0.034	6.96	0.011
18	3.020	0.172	3.11	73	2.0	-	70	-0.034	6.97	0.013
19	3.190	0.170	3.12	74	2.1	-	70	-0.035	7.28	0.016
20	3.362	0.172	3.12	74	1.6	100	70	-0.037	7.62	0.014
21	3.535	0.173	3.13	74	1.8	-	70	-0.037	7.41	0.013
22	3.708	0.173	3.13	75	2.0	-	70	-0.038	7.37	0.015
23	3.878	0.170	3.14	75	2.2	-	70	-0.040	7.68	0.013
24	4.051	0.173	3.13	75	1.7	-	70	-0.039	7.71	0.008
25	4.222	0.171	3.13	75	1.9	-	70	-0.040	7.64	0.013
26	4.398	0.176	3.15	76	2.0	-	70	-0.041	8.13	0.008
27	4.568	0.170	3.14	76	2.0	-	70	-0.041	8.72	0.009
28	4.742	0.174	3.14	76	2.2	-	70	-0.044	9.09	0.012
29	4.916	0.174	3.14	77	1.6	-	70	-0.044	8.48	0.011
30	5.088	0.172	3.14	77	2.1	100	70	-0.045	7.38	0.012
31	5.260	0.172	3.15	77	2.1	-	70	-0.043	7.42	0.007

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
32	5.434	0.174	3.15	78	2.0	-	70	-0.043	7.80	0.012
33	5.609	0.175	3.15	78	2.1	-	70	-0.044	7.79	0.012
34	5.781	0.172	3.15	78	2.0	-	70	-0.045	7.73	0.012
35	5.953	0.172	3.16	79	1.9	-	70	-0.045	7.84	0.012
36	6.128	0.175	3.15	79	1.8	-	70	-0.044	7.86	0.011
37	6.303	0.175	3.16	79	1.7	-	70	-0.046	7.71	0.010
38	6.476	0.173	3.15	80	2.0	-	70	-0.044	7.99	0.012
39	6.648	0.172	3.16	80	1.8	-	70	-0.046	7.94	0.012
40	6.824	0.176	3.16	80	1.9	100	70	-0.045	8.94	0.010
41	6.999	0.175	3.17	81	1.7	-	70	-0.048	9.45	0.013
42	7.173	0.174	3.16	81	1.6	-	70	-0.049	9.73	0.013
43	7.346	0.173	3.17	81	1.7	-	70	-0.052	10.63	0.014
44	7.521	0.175	3.17	81	1.8	-	70	-0.051	11.48	0.107
45	7.697	0.176	3.17	82	1.7	-	70	-0.051	11.03	0.037
46	7.871	0.174	3.17	82	1.6	-	70	-0.054	10.53	0.014
47	8.043	0.172	3.17	82	1.9	-	70	-0.052	10.59	0.013
48	8.218	0.175	3.16	83	1.9	-	70	-0.054	10.56	0.017
49	8.394	0.176	3.16	83	1.7	-	70	-0.053	10.85	0.025
50	8.569	0.175	3.17	83	1.6	101	71	-0.054	11.43	0.025
51	8.742	0.173	3.17	83	2.2	-	71	-0.054	10.83	0.028
52	8.917	0.175	3.16	84	2.0	-	71	-0.055	10.89	0.040
53	9.093	0.176	3.17	84	2.0	-	71	-0.053	10.44	0.034
54	9.269	0.176	3.17	84	1.9	-	71	-0.053	9.75	0.012
55	9.444	0.175	3.17	84	1.6	-	71	-0.053	8.27	0.007
56	9.618	0.174	3.18	85	1.7	-	71	-0.051	7.81	0.009
57	9.795	0.177	3.18	85	2.2	-	71	-0.053	7.80	0.008
58	9.972	0.177	3.17	85	1.6	-	71	-0.051	7.52	0.013
59	10.147	0.175	3.18	85	1.9	-	71	-0.051	7.89	0.011
60	10.321	0.174	3.19	86	1.8	100	71	-0.049	7.89	0.014
61	10.495	0.174	3.19	86	1.7	-	71	-0.048	7.91	0.010
62	10.674	0.179	3.18	86	2.0	-	71	-0.048	8.28	0.011
63	10.850	0.176	3.19	86	2.1	-	71	-0.048	7.99	0.010

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
64	11.024	0.174	3.19	86	2.1	-	71	-0.047	8.11	0.009
65	11.199	0.175	3.18	87	1.7	-	71	-0.048	7.96	0.010
66	11.377	0.178	3.19	87	1.9	-	71	-0.047	8.40	0.007
67	11.555	0.178	3.19	87	1.6	-	71	-0.047	8.07	0.007
68	11.730	0.175	3.19	87	2.2	-	71	-0.045	8.22	0.008
69	11.902	0.172	3.19	87	1.7	-	71	-0.048	8.14	0.011
70	12.079	0.177	3.19	88	1.7	100	71	-0.047	8.40	0.013
71	12.259	0.180	3.20	88	2.2	-	71	-0.044	8.43	0.007
72	12.433	0.174	3.19	88	1.9	-	71	-0.047	8.52	0.010
73	12.607	0.174	3.19	88	1.7	-	71	-0.045	8.80	0.008
74	12.786	0.179	3.19	88	1.7	-	71	-0.047	8.90	0.008
75	12.965	0.179	3.19	89	2.1	-	71	-0.046	9.06	0.008
76	13.142	0.177	3.20	89	2.2	-	71	-0.046	8.97	0.009
77	13.318	0.176	3.20	89	1.8	-	71	-0.047	9.10	0.008
78	13.494	0.176	3.20	89	1.9	-	71	-0.046	9.16	0.011
79	13.670	0.176	3.20	89	1.6	-	71	-0.048	9.32	0.008
80	13.845	0.175	3.20	89	1.7	101	71	-0.046	9.41	0.010
81	14.023	0.178	3.20	89	2.1	-	71	-0.048	9.47	0.009
82	14.197	0.174	3.19	90	1.9	-	71	-0.048	9.60	0.011
83	14.374	0.177	3.20	90	1.9	-	71	-0.046	9.70	0.010
84	14.553	0.179	3.20	90	2.0	-	71	-0.047	9.90	0.010
85	14.731	0.178	3.20	90	2.1	-	71	-0.049	9.76	0.011
86	14.908	0.177	3.21	90	1.7	-	71	-0.050	9.80	0.010
87	15.082	0.174	3.20	90	2.2	-	71	-0.049	9.94	0.011
88	15.260	0.178	3.21	90	1.8	-	71	-0.049	10.05	0.010
89	15.441	0.181	3.20	91	2.0	-	71	-0.048	10.06	0.008
90	15.620	0.179	3.21	91	1.7	101	71	-0.049	10.42	0.010
91	15.796	0.176	3.20	91	1.7	-	71	-0.050	10.23	0.009
92	15.969	0.173	3.21	91	2.0	-	71	-0.050	10.35	0.008
93	16.147	0.178	3.21	91	1.7	-	71	-0.050	10.34	0.008
94	16.328	0.181	3.21	91	1.6	-	71	-0.051	10.42	0.012
95	16.505	0.177	3.20	91	1.8	-	71	-0.050	10.50	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
96	16.678	0.173	3.21	91	2.2	-	71	-0.050	10.44	0.010
97	16.858	0.180	3.20	91	1.9	-	71	-0.050	10.20	0.011
98	17.037	0.179	3.21	92	1.6	-	71	-0.051	10.57	0.011
99	17.215	0.178	3.20	92	1.7	-	71	-0.050	10.16	0.009
100	17.393	0.178	3.21	92	2.0	100	71	-0.051	10.03	0.008
101	17.568	0.175	3.19	92	1.7	-	71	-0.048	9.98	0.009
102	17.746	0.178	3.20	92	2.2	-	71	-0.050	10.12	0.012
103	17.925	0.179	3.21	92	1.8	-	71	-0.051	9.85	0.007
104	18.103	0.178	3.21	92	2.2	-	71	-0.049	9.38	0.012
105	18.280	0.177	3.21	92	2.1	-	71	-0.049	9.35	0.009
106	18.456	0.176	3.20	92	2.2	-	71	-0.049	9.81	0.009
107	18.633	0.177	3.20	92	1.6	-	71	-0.050	9.53	0.008
108	18.813	0.180	3.20	92	1.7	-	71	-0.050	9.80	0.008
109	18.992	0.179	3.21	92	1.9	-	71	-0.050	9.74	0.007
110	19.169	0.177	3.21	93	2.0	100	71	-0.048	9.67	0.013
111	19.345	0.176	3.21	93	1.9	-	71	-0.050	9.82	0.013
112	19.523	0.178	3.21	93	1.6	-	71	-0.049	9.85	0.010
113	19.699	0.176	3.21	93	1.6	-	71	-0.048	9.74	0.009
114	19.881	0.182	3.21	93	2.2	-	71	-0.051	9.30	0.010
115	20.058	0.177	3.20	93	1.8	-	71	-0.048	9.09	0.012
116	20.235	0.177	3.21	93	1.6	-	71	-0.048	9.03	0.008
117	20.412	0.177	3.20	93	1.9	-	71	-0.049	9.15	0.009
118	20.591	0.179	3.21	93	2.2	-	71	-0.045	8.95	0.011
119	20.770	0.179	3.21	93	2.2	-	71	-0.048	8.97	0.010
120	20.947	0.177	3.21	93	1.7	100	71	-0.047	9.06	0.010
121	21.124	0.177	3.21	93	2.2	-	71	-0.046	8.89	0.010
122	21.303	0.179	3.22	93	1.9	-	71	-0.046	9.01	0.009
123	21.482	0.179	3.21	93	1.9	-	71	-0.045	9.02	0.010
124	21.660	0.178	3.20	93	1.8	-	71	-0.045	8.90	0.009
125	21.837	0.177	3.21	93	1.8	-	71	-0.046	8.82	0.008
126	22.014	0.177	3.20	93	2.2	-	71	-0.047	9.01	0.009
127	22.194	0.180	3.21	94	2.2	-	71	-0.045	8.90	0.007

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
128	22.372	0.178	3.21	94	1.7	-	71	-0.045	8.96	0.008
129	22.551	0.179	3.21	94	2.2	-	71	-0.047	9.08	0.008
130	22.728	0.177	3.22	94	2.1	100	71	-0.045	9.35	0.008
131	22.905	0.177	3.22	94	2.1	-	71	-0.045	9.41	0.005
132	23.085	0.180	3.22	94	2.0	-	71	-0.044	9.73	0.009
133	23.264	0.179	3.21	94	2.1	-	71	-0.045	9.72	0.008
134	23.442	0.178	3.21	94	1.7	-	71	-0.044	9.92	0.008
135	23.618	0.176	3.22	94	2.2	-	71	-0.045	9.77	0.012
136	23.797	0.179	3.21	94	1.6	-	71	-0.046	10.06	0.009
137	23.976	0.179	3.22	94	1.6	-	71	-0.045	10.13	0.011
138	24.155	0.179	3.21	94	2.1	-	71	-0.044	10.65	0.008
139	24.330	0.175	3.21	94	2.1	-	71	-0.044	10.26	0.007
140	24.506	0.176	3.21	94	2.2	100	71	-0.044	10.27	0.008
141	24.688	0.182	3.21	94	2.1	-	71	-0.044	10.55	0.008
142	24.865	0.177	3.21	94	1.7	-	71	-0.045	10.32	0.010
143	25.047	0.182	3.22	94	2.2	-	71	-0.045	10.35	0.009
144	25.222	0.175	3.21	94	1.7	-	71	-0.045	10.11	0.009
145	25.401	0.179	3.21	94	2.0	-	71	-0.045	10.56	0.008
146	25.580	0.179	3.22	94	2.2	-	71	-0.044	10.10	0.009
147	25.759	0.179	3.21	94	1.6	-	71	-0.045	10.24	0.006
148	25.939	0.180	3.22	94	2.0	-	71	-0.045	10.07	0.009
149	26.117	0.178	3.22	94	2.1	-	71	-0.045	10.09	0.008
150	26.293	0.176	3.21	94	2.1	100	71	-0.045	10.17	0.008
151	26.471	0.178	3.22	94	2.2	-	71	-0.045	10.02	0.010
152	26.649	0.178	3.22	94	2.2	-	71	-0.046	10.17	0.009
153	26.831	0.182	3.22	94	2.2	-	71	-0.045	10.22	0.008
154	27.006	0.175	3.21	94	2.1	-	71	-0.046	10.25	0.008
155	27.185	0.179	3.22	94	2.2	-	71	-0.044	10.36	0.008
156	27.364	0.179	3.21	94	1.7	-	71	-0.045	10.30	0.011
157	27.543	0.179	3.21	94	2.0	-	71	-0.045	10.35	0.011
158	27.721	0.178	3.22	94	2.1	-	71	-0.044	10.43	0.009
159	27.898	0.177	3.21	94	1.6	-	71	-0.045	10.48	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
160	28.077	0.179	3.21	94	2.1	100	71	-0.044	10.41	0.009
161	28.256	0.179	3.21	94	1.9	-	71	-0.045	10.56	0.006
162	28.433	0.177	3.22	95	2.0	-	71	-0.043	10.59	0.013
163	28.616	0.183	3.22	95	1.7	-	71	-0.045	10.48	0.010
164	28.794	0.178	3.22	95	1.8	-	71	-0.045	10.23	0.011
165	28.967	0.173	3.22	95	1.6	-	71	-0.042	10.24	0.011
166	29.146	0.179	3.21	95	2.0	-	71	-0.045	10.33	0.009
167	29.329	0.183	3.22	95	1.8	-	71	-0.045	10.32	0.009
168	29.508	0.179	3.22	95	1.6	-	71	-0.045	10.33	0.007
169	29.684	0.176	3.22	95	2.2	-	71	-0.045	10.05	0.009
170	29.860	0.176	3.21	95	2.2	100	71	-0.045	10.10	0.008
171	30.042	0.182	3.21	95	2.2	-	71	-0.043	10.13	0.010
172	30.222	0.180	3.21	95	1.9	-	71	-0.044	10.13	0.005
173	30.399	0.177	3.21	95	2.1	-	71	-0.044	10.30	0.010
174	30.580	0.181	3.22	95	2.1	-	71	-0.044	10.02	0.008
175	30.756	0.176	3.22	95	1.9	-	71	-0.044	10.16	0.012
176	30.935	0.179	3.22	95	1.9	-	71	-0.043	10.03	0.008
177	31.115	0.180	3.22	95	1.6	-	71	-0.045	9.96	0.009
178	31.294	0.179	3.21	95	2.1	-	71	-0.044	10.18	0.008
179	31.473	0.179	3.21	95	2.2	-	71	-0.043	10.05	0.011
180	31.649	0.176	3.22	95	2.1	101	71	-0.043	10.01	0.008
181	31.828	0.179	3.22	95	2.2	-	71	-0.045	9.98	0.007
182	32.005	0.177	3.20	95	2.0	-	71	-0.041	9.91	0.011
183	32.184	0.179	3.22	95	2.1	-	71	-0.043	9.90	0.008
184	32.362	0.178	3.22	95	1.6	-	71	-0.043	9.78	0.011
185	32.543	0.181	3.22	95	1.7	-	71	-0.043	9.71	0.011
186	32.718	0.175	3.21	95	2.1	-	71	-0.042	9.83	0.008
187	32.897	0.179	3.21	95	2.0	-	71	-0.044	9.86	0.007
188	33.077	0.180	3.22	95	2.1	-	71	-0.042	9.70	0.009
189	33.255	0.178	3.22	95	1.9	-	71	-0.043	9.86	0.010
190	33.436	0.181	3.21	95	2.1	100	71	-0.043	9.78	0.009
191	33.614	0.178	3.21	95	1.7	-	71	-0.042	9.89	0.011

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
192	33.790	0.176	3.21	95	2.0	-	71	-0.043	9.79	0.012
193	33.972	0.182	3.22	95	1.7	-	71	-0.042	9.82	0.011
194	34.151	0.179	3.21	95	2.2	-	71	-0.043	9.94	0.010
195	34.329	0.178	3.21	95	1.8	-	71	-0.043	9.83	0.009
196	34.504	0.175	3.22	95	2.0	-	71	-0.043	9.71	0.008
197	34.686	0.182	3.22	95	2.1	-	71	-0.043	9.77	0.007
198	34.863	0.177	3.22	95	2.0	-	71	-0.043	9.84	0.008
199	35.044	0.181	3.21	95	2.2	-	71	-0.042	9.71	0.009
200	35.222	0.178	3.21	95	1.6	100	71	-0.042	9.77	0.008
201	35.397	0.175	3.22	95	1.8	-	71	-0.042	9.69	0.006
202	35.579	0.182	3.21	95	2.1	-	71	-0.041	9.54	0.008
203	35.759	0.180	3.22	95	1.9	-	71	-0.042	9.61	0.010
204	35.938	0.179	3.22	95	2.0	-	71	-0.042	9.70	0.009
205	36.116	0.178	3.22	95	2.2	-	71	-0.041	9.62	0.008
206	36.290	0.174	3.22	95	1.7	-	71	-0.041	9.88	0.010
207	36.472	0.182	3.21	95	1.9	-	71	-0.041	9.81	0.008
208	36.652	0.180	3.22	95	1.7	-	71	-0.042	9.96	0.012
209	36.828	0.176	3.21	95	1.8	-	71	-0.043	10.02	0.009
210	37.006	0.178	3.21	95	1.8	100	71	-0.041	10.05	0.009
211	37.184	0.178	3.21	95	2.0	-	71	-0.040	9.96	0.008
212	37.363	0.179	3.22	95	2.2	-	71	-0.040	9.70	0.008
213	37.545	0.182	3.22	95	2.1	-	71	-0.043	9.46	0.010
214	37.725	0.180	3.22	95	1.7	-	71	-0.042	9.32	0.007
215	37.900	0.175	3.22	95	1.6	-	71	-0.041	9.05	0.007
216	38.080	0.180	3.22	95	2.2	-	71	-0.040	9.06	0.010
217	38.259	0.179	3.22	95	1.8	-	71	-0.040	8.88	0.005
218	38.438	0.179	3.22	95	1.7	-	71	-0.041	8.99	0.007
219	38.615	0.177	3.22	95	2.2	-	71	-0.042	8.96	0.010
220	38.797	0.182	3.22	95	2.1	101	71	-0.041	8.96	0.008
221	38.974	0.177	3.22	95	2.2	-	71	-0.041	8.88	0.008
222	39.153	0.179	3.22	95	2.2	-	71	-0.038	9.05	0.013
223	39.329	0.176	3.21	95	1.6	-	71	-0.039	8.91	0.006

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
224	39.510	0.181	3.23	95	1.8	-	71	-0.040	9.08	0.009
225	39.692	0.182	3.22	95	2.2	-	71	-0.040	8.69	0.009
226	39.867	0.175	3.22	95	2.2	-	71	-0.040	8.70	0.011
227	40.046	0.179	3.21	95	2.1	-	71	-0.041	8.70	0.009
228	40.227	0.181	3.21	95	1.9	-	71	-0.039	8.92	0.010
229	40.407	0.180	3.21	95	1.8	-	71	-0.040	8.68	0.009
230	40.585	0.178	3.22	95	2.2	100	71	-0.039	8.72	0.011
231	40.761	0.176	3.21	95	2.0	-	71	-0.040	8.75	0.010
232	40.940	0.179	3.21	95	2.1	-	71	-0.039	8.86	0.012
233	41.117	0.177	3.23	95	1.9	-	71	-0.039	8.82	0.009
234	41.298	0.181	3.22	95	1.6	-	71	-0.039	8.86	0.008
235	41.479	0.181	3.22	95	1.9	-	71	-0.037	9.18	0.009
236	41.652	0.173	3.22	95	2.2	-	71	-0.039	9.26	0.009
237	41.831	0.179	3.22	95	1.8	-	71	-0.037	9.41	0.010
238	42.015	0.184	3.22	95	1.8	-	71	-0.037	9.35	0.009
239	42.196	0.181	3.22	95	2.1	-	71	-0.039	9.36	0.007
240	42.373	0.177	3.21	95	2.2	100	71	-0.039	9.40	0.008
241	42.550	0.177	3.22	95	1.6	-	71	-0.038	9.71	0.010
242	42.726	0.176	3.22	95	2.1	-	71	-0.038	9.96	0.009
243	42.907	0.181	3.22	95	2.2	-	71	-0.039	9.95	0.006
244	43.090	0.183	3.23	95	1.9	-	71	-0.041	10.29	0.009
245	43.268	0.178	3.22	95	2.1	-	71	-0.040	10.79	0.008
246	43.445	0.177	3.21	95	2.1	-	71	-0.041	11.33	0.009
247	43.621	0.176	3.22	95	2.2	-	71	-0.041	11.47	0.010
248	43.804	0.183	3.22	95	2.1	-	71	-0.041	11.51	0.008
249	43.981	0.177	3.22	95	2.1	-	71	-0.042	11.80	0.008
250	44.159	0.178	3.22	95	1.7	100	71	-0.044	11.53	0.009
251	44.336	0.177	3.21	95	1.9	-	71	-0.042	11.59	0.007
252	44.518	0.182	3.22	95	1.6	-	71	-0.043	11.59	0.007
253	44.698	0.180	3.23	95	1.6	-	71	-0.045	11.86	0.009
254	44.877	0.179	3.22	95	1.8	-	71	-0.046	11.86	0.009
255	45.056	0.179	3.21	95	2.0	-	71	-0.043	11.86	0.010

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
256	45.234	0.178	3.22	95	1.7	-	71	-0.046	12.06	0.011
257	45.412	0.178	3.21	95	2.2	-	71	-0.045	12.28	0.014
258	45.590	0.178	3.22	95	2.2	-	71	-0.046	12.63	0.047
259	45.769	0.179	3.22	95	1.7	-	71	-0.047	12.83	0.068
260	45.951	0.182	3.22	95	1.7	100	71	-0.045	13.05	0.100
261	46.126	0.175	3.22	95	2.1	-	71	-0.044	13.00	0.149
262	46.307	0.181	3.22	96	2.2	-	71	-0.046	12.93	0.198
263	46.486	0.179	3.21	96	1.7	-	71	-0.045	13.07	0.259
264	46.663	0.177	3.22	96	2.1	-	71	-0.046	12.96	0.324
265	46.846	0.183	3.22	96	1.8	-	71	-0.046	13.05	0.402
266	47.024	0.178	3.21	96	1.6	-	71	-0.045	13.01	0.434
267	47.202	0.178	3.23	96	2.0	-	71	-0.044	12.80	0.467
268	47.377	0.175	3.22	96	1.7	-	71	-0.044	12.99	0.519
269	47.560	0.183	3.22	96	1.9	-	71	-0.044	12.92	0.587
270	47.741	0.181	3.22	96	2.2	100	71	-0.044	13.21	0.628
271	47.919	0.178	3.22	96	2.1	-	71	-0.044	12.73	0.525
272	48.096	0.177	3.21	96	2.0	-	71	-0.043	12.86	0.305
273	48.272	0.176	3.22	96	2.0	-	71	-0.040	12.23	0.261
274	48.455	0.183	3.21	96	1.9	-	71	-0.042	12.12	0.140
275	48.632	0.177	3.21	96	1.8	-	71	-0.041	12.17	0.125
276	48.814	0.182	3.22	96	1.9	-	71	-0.041	12.00	0.098
277	48.989	0.175	3.21	96	1.9	-	71	-0.041	11.99	0.073
278	49.166	0.177	3.21	96	2.2	-	71	-0.042	11.98	0.067
279	49.349	0.183	3.21	96	1.6	-	71	-0.039	11.58	0.029
280	49.529	0.180	3.21	96	1.8	100	71	-0.041	11.60	0.029
281	49.707	0.178	3.22	96	1.7	-	71	-0.036	11.83	0.016
282	49.884	0.177	3.21	96	1.7	-	71	-0.039	11.65	0.008
283	50.062	0.178	3.21	96	2.2	-	71	-0.037	11.29	0.009
284	50.240	0.178	3.21	96	1.7	-	71	-0.037	11.26	0.008
285	50.424	0.184	3.21	96	2.1	-	71	-0.037	11.21	0.009
286	50.601	0.177	3.21	96	1.6	-	71	-0.036	11.06	0.010
287	50.778	0.177	3.21	96	2.2	-	71	-0.038	11.01	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
288	50.957	0.179	3.21	96	2.1	-	71	-0.036	11.17	0.009
289	51.137	0.180	3.21	96	2.2	-	71	-0.036	11.11	0.006
290	51.318	0.181	3.22	96	2.1	100	71	-0.036	11.01	0.013
291	51.496	0.178	3.21	96	1.7	-	71	-0.035	10.79	0.007
292	51.672	0.176	3.21	96	1.7	-	71	-0.036	11.19	0.005
293	51.852	0.180	3.21	96	2.2	-	71	-0.036	10.93	0.007
294	52.032	0.180	3.21	96	1.7	-	71	-0.036	11.07	0.007
295	52.212	0.180	3.22	96	2.1	-	71	-0.035	11.03	0.009
296	52.390	0.178	3.22	96	1.8	-	71	-0.034	10.65	0.007
297	52.564	0.174	3.21	96	1.7	-	71	-0.034	10.70	0.008
298	52.747	0.183	3.21	96	1.7	-	71	-0.033	10.68	0.007
299	52.924	0.177	3.22	96	1.6	-	71	-0.033	10.16	0.008
300	53.106	0.182	3.22	96	1.7	100	71	-0.033	10.08	0.010
301	53.285	0.179	3.21	96	1.8	-	71	-0.033	9.94	0.006
302	53.464	0.179	3.22	96	1.6	-	71	-0.033	9.80	0.007
303	53.639	0.175	3.22	96	1.7	-	71	-0.033	9.43	0.009
304	53.821	0.182	3.21	96	2.0	-	71	-0.031	9.54	0.010
305	54.001	0.180	3.22	96	2.1	-	71	-0.031	9.34	0.008
306	54.181	0.180	3.23	96	1.8	-	71	-0.031	9.16	0.007
307	54.359	0.178	3.22	96	2.2	-	71	-0.030	9.05	0.008
308	54.537	0.178	3.23	96	2.2	-	71	-0.032	8.79	0.008
309	54.716	0.179	3.22	96	2.1	-	71	-0.031	8.92	0.006
310	54.895	0.179	3.21	96	2.0	100	71	-0.030	8.88	0.009
311	55.076	0.181	3.22	96	1.9	-	71	-0.032	8.60	0.005
312	55.255	0.179	3.21	96	1.9	-	71	-0.030	8.78	0.004
313	55.432	0.177	3.21	96	2.2	-	71	-0.031	9.00	0.006
314	55.608	0.176	3.22	96	1.7	-	71	-0.029	9.11	0.006
315	55.791	0.183	3.21	96	2.2	-	71	-0.032	9.39	0.005
316	55.971	0.180	3.22	96	2.2	-	71	-0.032	9.45	0.010
317	56.150	0.179	3.22	96	1.8	-	71	-0.030	9.47	0.007
318	56.327	0.177	3.22	96	1.7	-	71	-0.033	9.32	0.008
319	56.505	0.178	3.21	96	1.6	-	71	-0.031	9.55	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
320	56.686	0.181	3.21	96	2.1	100	71	-0.032	9.44	0.007
321	56.863	0.177	3.21	96	1.7	-	71	-0.033	9.74	0.009
322	57.044	0.181	3.21	96	1.7	-	71	-0.032	9.44	0.010
323	57.221	0.177	3.22	96	2.1	-	71	-0.031	9.98	0.008
324	57.400	0.179	3.22	96	2.0	-	71	-0.031	10.13	0.007
325	57.581	0.181	3.22	96	2.0	-	71	-0.033	10.08	0.006
326	57.761	0.180	3.22	96	1.7	-	71	-0.032	9.87	0.010
327	57.939	0.178	3.22	96	2.0	-	71	-0.033	10.09	0.007
328	58.113	0.174	3.22	96	2.2	-	71	-0.032	9.97	0.007
329	58.295	0.182	3.22	96	1.8	-	71	-0.034	10.10	0.006
330	58.476	0.181	3.22	96	2.1	100	71	-0.033	10.07	0.008
331	58.655	0.179	3.22	95	1.9	-	71	-0.033	10.50	0.007
332	58.834	0.179	3.22	96	2.2	-	71	-0.035	10.29	0.007
333	59.012	0.178	3.22	96	1.6	-	71	-0.035	10.58	0.006
334	59.191	0.179	3.22	96	1.9	-	71	-0.035	10.55	0.010
335	59.371	0.180	3.22	96	2.0	-	71	-0.038	10.56	0.010
336	59.550	0.179	3.22	96	2.1	-	71	-0.034	10.42	0.006
337	59.726	0.176	3.22	95	2.1	-	71	-0.034	10.53	0.011
338	59.907	0.181	3.21	96	1.7	-	71	-0.035	10.58	0.008
339	60.085	0.178	3.22	95	2.2	-	71	-0.036	10.68	0.009
340	60.262	0.177	3.21	95	1.6	100	71	-0.036	10.61	0.009
341	60.444	0.182	3.23	95	2.0	-	71	-0.036	10.66	0.006
342	60.624	0.180	3.22	95	2.2	-	71	-0.035	10.88	0.003
343	60.803	0.179	3.22	95	2.2	-	71	-0.037	11.03	0.004
344	60.981	0.178	3.22	95	1.8	-	71	-0.037	11.18	0.005
345	61.159	0.178	3.22	95	2.1	-	71	-0.038	10.83	0.006
346	61.339	0.180	3.22	95	2.2	-	71	-0.037	10.93	0.005
347	61.520	0.181	3.22	95	1.6	-	70	-0.038	11.22	0.006
348	61.698	0.178	3.21	95	2.1	-	70	-0.039	11.32	0.006
349	61.875	0.177	3.22	95	2.1	-	70	-0.038	11.16	0.008
350	62.054	0.179	3.22	95	2.1	100	70	-0.038	11.49	0.005
351	62.231	0.177	3.22	95	2.2	-	70	-0.039	11.48	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
352	62.415	0.184	3.22	95	1.8	-	70	-0.039	11.16	0.006
353	62.593	0.178	3.22	95	2.2	-	70	-0.039	11.39	0.008
354	62.767	0.174	3.22	95	1.9	-	70	-0.040	11.05	0.006
355	62.948	0.181	3.22	95	2.2	-	70	-0.040	11.30	0.007
356	63.129	0.181	3.22	95	1.7	-	70	-0.040	11.17	0.007
357	63.309	0.180	3.22	95	1.8	-	70	-0.037	11.12	0.005
358	63.485	0.176	3.23	95	2.2	-	70	-0.040	11.15	0.007
359	63.664	0.179	3.22	95	1.7	-	70	-0.039	10.95	0.006
360	63.843	0.179	3.22	95	1.9	101	70	-0.038	11.17	0.005
361	64.024	0.181	3.22	95	2.2	-	70	-0.040	11.15	0.008
362	64.201	0.177	3.21	95	2.2	-	70	-0.039	11.18	0.005
363	64.382	0.181	3.21	95	2.0	-	70	-0.038	10.68	0.009
364	64.559	0.177	3.22	95	1.6	-	70	-0.038	11.10	0.008
365	64.738	0.179	3.22	95	1.8	-	70	-0.037	10.94	0.006
366	64.918	0.180	3.21	95	1.6	-	70	-0.039	10.94	0.006
367	65.098	0.180	3.22	95	1.7	-	70	-0.041	10.81	0.005
368	65.274	0.176	3.22	95	1.9	-	70	-0.039	10.91	0.006
369	65.454	0.180	3.22	95	1.7	-	70	-0.040	10.90	0.007
370	65.633	0.179	3.22	95	1.8	101	70	-0.038	10.70	0.006
371	65.813	0.180	3.22	95	1.7	-	70	-0.039	10.78	0.007
372	65.992	0.179	3.22	95	1.9	-	70	-0.038	10.48	0.007
373	66.171	0.179	3.22	95	1.6	-	70	-0.037	10.57	0.007
374	66.349	0.178	3.22	95	1.7	-	70	-0.038	11.06	0.008
375	66.527	0.178	3.21	95	2.0	-	70	-0.037	11.19	0.005
376	66.707	0.180	3.22	95	1.9	-	70	-0.036	11.20	0.003
377	66.887	0.180	3.23	95	2.0	-	70	-0.037	10.89	0.005
378	67.066	0.179	3.22	95	2.0	-	70	-0.036	10.76	0.005
379	67.244	0.178	3.22	95	2.2	-	70	-0.039	10.86	0.007
380	67.422	0.178	3.22	95	2.1	101	70	-0.036	10.72	0.007
381	67.601	0.179	3.22	95	2.1	-	70	-0.036	10.54	0.005
382	67.781	0.180	3.22	95	1.6	-	70	-0.035	10.45	0.005
383	67.961	0.180	3.22	95	1.7	-	70	-0.035	10.40	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
384	68.139	0.178	3.22	95	1.7	-	70	-0.036	10.46	0.007
385	68.317	0.178	3.23	95	1.6	-	70	-0.036	10.53	0.006
386	68.496	0.179	3.22	95	1.7	-	70	-0.036	10.39	0.007
387	68.676	0.180	3.21	95	1.8	-	70	-0.035	10.28	0.008
388	68.856	0.180	3.22	95	2.2	-	70	-0.034	10.25	0.005
389	69.032	0.176	3.22	95	1.7	-	70	-0.034	10.34	0.007
390	69.212	0.180	3.23	95	2.1	100	70	-0.035	10.24	0.006
391	69.391	0.179	3.22	95	2.2	-	70	-0.035	10.42	0.008
392	69.572	0.181	3.22	95	1.7	-	70	-0.036	10.06	0.007
393	69.752	0.180	3.22	95	2.1	-	70	-0.034	10.60	0.005
394	69.930	0.178	3.22	95	1.9	-	70	-0.033	10.28	0.004
395	70.107	0.177	3.22	95	2.2	-	70	-0.033	10.43	0.008
396	70.285	0.178	3.22	95	1.7	-	70	-0.034	10.62	0.009
397	70.467	0.182	3.23	95	1.7	-	70	-0.034	10.56	0.007
398	70.647	0.180	3.23	95	1.8	-	70	-0.034	10.92	0.006
399	70.825	0.178	3.23	95	2.1	-	70	-0.034	10.68	0.006
400	71.002	0.177	3.23	95	1.7	100	70	-0.035	10.62	0.008
401	71.182	0.180	3.22	95	2.1	-	70	-0.033	10.69	0.006
402	71.362	0.180	3.21	95	2.1	-	70	-0.034	10.70	0.007
403	71.542	0.180	3.22	95	2.2	-	70	-0.035	10.61	0.006
404	71.721	0.179	3.23	95	2.1	-	70	-0.033	10.68	0.007
405	71.895	0.174	3.22	95	2.0	-	70	-0.034	10.58	0.006
406	72.077	0.182	3.23	95	1.9	-	70	-0.034	10.39	0.007
407	72.258	0.181	3.23	95	1.9	-	70	-0.035	10.79	0.006
408	72.437	0.179	3.22	95	2.2	-	70	-0.034	10.60	0.006
409	72.616	0.179	3.22	95	1.9	-	70	-0.034	10.54	0.008
410	72.794	0.178	3.23	95	2.1	100	70	-0.032	10.70	0.007
411	72.973	0.179	3.21	95	1.7	-	70	-0.034	10.90	0.007
412	73.152	0.179	3.23	95	2.1	-	70	-0.033	10.74	0.009
413	73.332	0.180	3.23	95	1.9	-	70	-0.033	10.77	0.008
414	73.511	0.179	3.22	95	1.6	-	70	-0.034	10.85	0.009
415	73.690	0.179	3.23	95	2.0	-	70	-0.034	10.72	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
416	73.868	0.178	3.23	95	2.0	-	70	-0.033	10.90	0.009
417	74.044	0.176	3.23	95	1.6	-	70	-0.034	10.58	0.009
418	74.224	0.180	3.23	95	1.8	-	70	-0.035	10.89	0.008
419	74.404	0.180	3.23	95	1.9	-	70	-0.035	10.52	0.008
420	74.586	0.182	3.22	95	2.0	100	70	-0.033	10.55	0.008
421	74.763	0.177	3.22	95	1.8	-	70	-0.034	10.73	0.008
422	74.942	0.179	3.22	95	1.6	-	70	-0.034	10.43	0.007
423	75.122	0.180	3.22	95	2.0	-	70	-0.035	10.66	0.008
424	75.303	0.181	3.23	95	1.6	-	69	-0.032	10.43	0.009
425	75.482	0.179	3.23	95	2.0	-	69	-0.033	10.60	0.007
426	75.658	0.176	3.23	95	2.0	-	69	-0.034	10.53	0.007
427	75.834	0.176	3.23	95	1.8	-	69	-0.034	10.48	0.007
428	76.018	0.184	3.22	95	2.2	-	69	-0.034	10.75	0.008
429	76.198	0.180	3.23	95	1.7	-	69	-0.033	10.79	0.009
430	76.377	0.179	3.23	95	2.0	100	69	-0.033	10.65	0.007
431	76.554	0.177	3.23	95	1.6	-	69	-0.032	10.53	0.007
432	76.733	0.179	3.22	95	2.2	-	69	-0.036	10.09	0.009
433	76.913	0.180	3.22	95	1.6	-	69	-0.032	9.79	0.007
434	77.094	0.181	3.22	95	1.7	-	69	-0.033	10.10	0.008
435	77.272	0.178	3.23	95	1.6	-	69	-0.033	10.03	0.008
436	77.449	0.177	3.22	95	2.0	-	69	-0.034	9.91	0.009
437	77.628	0.179	3.23	95	1.7	-	69	-0.034	9.93	0.008
438	77.808	0.180	3.22	95	2.2	-	69	-0.032	9.81	0.008
439	77.988	0.180	3.23	95	1.6	-	69	-0.030	9.79	0.008
440	78.167	0.179	3.22	95	1.6	100	69	-0.034	10.06	0.007
441	78.345	0.178	3.22	95	1.7	-	69	-0.033	9.84	0.008
442	78.523	0.178	3.22	95	1.9	-	69	-0.031	9.76	0.006
443	78.703	0.180	3.23	95	1.7	-	69	-0.034	9.66	0.007
444	78.883	0.180	3.23	95	2.2	-	69	-0.034	9.86	0.009
445	79.062	0.179	3.23	95	1.9	-	69	-0.031	9.75	0.008
446	79.241	0.179	3.22	95	1.8	-	69	-0.033	9.80	0.008
447	79.419	0.178	3.23	95	2.0	-	69	-0.031	9.71	0.007

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
448	79.598	0.179	3.22	95	1.6	-	69	-0.031	9.73	0.009
449	79.778	0.180	3.22	95	1.7	-	69	-0.031	9.43	0.007
450	79.958	0.180	3.23	95	2.2	100	69	-0.034	9.21	0.009
451	80.136	0.178	3.22	95	2.1	-	69	-0.032	9.19	0.008
452	80.314	0.178	3.23	95	1.9	-	69	-0.032	9.35	0.007
453	80.493	0.179	3.23	95	2.2	-	69	-0.031	9.22	0.007
454	80.673	0.180	3.23	95	2.2	-	69	-0.032	9.38	0.010
455	80.854	0.181	3.23	95	2.1	-	69	-0.030	9.12	0.005
456	81.032	0.178	3.22	95	1.8	-	69	-0.029	9.21	0.006
457	81.206	0.174	3.23	95	1.7	-	69	-0.032	9.03	0.008
458	81.387	0.181	3.23	95	2.0	-	69	-0.032	8.92	0.008
459	81.568	0.181	3.23	95	1.6	-	69	-0.031	9.00	0.008
460	81.748	0.180	3.22	95	1.8	100	69	-0.031	8.82	0.008
461	81.927	0.179	3.23	95	1.8	-	69	-0.031	8.76	0.009
462	82.104	0.177	3.23	95	2.1	-	69	-0.033	8.83	0.008
463	82.282	0.178	3.22	95	2.2	-	69	-0.031	8.82	0.007
464	82.463	0.181	3.23	95	1.7	-	69	-0.030	8.93	0.007
465	82.644	0.181	3.23	95	1.6	-	69	-0.031	8.79	0.008
466	82.821	0.177	3.23	95	2.2	-	69	-0.031	9.11	0.007
467	82.999	0.178	3.22	95	1.6	-	69	-0.030	9.31	0.011
468	83.178	0.179	3.23	95	1.9	-	69	-0.032	9.21	0.010
469	83.358	0.180	3.22	95	1.6	-	69	-0.030	9.01	0.010
470	83.538	0.180	3.23	94	2.0	100	69	-0.031	9.14	0.008
471	83.717	0.179	3.23	94	1.9	-	69	-0.033	9.08	0.010
472	83.894	0.177	3.22	95	1.9	-	69	-0.032	8.81	0.009
473	84.073	0.179	3.23	94	2.1	-	69	-0.030	8.68	0.005
474	84.254	0.181	3.23	94	1.6	-	69	-0.029	8.87	0.010
475	84.433	0.179	3.23	94	2.0	-	69	-0.032	8.87	0.012
476	84.612	0.179	3.22	94	2.1	-	69	-0.031	8.84	0.006
477	84.790	0.178	3.23	94	1.8	-	69	-0.030	8.88	0.007
478	84.968	0.178	3.22	94	2.1	-	69	-0.030	8.87	0.007
479	85.148	0.180	3.23	94	2.1	-	69	-0.030	9.01	0.010

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
480	85.328	0.180	3.23	94	1.7	99	69	-0.032	9.05	0.009
481	85.507	0.179	3.23	94	1.7	-	69	-0.032	9.11	0.007
482	85.686	0.179	3.22	94	2.2	-	69	-0.031	8.93	0.007
483	85.864	0.178	3.23	94	2.2	-	69	-0.031	9.22	0.007
484	86.042	0.178	3.22	94	1.6	-	68	-0.030	9.07	0.008
485	86.222	0.180	3.22	94	2.0	-	69	-0.030	9.00	0.008
486	86.403	0.181	3.23	94	2.1	-	68	-0.030	9.14	0.010
487	86.581	0.178	3.22	94	2.1	-	68	-0.031	9.17	0.008
488	86.758	0.177	3.23	94	2.2	-	68	-0.032	9.17	0.009
489	86.937	0.179	3.23	94	1.9	-	68	-0.030	8.91	0.009
490	87.117	0.180	3.23	94	1.7	99	68	-0.030	9.16	0.009
491	87.298	0.181	3.22	94	2.1	-	68	-0.029	9.28	0.009
492	87.473	0.175	3.22	94	1.6	-	68	-0.030	9.19	0.007
493	87.653	0.180	3.22	94	2.0	-	68	-0.031	9.24	0.007
494	87.832	0.179	3.22	94	1.7	-	68	-0.030	8.91	0.011
495	88.012	0.180	3.23	94	1.9	-	68	-0.032	9.00	0.010
496	88.193	0.181	3.22	94	2.2	-	68	-0.030	9.23	0.011
497	88.371	0.178	3.23	94	1.7	-	68	-0.027	9.25	0.007
498	88.548	0.177	3.23	94	2.2	-	68	-0.032	9.02	0.010
499	88.727	0.179	3.23	94	1.8	-	68	-0.031	9.07	0.007
500	88.908	0.181	3.23	94	1.9	99	68	-0.032	9.13	0.009
501	89.088	0.180	3.23	94	1.8	-	68	-0.031	8.94	0.007
502	89.266	0.178	3.23	94	1.8	-	68	-0.032	9.19	0.006
503	89.443	0.177	3.23	94	2.1	-	68	-0.030	9.04	0.008
504	89.622	0.179	3.22	94	1.9	-	68	-0.031	9.02	0.011
505	89.802	0.180	3.21	94	2.2	-	68	-0.030	9.09	0.008
506	89.979	0.177	3.22	94	1.8	-	68	-0.030	9.05	0.007
507	90.161	0.182	3.23	94	2.1	-	68	-0.030	9.08	0.009
508	90.337	0.176	3.22	94	1.8	-	68	-0.031	8.75	0.007
509	90.517	0.180	3.23	94	1.9	-	68	-0.030	8.95	0.010
510	90.697	0.180	3.23	94	2.1	99	68	-0.030	8.92	0.007
511	90.876	0.179	3.23	94	1.7	-	68	-0.030	9.02	0.007

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
512	91.055	0.179	3.23	94	1.8	-	68	-0.031	9.07	0.007
513	91.233	0.178	3.23	94	2.1	-	68	-0.031	9.17	0.007
514	91.415	0.182	3.23	94	1.7	-	68	-0.030	8.73	0.009
515	91.589	0.174	3.23	94	1.6	-	68	-0.032	8.88	0.007
516	91.771	0.182	3.23	94	2.2	-	68	-0.031	8.80	0.010
517	91.950	0.179	3.23	94	1.8	-	68	-0.031	8.74	0.007
518	92.125	0.175	3.23	94	2.2	-	68	-0.031	8.75	0.010
519	92.307	0.182	3.23	94	2.0	-	68	-0.032	8.62	0.009
520	92.486	0.179	3.23	94	1.7	99	68	-0.031	8.70	0.007
521	92.666	0.180	3.23	94	1.6	-	68	-0.031	8.38	0.008
522	92.842	0.176	3.22	94	2.1	-	68	-0.032	8.52	0.007
523	93.021	0.179	3.23	94	1.6	-	68	-0.033	8.49	0.009
524	93.199	0.178	3.22	94	1.8	-	68	-0.030	8.58	0.009
525	93.380	0.181	3.23	94	1.6	-	68	-0.032	8.53	0.010
526	93.560	0.180	3.22	94	1.6	-	68	-0.030	8.56	0.011
527	93.741	0.181	3.23	94	2.0	-	68	-0.031	8.39	0.007
528	93.919	0.178	3.23	94	1.8	-	68	-0.031	8.57	0.011
529	94.096	0.177	3.23	94	2.2	-	68	-0.031	8.55	0.010
530	94.275	0.179	3.23	94	1.6	99	68	-0.029	8.05	0.011
531	94.456	0.181	3.23	94	1.8	-	68	-0.031	8.26	0.011
532	94.633	0.177	3.23	94	1.9	-	68	-0.031	8.39	0.009
533	94.814	0.181	3.23	94	1.8	-	68	-0.032	8.30	0.011
534	94.991	0.177	3.23	94	1.9	-	68	-0.032	8.14	0.010
535	95.169	0.178	3.22	94	1.6	-	68	-0.032	8.16	0.009
536	95.350	0.181	3.23	94	1.7	-	68	-0.030	8.15	0.009
537	95.531	0.181	3.23	94	2.1	-	68	-0.030	8.21	0.008
538	95.706	0.175	3.23	94	1.6	-	68	-0.031	7.92	0.012
539	95.886	0.180	3.23	94	2.2	-	68	-0.032	8.11	0.008
540	96.061	0.175	3.22	94	2.1	99	68	-0.032	8.17	0.007
541	96.245	0.184	3.23	94	2.2	-	68	-0.033	8.15	0.007
542	96.425	0.180	3.23	94	1.9	-	68	-0.032	8.16	0.009
543	96.603	0.178	3.23	94	2.2	-	68	-0.031	8.08	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
544	96.780	0.177	3.22	94	1.7	-	68	-0.031	8.08	0.009
545	96.959	0.179	3.23	94	2.1	-	68	-0.032	8.23	0.009
546	97.137	0.178	3.23	94	2.1	-	68	-0.033	8.45	0.008
547	97.319	0.182	3.23	94	1.9	-	68	-0.033	8.25	0.008
548	97.498	0.179	3.23	94	1.9	-	68	-0.034	8.22	0.009
549	97.675	0.177	3.23	94	2.1	-	68	-0.032	8.23	0.012
550	97.854	0.179	3.23	94	1.6	100	68	-0.034	8.12	0.009
551	98.035	0.181	3.23	94	1.7	-	68	-0.031	7.93	0.008
552	98.214	0.179	3.23	94	1.7	-	68	-0.034	8.24	0.014
553	98.393	0.179	3.23	94	1.6	-	68	-0.031	8.34	0.011
554	98.571	0.178	3.22	94	1.7	-	68	-0.032	8.10	0.010
555	98.749	0.178	3.23	94	1.6	-	68	-0.032	8.04	0.012
556	98.926	0.177	3.23	94	2.1	-	68	-0.033	8.30	0.012
557	99.105	0.179	3.23	94	2.2	-	68	-0.034	8.32	0.012
558	99.284	0.179	3.23	94	1.7	-	68	-0.033	8.03	0.011
559	99.463	0.179	3.23	94	2.2	-	67	-0.033	8.20	0.010
560	99.644	0.181	3.23	94	1.6	99	68	-0.032	8.31	0.012
561	99.822	0.178	3.23	94	1.7	-	68	-0.033	8.05	0.010
562	100.002	0.180	3.23	94	1.7	-	67	-0.032	8.11	0.010
563	100.183	0.181	3.23	94	1.9	-	67	-0.034	7.96	0.010
564	100.365	0.182	3.23	94	2.1	-	67	-0.033	8.00	0.008
565	100.538	0.173	3.23	94	1.9	-	68	-0.031	7.85	0.009
566	100.717	0.179	3.23	94	2.1	-	67	-0.034	8.25	0.011
567	100.897	0.180	3.23	94	1.8	-	68	-0.032	8.15	0.011
568	101.075	0.178	3.23	94	1.8	-	67	-0.032	8.31	0.012
569	101.256	0.181	3.23	94	1.7	-	68	-0.034	8.17	0.009
570	101.432	0.176	3.23	94	1.7	100	67	-0.034	7.88	0.009
571	101.611	0.179	3.23	94	1.8	-	67	-0.032	8.15	0.011
572	101.792	0.181	3.23	94	1.7	-	67	-0.032	8.01	0.010
573	101.972	0.180	3.23	94	1.7	-	67	-0.032	8.15	0.011
574	102.151	0.179	3.23	94	2.1	-	67	-0.031	8.16	0.010
575	102.324	0.173	3.22	94	1.7	-	67	-0.034	8.35	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
576	102.506	0.182	3.23	94	2.1	100	68	-0.032	8.45	0.011
Avg/Tot	102.510	0.178	3.20	92.4	1.9	100	70.1	-0.038	9.64	0.020

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
0	-0.004		0.03	70	0.4		69
1	0.108	0.112	0.90	69	1.6	-	69
2	0.240	0.132	0.89	69	1.6	-	69
3	0.375	0.135	0.90	69	1.6	-	69
4	0.509	0.134	0.90	69	1.8	-	69
5	0.643	0.134	0.90	69	1.8	-	69
6	0.779	0.136	0.92	70	1.6	-	69
7	0.911	0.132	0.91	70	1.8	-	69
8	1.051	0.140	0.93	70	1.7	-	69
9	1.186	0.135	0.92	70	1.7	-	69
10	1.324	0.138	0.93	70	1.7	96	69
11	1.460	0.136	0.93	70	1.7	-	69
12	1.599	0.139	0.95	70	1.7	-	69
13	1.735	0.136	0.93	71	1.6	-	69
14	1.874	0.139	0.95	71	1.7	-	69
15	2.012	0.138	0.94	71	1.7	-	69
16	2.150	0.138	0.95	71	1.7	-	69
17	2.289	0.139	0.95	72	1.7	-	69
18	2.427	0.138	0.94	72	1.7	-	69
19	2.567	0.140	0.95	72	1.6	-	69
20	2.705	0.138	0.94	72	1.6	99	69
21	2.844	0.139	0.96	72	1.6	-	69
22	2.983	0.139	0.95	73	1.6	-	69
23	3.121	0.138	0.95	73	1.6	-	69
24	3.262	0.141	0.96	74	1.8	-	69
25	3.398	0.136	0.95	74	1.6	-	69
26	3.541	0.143	0.96	74	1.6	-	69
27	3.681	0.140	0.96	74	1.7	-	69
28	3.820	0.139	0.95	74	1.6	-	69
29	3.962	0.142	0.97	75	1.6	-	69
30	4.102	0.140	0.96	75	1.6	100	69
31	4.242	0.140	0.96	76	1.6	-	69

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
32	4.384	0.142	0.97	76	1.6	-	69
33	4.525	0.141	0.97	77	1.6	-	69
34	4.666	0.141	0.96	77	1.6	-	69
35	4.808	0.142	0.98	77	1.8	-	69
36	4.950	0.142	0.98	77	1.6	-	69
37	5.092	0.142	0.98	77	1.6	-	69
38	5.233	0.141	0.98	78	1.8	-	69
39	5.377	0.144	0.99	78	1.8	-	69
40	5.519	0.142	0.99	78	1.6	101	69
41	5.661	0.142	0.98	78	1.7	-	69
42	5.804	0.143	0.99	79	1.6	-	69
43	5.948	0.144	0.99	79	1.7	-	69
44	6.091	0.143	0.99	79	1.8	-	69
45	6.234	0.143	0.99	79	1.8	-	69
46	6.377	0.143	0.99	79	1.8	-	69
47	6.521	0.144	1.00	80	1.6	-	69
48	6.665	0.144	1.00	80	1.7	-	69
49	6.808	0.143	0.99	81	1.6	-	69
50	6.951	0.143	0.98	81	1.6	102	69
51	7.095	0.144	0.99	80	1.7	-	69
52	7.240	0.145	1.00	81	1.6	-	69
53	7.384	0.144	1.00	81	1.6	-	69
54	7.528	0.144	0.99	81	1.7	-	69
55	7.671	0.143	0.99	81	1.8	-	69
56	7.816	0.145	1.00	81	1.7	-	69
57	7.961	0.145	1.00	81	1.6	-	69
58	8.106	0.145	1.00	82	1.6	-	69
59	8.250	0.144	1.00	82	1.6	-	69
60	8.395	0.145	0.99	81	1.8	102	69
Avg/Tot	8.399	0.140	0.95	75.2	1.6	100	68.9

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	312	304	196	297	406	303.0	523.6
1	308	301	193	296	405	300.3	513.3
2	303	296	188	293	403	296.7	465.3
3	299	292	184	290	402	293.2	461.3
4	294	288	180	287	400	289.8	472.6
5	289	283	177	286	399	286.6	480.5
6	285	279	174	284	398	283.6	483.9
7	280	275	171	282	397	280.7	484.4
8	275	270	168	280	395	277.8	486.2
9	271	266	165	279	394	275.1	491.3
10	267	262	163	278	393	272.6	498.1
11	263	259	161	278	392	270.3	505.1
12	259	255	158	277	391	268.2	512.3
13	256	252	156	277	390	266.2	521.2
14	253	249	155	277	389	264.4	527.6
15	249	246	153	277	388	262.7	534.5
16	246	243	152	277	388	261.2	544.6
17	244	241	150	278	387	259.9	555.6
18	241	238	149	280	386	258.8	567.9
19	239	236	147	281	386	257.7	580.8
20	237	234	146	282	385	256.9	594.1
21	235	232	145	284	385	256.3	605.1
22	233	231	144	287	385	255.8	613.8
23	231	229	143	289	384	255.3	622.2
24	230	228	142	291	384	254.9	630.2
25	229	227	142	293	384	254.8	635.0
26	228	226	141	295	384	254.7	641.8
27	227	225	141	298	384	255.1	670.9
28	226	225	141	303	384	255.9	701.3
29	226	225	141	306	384	256.4	703.0
30	225	225	140	309	384	256.8	694.7
31	225	225	140	311	384	257.0	696.2
32	224	225	140	314	384	257.3	702.9
33	224	225	139	316	385	257.7	709.4
34	223	225	139	319	385	258.1	715.0
35	223	225	139	321	385	258.5	721.6
36	223	225	139	323	385	259.0	726.8
37	223	225	139	326	386	259.6	730.6
38	223	226	139	328	386	260.2	734.8
39	223	226	138	330	387	260.8	737.3
40	224	227	138	332	387	261.5	736.9
41	225	228	139	335	388	262.7	759.3
42	226	229	140	339	388	264.3	782.3
43	228	231	141	345	389	266.5	820.8
44	229	234	141	353	389	269.2	862.1
45	231	236	142	362	390	272.1	882.6
46	233	239	142	370	390	274.8	891.0
47	235	242	143	378	390	277.4	893.7

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	237	244	143	385	390	279.8	902.5
49	238	247	144	393	390	282.5	921.5
50	240	250	145	401	391	285.3	937.5
51	243	252	146	408	391	287.9	943.3
52	245	255	147	415	390	290.3	941.6
53	248	258	147	420	390	292.4	926.0
54	250	261	146	422	390	293.7	889.1
55	252	263	146	423	389	294.4	851.8
56	253	265	145	421	389	294.6	822.4
57	255	267	145	419	388	294.7	804.2
58	256	268	144	417	388	294.5	793.0
59	256	270	144	414	387	294.2	787.1
60	257	271	144	411	387	293.9	783.4
61	258	272	143	409	386	293.5	779.0
62	258	273	143	407	386	293.2	775.0
63	258	274	142	405	386	292.9	773.5
64	259	275	142	402	385	292.6	772.3
65	259	276	142	401	385	292.4	769.5
66	259	276	142	400	385	292.2	767.7
67	259	277	141	398	385	292.0	765.8
68	259	278	141	397	385	291.9	766.2
69	259	279	141	395	385	291.8	766.5
70	259	279	140	395	386	291.8	767.7
71	259	280	140	394	386	291.9	768.6
72	259	281	140	394	387	292.1	771.2
73	259	282	140	393	387	292.2	775.3
74	259	283	140	394	388	292.7	779.3
75	259	284	140	394	389	293.1	783.2
76	259	285	140	394	390	293.5	787.2
77	259	286	140	395	390	294.0	792.3
78	259	288	139	396	391	294.6	798.9
79	259	289	139	397	392	295.3	806.8
80	260	291	139	399	392	296.0	815.7
81	260	292	139	401	393	297.0	823.9
82	260	294	139	404	393	297.9	832.9
83	261	295	139	406	394	299.0	842.2
84	261	296	139	410	394	300.0	851.4
85	261	298	140	413	395	301.1	860.2
86	262	299	140	415	395	302.1	868.7
87	262	300	140	419	395	303.4	876.8
88	263	301	140	423	396	304.5	884.2
89	263	303	140	426	396	305.7	891.5
90	264	304	141	430	397	307.0	898.2
91	264	305	141	434	397	308.1	907.1
92	265	306	141	438	397	309.4	914.4
93	265	307	141	442	398	310.6	917.6
94	266	308	142	445	398	311.8	920.8
95	267	309	142	448	398	312.8	922.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	267	311	142	451	398	314.0	923.8
97	268	312	142	454	399	314.9	924.2
98	269	313	143	456	399	315.9	923.5
99	270	314	143	458	399	316.8	922.3
100	271	315	144	460	399	317.6	921.1
101	271	316	144	462	399	318.3	916.8
102	272	317	144	462	399	318.9	911.2
103	273	317	145	463	399	319.4	905.7
104	274	318	145	463	399	319.8	902.4
105	275	318	146	463	399	320.1	901.8
106	276	319	146	463	399	320.4	899.0
107	276	320	146	462	398	320.6	895.5
108	277	321	147	462	398	320.9	891.6
109	278	322	147	461	398	321.0	888.6
110	279	322	147	461	397	321.3	886.2
111	279	323	148	460	397	321.4	884.4
112	280	324	148	460	396	321.7	882.4
113	281	325	148	459	396	321.7	877.1
114	281	326	148	458	396	321.8	869.0
115	282	327	148	457	395	321.6	861.4
116	282	327	148	455	395	321.4	854.6
117	282	328	148	453	394	321.1	846.0
118	283	328	149	451	394	320.8	836.2
119	283	328	149	449	393	320.4	827.0
120	283	329	149	446	393	319.8	819.0
121	283	329	149	443	392	319.2	812.5
122	283	329	149	441	392	318.8	807.1
123	283	329	149	438	392	318.3	802.5
124	283	330	149	435	391	317.7	798.0
125	284	330	149	433	391	317.1	793.7
126	284	330	149	430	390	316.6	789.8
127	284	330	149	428	390	316.2	787.0
128	284	331	150	426	389	315.8	785.9
129	284	331	150	424	389	315.4	786.2
130	284	331	150	423	389	315.2	791.2
131	284	331	150	422	388	315.0	795.9
132	284	332	150	421	388	314.9	800.3
133	284	332	150	421	388	315.0	803.2
134	284	333	150	421	387	315.0	806.2
135	284	334	150	421	387	315.2	808.8
136	285	335	150	421	386	315.3	811.2
137	285	335	151	421	386	315.5	813.5
138	285	336	151	422	386	315.9	816.4
139	286	338	151	422	386	316.3	818.5
140	286	338	151	422	385	316.6	819.4
141	287	340	151	423	385	317.0	818.2
142	287	341	152	423	385	317.4	816.7
143	287	342	152	424	384	317.8	815.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	288	343	152	423	384	318.0	815.0
145	288	344	153	424	384	318.5	814.5
146	289	345	153	424	384	318.7	814.6
147	289	346	153	425	383	319.1	815.8
148	290	347	153	425	383	319.4	817.5
149	290	347	154	425	383	319.7	819.2
150	290	348	154	425	383	319.9	821.2
151	291	349	154	426	383	320.3	826.3
152	291	349	154	427	382	320.6	830.7
153	291	350	154	428	383	321.0	833.4
154	291	350	154	429	383	321.4	835.7
155	292	351	155	430	383	321.9	837.4
156	292	351	155	431	383	322.3	838.6
157	292	352	155	432	383	322.7	840.3
158	293	352	155	433	384	323.2	841.6
159	293	352	156	433	384	323.6	842.2
160	293	353	156	434	384	324.0	841.7
161	293	354	156	434	384	324.3	840.5
162	294	354	157	434	385	324.7	839.0
163	294	355	157	435	385	325.0	837.9
164	294	355	157	435	386	325.6	836.9
165	295	356	157	435	386	325.8	836.4
166	295	356	158	436	387	326.2	838.5
167	295	356	158	436	387	326.5	840.3
168	296	357	158	437	388	327.0	840.8
169	296	357	158	437	389	327.3	840.6
170	296	358	158	438	389	327.6	838.8
171	296	358	158	437	390	327.7	836.2
172	296	358	158	437	390	328.0	833.7
173	297	358	158	437	391	328.1	831.5
174	297	358	159	437	391	328.4	829.6
175	297	358	159	437	392	328.5	828.8
176	297	359	159	436	393	328.5	828.3
177	297	359	159	436	393	328.7	827.2
178	297	359	159	435	394	328.8	826.1
179	298	359	159	436	395	329.2	825.5
180	298	359	160	436	395	329.3	823.8
181	298	359	160	435	396	329.4	821.3
182	298	358	160	435	397	329.6	818.7
183	298	358	160	434	397	329.7	816.4
184	299	358	160	434	398	329.8	815.0
185	299	358	161	433	399	329.8	815.2
186	299	358	161	433	399	330.0	815.5
187	299	358	161	432	400	330.0	815.8
188	299	358	161	432	401	330.1	815.5
189	299	358	161	432	401	330.1	814.1
190	299	358	161	431	402	330.1	812.9
191	300	358	161	431	402	330.2	812.1

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	300	358	161	430	403	330.4	811.0
193	300	358	161	430	403	330.4	809.5
194	300	358	162	429	404	330.4	807.6
195	300	358	162	429	404	330.5	804.7
196	300	358	162	428	404	330.4	801.8
197	300	359	162	427	405	330.4	799.0
198	300	359	162	426	405	330.2	797.2
199	300	359	162	425	405	330.1	795.3
200	300	359	162	424	405	330.0	793.3
201	300	360	162	424	405	329.9	791.0
202	300	360	162	423	405	329.8	788.7
203	300	361	162	422	405	329.7	786.6
204	300	361	162	421	405	329.6	784.5
205	299	361	162	420	405	329.4	784.6
206	299	362	162	419	405	329.4	784.2
207	299	362	162	418	405	329.2	783.3
208	299	362	162	418	406	329.3	784.0
209	299	363	162	417	406	329.4	784.0
210	299	363	162	417	406	329.6	785.3
211	299	364	162	417	406	329.6	785.3
212	299	364	162	416	407	329.6	780.6
213	299	364	162	415	407	329.4	775.4
214	299	363	162	414	407	329.1	769.8
215	300	363	162	413	407	328.8	763.7
216	300	362	162	412	407	328.3	758.2
217	300	360	162	410	407	327.8	754.9
218	300	359	162	408	408	327.3	753.0
219	300	358	162	407	408	326.9	751.5
220	300	356	162	406	408	326.2	749.8
221	300	355	162	404	408	325.8	748.7
222	300	353	162	403	408	325.2	748.3
223	300	352	163	402	408	324.9	748.4
224	301	351	163	401	408	324.5	748.6
225	301	349	162	400	408	324.0	746.8
226	301	348	163	399	408	323.6	745.0
227	302	347	163	398	408	323.2	745.2
228	302	345	162	397	408	322.9	745.5
229	302	344	162	397	407	322.5	744.5
230	302	343	162	396	407	322.0	742.8
231	302	342	162	395	407	321.6	740.4
232	301	341	162	394	407	321.1	739.3
233	301	340	162	394	407	320.7	738.5
234	301	339	162	392	407	320.2	737.2
235	301	339	161	391	407	319.8	733.7
236	301	338	161	390	407	319.5	729.4
237	301	338	161	389	407	319.2	726.5
238	302	338	161	388	407	319.0	724.3
239	302	337	161	387	408	318.9	723.7

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
240	302	337	161	386	409	318.9	726.9
241	302	337	161	385	409	319.0	732.5
242	302	338	161	385	410	319.2	740.2
243	303	338	161	386	411	319.5	750.1
244	304	338	161	387	412	320.2	762.0
245	304	339	161	389	413	321.1	774.9
246	305	340	161	391	413	322.2	790.7
247	306	341	162	394	414	323.4	808.4
248	308	343	162	398	415	325.0	827.8
249	309	344	163	402	415	326.7	842.3
250	310	346	163	406	416	328.2	849.0
251	311	347	164	410	416	329.8	853.9
252	312	349	165	414	416	331.3	858.1
253	313	351	165	418	416	332.6	867.2
254	314	353	166	423	417	334.2	872.6
255	315	355	166	426	417	335.7	875.1
256	316	357	167	430	416	337.0	878.7
257	316	358	167	435	416	338.4	907.1
258	316	359	167	442	416	340.1	944.1
259	316	360	167	451	416	342.1	965.4
260	316	361	167	459	416	343.9	974.2
261	317	362	167	467	416	345.8	977.9
262	317	363	168	474	416	347.4	978.3
263	317	363	168	481	416	348.9	976.9
264	317	364	168	486	416	350.3	974.0
265	317	365	169	491	416	351.5	970.8
266	317	366	169	495	417	352.6	967.5
267	318	366	169	498	417	353.5	964.0
268	318	367	170	500	417	354.2	960.5
269	318	367	170	502	417	354.7	956.1
270	319	367	170	502	417	355.1	951.4
271	319	367	171	504	417	355.5	947.5
272	319	367	172	505	417	355.9	947.4
273	319	367	172	506	416	356.0	947.7
274	319	366	173	506	416	356.0	949.4
275	319	366	173	507	415	356.0	948.1
276	319	365	173	507	415	355.8	943.5
277	319	364	173	507	414	355.4	938.2
278	319	364	174	506	413	355.1	932.7
279	319	363	174	505	412	354.6	926.3
280	319	362	174	504	411	353.9	920.1
281	319	361	174	502	410	353.2	913.6
282	319	360	174	500	409	352.5	905.7
283	319	359	174	498	408	351.5	897.5
284	318	358	175	496	407	350.7	889.7
285	318	357	175	492	406	349.5	882.1
286	318	356	174	490	404	348.4	874.9
287	318	355	175	486	403	347.2	868.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
288	317	354	174	482	402	345.9	863.4
289	317	352	174	480	401	344.8	858.4
290	316	351	174	477	400	343.6	854.0
291	316	350	174	473	398	342.3	850.0
292	315	349	174	471	397	341.2	846.7
293	315	348	174	468	396	340.1	843.9
294	314	347	174	465	395	339.0	840.5
295	314	346	174	463	394	337.9	836.5
296	313	344	174	460	393	336.8	832.2
297	313	343	174	457	392	335.8	827.1
298	312	342	173	455	391	334.6	820.9
299	311	341	173	452	390	333.4	814.3
300	311	340	173	448	389	332.2	806.6
301	310	338	173	445	388	330.8	798.4
302	309	337	173	442	387	329.5	789.4
303	309	336	173	438	386	328.1	780.7
304	308	334	173	433	385	326.5	771.3
305	307	333	172	429	383	325.0	762.0
306	306	332	172	425	382	323.3	753.2
307	305	330	172	421	381	321.8	745.2
308	304	329	172	417	380	320.2	737.9
309	303	328	171	413	379	318.7	731.7
310	302	326	171	409	378	317.2	726.5
311	301	325	171	405	377	315.8	722.8
312	300	324	171	402	376	314.4	720.8
313	299	323	170	398	375	313.0	719.6
314	299	321	170	395	374	311.8	719.2
315	298	320	170	393	373	310.6	719.0
316	297	319	170	390	372	309.6	719.7
317	296	318	170	388	371	308.7	721.9
318	296	317	170	387	370	307.8	724.3
319	295	316	169	386	370	307.2	727.1
320	295	315	169	385	369	306.5	730.4
321	294	315	169	384	368	306.0	732.9
322	294	314	169	384	367	305.6	735.3
323	294	313	169	383	367	305.0	738.3
324	293	312	169	383	366	304.7	741.6
325	293	312	169	383	365	304.3	745.4
326	293	311	169	383	365	304.2	749.4
327	293	311	168	384	364	304.0	753.0
328	293	311	168	384	364	303.9	757.0
329	293	310	168	385	363	303.7	761.7
330	292	310	168	386	362	303.6	765.8
331	292	309	168	386	362	303.6	769.3
332	292	309	168	387	361	303.6	772.6
333	292	309	169	389	360	303.8	776.9
334	292	309	169	390	360	304.0	781.4
335	292	309	169	392	359	304.1	785.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
336	292	309	169	393	359	304.4	789.6
337	292	309	169	395	358	304.6	793.9
338	292	309	170	397	357	305.0	798.3
339	293	309	170	399	357	305.4	803.0
340	293	309	170	400	356	305.7	808.2
341	293	309	170	402	355	306.0	814.2
342	293	309	171	404	355	306.3	820.6
343	293	310	171	406	354	306.8	827.4
344	293	310	171	408	354	307.3	834.3
345	294	310	172	411	353	307.9	841.3
346	294	310	172	414	353	308.6	848.3
347	294	310	172	417	352	309.2	855.6
348	295	310	173	420	352	310.0	862.9
349	295	310	173	424	352	310.8	869.4
350	296	310	174	427	351	311.5	874.6
351	296	311	174	430	351	312.3	878.5
352	297	311	175	433	351	313.1	881.7
353	297	311	175	436	350	313.8	884.1
354	298	311	175	438	350	314.5	885.6
355	298	312	176	441	350	315.2	886.6
356	299	312	176	443	349	315.8	887.4
357	300	312	177	444	349	316.4	887.3
358	300	313	177	446	349	317.0	886.6
359	301	313	178	447	349	317.5	885.4
360	301	314	178	448	348	317.9	883.1
361	302	314	179	449	348	318.3	880.3
362	302	314	179	449	348	318.6	877.6
363	303	315	180	449	348	318.9	874.8
364	304	315	180	450	347	319.1	871.7
365	304	315	181	450	347	319.4	868.7
366	304	316	181	449	347	319.4	865.3
367	305	316	182	449	346	319.5	861.8
368	305	316	182	448	346	319.5	858.4
369	306	316	182	447	346	319.4	854.8
370	306	317	183	446	346	319.4	851.1
371	306	317	183	445	345	319.2	847.1
372	307	317	183	444	345	319.0	842.8
373	307	317	184	442	345	318.8	839.2
374	307	317	184	441	344	318.6	837.1
375	308	316	184	440	344	318.5	834.6
376	308	316	185	439	344	318.3	831.3
377	308	316	185	438	344	318.1	827.5
378	308	316	185	436	344	317.9	823.2
379	308	316	185	435	344	317.6	818.9
380	309	316	185	433	344	317.3	814.2
381	309	316	186	431	344	317.0	810.0
382	309	316	186	429	344	316.6	805.7
383	309	316	186	428	344	316.3	801.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

Stove ΔT: 30

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
384	309	315	186	426	344	315.9	797.8
385	309	315	186	424	343	315.5	794.3
386	309	315	187	422	343	315.2	791.1
387	309	315	187	420	343	314.7	788.1
388	309	315	187	418	343	314.3	785.3
389	309	315	187	417	343	314.0	782.9
Average	285.6	313.3	172.0	394.9	363.2	305.8	766.6

LAB SAMPLE DATA - ASTM E2515

Client: Blaze King
Model: PE32
Run #: 2

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/5/2024

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00919	240.3	241.0	0.7
	B	G00920	240.5	240.9	0.4
	C - 1st Hour	G00921	240.0	240.1	0.1
	Amb	G00922	239.2	239.2	0.0
Probes	**A**	4A	116022.8	116022.9	0.1
	B	4B	116181.7	116182.0	0.3
	C - 1st Hour	4C	116997.5	116997.7	0.2
O-rings	**A**	4A	3377.3	3377.6	0.3
	B	4B	3580.5	3580.8	0.3
	C - 1st Hour	4C	3373.0	3373.2	0.2

Placed in Dessicator on:	3/6/24 08:00

		200.0		200.0					
Balance Audit (mg):		Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time
Filters	**A**	241.0	3/7 16:00	241.0	3/8 8:00				
	B	240.9	3/7 16:00	240.9	3/8 8:00				
	C - 1st Hour	240.2	3/7 16:00	240.1	3/8 8:00				
	Amb	239.1	3/7 16:00	239.2	3/8 8:00				
Probes	**A**	116022.9	3/7 16:00	116022.9	3/8 8:00				
	B	116181.7	3/7 16:00	116182.0	3/8 8:00				
	C - 1st Hour	116997.8	3/7 16:00	116997.7	3/8 8:00				
O-Rings	**A**	3377.5	3/7 16:00	3377.6	3/8 8:00				
	B	3580.7	3/7 16:00	3580.8	3/8 8:00				
	C - 1st Hour	3373.4	3/7 16:00	3373.2	3/8 8:00				

Train A Aggregate, mg:	**1.1**
Train B Aggregate, mg:	**1.0**
Train C Aggregate, mg:	**0.5**
Ambient, mg:	**0.0**

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 3 Data Summary

Client:	Blaze King
Model:	PE32
Job #:	24-273
Tracking #:	183
Test Date:	3/6/2024

Techician Signature

5/3/2024
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Burn Rate (kg/hr):	2.45

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	13.754	30.087	28.858	8.355
Average Gas Velocity in Dilution Tunnel (ft/sec)	19.4			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	12640.9			
Average Gas Meter Temperature (°F)	68.1	87.7	87.6	75.8
Total Sample Volume (dscf)	13.930	29.361	28.180	8.286
Average Tunnel Temperature (°F)	102.5			
Total Time of Test (min)	167			
Total Particulate Catch (mg)	0.1	4.2	4.2	3.2
Particulate Concentration, dry-standard (g/dscf)	0.0000072	0.0001430	0.0001490	0.0003862
Total PM Emissions (g)	0.25	4.78	4.99	4.79
Particulate Emission Rate (g/hr)	0.09	1.72	1.79	4.79
Emissions Factor (g/kg)	-	0.70	0.73	-
Difference from Average Total Particulate Emissions (g)	-	0.11	0.11	-
Difference from Average Total Particulate Emissions (%)	-	2.2%	2.2%	
Difference from Average Emissions Factor (g/kg)	-	0.02	0.02	-

Final Average Results	
Total Particulate Emissions (g)	4.89
Particulate Emission Rate (g/hr)	1.76
Emissions Factor (g/kg)	0.72
HHV Efficiency (%)	75.4%
LHV Efficiency (%)	81.5%
CO Emissions (g/min)	1.54

Quality Checks	Requirement	Observed	Result
Dual Train Precision	Each train within 7.5% of average emissions (in grams), or emission factors within 0.5 g/kg	See Above	OK
Filter Temps	<90 °F	79.7	OK
Face Velocity	< 30 ft/min	10.1	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:67/Max:68.9	OK
Negative Probe Weight Evaluation	<5% of Total Catch	Probe Catch Not Negative	OK
Pro-Rate Variation	90% of readings between 90-110%; none greater than 120% or less than 80%	See Data Tabs	OK
Stove Surface ΔT	<126°F	28.4	OK

B415.1 Efficiency Results

Manufacturer:	Blaze King
Model:	PE32
Date:	03/06/24
Run:	3
Control #:	24-273
Test Duration:	167
Output Category:	4

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	75.4%	81.5%
Combustion Efficiency	97.4%	97.4%
Heat Transfer Efficiency	77.4%	83.7%

Output Rate (kJ/h)	36,300	34,435	**(Btu/h)**
Burn Rate (kg/h)	2.43	5.36	**(lb/h)**
Input (kJ/h)	48,161	45,686	**(Btu/h)**

Test Load Weight (dry kg)	6.77	14.91	**dry lb**
MC wet (%)	19.12		
MC dry (%)	23.64		
Particulate (g)	4.89		
CO (g)	257		
Test Duration (h)	2.78		

Emissions	**Particulate**	**CO**
g/MJ Output	0.05	2.54
g/kg Dry Fuel	0.72	38.00
g/h	1.76	92.38
g/min	0.03	1.54
lb/MM Btu Output	0.11	5.91

Air/Fuel Ratio (A/F)	10.22

VERSION: **2.4** **4/15/2010**

WOODSTOVE FUEL DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.00	19.1	2x4	17.00	19.9
2x4	17.00	21.3	2x4	17.00	20.5
2x4	17.00	20.7			
2x4	17.00	19.4			
2x4	17.00	19.4			
2x4	17.00	21.9			
2x4	17.00	19.2			
2x4	17.00	19.8			
Total Fuel Weight (lbs):		17.33	Average Moisture (%DB):		20.1

Firebox Volume (ft^3):	2.86
Total 2x4 Crib Weight, with spacers (lbs):	9.68
Total 4x4 Crib Weight, with spacers (lbs):	8.82
Total Wet Fuel Weight, with spacers (lbs):	18.50

Coal Bed Range (20-25%):
Min (lbs): 3.70
Max (lbs): 4.63

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	16.75	4.50	23.2	23.9	23.5	3.64
4x4	16.75	3.86	23.1	24.4	23.4	3.12
2x4	16.75	2.09	24.5	24.9	24.3	1.68
2x4	16.75	1.96	24.1	22.2	23.8	1.59
2x4	16.75	2.03	23.8	24.9	24.7	1.63
2x4	16.75	1.98	22.0	24.5	20.4	1.62
					Total Dry Weight, no spacers (lbs):	13.28
					Total Dry Weight, with spacers (lbs):	15.06

Spacer Moisture Readings (%DB)

19.7	15.4	17.6					
15.7	15.9	14.3					
17.9	16.5						
18.6	16.6						
19.0	18.8						
19.0	15.0						
18.7	15.2						
17.9	17.8						

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	30.1	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.47	OK
2x4 Fuel Mix	35 - 65 % of total weight	52%	OK

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	Blaze King	Job #:	24-273
Model:	PE32	Tracking #:	183
Run #:	3	Technician:	AK
Test Start Time:	12:02	Date:	3/6/2024

Total Sampling Time (min):	167		
Recording Interval (min):	1		
Meter Box γ Factor:	1.004	(A)	
Meter Box γ Factor:	1.005	(B)	
Meter Box γ Factor:	1.004	(C)	
Meter Box γ Factor:	1.013	(Ambient)	
Induced Draft Check (in. H_2O):	0		
Smoke Capture Check (%):	100%		
Date Flue Pipe Last Cleaned:	3/4/2024		
Test Fuel Scale Audit (lbs)	10.00		
Platform Scale Audit (lbs)	10.0		

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	29.95	29.92	29.94
Relative Humidity (%)	22.8	18.6	
Room Air Velocity (ft/min)	<50	<50	
Pitot Tube Leak Check	0	0	
Ambient Sample Volume:		13.754	ft^3

Sample Train Leak Checks

	Pre-test	Post-test			
(A)	0.000	0.000	cfm @	-8	in. Hg
(B)	0.000	0.000	cfm @	-8	in. Hg
(C)	0.000	0.000	cfm @	-9	in. Hg
(Ambient)	0.000	0.000	cfm @	-13	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

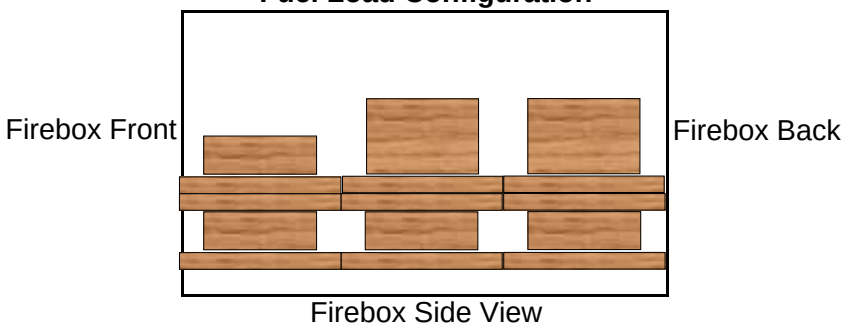
Point	dP (in H_2O)	Temp (°F)
1	0.058	72
2	0.094	72
3	0.094	72
4	0.080	72
5	0.078	72
6	0.096	72
7	0.096	72
8	0.074	72
Center	0.098	72

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	6	inches
Pitot Tube Cp:	0.99	[unitless]
Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Tunnel Area:	0.1963	ft^2
V_{strav}:	19.19	ft/sec
V_{scent}:	20.82	ft/sec
F_p:	0.922	[ratio]
Initial Tunnel Flow:	219.9	scf/min

Static Pressure: -0.170 in. H_2O

TEST FUEL PROPERTIES

Fuel Load Configuration



Firebox Side View

Actual Fuel Used Properties

Fuel Type:	D. Fir
HHV (kJ/kg)	19,810
%C	48.73
%H	6.87
%O	43.9
%Ash	0.5
MC (%DB)	23.6

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Recording Interval (min): 1
Run Time (min): 141

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
0	16.38	-0.086	491	544	243	542	379	440.1	461	65
1	16.10	-0.086	487	539	241	550	381	439.4	461	65
2	15.83	-0.088	485	535	238	560	377	438.9	462	65
3	15.56	-0.089	483	532	236	570	368	437.6	470	65
4	15.28	-0.087	482	529	235	580	363	437.7	473	65
5	15.01	-0.088	481	526	234	589	359	437.8	476	65
6	14.73	-0.090	482	525	233	596	355	437.9	476	65
7	14.43	-0.090	483	524	232	599	354	438.4	479	65
8	14.12	-0.089	485	524	232	599	354	438.8	480	66
9	13.81	-0.088	487	524	233	598	353	438.9	480	66
10	13.48	-0.089	490	526	234	594	353	439.4	479	66
11	13.15	-0.089	494	529	235	589	353	440.0	477	66
12	12.83	-0.088	497	532	237	586	351	440.7	476	66
13	12.50	-0.088	501	536	238	583	350	441.5	475	66
14	12.18	-0.088	505	539	240	581	350	443.2	473	66
15	11.86	-0.088	509	543	242	579	355	445.6	471	66
16	11.54	-0.088	514	548	245	577	354	447.4	471	66
17	11.23	-0.087	518	552	246	575	359	450.1	469	66
18	10.91	-0.087	523	556	249	573	360	452.0	466	66
19	10.59	-0.087	528	560	251	571	368	455.5	462	66
20	10.28	-0.085	533	565	253	568	422	468.2	458	66
21	9.97	-0.085	539	569	255	566	403	466.2	456	66
22	9.69	-0.085	544	573	258	564	364	460.4	455	66
23	9.43	-0.085	549	578	260	563	384	466.8	454	66
24	9.15	-0.085	554	583	262	562	599	511.8	452	66
25	8.89	-0.084	560	587	264	561	601	514.6	449	66
26	8.63	-0.083	566	591	267	560	604	517.4	448	66
27	8.39	-0.083	571	595	269	559	608	520.3	448	66
28	8.15	-0.084	576	600	270	559	611	523.3	448	66
29	7.91	-0.084	581	606	272	560	615	526.9	448	66
30	7.72	-0.083	584	613	271	573	618	531.8	452	66
31	7.56	-0.084	587	620	270	588	619	536.9	453	66
32	7.39	-0.083	589	626	270	595	620	539.9	452	66
33	7.24	-0.084	592	632	269	599	620	542.2	450	66
34	7.09	-0.083	595	634	270	605	619	544.6	451	66
35	6.94	-0.082	598	638	271	608	618	546.4	450	66
36	6.80	-0.082	602	641	273	608	617	548.2	448	66
37	6.65	-0.082	605	644	276	609	617	550.2	447	66
38	6.50	-0.082	609	649	280	609	618	552.9	445	66
39	6.35	-0.083	613	656	282	608	618	555.7	444	66
40	6.19	-0.082	616	664	284	607	619	558.1	445	67
41	6.04	-0.082	620	673	286	607	621	561.2	440	66
42	5.88	-0.082	623	684	289	606	621	564.7	440	66
43	5.73	-0.082	626	695	292	607	621	568.3	440	66
44	5.58	-0.082	628	704	295	608	621	571.3	441	67

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Recording Interval (min): 1
Run Time (min): 141

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
45	5.45	-0.080	630	712	298	609	621	573.7	439	66
46	5.32	-0.081	631	717	298	609	621	575.1	436	66
47	5.20	-0.082	632	720	299	610	621	576.3	434	66
48	5.09	-0.080	632	723	300	610	622	577.4	434	67
49	4.98	-0.078	632	725	300	611	623	578.2	429	67
50	4.89	-0.079	632	727	300	610	625	578.9	428	67
51	4.80	-0.078	632	728	300	608	627	579.1	424	66
52	4.73	-0.079	631	727	300	602	630	578.0	419	67
53	4.66	-0.077	630	725	300	596	633	576.7	412	67
54	4.59	-0.076	629	721	301	589	636	575.1	406	66
55	4.53	-0.077	629	717	301	580	639	573.2	402	67
56	4.46	-0.073	628	713	301	573	643	571.5	399	67
57	4.40	-0.074	627	710	302	565	647	569.9	395	66
58	4.33	-0.073	626	706	302	557	651	568.5	393	67
59	4.26	-0.075	626	703	303	551	655	567.4	389	67
60	4.19	-0.074	626	700	305	545	658	566.8	387	66
61	4.12	-0.073	627	698	308	539	660	566.2	384	66
62	4.05	-0.073	627	696	311	533	662	565.9	382	66
63	3.99	-0.072	627	695	313	528	665	565.5	381	66
64	3.92	-0.073	628	694	315	522	667	565.0	382	66
65	3.85	-0.072	628	694	317	517	669	564.8	379	66
66	3.79	-0.072	628	693	318	512	671	564.5	378	66
67	3.72	-0.072	629	693	320	507	673	564.1	376	66
68	3.67	-0.071	629	693	321	503	674	563.9	374	66
69	3.61	-0.071	629	692	322	499	676	563.6	372	66
70	3.56	-0.071	629	691	324	495	678	563.3	371	66
71	4.27	-0.088	629	689	326	493	680	563.3	420	66
72	4.10	-0.073	629	685	328	490	681	562.6	395	66
73	4.03	-0.072	630	681	328	488	680	561.4	381	66
74	3.97	-0.072	630	678	328	485	677	559.6	377	66
75	3.92	-0.070	630	675	327	483	674	557.8	372	66
76	3.88	-0.070	628	673	325	481	671	555.5	370	66
77	3.83	-0.072	626	670	323	479	667	553.0	369	66
78	3.79	-0.070	623	668	320	477	424	502.4	367	66
79	3.75	-0.070	619	665	318	475	412	497.8	365	66
80	3.70	-0.069	616	662	316	473	412	495.7	364	66
81	3.66	-0.071	613	660	315	471	418	495.2	363	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
0	0.000		0.095	0.14	70	0.3		18.44		102	375	69	67
1	0.122	0.122	0.094	3.02	70	1.0	-	18.38	-0.06	119	378	72	67
2	0.293	0.171	0.095	3.07	70	1.1	-	18.22	-0.16	108	384	72	67
3	0.465	0.172	0.094	3.08	70	1.1	-	18.05	-0.17	105	397	72	67
4	0.634	0.169	0.094	3.07	70	1.1	-	17.87	-0.18	103	409	72	67
5	0.805	0.171	0.096	3.08	71	1.1	-	17.70	-0.17	103	418	73	67
6	0.977	0.172	0.095	3.09	71	1.1	-	17.53	-0.17	103	429	73	67
7	1.152	0.175	0.096	3.10	71	1.1	-	17.33	-0.20	104	433	73	67
8	1.321	0.169	0.095	3.10	71	1.1	-	17.13	-0.20	104	439	74	67
9	1.491	0.170	0.094	3.10	71	1.1	-	16.94	-0.19	105	443	74	67
10	1.668	0.177	0.097	3.11	71	1.1	95	16.72	-0.22	105	453	74	67
11	1.838	0.170	0.097	3.12	71	1.1	-	16.52	-0.20	106	453	74	67
12	2.006	0.168	0.095	3.12	72	1.2	-	16.29	-0.23	106	458	74	67
13	2.183	0.177	0.095	3.13	72	1.2	-	16.07	-0.22	107	462	75	67
14	2.358	0.175	0.096	3.14	72	1.1	-	15.85	-0.22	107	463	75	67
15	2.530	0.172	0.095	3.15	72	1.2	-	15.64	-0.21	107	466	75	67
16	2.702	0.172	0.094	3.16	73	1.1	-	15.41	-0.23	108	464	75	67
17	2.876	0.174	0.096	3.17	73	1.2	-	15.19	-0.22	108	464	75	68
18	3.054	0.178	0.096	3.17	73	1.2	-	14.96	-0.23	108	466	76	68
19	3.226	0.172	0.094	3.17	74	1.1	-	14.74	-0.22	109	468	76	68
20	3.400	0.174	0.094	3.19	74	1.2	99	14.51	-0.23	109	469	76	68
21	3.577	0.177	0.094	3.19	74	1.2	-	14.27	-0.24	109	467	76	68
22	3.753	0.176	0.097	3.20	75	1.2	-	14.03	-0.24	109	465	76	67
23	3.925	0.172	0.096	3.20	75	1.2	-	13.80	-0.23	109	460	76	68
24	4.100	0.175	0.095	3.19	75	1.2	-	13.59	-0.21	109	465	76	67
25	4.277	0.177	0.095	3.21	76	1.2	-	13.37	-0.22	108	462	76	68
26	4.454	0.177	0.095	3.22	76	1.3	-	13.18	-0.19	108	464	77	67
27	4.629	0.175	0.097	3.23	76	1.2	-	12.98	-0.20	108	464	77	68
28	4.804	0.175	0.094	3.23	77	1.3	-	12.80	-0.18	108	464	77	68
29	4.982	0.178	0.093	3.24	77	1.3	-	12.60	-0.20	108	462	77	68
30	5.161	0.179	0.096	3.25	77	1.3	101	12.41	-0.19	108	462	77	68
31	5.338	0.177	0.095	3.25	78	1.2	-	12.21	-0.20	108	463	77	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
32	5.513	0.175	0.096	3.26	78	1.3	-	12.02	-0.19	109	463	77	68
33	5.689	0.176	0.095	3.27	78	1.3	-	11.83	-0.19	109	461	77	68
34	5.871	0.182	0.093	3.27	79	1.3	-	11.62	-0.21	108	459	77	68
35	6.049	0.178	0.096	3.27	79	1.3	-	11.43	-0.19	108	458	77	68
36	6.224	0.175	0.094	3.26	79	1.3	-	11.24	-0.19	108	457	77	68
37	6.402	0.178	0.095	3.27	80	1.3	-	11.06	-0.18	108	456	77	68
38	6.579	0.177	0.095	3.27	80	1.3	-	10.89	-0.17	108	455	77	68
39	6.761	0.182	0.095	3.28	80	1.3	-	10.73	-0.16	107	455	77	68
40	6.939	0.178	0.096	3.29	81	1.3	100	10.58	-0.15	107	452	77	68
41	7.115	0.176	0.097	3.29	81	1.3	-	10.44	-0.14	107	449	77	68
42	7.295	0.180	0.097	3.29	81	1.3	-	10.28	-0.16	106	450	77	68
43	7.474	0.179	0.094	3.28	82	1.3	-	10.12	-0.16	106	449	77	69
44	7.654	0.180	0.094	3.30	82	1.3	-	9.96	-0.16	106	448	77	68
45	7.828	0.174	0.096	3.30	82	1.3	-	9.80	-0.16	106	450	77	69
46	8.009	0.181	0.095	3.31	83	1.3	-	9.64	-0.16	106	451	77	69
47	8.190	0.181	0.095	3.30	83	1.3	-	9.47	-0.17	106	449	77	68
48	8.371	0.181	0.095	3.32	83	1.3	-	9.31	-0.16	106	448	78	68
49	8.550	0.179	0.094	3.32	84	1.3	-	9.14	-0.17	107	448	78	68
50	8.728	0.178	0.094	3.32	84	1.3	101	8.98	-0.16	106	448	78	68
51	8.906	0.178	0.094	3.31	84	1.3	-	8.84	-0.14	106	448	78	68
52	9.088	0.182	0.096	3.33	84	1.3	-	8.67	-0.17	106	448	78	69
53	9.270	0.182	0.095	3.32	85	1.3	-	8.52	-0.15	106	447	78	68
54	9.450	0.180	0.094	3.33	85	1.4	-	8.37	-0.15	106	445	78	68
55	9.628	0.178	0.094	3.33	85	1.3	-	8.22	-0.15	106	443	78	68
56	9.808	0.180	0.094	3.32	85	1.3	-	8.07	-0.15	106	445	78	68
57	9.987	0.179	0.095	3.32	86	1.3	-	7.94	-0.13	105	443	78	68
58	10.171	0.184	0.095	3.33	86	1.3	-	7.81	-0.13	105	440	78	68
59	10.352	0.181	0.096	3.34	86	1.3	-	7.68	-0.13	105	436	78	68
60	10.531	0.179	0.097	3.33	86	1.3	101	7.56	-0.12	105	433	78	68
61	10.711	0.180	0.094	3.35	87	1.3	-	7.44	-0.12	105	431	78	68
62	10.892	0.181	0.096	3.34	87	1.3	-	7.32	-0.12	105	429	78	69
63	11.073	0.181	0.095	3.33	87	1.3	-	7.19	-0.13	104	427	78	69

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
64	11.256	0.183	0.094	3.33	87	1.3	-	7.07	-0.12	104	428	78	69
65	11.437	0.181	0.094	3.35	88	1.3	-	6.95	-0.12	104	425	78	69
66	11.616	0.179	0.096	3.35	88	1.3	-	6.84	-0.11	104	422	78	68
67	11.796	0.180	0.096	3.36	88	1.3	-	6.73	-0.11	104	421	78	68
68	11.979	0.183	0.095	3.35	88	1.3	-	6.63	-0.10	104	420	78	69
69	12.163	0.184	0.096	3.35	88	1.3	-	6.50	-0.13	104	416	78	69
70	12.345	0.182	0.094	3.35	89	1.3	101	6.39	-0.11	104	415	78	69
71	12.523	0.178	0.097	3.36	89	1.3	-	6.28	-0.11	104	414	78	68
72	12.704	0.181	0.096	3.35	89	1.4	-	6.16	-0.12	103	417	78	69
73	12.885	0.181	0.094	3.36	89	1.3	-	6.04	-0.12	104	417	78	69
74	13.070	0.185	0.095	3.36	89	1.3	-	5.92	-0.12	103	416	78	69
75	13.252	0.182	0.095	3.35	90	1.3	-	5.80	-0.12	103	418	78	69
76	13.434	0.182	0.096	3.36	90	1.3	-	5.69	-0.11	103	418	78	68
77	13.615	0.181	0.095	3.36	90	1.3	-	5.56	-0.13	103	415	78	68
78	13.795	0.180	0.093	3.38	90	1.3	-	5.45	-0.11	103	416	77	68
79	13.979	0.184	0.094	3.37	90	1.3	-	5.35	-0.10	103	416	78	68
80	14.163	0.184	0.095	3.36	90	1.3	101	5.23	-0.12	103	417	78	69
81	14.345	0.182	0.095	3.36	91	1.3	-	5.12	-0.11	103	417	78	69
82	14.525	0.180	0.096	3.37	91	1.3	-	5.02	-0.10	103	416	78	68
83	14.707	0.182	0.095	3.38	91	1.3	-	4.91	-0.11	103	414	77	69
84	14.890	0.183	0.095	3.37	91	1.3	-	4.80	-0.11	103	416	77	68
85	15.074	0.184	0.095	3.38	91	1.3	-	4.69	-0.11	103	415	77	69
86	15.258	0.184	0.095	3.37	91	1.3	-	4.59	-0.10	102	413	77	69
87	15.441	0.183	0.094	3.38	91	1.3	-	4.48	-0.11	102	409	77	68
88	15.621	0.180	0.096	3.38	92	1.3	-	4.38	-0.10	102	409	78	68
89	15.803	0.182	0.095	3.38	92	1.3	-	4.28	-0.10	102	410	77	68
90	15.987	0.184	0.094	3.38	92	1.3	101	4.18	-0.10	102	412	78	68
91	16.170	0.183	0.094	3.38	92	1.3	-	4.07	-0.11	102	414	78	68
92	16.354	0.184	0.094	3.37	92	1.3	-	3.95	-0.12	102	414	78	68
93	16.541	0.187	0.096	3.37	92	1.4	-	3.84	-0.11	103	417	78	69
94	16.717	0.176	0.094	3.37	92	1.4	-	3.73	-0.11	102	418	78	68
95	16.899	0.182	0.096	3.37	92	1.4	-	3.63	-0.10	102	416	78	69

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
96	17.084	0.185	0.093	3.36	93	1.4	-	3.55	-0.08	102	414	77	69
97	17.267	0.183	0.094	3.38	93	1.4	-	3.46	-0.09	102	414	78	69
98	17.455	0.188	0.095	3.38	93	1.4	-	3.36	-0.10	102	412	77	69
99	17.634	0.179	0.095	3.38	93	1.4	-	3.27	-0.09	102	410	78	68
100	17.814	0.180	0.095	3.37	93	1.4	101	3.19	-0.08	102	408	78	68
101	17.996	0.182	0.094	3.37	93	1.4	-	3.10	-0.09	102	405	78	68
102	18.182	0.186	0.095	3.37	93	1.3	-	3.01	-0.09	102	405	78	68
103	18.366	0.184	0.095	3.37	93	1.4	-	2.94	-0.07	102	403	78	68
104	18.549	0.183	0.095	3.38	93	1.3	-	2.86	-0.08	101	400	77	68
105	18.729	0.180	0.095	3.35	94	1.4	-	2.78	-0.08	101	397	77	68
106	18.915	0.186	0.095	3.34	94	1.4	-	2.71	-0.07	101	396	77	69
107	19.094	0.179	0.097	3.36	94	1.4	-	2.64	-0.07	101	394	77	69
108	19.282	0.188	0.095	3.36	94	1.4	-	2.56	-0.08	101	392	77	69
109	19.465	0.183	0.094	3.36	94	1.4	-	2.49	-0.07	100	390	77	69
110	19.646	0.181	0.095	3.36	94	1.4	101	2.43	-0.06	100	389	77	68
111	19.827	0.181	0.097	3.34	94	1.4	-	2.36	-0.07	100	388	77	68
112	20.009	0.182	0.096	3.34	94	1.4	-	2.29	-0.07	100	387	77	69
113	20.193	0.184	0.096	3.36	94	1.4	-	2.22	-0.07	100	385	77	68
114	20.375	0.182	0.096	3.35	94	1.4	-	2.15	-0.07	100	385	77	68
115	20.559	0.184	0.095	3.35	95	1.4	-	2.09	-0.06	100	384	77	69
116	20.741	0.182	0.095	3.36	95	1.4	-	2.03	-0.06	100	383	77	69
117	20.923	0.182	0.096	3.35	95	1.4	-	1.98	-0.05	99	382	77	69
118	21.105	0.182	0.095	3.34	95	1.4	-	1.92	-0.06	99	380	77	69
119	21.287	0.182	0.094	3.36	95	1.4	-	1.87	-0.05	99	378	77	69
120	21.475	0.188	0.095	3.36	95	1.4	100	1.82	-0.05	99	378	77	68
121	21.657	0.182	0.095	3.36	95	1.4	-	1.77	-0.05	99	376	77	69
122	21.839	0.182	0.096	3.36	95	1.4	-	1.72	-0.05	99	375	77	69
123	22.020	0.181	0.096	3.36	95	1.4	-	1.67	-0.05	98	372	77	68
124	22.203	0.183	0.095	3.35	95	1.4	-	1.63	-0.04	98	370	77	69
125	22.386	0.183	0.094	3.36	95	1.4	-	1.58	-0.05	98	369	77	68
126	22.570	0.184	0.094	3.36	95	1.4	-	1.54	-0.04	98	368	77	69
127	22.755	0.185	0.097	3.36	95	1.4	-	1.50	-0.04	98	367	77	69

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
128	22.938	0.183	0.094	3.36	95	1.4	-	1.46	-0.04	98	366	77	68
129	23.119	0.181	0.094	3.36	95	1.4	-	1.44	-0.02	98	367	77	69
130	23.302	0.183	0.096	3.36	95	1.4	99	1.39	-0.05	98	367	77	69
131	23.485	0.183	0.095	3.37	96	1.4	-	1.36	-0.03	98	365	77	68
132	23.669	0.184	0.094	3.35	96	1.4	-	1.32	-0.04	98	367	77	68
133	23.855	0.186	0.095	3.36	96	1.4	-	1.28	-0.04	98	364	77	68
134	24.037	0.182	0.097	3.35	96	1.4	-	1.25	-0.03	98	364	77	69
135	24.218	0.181	0.096	3.35	96	1.3	-	1.21	-0.04	98	361	77	68
136	24.401	0.183	0.095	3.37	96	1.4	-	1.17	-0.04	98	363	77	68
137	24.584	0.183	0.095	3.37	96	1.4	-	1.13	-0.04	98	360	77	68
138	24.768	0.184	0.095	3.36	96	1.4	-	1.10	-0.03	98	361	77	69
139	24.954	0.186	0.095	3.36	96	1.4	-	1.06	-0.04	97	359	77	68
140	25.137	0.183	0.096	3.36	96	1.4	99	1.02	-0.04	97	359	77	68
141	25.318	0.181	0.094	3.35	96	1.4	-	0.99	-0.03	97	358	77	68
142	25.501	0.183	0.095	3.36	96	1.4	-	0.95	-0.04	97	358	77	68
143	25.684	0.183	0.095	3.37	96	1.4	-	0.91	-0.04	97	359	77	68
144	25.868	0.184	0.094	3.37	96	1.4	-	0.88	-0.03	97	356	77	68
145	26.051	0.183	0.096	3.37	96	1.4	-	0.84	-0.04	97	356	77	68
146	26.237	0.186	0.096	3.37	96	1.4	-	0.80	-0.04	98	357	77	68
147	26.419	0.182	0.096	3.36	96	1.4	-	0.76	-0.04	97	356	77	68
148	26.602	0.183	0.094	3.36	96	1.4	-	0.72	-0.04	97	357	77	68
149	26.782	0.180	0.094	3.37	96	1.4	-	0.69	-0.03	97	356	77	68
150	26.970	0.188	0.094	3.37	96	1.4	100	0.64	-0.05	97	356	77	68
151	27.155	0.185	0.095	3.36	96	1.4	-	0.61	-0.03	97	355	77	68
152	27.335	0.180	0.096	3.36	96	1.4	-	0.56	-0.05	97	356	77	68
153	27.522	0.187	0.095	3.36	97	1.4	-	0.52	-0.04	97	354	77	68
154	27.704	0.182	0.095	3.37	97	1.4	-	0.48	-0.04	97	352	77	68
155	27.887	0.183	0.095	3.37	97	1.4	-	0.43	-0.05	97	352	77	68
156	28.069	0.182	0.096	3.37	97	1.4	-	0.38	-0.05	97	353	77	68
157	28.257	0.188	0.096	3.37	97	1.4	-	0.35	-0.03	97	351	77	68
158	28.437	0.180	0.096	3.36	97	1.4	-	0.31	-0.04	97	351	77	68
159	28.624	0.187	0.095	3.36	97	1.4	-	0.29	-0.02	97	352	77	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
160	28.806	0.182	0.096	3.36	97	1.4	100	0.25	-0.04	97	353	77	68
161	28.988	0.182	0.096	3.37	97	1.4	-	0.21	-0.04	97	352	77	68
162	29.174	0.186	0.095	3.38	97	1.4	-	0.17	-0.04	97	352	77	68
163	29.358	0.184	0.096	3.37	97	1.4	-	0.13	-0.04	97	351	77	68
164	29.543	0.185	0.096	3.37	97	1.4	-	0.10	-0.03	97	350	77	68
165	29.727	0.184	0.096	3.36	97	1.4	-	0.07	-0.03	97	352	77	68
166	29.907	0.180	0.096	3.36	97	1.4	-	0.03	-0.04	97	352	77	68
167	30.087	0.180	0.096	3.37	97	1.4	99	0.00	-0.03	97	350	77	68
Avg/Tot	30.087	0.180	0.095	3.29	87.7	1.3	100			102.5	408.7	76.8	68.1

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
0	-0.002		0.18	70	0.9		72	-0.071	6.71	0.060
1	0.123	0.125	3.11	70	2.0	-	76	-0.075	3.72	0.218
2	0.291	0.168	3.09	70	1.9	-	76	-0.077	8.86	0.009
3	0.462	0.171	3.09	70	1.8	-	76	-0.078	10.97	0.037
4	0.634	0.172	3.09	70	1.8	-	76	-0.080	11.07	0.062
5	0.804	0.170	3.09	70	1.8	-	76	-0.079	11.52	0.170
6	0.969	0.165	3.09	71	2.1	-	76	-0.081	12.28	0.300
7	1.143	0.174	3.08	71	1.9	-	76	-0.082	12.65	0.390
8	1.313	0.170	3.10	71	2.0	-	77	-0.083	12.86	0.448
9	1.478	0.165	3.09	71	2.0	-	77	-0.083	12.96	0.480
10	1.651	0.173	3.09	71	2.2	98	77	-0.084	13.12	0.564
11	1.823	0.172	3.09	71	2.0	-	77	-0.084	13.68	0.742
12	1.990	0.167	3.09	72	1.7	-	77	-0.085	14.05	0.755
13	2.161	0.171	3.08	72	2.1	-	77	-0.084	14.05	0.709
14	2.333	0.172	3.09	72	2.1	-	78	-0.084	13.95	0.973
15	2.503	0.170	3.09	72	1.8	-	78	-0.085	14.04	0.866
16	2.671	0.168	3.07	73	2.2	-	78	-0.085	14.47	0.860
17	2.838	0.167	3.07	73	1.9	-	78	-0.085	14.54	0.825
18	3.013	0.175	3.07	73	1.9	-	78	-0.084	14.53	1.085
19	3.184	0.171	3.08	73	2.3	-	78	-0.085	14.77	1.213
20	3.351	0.167	3.06	74	1.7	101	78	-0.085	14.89	1.477
21	3.523	0.172	3.07	74	1.9	-	79	-0.085	14.50	1.737
22	3.693	0.170	3.07	74	1.7	-	79	-0.085	15.02	1.907
23	3.861	0.168	3.04	75	1.9	-	79	-0.085	14.66	2.103
24	4.031	0.170	3.05	75	2.1	-	79	-0.084	14.80	1.806
25	4.203	0.172	3.05	75	2.3	-	79	-0.083	14.53	1.297
26	4.373	0.170	3.06	76	2.3	-	79	-0.083	14.35	0.951
27	4.541	0.168	3.05	76	2.3	-	79	-0.084	14.22	0.661
28	4.712	0.171	3.06	76	2.2	-	79	-0.085	14.31	0.561
29	4.884	0.172	3.06	77	1.7	-	79	-0.085	14.62	0.661
30	5.051	0.167	3.04	77	2.1	101	79	-0.084	15.04	0.855
31	5.222	0.171	3.06	77	1.8	-	79	-0.084	14.80	0.937

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
32	5.394	0.172	3.05	78	1.8	-	79	-0.084	14.84	1.106
33	5.563	0.169	3.06	78	2.3	-	79	-0.085	14.91	1.354
34	5.734	0.171	3.06	79	2.1	-	79	-0.083	15.05	1.615
35	5.905	0.171	3.05	79	1.8	-	79	-0.082	14.76	1.668
36	6.077	0.172	3.06	79	1.7	-	79	-0.083	14.72	1.425
37	6.246	0.169	3.05	80	2.2	-	80	-0.082	14.46	1.179
38	6.412	0.166	3.05	80	2.3	-	79	-0.081	14.19	0.946
39	6.587	0.175	3.06	80	2.1	-	80	-0.081	13.97	0.822
40	6.760	0.173	3.05	81	2.0	100	80	-0.082	14.15	0.483
41	6.928	0.168	3.05	81	1.8	-	80	-0.082	13.82	0.261
42	7.100	0.172	3.07	81	2.3	-	80	-0.082	14.11	0.331
43	7.273	0.173	3.07	81	1.8	-	80	-0.080	14.00	0.482
44	7.444	0.171	3.06	82	2.2	-	80	-0.084	14.00	0.455
45	7.610	0.166	3.06	82	1.9	-	79	-0.081	14.06	0.754
46	7.786	0.176	3.06	82	1.9	-	80	-0.081	14.10	1.162
47	7.958	0.172	3.07	83	1.9	-	80	-0.081	14.32	1.112
48	8.128	0.170	3.07	83	2.3	-	80	-0.081	14.24	1.051
49	8.299	0.171	3.06	83	2.3	-	80	-0.082	13.85	1.065
50	8.472	0.173	3.06	84	2.3	101	80	-0.083	13.94	1.024
51	8.645	0.173	3.07	84	1.9	-	80	-0.081	13.96	1.030
52	8.815	0.170	3.07	84	1.8	-	80	-0.081	14.03	0.916
53	8.987	0.172	3.07	84	1.8	-	80	-0.081	13.88	0.830
54	9.160	0.173	3.07	85	2.0	-	80	-0.082	14.15	0.822
55	9.333	0.173	3.07	85	1.8	-	80	-0.080	13.62	0.631
56	9.504	0.171	3.09	85	1.8	-	80	-0.080	13.36	0.500
57	9.674	0.170	3.08	86	1.8	-	80	-0.080	13.57	0.360
58	9.851	0.177	3.08	86	1.9	-	80	-0.080	13.35	0.258
59	10.024	0.173	3.08	86	2.3	-	80	-0.079	13.04	0.182
60	10.194	0.170	3.08	86	1.9	100	80	-0.079	13.11	0.120
61	10.368	0.174	3.08	87	1.8	-	80	-0.081	12.80	0.070
62	10.542	0.174	3.08	87	1.7	-	80	-0.079	12.81	0.106
63	10.713	0.171	3.08	87	2.3	-	80	-0.079	12.87	0.013

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
64	10.885	0.172	3.08	87	2.3	-	80	-0.077	12.73	0.014
65	11.059	0.174	3.08	88	1.9	-	80	-0.079	12.74	0.010
66	11.233	0.174	3.10	88	2.0	-	80	-0.079	13.18	0.011
67	11.405	0.172	3.09	88	2.3	-	80	-0.079	12.87	0.012
68	11.577	0.172	3.09	88	1.8	-	79	-0.078	12.81	0.009
69	11.751	0.174	3.09	88	1.7	-	80	-0.076	12.44	0.009
70	11.926	0.175	3.10	89	2.3	100	80	-0.078	12.46	0.005
71	12.098	0.172	3.10	89	2.3	-	80	-0.079	12.47	0.006
72	12.270	0.172	3.10	89	2.2	-	80	-0.078	13.12	0.040
73	12.442	0.172	3.10	89	1.8	-	80	-0.079	13.16	0.137
74	12.620	0.178	3.09	89	2.0	-	80	-0.077	12.86	0.128
75	12.792	0.172	3.09	89	1.8	-	80	-0.077	12.90	0.148
76	12.964	0.172	3.09	90	1.9	-	80	-0.079	13.04	0.186
77	13.139	0.175	3.10	90	2.2	-	80	-0.077	13.06	0.139
78	13.314	0.175	3.10	90	1.9	-	80	-0.078	12.86	0.096
79	13.487	0.173	3.10	90	2.3	-	80	-0.076	12.78	0.088
80	13.659	0.172	3.10	90	2.3	100	80	-0.078	12.76	0.104
81	13.834	0.175	3.10	91	1.8	-	80	-0.077	12.65	0.052
82	14.009	0.175	3.11	91	2.2	-	80	-0.077	12.71	0.059
83	14.182	0.173	3.10	91	1.8	-	79	-0.077	12.71	0.055
84	14.354	0.172	3.10	91	2.3	-	79	-0.078	12.60	0.078
85	14.530	0.176	3.09	91	2.1	-	79	-0.077	12.61	0.071
86	14.705	0.175	3.10	91	2.3	-	79	-0.077	12.84	0.089
87	14.879	0.174	3.10	91	2.3	-	79	-0.078	12.96	0.016
88	15.051	0.172	3.10	92	2.0	-	79	-0.075	12.83	0.006
89	15.227	0.176	3.11	92	2.3	-	79	-0.077	12.67	0.005
90	15.403	0.176	3.10	92	2.3	101	79	-0.079	12.66	0.012
91	15.576	0.173	3.11	92	1.9	-	80	-0.079	12.96	0.069
92	15.748	0.172	3.10	92	1.9	-	80	-0.078	13.50	0.161
93	15.925	0.177	3.09	92	2.3	-	80	-0.078	13.57	0.218
94	16.098	0.173	3.09	92	2.3	-	80	-0.079	13.41	0.129
95	16.272	0.174	3.09	92	2.4	-	80	-0.081	13.28	0.033

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
96	16.444	0.172	3.09	93	2.0	-	79	-0.077	12.35	0.028
97	16.619	0.175	3.09	93	1.9	-	79	-0.077	12.34	0.036
98	16.797	0.178	3.09	93	1.8	-	79	-0.077	12.28	0.026
99	16.969	0.172	3.09	93	2.3	-	79	-0.077	12.03	0.019
100	17.141	0.172	3.09	93	1.9	100	79	-0.077	11.81	0.005
101	17.316	0.175	3.09	93	2.3	-	79	-0.077	11.64	0.006
102	17.492	0.176	3.10	93	1.9	-	79	-0.075	11.85	0.004
103	17.666	0.174	3.10	93	1.8	-	79	-0.077	11.40	0.003
104	17.839	0.173	3.09	93	2.0	-	79	-0.077	11.18	0.004
105	18.010	0.171	3.10	94	2.1	-	79	-0.075	11.12	0.003
106	18.192	0.182	3.09	94	1.8	-	79	-0.075	11.07	0.004
107	18.364	0.172	3.10	94	2.3	-	79	-0.074	10.78	0.002
108	18.541	0.177	3.09	94	1.8	-	79	-0.075	10.85	0.003
109	18.714	0.173	3.09	94	2.3	-	79	-0.076	10.81	0.005
110	18.887	0.173	3.09	94	1.8	100	79	-0.075	10.80	0.002
111	19.062	0.175	3.09	94	1.8	-	79	-0.073	10.78	0.003
112	19.236	0.174	3.09	94	1.8	-	79	-0.075	10.63	0.003
113	19.412	0.176	3.08	94	2.4	-	79	-0.074	10.79	0.002
114	19.585	0.173	3.09	94	2.0	-	79	-0.073	10.80	0.003
115	19.761	0.176	3.09	94	2.3	-	79	-0.074	10.80	0.002
116	19.935	0.174	3.09	95	2.4	-	79	-0.074	10.48	0.003
117	20.108	0.173	3.09	95	2.1	-	79	-0.073	10.03	0.001
118	20.284	0.176	3.10	95	2.3	-	79	-0.073	9.78	0.003
119	20.459	0.175	3.10	95	2.0	-	79	-0.073	9.79	0.002
120	20.636	0.177	3.09	95	1.8	100	79	-0.072	9.66	0.002
121	20.806	0.170	3.09	95	2.3	-	79	-0.073	9.43	0.002
122	20.981	0.175	3.09	95	2.1	-	79	-0.074	9.28	0.002
123	21.157	0.176	3.09	95	2.2	-	79	-0.071	9.16	0.002
124	21.332	0.175	3.09	95	2.1	-	79	-0.073	9.13	0.002
125	21.505	0.173	3.09	95	2.1	-	79	-0.072	8.87	0.004
126	21.680	0.175	3.08	95	1.8	-	79	-0.072	9.01	0.002
127	21.856	0.176	3.09	95	1.8	-	79	-0.070	8.75	0.006

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
128	22.031	0.175	3.09	95	2.4	-	79	-0.072	8.94	0.002
129	22.204	0.173	3.09	95	1.8	-	79	-0.072	8.68	0.002
130	22.379	0.175	3.09	95	2.0	99	79	-0.072	8.46	0.003
131	22.556	0.177	3.09	95	1.9	-	79	-0.072	8.68	0.002
132	22.732	0.176	3.10	96	1.9	-	79	-0.069	8.55	0.002
133	22.906	0.174	3.09	95	2.0	-	79	-0.072	8.46	0.003
134	23.079	0.173	3.08	96	2.1	-	79	-0.070	8.46	0.001
135	23.255	0.176	3.08	96	2.2	-	79	-0.068	8.47	0.003
136	23.432	0.177	3.09	96	2.0	-	79	-0.069	8.39	0.002
137	23.606	0.174	3.10	96	2.1	-	79	-0.070	8.55	0.002
138	23.779	0.173	3.10	96	2.3	-	79	-0.071	8.32	0.004
139	23.954	0.175	3.09	96	1.9	-	79	-0.068	8.45	0.002
140	24.130	0.176	3.09	96	1.9	99	79	-0.071	8.28	0.002
141	24.305	0.175	3.09	96	1.8	-	79	-0.069	8.47	0.002
142	24.478	0.173	3.09	96	1.8	-	79	-0.069	8.39	0.001
143	24.653	0.175	3.09	96	2.0	-	79	-0.069	8.08	0.003
144	24.829	0.176	3.09	96	2.1	-	79	-0.068	8.16	0.005
145	25.002	0.173	3.10	96	2.1	-	79	-0.068	8.33	0.002
146	25.178	0.176	3.09	96	2.0	-	79	-0.069	8.32	0.002
147	25.353	0.175	3.09	96	1.9	-	79	-0.070	8.51	0.002
148	25.530	0.177	3.09	96	2.0	-	79	-0.069	8.49	0.002
149	25.703	0.173	3.09	96	2.3	-	79	-0.070	8.66	0.001
150	25.880	0.177	3.10	96	1.9	99	79	-0.068	8.69	0.002
151	26.054	0.174	3.09	96	2.2	-	79	-0.070	8.65	0.002
152	26.227	0.173	3.10	96	2.1	-	79	-0.069	8.54	0.001
153	26.407	0.180	3.10	96	2.0	-	79	-0.071	8.79	0.001
154	26.582	0.175	3.10	96	1.8	-	79	-0.068	8.87	0.004
155	26.754	0.172	3.10	96	1.9	-	79	-0.068	8.86	0.001
156	26.928	0.174	3.10	96	1.8	-	79	-0.069	8.84	0.002
157	27.106	0.178	3.10	96	2.0	-	79	-0.070	8.56	0.004
158	27.278	0.172	3.09	96	1.9	-	79	-0.069	8.39	0.000
159	27.455	0.177	3.09	96	1.8	-	79	-0.069	8.31	0.002

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
160	27.630	0.175	3.09	96	1.8	99	79	-0.071	8.21	0.002
161	27.806	0.176	3.09	96	2.2	-	79	-0.069	8.38	0.001
162	27.983	0.177	3.09	96	2.4	-	79	-0.071	8.26	0.002
163	28.157	0.174	3.09	96	1.9	-	79	-0.068	8.34	0.001
164	28.331	0.174	3.09	96	1.8	-	79	-0.068	8.31	0.001
165	28.508	0.177	3.09	96	2.3	-	79	-0.068	8.17	0.002
166	28.684	0.176	3.09	97	2.2	-	79	-0.069	8.17	0.002
167	28.856	0.172	3.09	97	1.9	99	78	-0.070	8.18	0.001
Avg/Tot	28.858	0.173	3.07	87.6	2.0	100	78.8	-0.077	11.65	0.311

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
0	-0.003		0.08	70	0.7		70
1	0.112	0.115	0.92	69	1.6	-	70
2	0.247	0.135	0.91	69	1.5	-	70
3	0.384	0.137	0.93	69	1.7	-	71
4	0.519	0.135	0.92	70	1.6	-	71
5	0.657	0.138	0.93	70	1.7	-	71
6	0.790	0.133	0.93	70	1.7	-	71
7	0.931	0.141	0.94	70	1.8	-	71
8	1.067	0.136	0.93	70	1.7	-	71
9	1.203	0.136	0.94	70	1.8	-	72
10	1.343	0.140	0.94	71	1.7	97	72
11	1.482	0.139	0.95	71	1.8	-	72
12	1.617	0.135	0.94	71	1.6	-	72
13	1.758	0.141	0.95	71	1.7	-	72
14	1.896	0.138	0.95	72	1.6	-	72
15	2.034	0.138	0.95	72	1.7	-	73
16	2.174	0.140	0.95	72	1.8	-	73
17	2.309	0.135	0.94	72	1.7	-	73
18	2.451	0.142	0.95	72	1.6	-	73
19	2.588	0.137	0.94	72	1.6	-	73
20	2.727	0.139	0.95	73	1.8	100	73
21	2.865	0.138	0.94	73	1.7	-	73
22	3.002	0.137	0.94	73	1.6	-	73
23	3.141	0.139	0.95	74	1.6	-	74
24	3.279	0.138	0.93	74	1.6	-	74
25	3.418	0.139	0.95	74	1.8	-	74
26	3.555	0.137	0.94	74	1.6	-	74
27	3.694	0.139	0.95	75	1.6	-	74
28	3.833	0.139	0.94	75	1.8	-	74
29	3.971	0.138	0.95	75	1.8	-	74
30	4.111	0.140	0.95	76	1.7	100	74
31	4.249	0.138	0.94	76	1.8	-	74

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
32	4.390	0.141	0.96	76	1.6	-	74
33	4.526	0.136	0.95	76	1.8	-	74
34	4.667	0.141	0.96	77	1.7	-	74
35	4.809	0.142	0.96	77	1.7	-	74
36	4.948	0.139	0.96	77	1.6	-	74
37	5.088	0.140	0.96	77	1.7	-	75
38	5.227	0.139	0.96	78	1.6	-	75
39	5.369	0.142	0.96	78	1.6	-	75
40	5.510	0.141	0.97	79	1.8	100	75
41	5.652	0.142	0.97	79	1.6	-	75
42	5.792	0.140	0.96	80	1.8	-	75
43	5.933	0.141	0.97	80	1.6	-	75
44	6.076	0.143	0.98	80	1.9	-	75
45	6.214	0.138	0.97	80	1.8	-	75
46	6.357	0.143	0.97	80	1.9	-	75
47	6.501	0.144	0.98	80	1.8	-	75
48	6.642	0.141	0.97	80	1.9	-	75
49	6.783	0.141	0.97	81	1.7	-	75
50	6.926	0.143	0.98	81	1.7	101	75
51	7.068	0.142	0.98	82	1.8	-	75
52	7.210	0.142	0.97	81	1.9	-	75
53	7.352	0.142	0.98	82	1.7	-	75
54	7.496	0.144	0.99	82	1.7	-	75
55	7.638	0.142	0.98	82	1.6	-	75
56	7.780	0.142	0.98	82	1.8	-	75
57	7.920	0.140	0.99	82	1.7	-	75
58	8.067	0.147	0.99	83	1.7	-	75
59	8.210	0.143	0.99	83	1.9	-	75
60	8.352	0.142	0.98	83	1.6	101	75
Avg/Tot	8.355	0.139	0.94	75.8	1.7	100	73.5

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 28

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	604	638	294	473	574	516.5	790.7
1	594	626	288	469	573	510.2	765.9
2	581	611	280	470	456	479.4	871.0
3	568	595	271	475	402	462.0	928.0
4	555	582	263	481	373	450.5	959.2
5	543	570	256	489	355	442.4	999.9
6	533	560	250	498	347	437.6	1033.7
7	523	551	245	509	340	433.5	1057.5
8	516	543	241	519	338	431.3	1071.7
9	509	537	238	528	336	429.7	1087.0
10	504	532	236	538	333	428.4	1106.9
11	499	528	234	549	330	427.9	1127.2
12	495	525	233	559	329	428.0	1138.9
13	492	523	232	568	329	428.9	1152.4
14	490	522	232	577	327	429.4	1161.9
15	488	522	231	586	328	430.9	1167.8
16	487	522	231	593	328	432.2	1167.6
17	487	523	232	599	337	435.3	1170.7
18	487	524	233	605	348	439.2	1179.6
19	488	525	234	610	354	442.3	1182.6
20	489	528	236	615	346	442.8	1181.0
21	491	531	238	617	349	445.3	1172.4
22	493	535	239	621	347	447.0	1179.4
23	496	538	240	623	343	448.1	1177.7
24	499	542	241	627	343	450.4	1179.0
25	503	545	242	630	383	460.5	1185.6
26	506	549	242	632	458	477.3	1182.2
27	509	552	243	634	542	496.1	1178.9
28	513	555	244	636	541	497.8	1176.2
29	517	559	245	638	540	499.8	1176.5
30	521	563	247	639	539	501.8	1169.1
31	526	567	250	639	538	503.9	1161.5
32	531	572	252	639	537	505.9	1156.1
33	535	576	255	639	535	508.0	1143.1
34	540	581	257	637	534	509.8	1122.0
35	545	586	260	634	533	511.7	1120.6
36	549	591	260	635	532	513.3	1145.5
37	554	595	260	636	531	515.0	1152.4
38	558	600	259	637	530	516.7	1142.9
39	562	605	259	637	529	518.4	1139.8
40	567	611	259	636	528	520.2	1127.1
41	571	618	260	634	527	522.1	1100.8
42	575	626	262	632	526	524.0	1099.2
43	579	633	263	631	525	526.0	1109.7
44	583	640	265	629	523	527.8	1112.6
45	588	647	265	627	522	529.8	1077.8
46	594	653	266	624	521	531.4	1060.9
47	600	659	267	621	519	533.3	1061.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 28

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	606	664	269	620	518	535.1	1064.3
49	612	669	270	618	516	537.0	1066.0
50	617	674	271	618	515	538.9	1071.1
51	622	677	272	616	514	540.4	1067.2
52	627	680	273	616	513	542.0	1068.4
53	633	683	275	616	512	543.5	1073.0
54	637	684	276	615	511	544.8	1077.9
55	642	685	277	615	511	546.1	1076.6
56	647	686	279	614	510	547.2	1073.9
57	652	687	281	612	509	548.2	1059.8
58	656	688	283	609	509	548.9	1048.1
59	660	688	284	605	509	549.2	1038.6
60	663	689	285	602	508	549.6	1034.9
61	665	691	286	600	508	549.9	1031.3
62	665	693	286	597	508	549.8	1026.9
63	666	695	286	594	508	549.9	1021.4
64	667	698	287	591	508	550.5	1022.1
65	668	701	288	589	508	550.8	1018.7
66	669	704	288	587	508	551.2	1011.7
67	669	706	288	585	508	551.2	1010.0
68	669	708	288	583	508	551.1	1006.9
69	669	709	288	580	508	550.7	992.6
70	669	708	289	577	508	550.3	983.5
71	670	707	290	574	508	549.7	982.7
72	671	706	291	573	507	549.5	1002.2
73	672	704	293	572	507	549.6	1007.5
74	673	703	294	572	507	549.7	1013.8
75	675	701	295	572	507	549.9	1015.1
76	677	699	296	571	507	550.0	1015.5
77	679	698	296	571	507	550.1	1019.7
78	681	697	297	571	484	546.0	1029.7
79	682	695	296	572	507	550.4	1036.5
80	683	694	297	571	507	550.4	1027.6
81	684	693	297	571	507	550.4	1032.6
82	685	692	297	572	507	550.5	1029.7
83	686	691	298	570	507	550.4	1024.8
84	687	690	299	569	507	550.5	1019.9
85	687	690	300	568	507	550.4	1017.4
86	688	690	300	567	508	550.6	1024.0
87	687	690	301	568	508	550.8	1018.0
88	687	691	301	567	508	550.6	1006.4
89	686	692	302	567	508	550.8	1006.5
90	685	692	302	568	508	550.9	1020.1
91	684	692	303	570	509	551.4	1044.0
92	684	694	304	572	509	552.5	1043.1
93	684	697	305	574	509	554.0	1045.8
94	684	700	307	577	510	555.4	1049.2
95	684	702	308	577	510	556.1	1038.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 28

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	683	704	309	576	511	556.4	1012.6
97	681	706	310	574	511	556.4	992.9
98	680	707	311	572	512	556.2	983.3
99	679	706	312	569	513	555.8	977.2
100	679	705	314	566	514	555.4	972.8
101	678	702	316	564	514	554.9	968.3
102	678	701	317	561	515	554.4	958.4
103	678	699	319	557	516	553.9	949.1
104	677	697	321	554	517	553.1	943.1
105	676	694	322	550	519	552.2	932.2
106	675	692	323	547	520	551.3	925.5
107	674	689	324	543	521	550.1	920.1
108	672	687	325	540	522	549.0	921.8
109	670	684	325	538	523	547.9	923.3
110	667	681	326	535	524	546.7	918.6
111	664	679	327	532	525	545.4	911.4
112	661	677	327	529	526	544.1	903.8
113	658	675	328	526	527	543.0	900.5
114	656	673	329	524	528	542.0	897.7
115	654	672	331	521	529	541.3	890.5
116	652	670	333	518	530	540.4	884.3
117	652	668	334	515	531	539.8	873.2
118	651	665	335	512	531	538.9	862.8
119	651	663	336	508	532	537.8	852.5
120	650	660	335	505	533	536.5	846.1
121	648	658	335	501	534	535.0	842.8
122	645	655	334	497	535	533.3	840.2
123	642	653	332	494	536	531.4	840.7
124	638	650	330	492	537	529.3	838.6
125	633	648	328	489	538	527.1	837.2
126	629	646	325	487	538	524.7	836.5
127	624	643	321	484	539	522.3	832.2
128	620	641	318	481	540	519.9	829.4
129	616	639	314	478	446	498.6	826.8
130	612	636	311	475	415	490.0	811.9
131	608	635	308	472	403	485.2	799.9
132	605	633	305	469	401	482.4	789.6
133	601	631	303	465	385	477.0	781.5
134	598	629	300	461	387	475.0	776.3
135	594	628	298	458	393	474.1	772.3
136	591	627	296	455	403	474.2	767.9
137	588	625	294	452	401	472.1	763.3
138	585	624	293	449	353	460.9	760.2
139	583	623	291	446	344	457.5	757.4
140	580	622	290	444	333	453.8	755.9
141	578	620	289	441	334	452.4	754.4
142	576	618	288	439	333	450.9	753.5
143	574	617	288	436	335	449.9	752.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 28

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	573	615	287	435	338	449.4	750.1
145	572	613	286	432	344	449.5	747.2
146	572	611	286	430	358	451.4	742.4
147	572	609	286	428	357	450.3	737.6
148	573	607	287	426	359	450.5	734.4
149	575	606	287	424	390	456.2	731.0
150	577	604	288	422	374	453.0	727.5
151	580	602	289	420	367	451.6	726.3
152	582	601	291	418	353	449.0	724.5
153	585	599	292	416	364	451.2	723.7
154	588	597	293	415	338	446.1	723.2
155	590	596	295	413	378	454.3	722.0
156	592	595	297	412	555	490.3	719.6
157	593	594	299	411	559	491.3	717.4
158	594	593	301	410	560	491.4	719.2
159	594	592	302	409	561	491.5	721.0
160	593	592	302	408	561	491.2	722.4
161	593	591	303	407	562	490.9	722.7
162	592	590	303	406	563	490.7	723.4
163	591	589	303	406	563	490.2	721.8
164	590	588	303	405	564	489.8	720.3
165	589	587	303	405	564	489.2	719.9
166	588	586	302	404	564	488.8	719.2
167	586	585	302	403	565	488.1	719.5
Average	608.5	635.5	287.1	540.3	474.0	509.1	961.3

LAB SAMPLE DATA - ASTM E2515

Client: Blaze King
Model: PE32
Run #: 3

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00923	230.8	235.0	4.2
	B	G00924	240.5	244.1	3.6
	C - 1st Hour	G00925	239.8	242.4	2.6
	Amb	G00926	241.2	241.3	0.1
Probes	**A**	5A	116757.5	116757.5	0.0
	B	5B	116875.7	116875.9	0.2
	C - 1st Hour	5C	115855.3	115855.4	0.1
O-rings	**A**	5A	3536.5	3536.5	0.0
	B	5B	3532.4	3532.8	0.4
	C - 1st Hour	5C	3376.8	3377.3	0.5

Placed in Dessicator on:	3/6/2024 15:00

Balance Audit (mg):		200.0		200.0		200.0			
		Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time
Filters	**A**	234.9	3/7 16:00	235.0	3/8 8:00				
	B	244.2	3/7 16:00	244.1	3/8 8:00				
	C - 1st Hour	242.4	3/7 16:00	242.4	3/8 8:00				
	Amb	241.4	3/7 16:00	241.3	3/8 8:00				
Probes	**A**	116757.5	3/7 16:00	116757.5	3/8 8:00				
	B	116875.8	3/7 16:00	116875.9	3/8 8:00				
	C - 1st Hour	115855.5	3/7 16:00	115855.4	3/8 8:00				
O-Rings	**A**	3536.5	3/7 16:00	3536.5	3/8 8:00				
	B	3532.5	3/7 16:00	3532.9	3/8 8:00	3532.8	3/8 17:00		
	C - 1st Hour	3377.0	3/7 16:00	3377.4	3/8 8:00	3377.3	3/8 17:00		

Train A Aggregate, mg:	**4.2**
Train B Aggregate, mg:	**4.2**
Train C Aggregate, mg:	**3.2**
Ambient, mg:	**0.1**

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 3 Test Date: 3/6/24

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Knob fully open
Targeted Burn Category: IV

Preburn Notes

Time	Notes
	-None-

Test Notes
Test Burn Start Time: 12:02 Test Fuel Loaded by: 25 seconds
Door Closed: 35 seconds Air Control Set at: 0 seconds
Other Loading Notes: Bypass open @ 0 sec, closed @ 35 sec, fan on high @0 sec

Time	Notes
	-None-

Test Burn End Time: 14:49

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 16.98 CO (%): 4.300
Mid Gas CO_2 (%): 10.09 CO (%): 2.530

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	9:36	9:37	9:38	16:32	16:33	16:34
CO_2	0.00	16.98	10.10	-0.06	16.95	10.12
CO	0.000	4.300	2.536	-0.037	4.241	2.493

Flue Gas Probe Leak Check: Initial: No Leakage Final: No Leakage

Technician Signature: Date: 3/18/24

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 3 Test Date: 3/6/24

Test Fuel Front/Side View

Test Fuel Iso View

Test Fuel Loaded in Stove

Air Setting

Technician Signature: Date: 3/18/24

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 4 Test Date: 3/6/24

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Knob open 45º
Targeted Burn Category: III

Preburn Notes

Time	Notes
	-None-

Test Notes

Test Burn Start Time: 18:53 Test Fuel Loaded by: 30 seconds
Door Closed: 35 seconds Air Control Set at: 0 seconds
Other Loading Notes: Bypass open @ 0 sec, closed @ 35 sec, fan on medium high @ 0 sec

Time	Notes
	-None-

Test Burn End Time: 23:04

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 16.98 CO (%): 4.300
Mid Gas CO_2 (%): 10.09 CO (%): 2.530

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	16:32	16:33	16:34	3/7 08:26	3/7 08:28	3/7 08:29
CO_2	-0.06	16.95	10.12	-0.09	17.03	10.16
CO	-0.037	4.241	2.493	0.007	4.282	2.524

Flue Gas Probe Leak Check: Initial: No Leakage Final: No Leakage

Technician Signature: Date: 3/18/24

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 4 Test Date: 3/6/24

Test Fuel Front/Side View

Test Fuel Iso View

Test Fuel Loaded in Stove

Air Setting

Technician Signature: Date: 3/18/24

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 4 Data Summary

Client:	Blaze King
Model:	PE32
Job #:	24-273
Tracking #:	183
Test Date:	3/6/2024

Techician Signature

5/3/2024
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Burn Rate (kg/hr):	1.66

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	22.330	46.282	44.826	8.616
Average Gas Velocity in Dilution Tunnel (ft/sec)	19.8			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	13257.7			
Average Gas Meter Temperature (°F)	66.5	91.0	91.0	77.7
Total Sample Volume (dscf)	22.717	44.965	43.578	8.527
Average Tunnel Temperature (°F)	86.3			
Total Time of Test (min)	251			
Total Particulate Catch (mg)	0.1	3.0	2.8	1.6
Particulate Concentration, dry-standard (g/dscf)	0.0000044	0.0000667	0.0000643	0.0001876
Total PM Emissions (g)	0.24	3.46	3.32	2.43
Particulate Emission Rate (g/hr)	0.06	0.83	0.79	2.43
Emissions Factor (g/kg)	-	0.50	0.48	-
Difference from Average Total Particulate Emissions (g)	-	0.07	0.07	-
Difference from Average Total Particulate Emissions (%)	-	2.0%	2.0%	
Difference from Average Emissions Factor (g/kg)	-	0.01	0.01	-

Final Average Results	
Total Particulate Emissions (g)	3.39
Particulate Emission Rate (g/hr)	0.81
Emissions Factor (g/kg)	0.49
HHV Efficiency (%)	79.8%
LHV Efficiency (%)	86.2%
CO Emissions (g/min)	0.72

Quality Checks	Requirement	Observed	Result
Dual Train Precision	Each train within 7.5% of average emissions (in grams), or emission factors within 0.5 g/kg	See Above	OK
Filter Temps	<90 °F	76.5	OK
Face Velocity	< 30 ft/min	10.3	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:64.9/Max:67.8	OK
Negative Probe Weight Evaluation	<5% of Total Catch	Probe Catch Not Negative	OK
Pro-Rate Variation	90% of readings between 90-110%; none greater than 120% or less than 80%	See Data Tabs	OK
Stove Surface ΔT	<126°F	2.3	OK

B415.1 Efficiency Results

Manufacturer:	Blaze King
Model:	PE32
Date:	03/06/24
Run:	4
Control #:	24-273
Test Duration:	251
Output Category:	3

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	79.8%	86.2%
Combustion Efficiency	98.2%	98.2%
Heat Transfer Efficiency	81.2%	87.8%

Output Rate (kJ/h)	25,992	24,656	**(Btu/h)**
Burn Rate (kg/h)	1.64	3.62	**(lb/h)**
Input (kJ/h)	32,575	30,901	**(Btu/h)**

Test Load Weight (dry kg)	6.88	15.16	**dry lb**
MC wet (%)	18.00		
MC dry (%)	21.96		
Particulate (g)	3.39		
CO (g)	181		
Test Duration (h)	4.18		

Emissions	**Particulate**	**CO**
g/MJ Output	0.03	1.66
g/kg Dry Fuel	0.49	26.30
g/h	0.81	43.25
g/min	0.01	0.72
lb/MM Btu Output	0.07	3.87

Air/Fuel Ratio (A/F)	10.07

VERSION: **2.4** **4/15/2010**

WOODSTOVE FUEL DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.00	21.5	2x4	17.00	24.4
2x4	17.00	20.9	2x4	17.00	20.3
2x4	17.00	22.7			
2x4	17.00	22.5			
2x4	17.00	23.5			
2x4	17.00	21.4			
2x4	17.00	21.9			
2x4	17.00	21.4			

Total Fuel Weight (lbs): 16.23
Average Moisture (%DB): 22.1

Firebox Volume (ft^3): 2.86
Total 2x4 Crib Weight, with spacers (lbs): 9.37
Total 4x4 Crib Weight, with spacers (lbs): 9.22
Total Wet Fuel Weight, with spacers (lbs): 18.59

Coal Bed Range (20-25%):
Min (lbs): 3.72
Max (lbs): 4.65

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	16.75	3.97	21.6	19.4	22.3	3.28
4x4	16.75	4.43	23.7	23.2	21.9	3.60
2x4	16.75	1.81	21.1	20.0	23.7	1.49
2x4	16.75	2.03	23.3	19.7	20.6	1.67
2x4	16.75	2.12	23.4	23.5	23.1	1.72
2x4	16.75	1.68	20.9	20.5	23.3	1.38

Total Dry Weight, no spacers (lbs): 13.15
Total Dry Weight, with spacers (lbs): 15.34

Spacer Moisture Readings (%DB)

14.3	14.3	14.8					
14.3	15.2	17.7					
18.3	15.5	16.6					
18.5	14.0	18.3					
15.8	13.6	15.2					
18.1	17.8	14.0					
16.7	13.7	17.7					
16.4	18.3	14.3					

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	29.8	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.50	OK
2x4 Fuel Mix	35 - 65 % of total weight	50%	OK

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	Blaze King	Job #:	24-273
Model:	PE32	Tracking #:	183
Run #:	4	Technician:	AK
Test Start Time:	18:53	Date:	3/6/2024

Total Sampling Time (min):	251		
Recording Interval (min):	1		
Meter Box γ Factor:	1.004	(A)	
Meter Box γ Factor:	1.005	(B)	
Meter Box γ Factor:	1.004	(C)	
Meter Box γ Factor:	1.013	(Ambient)	
Induced Draft Check (in. H_2O):	0		
Smoke Capture Check (%):	100%		
Date Flue Pipe Last Cleaned:	3/4/2024		
Test Fuel Scale Audit (lbs)	10.00		
Platform Scale Audit (lbs)	10.0		

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	29.94	30.01	29.98
Relative Humidity (%)	19.3	22.4	
Room Air Velocity (ft/min)	<50	<50	
Pitot Tube Leak Check	0	0	
Ambient Sample Volume:		22.330	ft^3

Sample Train Leak Checks

	Pre-test	Post-test			
(A)	0.000	0.000	cfm @	-7	in. Hg
(B)	0.000	0.000	cfm @	-7	in. Hg
(C)	0.000	0.000	cfm @	-9	in. Hg
(Ambient)	0.000	0.000	cfm @	-12	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

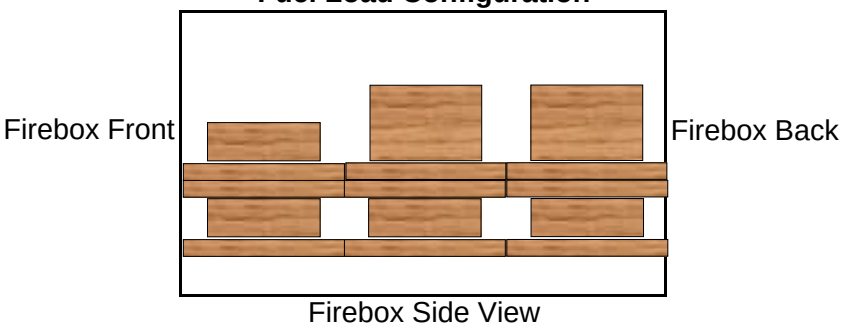
Point	dP (in H_2O)	Temp (°F)
1	0.062	83
2	0.094	83
3	0.096	83
4	0.078	83
5	0.082	83
6	0.098	83
7	0.098	83
8	0.074	83
Center	0.096	83

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	6	inches
Pitot Tube Cp:	0.99	[unitless]
Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Tunnel Area:	0.1963	ft^2
V_{strav}:	19.57	ft/sec
V_{scent}:	20.82	ft/sec
F_p:	0.940	[ratio]
Initial Tunnel Flow:	219.8	scf/min

Static Pressure: -0.170 in. H_2O

TEST FUEL PROPERTIES

Fuel Load Configuration



Actual Fuel Used Properties

Fuel Type:	D. Fir
HHV (kJ/kg)	19,810
%C	48.73
%H	6.87
%O	43.9
%Ash	0.5
MC (%DB)	22.0

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Recording Interval (min): 1
Run Time (min): 78

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
0	8.44	-0.079	582	580	258	561	596	515.2	442	69
1	8.24	-0.080	586	583	259	559	596	516.7	405	69
2	8.08	-0.078	588	586	263	562	596	518.8	383	69
3	7.94	-0.077	589	587	265	565	595	520.0	368	69
4	7.82	-0.073	589	587	266	567	593	520.5	359	69
5	7.70	-0.073	588	585	268	569	591	520.4	351	69
6	7.59	-0.073	588	583	269	571	589	519.9	345	69
7	7.48	-0.070	587	580	271	571	587	519.1	341	69
8	7.35	-0.072	587	577	272	571	585	518.2	338	69
9	7.24	-0.070	586	574	273	569	582	517.1	337	69
10	7.11	-0.071	586	572	274	568	580	516.0	334	69
11	7.00	-0.069	585	570	275	565	578	514.7	331	69
12	6.88	-0.070	585	568	275	565	576	513.6	329	69
13	6.79	-0.069	583	567	274	565	574	512.5	327	69
14	6.68	-0.067	582	565	273	565	571	511.3	325	69
15	6.60	-0.069	580	563	272	566	568	510.0	322	69
16	6.49	-0.068	577	561	272	567	565	508.5	320	68
17	6.41	-0.066	575	559	271	568	563	507.1	319	69
18	6.31	-0.066	573	556	271	568	560	505.7	319	69
19	6.22	-0.066	572	554	271	568	557	504.3	318	69
20	6.14	-0.067	571	552	271	571	554	503.8	317	69
21	6.06	-0.067	570	550	270	577	552	503.6	316	69
22	5.99	-0.065	570	548	269	581	549	503.1	315	69
23	5.91	-0.067	569	545	269	576	546	500.9	313	69
24	5.86	-0.064	567	542	268	573	543	498.6	309	68
25	5.80	-0.065	565	540	267	570	540	496.4	308	68
26	5.72	-0.064	563	538	267	566	537	494.0	306	68
27	5.66	-0.062	560	535	266	563	534	491.6	304	68
28	5.62	-0.063	557	533	266	559	531	489.0	301	68
29	5.57	-0.062	553	530	265	555	528	486.4	300	68
30	5.51	-0.061	550	528	265	552	525	483.8	299	68
31	5.47	-0.061	547	525	264	548	523	481.2	296	68
32	5.42	-0.061	543	522	263	545	520	478.7	294	68
33	5.38	-0.060	540	519	263	542	518	476.5	293	68
34	5.33	-0.060	537	517	263	540	516	474.7	292	68
35	5.29	-0.060	534	515	263	538	514	472.8	292	68
36	5.25	-0.060	531	514	263	536	513	471.2	293	68
37	5.20	-0.061	528	512	263	534	512	469.8	293	68
38	5.16	-0.061	526	512	264	530	511	468.5	293	68
39	5.12	-0.061	524	511	265	526	510	467.2	291	68
40	5.08	-0.060	523	510	266	522	510	466.1	291	68
41	5.05	-0.059	522	510	267	516	510	464.8	291	68
42	5.02	-0.060	521	509	268	511	510	463.6	289	68
43	4.97	-0.058	520	508	268	505	510	462.3	287	68
44	4.94	-0.058	518	507	268	500	511	460.7	285	68

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Recording Interval (min): 1
Run Time (min): 78

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
45	4.90	-0.058	516	505	268	494	511	458.9	285	68
46	4.88	-0.057	513	504	267	490	512	457.2	284	68
47	4.85	-0.059	511	502	266	486	513	455.6	283	68
48	4.82	-0.057	508	500	265	483	514	453.9	283	68
49	4.79	-0.058	505	499	264	479	515	452.3	282	68
50	4.76	-0.056	502	497	263	476	517	451.0	282	68
51	4.73	-0.057	499	496	262	473	519	449.6	282	68
52	4.70	-0.057	497	495	261	471	520	448.6	282	68
53	4.67	-0.058	494	494	260	468	522	447.5	283	68
54	4.64	-0.057	492	492	259	465	524	446.4	281	68
55	4.61	-0.056	491	491	259	462	526	445.5	281	68
56	4.58	-0.057	489	490	258	458	527	444.5	281	68
57	4.55	-0.057	488	488	257	455	529	443.4	282	68
58	4.52	-0.056	487	487	257	452	530	442.4	281	68
59	4.49	-0.058	486	485	256	448	531	441.4	281	68
60	4.45	-0.057	486	484	255	446	533	440.8	282	68
61	4.43	-0.055	486	483	255	443	534	440.1	280	68
62	4.41	-0.057	486	482	255	440	535	439.6	281	68
63	4.36	-0.056	486	481	254	439	537	439.2	282	68
64	4.33	-0.057	485	480	253	437	538	438.6	281	68
65	4.31	-0.057	483	479	252	435	539	437.7	281	68
66	4.27	-0.057	482	478	251	433	540	436.8	282	68
67	4.25	-0.058	481	476	251	432	540	436.0	282	68
68	4.23	-0.058	480	475	250	430	541	435.1	281	68
69	4.19	-0.057	478	475	249	430	541	434.5	282	68
70	4.16	-0.057	477	474	249	428	541	433.7	282	68
71	4.13	-0.055	476	474	248	428	540	433.2	282	67
72	4.09	-0.057	475	473	248	427	541	432.7	284	67
73	4.06	-0.057	475	472	248	426	541	432.3	284	68
74	4.04	-0.057	474	472	248	424	541	431.9	284	67
75	4.00	-0.055	474	472	248	424	541	431.7	283	67
76	3.97	-0.059	474	472	248	422	542	431.5	283	67
77	3.94	-0.056	474	472	248	422	543	431.5	283	68
78	3.91	-0.057	475	472	247	421	543	431.5	284	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
0	0.000		0.098	0.68	74	0.7		18.49		94	305	71	68
1	0.122	0.122	0.095	3.01	74	1.1	-	18.44	-0.05	110	310	73	68
2	0.290	0.168	0.098	3.04	74	1.1	-	18.33	-0.11	98	300	73	68
3	0.466	0.176	0.098	3.05	74	1.1	-	18.24	-0.09	93	301	73	68
4	0.637	0.171	0.097	3.06	74	1.2	-	18.16	-0.08	91	303	73	67
5	0.805	0.168	0.098	3.07	74	1.1	-	18.06	-0.10	90	305	73	68
6	0.980	0.175	0.097	3.08	74	1.1	-	17.96	-0.10	90	308	73	67
7	1.151	0.171	0.098	3.09	74	1.2	-	17.87	-0.09	90	311	73	68
8	1.326	0.175	0.096	3.10	74	1.2	-	17.77	-0.10	90	315	73	68
9	1.492	0.166	0.097	3.10	75	1.1	-	17.67	-0.10	90	316	73	68
10	1.669	0.177	0.098	3.11	75	1.2	94	17.56	-0.11	90	316	73	67
11	1.842	0.173	0.097	3.13	75	1.2	-	17.46	-0.10	90	319	73	67
12	2.013	0.171	0.097	3.14	75	1.2	-	17.34	-0.12	90	322	73	67
13	2.186	0.173	0.097	3.15	75	1.2	-	17.24	-0.10	90	325	74	67
14	2.362	0.176	0.097	3.15	75	1.1	-	17.12	-0.12	91	328	74	67
15	2.538	0.176	0.097	3.16	76	1.2	-	17.01	-0.11	91	330	74	67
16	2.710	0.172	0.095	3.18	76	1.2	-	16.88	-0.13	91	333	74	67
17	2.888	0.178	0.097	3.19	76	1.2	-	16.76	-0.12	91	335	74	67
18	3.065	0.177	0.096	3.21	76	1.2	-	16.63	-0.13	92	338	74	67
19	3.240	0.175	0.097	3.21	77	1.2	-	16.52	-0.11	92	338	74	67
20	3.417	0.177	0.096	3.22	77	1.2	98	16.38	-0.14	92	341	74	67
21	3.589	0.172	0.097	3.22	77	1.2	-	16.26	-0.12	92	339	74	67
22	3.768	0.179	0.096	3.24	78	1.2	-	16.13	-0.13	92	340	74	67
23	3.951	0.183	0.097	3.25	78	1.2	-	15.99	-0.14	92	343	74	67
24	4.128	0.177	0.098	3.26	78	1.2	-	15.85	-0.14	93	346	74	67
25	4.304	0.176	0.097	3.27	78	1.2	-	15.71	-0.14	93	346	74	67
26	4.481	0.177	0.095	3.28	79	1.1	-	15.58	-0.13	93	350	74	67
27	4.659	0.178	0.097	3.28	79	1.2	-	15.43	-0.15	93	351	75	67
28	4.840	0.181	0.097	3.29	79	1.2	-	15.28	-0.15	93	355	75	67
29	5.017	0.177	0.096	3.29	80	1.2	-	15.14	-0.14	93	356	75	67
30	5.195	0.178	0.097	3.29	80	1.2	100	15.00	-0.14	93	359	75	67
31	5.375	0.180	0.095	3.30	80	1.2	-	14.86	-0.14	94	360	75	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
32	5.554	0.179	0.097	3.30	81	1.2	-	14.70	-0.16	94	361	75	67
33	5.734	0.180	0.096	3.32	81	1.2	-	14.57	-0.13	94	363	75	67
34	5.914	0.180	0.097	3.32	81	1.2	-	14.40	-0.17	94	364	75	67
35	6.089	0.175	0.098	3.31	82	1.2	-	14.26	-0.14	94	365	75	67
36	6.271	0.182	0.098	3.33	82	1.2	-	14.12	-0.14	94	365	75	67
37	6.456	0.185	0.097	3.34	82	1.2	-	13.97	-0.15	94	364	75	67
38	6.636	0.180	0.097	3.34	82	1.2	-	13.83	-0.14	94	366	75	67
39	6.815	0.179	0.096	3.33	83	1.2	-	13.69	-0.14	94	366	75	68
40	6.995	0.180	0.096	3.35	83	1.2	101	13.53	-0.16	94	364	75	67
41	7.177	0.182	0.095	3.35	83	1.2	-	13.39	-0.14	94	362	75	67
42	7.359	0.182	0.097	3.36	84	1.2	-	13.25	-0.14	94	362	75	67
43	7.538	0.179	0.097	3.36	84	1.2	-	13.11	-0.14	94	362	75	67
44	7.722	0.184	0.097	3.36	84	1.2	-	12.98	-0.13	94	360	75	67
45	7.899	0.177	0.098	3.36	84	1.2	-	12.84	-0.14	94	358	75	67
46	8.080	0.181	0.098	3.37	85	1.2	-	12.71	-0.13	93	356	75	67
47	8.262	0.182	0.097	3.36	85	1.2	-	12.58	-0.13	93	354	75	67
48	8.447	0.185	0.097	3.37	85	1.2	-	12.45	-0.13	93	352	75	67
49	8.629	0.182	0.096	3.39	85	1.2	-	12.32	-0.13	93	352	75	67
50	8.808	0.179	0.096	3.38	86	1.2	101	12.19	-0.13	93	351	75	67
51	8.989	0.181	0.099	3.38	86	1.2	-	12.06	-0.13	92	350	75	67
52	9.174	0.185	0.097	3.39	86	1.2	-	11.94	-0.12	92	348	75	67
53	9.357	0.183	0.098	3.40	86	1.2	-	11.82	-0.12	92	344	75	67
54	9.540	0.183	0.097	3.38	87	1.2	-	11.69	-0.13	92	345	75	67
55	9.723	0.183	0.098	3.40	87	1.2	-	11.57	-0.12	92	343	75	67
56	9.903	0.180	0.097	3.39	87	1.2	-	11.44	-0.13	92	341	75	67
57	10.085	0.182	0.097	3.39	87	1.2	-	11.33	-0.11	92	342	75	67
58	10.273	0.188	0.099	3.40	88	1.2	-	11.21	-0.12	91	338	75	67
59	10.457	0.184	0.098	3.40	88	1.2	-	11.09	-0.12	91	339	75	67
60	10.638	0.181	0.098	3.40	88	1.2	101	10.98	-0.11	91	339	75	67
61	10.829	0.191	0.097	3.41	88	1.2	-	10.86	-0.12	91	337	75	67
62	11.009	0.180	0.096	3.42	88	1.2	-	10.74	-0.12	91	335	75	67
63	11.189	0.180	0.098	3.41	89	1.2	-	10.62	-0.12	91	335	75	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
64	11.375	0.186	0.096	3.43	89	1.2	-	10.51	-0.11	91	335	75	67
65	11.562	0.187	0.097	3.43	89	1.2	-	10.40	-0.11	91	334	75	67
66	11.748	0.186	0.097	3.42	89	1.2	-	10.28	-0.12	91	334	75	67
67	11.929	0.181	0.097	3.43	89	1.2	-	10.18	-0.10	91	333	75	67
68	12.111	0.182	0.099	3.43	89	1.2	-	10.08	-0.10	90	332	75	67
69	12.298	0.187	0.098	3.43	90	1.2	-	9.95	-0.13	90	332	75	67
70	12.481	0.183	0.096	3.43	90	1.2	101	9.84	-0.11	91	332	75	67
71	12.664	0.183	0.097	3.42	90	1.2	-	9.73	-0.11	90	333	75	67
72	12.851	0.187	0.098	3.43	90	1.2	-	9.61	-0.12	90	332	75	67
73	13.038	0.187	0.096	3.44	90	1.2	-	9.50	-0.11	90	333	75	67
74	13.223	0.185	0.098	3.44	90	1.2	-	9.39	-0.11	90	332	75	67
75	13.402	0.179	0.097	3.44	91	1.2	-	9.26	-0.13	90	331	75	67
76	13.588	0.186	0.097	3.43	91	1.2	-	9.15	-0.11	90	330	75	67
77	13.775	0.187	0.097	3.44	91	1.2	-	9.04	-0.11	90	330	75	67
78	13.961	0.186	0.096	3.46	91	1.2	-	8.93	-0.11	90	330	75	67
79	14.147	0.186	0.097	3.45	91	1.2	-	8.81	-0.12	90	328	75	67
80	14.332	0.185	0.097	3.44	91	1.2	101	8.71	-0.10	90	328	74	67
81	14.515	0.183	0.098	3.44	91	1.2	-	8.62	-0.09	89	328	74	67
82	14.700	0.185	0.097	3.45	92	1.2	-	8.51	-0.11	89	327	74	67
83	14.881	0.181	0.097	3.46	92	1.2	-	8.42	-0.09	89	324	74	67
84	15.068	0.187	0.097	3.45	92	1.3	-	8.32	-0.10	89	324	74	67
85	15.257	0.189	0.098	3.45	92	1.2	-	8.20	-0.12	89	323	74	67
86	15.440	0.183	0.096	3.45	92	1.2	-	8.11	-0.09	89	324	74	67
87	15.626	0.186	0.099	3.46	92	1.2	-	8.00	-0.11	89	322	74	67
88	15.809	0.183	0.098	3.45	92	1.2	-	7.91	-0.09	89	322	74	67
89	15.994	0.185	0.098	3.46	92	1.2	-	7.81	-0.10	89	320	74	67
90	16.179	0.185	0.097	3.47	93	1.2	101	7.72	-0.09	89	319	74	67
91	16.369	0.190	0.096	3.46	93	1.2	-	7.62	-0.10	89	318	74	67
92	16.555	0.186	0.098	3.46	93	1.2	-	7.52	-0.10	88	318	74	67
93	16.743	0.188	0.099	3.45	93	1.2	-	7.41	-0.11	88	318	74	67
94	16.925	0.182	0.098	3.46	93	1.2	-	7.33	-0.08	88	317	74	67
95	17.108	0.183	0.099	3.47	93	1.2	-	7.25	-0.08	88	315	74	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
96	17.294	0.186	0.098	3.47	93	1.2	-	7.17	-0.08	88	314	74	67
97	17.482	0.188	0.098	3.46	93	1.2	-	7.10	-0.07	87	312	74	67
98	17.670	0.188	0.098	3.47	93	1.2	-	7.03	-0.07	87	310	74	67
99	17.856	0.186	0.099	3.48	93	1.2	-	6.96	-0.07	87	308	74	67
100	18.044	0.188	0.098	3.47	93	1.2	101	6.90	-0.06	87	307	74	67
101	18.227	0.183	0.099	3.48	94	1.2	-	6.83	-0.07	87	307	74	67
102	18.414	0.187	0.098	3.47	94	1.2	-	6.75	-0.08	87	304	74	67
103	18.596	0.182	0.098	3.48	94	1.2	-	6.68	-0.07	87	305	74	67
104	18.784	0.188	0.097	3.47	94	1.2	-	6.60	-0.08	86	304	74	67
105	18.969	0.185	0.096	3.46	94	1.2	-	6.54	-0.06	86	303	74	67
106	19.158	0.189	0.099	3.48	94	1.2	-	6.45	-0.09	86	302	74	67
107	19.346	0.188	0.098	3.47	94	1.2	-	6.37	-0.08	86	303	74	67
108	19.532	0.186	0.097	3.48	94	1.2	-	6.30	-0.07	86	303	74	67
109	19.715	0.183	0.097	3.47	94	1.2	-	6.22	-0.08	86	303	74	67
110	19.901	0.186	0.096	3.48	94	1.2	101	6.13	-0.09	86	304	74	67
111	20.088	0.187	0.098	3.47	94	1.2	-	6.05	-0.08	86	303	73	67
112	20.273	0.185	0.098	3.48	94	1.2	-	5.99	-0.06	86	303	73	67
113	20.463	0.190	0.097	3.47	94	1.2	-	5.90	-0.09	86	303	73	67
114	20.648	0.185	0.097	3.49	94	1.2	-	5.84	-0.06	86	302	73	67
115	20.837	0.189	0.099	3.48	94	1.2	-	5.77	-0.07	86	302	73	67
116	21.021	0.184	0.099	3.48	94	1.2	-	5.71	-0.06	86	300	73	67
117	21.205	0.184	0.097	3.49	94	1.2	-	5.65	-0.06	86	300	73	67
118	21.394	0.189	0.098	3.48	95	1.2	-	5.58	-0.07	86	299	73	67
119	21.577	0.183	0.098	3.49	95	1.2	-	5.52	-0.06	86	300	73	67
120	21.768	0.191	0.098	3.48	95	1.2	101	5.45	-0.07	85	299	73	67
121	21.955	0.187	0.097	3.50	95	1.2	-	5.40	-0.05	85	299	73	67
122	22.140	0.185	0.098	3.48	95	1.2	-	5.34	-0.06	85	299	73	67
123	22.330	0.190	0.098	3.49	95	1.2	-	5.26	-0.08	85	299	73	67
124	22.513	0.183	0.098	3.47	95	1.2	-	5.20	-0.06	85	298	73	67
125	22.700	0.187	0.099	3.48	95	1.2	-	5.13	-0.07	85	299	73	67
126	22.887	0.187	0.096	3.48	95	1.2	-	5.06	-0.07	85	300	73	67
127	23.073	0.186	0.098	3.50	95	1.2	-	5.00	-0.06	85	299	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
128	23.258	0.185	0.097	3.48	95	1.2	-	4.93	-0.07	85	300	73	67
129	23.449	0.191	0.097	3.49	95	1.2	-	4.85	-0.08	85	301	73	67
130	23.633	0.184	0.098	3.48	95	1.2	100	4.78	-0.07	85	301	73	67
131	23.821	0.188	0.098	3.48	95	1.2	-	4.70	-0.08	85	303	73	67
132	24.009	0.188	0.096	3.48	95	1.2	-	4.61	-0.09	85	303	73	67
133	24.192	0.183	0.099	3.48	95	1.3	-	4.55	-0.06	85	303	73	67
134	24.378	0.186	0.098	3.48	95	1.2	-	4.48	-0.07	85	303	73	67
135	24.566	0.188	0.099	3.48	95	1.2	-	4.41	-0.07	85	303	73	67
136	24.754	0.188	0.098	3.49	95	1.2	-	4.34	-0.07	85	303	73	67
137	24.946	0.192	0.097	3.50	95	1.2	-	4.27	-0.07	85	303	73	67
138	25.132	0.186	0.097	3.47	95	1.2	-	4.20	-0.07	85	304	73	66
139	25.316	0.184	0.098	3.48	95	1.2	-	4.14	-0.06	85	303	73	66
140	25.501	0.185	0.097	3.51	95	1.2	100	4.07	-0.07	85	302	73	67
141	25.687	0.186	0.098	3.49	95	1.2	-	4.02	-0.05	85	302	73	67
142	25.874	0.187	0.099	3.49	95	1.2	-	3.97	-0.05	85	301	73	67
143	26.065	0.191	0.098	3.49	95	1.2	-	3.90	-0.07	85	302	73	66
144	26.253	0.188	0.098	3.49	95	1.2	-	3.84	-0.06	85	300	73	67
145	26.438	0.185	0.098	3.49	95	1.2	-	3.80	-0.04	85	298	73	66
146	26.624	0.186	0.098	3.49	96	1.2	-	3.74	-0.06	85	297	73	66
147	26.811	0.187	0.098	3.48	96	1.2	-	3.69	-0.05	84	295	72	66
148	26.996	0.185	0.098	3.50	96	1.2	-	3.64	-0.05	84	294	72	66
149	27.183	0.187	0.098	3.48	96	1.2	-	3.57	-0.07	84	295	72	66
150	27.370	0.187	0.097	3.49	96	1.2	101	3.53	-0.04	84	293	72	66
151	27.559	0.189	0.097	3.48	96	1.2	-	3.48	-0.05	84	292	72	66
152	27.749	0.190	0.098	3.50	96	1.2	-	3.43	-0.05	84	292	72	66
153	27.938	0.189	0.099	3.47	96	1.2	-	3.38	-0.05	84	291	72	66
154	28.124	0.186	0.099	3.50	96	1.2	-	3.31	-0.07	84	291	72	66
155	28.308	0.184	0.099	3.50	96	1.2	-	3.26	-0.05	84	291	72	66
156	28.493	0.185	0.098	3.50	96	1.2	-	3.20	-0.06	84	291	72	66
157	28.683	0.190	0.099	3.49	96	1.2	-	3.13	-0.07	84	291	72	66
158	28.870	0.187	0.097	3.49	96	1.2	-	3.09	-0.04	84	289	72	66
159	29.059	0.189	0.097	3.49	96	1.2	-	3.03	-0.06	84	288	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
160	29.246	0.187	0.099	3.51	96	1.2	100	2.98	-0.05	84	287	72	66
161	29.431	0.185	0.097	3.49	96	1.2	-	2.92	-0.06	84	287	72	66
162	29.619	0.188	0.097	3.49	96	1.2	-	2.88	-0.04	84	286	72	66
163	29.808	0.189	0.099	3.48	96	1.2	-	2.82	-0.06	83	285	72	66
164	29.993	0.185	0.098	3.49	96	1.2	-	2.77	-0.05	83	283	72	66
165	30.176	0.183	0.098	3.49	96	1.2	-	2.71	-0.06	83	283	72	66
166	30.366	0.190	0.098	3.49	96	1.2	-	2.68	-0.03	83	283	72	66
167	30.553	0.187	0.097	3.49	96	1.2	-	2.63	-0.05	83	281	72	66
168	30.744	0.191	0.097	3.49	96	1.2	-	2.58	-0.05	83	281	72	66
169	30.933	0.189	0.099	3.49	96	1.2	-	2.54	-0.04	83	279	72	66
170	31.117	0.184	0.100	3.50	96	1.2	99	2.50	-0.04	83	279	72	66
171	31.306	0.189	0.096	3.48	96	1.2	-	2.47	-0.03	83	276	72	66
172	31.489	0.183	0.097	3.49	96	1.2	-	2.42	-0.05	83	275	72	66
173	31.674	0.185	0.097	3.48	96	1.2	-	2.39	-0.03	83	275	72	66
174	31.866	0.192	0.097	3.50	96	1.2	-	2.35	-0.04	82	274	72	66
175	32.050	0.184	0.098	3.48	96	1.2	-	2.32	-0.03	82	273	72	66
176	32.242	0.192	0.099	3.50	96	1.2	-	2.28	-0.04	82	272	72	66
177	32.430	0.188	0.099	3.49	96	1.2	-	2.24	-0.04	82	273	72	66
178	32.614	0.184	0.097	3.50	96	1.2	-	2.20	-0.04	82	273	72	66
179	32.799	0.185	0.097	3.48	96	1.2	-	2.17	-0.03	82	274	72	66
180	32.989	0.190	0.097	3.49	96	1.2	100	2.14	-0.03	82	273	72	66
181	33.172	0.183	0.098	3.50	96	1.2	-	2.09	-0.05	82	273	72	66
182	33.364	0.192	0.098	3.49	96	1.2	-	2.06	-0.03	82	274	72	66
183	33.548	0.184	0.098	3.50	96	1.2	-	2.02	-0.04	82	274	72	66
184	33.740	0.192	0.099	3.49	96	1.2	-	1.99	-0.03	82	274	72	66
185	33.924	0.184	0.099	3.50	96	1.2	-	1.95	-0.04	82	275	71	66
186	34.115	0.191	0.098	3.50	96	1.2	-	1.92	-0.03	82	275	71	66
187	34.300	0.185	0.098	3.50	96	1.2	-	1.87	-0.05	82	275	71	66
188	34.483	0.183	0.098	3.49	96	1.2	-	1.84	-0.03	82	275	71	66
189	34.672	0.189	0.097	3.47	96	1.2	-	1.81	-0.03	82	275	71	66
190	34.862	0.190	0.096	3.49	96	1.2	101	1.76	-0.05	82	274	71	66
191	35.049	0.187	0.098	3.49	96	1.2	-	1.74	-0.02	82	273	71	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
192	35.235	0.186	0.098	3.49	96	1.2	-	1.70	-0.04	82	272	71	66
193	35.425	0.190	0.098	3.49	96	1.2	-	1.66	-0.04	82	272	71	66
194	35.613	0.188	0.098	3.50	96	1.2	-	1.63	-0.03	82	271	71	66
195	35.797	0.184	0.097	3.49	96	1.2	-	1.59	-0.04	82	269	71	66
196	35.985	0.188	0.096	3.50	96	1.2	-	1.57	-0.02	82	269	71	66
197	36.170	0.185	0.099	3.49	96	1.2	-	1.54	-0.03	82	268	71	66
198	36.357	0.187	0.098	3.50	96	1.2	-	1.51	-0.03	82	268	71	66
199	36.544	0.187	0.098	3.50	96	1.2	-	1.48	-0.03	82	267	71	66
200	36.733	0.189	0.096	3.49	96	1.2	101	1.44	-0.04	82	267	71	66
201	36.920	0.187	0.098	3.50	96	1.2	-	1.42	-0.02	82	266	71	66
202	37.107	0.187	0.097	3.50	96	1.2	-	1.38	-0.04	82	266	71	66
203	37.292	0.185	0.098	3.50	96	1.2	-	1.36	-0.02	81	265	71	66
204	37.479	0.187	0.097	3.50	96	1.2	-	1.33	-0.03	81	264	71	66
205	37.668	0.189	0.096	3.50	96	1.2	-	1.30	-0.03	81	264	71	66
206	37.858	0.190	0.099	3.49	96	1.2	-	1.28	-0.02	81	264	71	66
207	38.043	0.185	0.098	3.50	96	1.2	-	1.25	-0.03	81	264	71	66
208	38.234	0.191	0.099	3.50	96	1.2	-	1.21	-0.04	81	264	71	66
209	38.418	0.184	0.099	3.51	96	1.2	-	1.19	-0.02	81	264	71	66
210	38.609	0.191	0.097	3.49	96	1.2	101	1.15	-0.04	81	263	71	66
211	38.794	0.185	0.099	3.50	96	1.2	-	1.12	-0.03	81	262	71	66
212	38.978	0.184	0.099	3.49	96	1.2	-	1.11	-0.01	81	262	71	65
213	39.167	0.189	0.098	3.51	96	1.2	-	1.07	-0.04	81	262	71	66
214	39.353	0.186	0.099	3.50	96	1.2	-	1.02	-0.05	81	262	71	66
215	39.541	0.188	0.098	3.51	96	1.2	-	1.01	-0.01	81	262	71	66
216	39.733	0.192	0.099	3.49	96	1.2	-	0.97	-0.04	81	262	71	65
217	39.916	0.183	0.098	3.51	96	1.2	-	0.94	-0.03	81	262	71	66
218	40.107	0.191	0.099	3.49	96	1.2	-	0.91	-0.03	81	262	71	65
219	40.292	0.185	0.097	3.51	96	1.2	-	0.88	-0.03	81	262	71	66
220	40.479	0.187	0.097	3.49	96	1.2	100	0.85	-0.03	81	262	71	65
221	40.662	0.183	0.098	3.51	96	1.2	-	0.82	-0.03	81	260	71	65
222	40.852	0.190	0.098	3.48	96	1.2	-	0.80	-0.02	81	260	71	65
223	41.039	0.187	0.099	3.50	96	1.2	-	0.76	-0.04	81	261	71	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
224	41.228	0.189	0.097	3.48	96	1.2	-	0.74	-0.02	81	262	71	65
225	41.414	0.186	0.096	3.50	96	1.2	-	0.71	-0.03	81	261	71	66
226	41.602	0.188	0.098	3.49	96	1.2	-	0.67	-0.04	81	261	71	66
227	41.786	0.184	0.098	3.49	96	1.2	-	0.65	-0.02	81	262	71	65
228	41.977	0.191	0.098	3.49	96	1.2	-	0.62	-0.03	81	262	71	65
229	42.164	0.187	0.097	3.51	96	1.2	-	0.59	-0.03	81	263	71	65
230	42.353	0.189	0.098	3.49	96	1.2	100	0.56	-0.03	81	262	71	65
231	42.540	0.187	0.098	3.51	96	1.2	-	0.54	-0.02	81	262	71	65
232	42.726	0.186	0.097	3.48	96	1.2	-	0.51	-0.03	81	262	71	65
233	42.912	0.186	0.099	3.50	96	1.2	-	0.48	-0.03	81	262	71	65
234	43.103	0.191	0.098	3.49	96	1.2	-	0.45	-0.03	81	262	71	65
235	43.288	0.185	0.099	3.51	96	1.2	-	0.42	-0.03	81	262	71	65
236	43.471	0.183	0.097	3.49	96	1.2	-	0.40	-0.02	81	263	71	65
237	43.661	0.190	0.097	3.50	96	1.2	-	0.37	-0.03	81	263	71	65
238	43.850	0.189	0.099	3.49	96	1.2	-	0.35	-0.02	81	263	70	65
239	44.035	0.185	0.099	3.50	96	1.2	-	0.32	-0.03	81	263	70	65
240	44.227	0.192	0.099	3.49	96	1.2	100	0.28	-0.04	81	264	70	65
241	44.410	0.183	0.098	3.50	96	1.2	-	0.25	-0.03	81	264	70	65
242	44.600	0.190	0.099	3.50	96	1.2	-	0.23	-0.02	81	263	70	65
243	44.782	0.182	0.098	3.49	96	1.2	-	0.20	-0.03	80	263	70	65
244	44.972	0.190	0.099	3.49	96	1.2	-	0.18	-0.02	81	263	70	65
245	45.158	0.186	0.099	3.49	96	1.2	-	0.15	-0.03	81	263	70	65
246	45.345	0.187	0.098	3.49	96	1.2	-	0.11	-0.04	81	263	70	65
247	45.535	0.190	0.098	3.50	95	1.2	-	0.08	-0.03	81	262	70	65
248	45.720	0.185	0.097	3.49	96	1.2	-	0.05	-0.03	81	262	70	65
249	45.910	0.190	0.098	3.50	95	1.2	-	0.03	-0.02	80	262	70	65
250	46.097	0.187	0.098	3.49	95	1.2	100	0.01	-0.02	80	262	70	65
251	46.282	0.185	0.098	3.49	95	1.2	100	0.00	-0.01	80	261	70	65
Avg/Tot	46.282	0.184	0.098	3.42	91.0	1.2	100			86.3	302.3	72.8	66.5

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
0	-0.002		0.80	75	1.6		73	-0.059	6.56	0.584
1	0.125	0.127	3.17	75	1.9	-	75	-0.061	4.06	0.230
2	0.297	0.172	3.18	75	1.9	-	75	-0.063	7.19	0.001
3	0.471	0.174	3.17	75	2.0	-	75	-0.066	8.50	0.000
4	0.643	0.172	3.18	75	2.0	-	75	-0.066	8.42	0.001
5	0.817	0.174	3.18	75	2.1	-	75	-0.066	8.55	0.000
6	0.992	0.175	3.18	75	1.9	-	75	-0.067	8.71	0.000
7	1.161	0.169	3.18	75	1.8	-	75	-0.066	8.80	0.001
8	1.338	0.177	3.18	75	1.8	-	75	-0.066	8.64	0.000
9	1.511	0.173	3.19	75	1.6	-	75	-0.067	8.76	0.000
10	1.686	0.175	3.18	75	1.7	98	75	-0.068	9.52	0.001
11	1.855	0.169	3.19	75	2.1	-	75	-0.069	9.64	0.000
12	2.030	0.175	3.19	75	1.7	-	75	-0.069	9.48	0.001
13	2.205	0.175	3.19	76	2.0	-	75	-0.069	9.62	0.000
14	2.377	0.172	3.19	76	1.7	-	75	-0.068	9.59	0.000
15	2.550	0.173	3.20	76	1.8	-	75	-0.069	9.87	0.001
16	2.725	0.175	3.20	76	2.0	-	75	-0.071	9.97	0.000
17	2.903	0.178	3.19	77	1.7	-	76	-0.071	9.98	0.001
18	3.076	0.173	3.19	77	1.7	-	76	-0.070	10.66	0.001
19	3.245	0.169	3.19	77	1.9	-	76	-0.070	10.84	0.002
20	3.424	0.179	3.20	77	2.2	101	76	-0.069	10.46	0.001
21	3.596	0.172	3.20	78	1.6	-	76	-0.071	11.01	0.001
22	3.770	0.174	3.20	78	1.7	-	76	-0.073	11.37	0.000
23	3.946	0.176	3.21	78	1.8	-	76	-0.072	11.69	0.000
24	4.121	0.175	3.20	78	2.0	-	76	-0.071	11.93	0.004
25	4.296	0.175	3.20	79	2.1	-	76	-0.072	12.12	0.003
26	4.471	0.175	3.20	79	1.9	-	76	-0.073	12.07	0.013
27	4.641	0.170	3.20	79	1.6	-	76	-0.072	12.43	0.020
28	4.819	0.178	3.21	80	2.2	-	76	-0.071	12.63	0.034
29	4.995	0.176	3.21	80	1.8	-	76	-0.073	12.89	0.059
30	5.171	0.176	3.20	80	2.1	101	76	-0.074	13.16	0.098
31	5.344	0.173	3.20	80	1.8	-	76	-0.075	13.10	0.111

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
32	5.516	0.172	3.21	81	2.0	-	76	-0.073	13.43	0.119
33	5.693	0.177	3.21	81	1.8	-	76	-0.075	14.39	0.128
34	5.873	0.180	3.22	81	1.7	-	76	-0.075	13.92	0.091
35	6.044	0.171	3.22	82	1.6	-	76	-0.075	14.10	0.096
36	6.219	0.175	3.22	82	2.1	-	76	-0.074	14.03	0.123
37	6.399	0.180	3.23	82	1.6	-	76	-0.074	14.89	0.194
38	6.576	0.177	3.23	83	1.9	-	76	-0.074	13.94	0.175
39	6.751	0.175	3.21	83	2.1	-	76	-0.075	14.14	0.222
40	6.925	0.174	3.22	83	1.6	101	76	-0.074	14.41	0.260
41	7.101	0.176	3.22	83	1.6	-	76	-0.073	14.32	0.312
42	7.278	0.177	3.23	84	1.8	-	76	-0.074	14.63	0.397
43	7.453	0.175	3.23	84	1.6	-	76	-0.074	13.74	0.477
44	7.632	0.179	3.23	84	2.0	-	77	-0.072	14.23	0.509
45	7.804	0.172	3.23	84	2.1	-	76	-0.073	14.09	0.599
46	7.982	0.178	3.23	85	2.1	-	76	-0.074	14.57	0.695
47	8.160	0.178	3.23	85	1.9	-	76	-0.073	14.38	0.842
48	8.336	0.176	3.23	85	1.7	-	76	-0.074	14.18	0.767
49	8.511	0.175	3.24	85	1.8	-	76	-0.072	14.09	0.760
50	8.687	0.176	3.23	86	2.2	101	76	-0.073	13.78	0.646
51	8.865	0.178	3.24	86	1.9	-	76	-0.072	13.57	0.743
52	9.044	0.179	3.24	86	1.6	-	76	-0.072	13.44	0.775
53	9.221	0.177	3.24	86	1.9	-	76	-0.071	13.70	0.835
54	9.397	0.176	3.24	87	1.6	-	76	-0.073	13.45	0.922
55	9.574	0.177	3.24	87	1.9	-	76	-0.071	13.00	0.964
56	9.753	0.179	3.24	87	2.1	-	76	-0.072	13.48	1.089
57	9.930	0.177	3.23	87	1.7	-	76	-0.068	13.02	1.002
58	10.110	0.180	3.24	88	1.7	-	76	-0.069	13.47	0.998
59	10.287	0.177	3.25	88	1.6	-	76	-0.070	13.13	0.917
60	10.463	0.176	3.25	88	1.7	101	76	-0.070	13.29	0.966
61	10.560	0.097	3.26	88	1.8	-	76	-0.071	13.25	0.978
62	10.738	0.178	3.25	88	2.2	-	76	-0.070	13.44	1.069
63	10.911	0.173	3.25	89	1.7	-	76	-0.069	13.19	1.035

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
64	11.089	0.178	3.26	89	1.9	-	76	-0.070	13.73	1.025
65	11.272	0.183	3.26	89	2.0	-	76	-0.069	13.15	0.981
66	11.450	0.178	3.26	89	1.6	-	76	-0.068	13.04	0.954
67	11.625	0.175	3.26	89	2.1	-	76	-0.070	12.79	0.902
68	11.802	0.177	3.26	89	1.6	-	76	-0.070	12.79	0.929
69	11.983	0.181	3.26	90	1.7	-	76	-0.069	13.12	1.088
70	12.163	0.180	3.26	90	1.6	96	76	-0.070	13.08	1.197
71	12.340	0.177	3.27	90	1.7	-	76	-0.069	13.27	1.347
72	12.517	0.177	3.26	90	2.2	-	76	-0.069	13.17	1.457
73	12.697	0.180	3.27	90	2.2	-	76	-0.068	13.35	1.580
74	12.876	0.179	3.27	91	1.6	-	76	-0.071	13.44	1.658
75	13.053	0.177	3.26	91	1.7	-	76	-0.070	13.43	1.727
76	13.235	0.182	3.27	91	2.0	-	76	-0.071	13.25	1.710
77	13.414	0.179	3.26	91	1.7	-	76	-0.070	13.04	1.656
78	13.592	0.178	3.27	91	1.6	-	76	-0.069	12.97	1.487
79	13.770	0.178	3.27	91	2.2	-	76	-0.067	13.19	1.399
80	13.950	0.180	3.28	91	1.7	101	76	-0.069	13.31	1.328
81	14.129	0.179	3.27	92	1.7	-	76	-0.069	13.23	1.182
82	14.308	0.179	3.27	92	2.0	-	76	-0.069	13.53	1.131
83	14.483	0.175	3.28	92	1.7	-	76	-0.068	13.69	1.119
84	14.662	0.179	3.28	92	1.7	-	76	-0.068	13.30	1.089
85	14.844	0.182	3.27	92	1.7	-	76	-0.068	13.46	1.128
86	15.022	0.178	3.28	92	2.2	-	76	-0.066	13.23	1.082
87	15.201	0.179	3.27	92	1.9	-	76	-0.068	13.80	1.114
88	15.380	0.179	3.28	92	2.1	-	76	-0.067	13.40	1.077
89	15.559	0.179	3.29	93	2.2	-	76	-0.068	13.74	1.080
90	15.737	0.178	3.28	93	1.8	100	76	-0.066	13.61	1.034
91	15.921	0.184	3.28	93	2.1	-	76	-0.067	13.57	0.999
92	16.102	0.181	3.27	93	1.7	-	76	-0.067	13.75	0.955
93	16.281	0.179	3.29	93	2.1	-	76	-0.066	14.05	0.085
94	16.455	0.174	3.28	93	2.0	-	76	-0.067	13.77	0.008
95	16.634	0.179	3.28	93	1.7	-	75	-0.066	12.98	0.002

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
96	16.816	0.182	3.28	93	1.8	-	75	-0.067	12.89	0.002
97	17.000	0.184	3.28	93	1.6	-	75	-0.064	12.23	0.001
98	17.179	0.179	3.29	93	1.8	-	75	-0.067	11.99	0.000
99	17.356	0.177	3.29	93	1.9	-	75	-0.066	12.07	0.000
100	17.536	0.180	3.28	94	2.1	101	75	-0.065	11.83	0.002
101	17.714	0.178	3.28	94	1.9	-	75	-0.064	12.11	0.001
102	17.897	0.183	3.28	94	1.7	-	75	-0.065	12.29	0.001
103	18.074	0.177	3.28	94	2.2	-	75	-0.064	12.30	0.002
104	18.257	0.183	3.28	94	1.8	-	75	-0.065	12.64	0.004
105	18.433	0.176	3.29	94	1.6	-	75	-0.065	12.60	0.006
106	18.615	0.182	3.29	94	1.6	-	75	-0.064	13.22	0.016
107	18.797	0.182	3.29	94	1.8	-	75	-0.065	13.09	0.041
108	18.978	0.181	3.28	94	2.0	-	75	-0.063	13.54	0.072
109	19.155	0.177	3.29	94	2.2	-	75	-0.063	13.81	0.053
110	19.335	0.180	3.29	94	1.8	101	75	-0.066	13.95	0.111
111	19.515	0.180	3.29	94	2.2	-	75	-0.065	14.05	0.152
112	19.693	0.178	3.29	94	2.0	-	75	-0.063	13.57	0.036
113	19.877	0.184	3.30	94	1.7	-	75	-0.064	13.09	0.059
114	20.054	0.177	3.30	94	1.6	-	75	-0.064	12.94	0.066
115	20.236	0.182	3.30	94	1.7	-	75	-0.065	12.78	0.078
116	20.413	0.177	3.29	94	2.0	-	75	-0.059	13.02	0.056
117	20.593	0.180	3.29	95	2.1	-	75	-0.064	12.69	0.050
118	20.777	0.184	3.29	95	1.6	-	75	-0.063	12.65	0.065
119	20.956	0.179	3.30	95	1.9	-	75	-0.063	12.57	0.046
120	21.139	0.183	3.30	95	2.2	101	75	-0.062	12.30	0.043
121	21.317	0.178	3.30	95	1.9	-	75	-0.063	12.71	0.035
122	21.494	0.177	3.29	95	2.1	-	75	-0.062	12.89	0.003
123	21.679	0.185	3.29	95	1.9	-	75	-0.063	12.62	0.001
124	21.858	0.179	3.30	95	1.6	-	75	-0.063	12.82	0.001
125	22.040	0.182	3.29	95	1.9	-	75	-0.062	12.88	0.001
126	22.220	0.180	3.30	95	1.8	-	74	-0.063	13.36	0.001
127	22.400	0.180	3.30	95	2.1	-	75	-0.065	13.36	0.005

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
128	22.577	0.177	3.29	95	1.6	-	74	-0.063	13.57	0.022
129	22.762	0.185	3.30	95	1.9	-	74	-0.063	13.65	0.076
130	22.941	0.179	3.29	95	1.9	100	74	-0.063	13.81	0.109
131	23.121	0.180	3.30	95	2.1	-	74	-0.063	14.00	0.133
132	23.301	0.180	3.29	95	1.9	-	74	-0.065	13.85	0.119
133	23.479	0.178	3.29	95	1.6	-	74	-0.068	13.60	0.111
134	23.661	0.182	3.29	95	2.1	-	74	-0.063	13.69	0.162
135	23.842	0.181	3.29	95	2.2	-	74	-0.066	13.23	0.189
136	24.022	0.180	3.29	95	2.2	-	74	-0.065	13.73	0.099
137	24.206	0.184	3.29	95	2.1	-	74	-0.064	13.31	0.090
138	24.385	0.179	3.31	95	2.0	-	74	-0.064	13.06	0.038
139	24.563	0.178	3.30	95	2.1	-	74	-0.064	13.01	0.004
140	24.744	0.181	3.30	95	2.1	100	74	-0.066	12.75	0.003
141	24.926	0.182	3.29	95	1.8	-	74	-0.062	12.30	0.001
142	25.106	0.180	3.30	95	1.6	-	74	-0.063	12.14	0.000
143	25.288	0.182	3.30	95	1.8	-	74	-0.064	11.83	0.001
144	25.469	0.181	3.29	95	1.9	-	74	-0.063	11.90	0.001
145	25.648	0.179	3.30	95	1.7	-	74	-0.062	11.96	0.001
146	25.829	0.181	3.30	95	1.6	-	74	-0.064	11.79	0.002
147	26.010	0.181	3.30	95	2.1	-	74	-0.062	11.34	0.000
148	26.190	0.180	3.30	95	2.2	-	74	-0.063	11.68	0.001
149	26.369	0.179	3.30	95	1.6	-	74	-0.061	11.69	0.001
150	26.549	0.180	3.29	95	1.6	100	74	-0.063	11.46	0.001
151	26.732	0.183	3.30	95	2.0	-	74	-0.062	11.48	0.001
152	26.916	0.184	3.30	96	1.7	-	74	-0.061	11.39	0.001
153	27.097	0.181	3.29	96	2.1	-	74	-0.061	11.92	0.001
154	27.278	0.181	3.30	96	1.8	-	74	-0.062	12.05	0.002
155	27.454	0.176	3.30	96	1.8	-	74	-0.064	12.27	0.001
156	27.635	0.181	3.30	96	2.1	-	74	-0.061	12.43	0.001
157	27.820	0.185	3.30	96	1.8	-	74	-0.062	12.41	0.002
158	28.002	0.182	3.30	96	1.8	-	74	-0.064	12.12	0.001
159	28.182	0.180	3.31	96	1.6	-	74	-0.059	12.16	0.001

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
160	28.361	0.179	3.30	96	2.1	100	74	-0.062	12.49	0.002
161	28.539	0.178	3.30	96	1.7	-	74	-0.061	12.39	0.001
162	28.721	0.182	3.31	96	1.6	-	74	-0.060	12.59	0.001
163	28.904	0.183	3.30	96	1.7	-	74	-0.061	12.51	0.003
164	29.086	0.182	3.30	96	1.9	-	74	-0.062	12.43	0.002
165	29.263	0.177	3.31	96	2.1	-	74	-0.061	11.95	0.001
166	29.442	0.179	3.29	96	1.6	-	74	-0.060	12.06	0.001
167	29.623	0.181	3.30	96	2.1	-	73	-0.060	12.01	0.001
168	29.808	0.185	3.30	96	1.8	-	73	-0.059	11.88	0.001
169	29.989	0.181	3.30	96	2.0	-	73	-0.062	11.65	0.001
170	30.168	0.179	3.30	96	2.1	99	73	-0.058	11.57	0.001
171	30.351	0.183	3.30	96	1.6	-	73	-0.061	11.26	0.002
172	30.528	0.177	3.30	96	1.6	-	73	-0.059	11.28	0.001
173	30.709	0.181	3.31	96	2.1	-	73	-0.057	10.98	0.002
174	30.894	0.185	3.30	96	1.6	-	73	-0.059	10.95	0.001
175	31.073	0.179	3.30	96	1.6	-	73	-0.058	10.94	0.003
176	31.256	0.183	3.30	96	2.1	-	73	-0.057	10.92	0.001
177	31.435	0.179	3.30	96	1.8	-	73	-0.059	10.95	0.002
178	31.613	0.178	3.30	96	1.8	-	73	-0.057	10.98	0.002
179	31.794	0.181	3.30	96	1.6	-	73	-0.059	10.82	0.001
180	31.978	0.184	3.30	96	2.0	100	73	-0.057	11.06	0.004
181	32.157	0.179	3.30	96	2.1	-	73	-0.058	10.72	0.001
182	32.341	0.184	3.30	96	1.9	-	73	-0.058	10.68	0.004
183	32.516	0.175	3.30	96	1.7	-	73	-0.058	10.97	0.001
184	32.700	0.184	3.30	96	1.6	-	73	-0.059	10.88	0.002
185	32.879	0.179	3.30	96	1.6	-	73	-0.060	10.86	0.002
186	33.063	0.184	3.30	96	2.1	-	73	-0.057	11.06	0.001
187	33.244	0.181	3.30	96	1.6	-	73	-0.060	10.96	0.001
188	33.421	0.177	3.30	96	2.1	-	73	-0.057	11.07	0.001
189	33.604	0.183	3.31	96	1.8	-	73	-0.057	11.31	0.003
190	33.785	0.181	3.30	96	1.6	101	73	-0.058	10.92	0.001
191	33.967	0.182	3.30	96	1.7	-	73	-0.057	11.12	0.003

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
192	34.146	0.179	3.30	96	1.8	-	73	-0.057	11.14	0.003
193	34.329	0.183	3.30	96	1.6	-	73	-0.057	10.71	0.003
194	34.509	0.180	3.30	96	2.2	-	73	-0.057	10.94	0.001
195	34.689	0.180	3.30	96	1.6	-	73	-0.058	11.00	0.003
196	34.870	0.181	3.31	96	1.7	-	73	-0.058	10.73	0.002
197	35.052	0.182	3.30	96	2.1	-	73	-0.057	10.86	0.001
198	35.232	0.180	3.30	96	1.6	-	73	-0.055	10.73	0.001
199	35.413	0.181	3.31	96	1.6	-	73	-0.056	10.65	0.001
200	35.591	0.178	3.31	96	1.9	101	73	-0.056	11.00	0.002
201	35.772	0.181	3.30	96	1.7	-	73	-0.057	10.88	0.001
202	35.954	0.182	3.31	96	2.2	-	73	-0.055	10.62	0.002
203	36.136	0.182	3.31	96	1.9	-	73	-0.058	10.48	0.001
204	36.317	0.181	3.30	96	1.8	-	73	-0.057	10.67	0.001
205	36.501	0.184	3.31	96	1.7	-	73	-0.054	10.77	0.002
206	36.680	0.179	3.31	96	1.7	-	73	-0.054	10.71	0.004
207	36.858	0.178	3.31	96	2.1	-	73	-0.053	10.80	0.003
208	37.043	0.185	3.31	96	1.7	-	73	-0.056	10.80	0.003
209	37.223	0.180	3.31	96	2.2	-	72	-0.057	10.62	0.002
210	37.406	0.183	3.30	96	1.8	101	72	-0.057	10.73	0.002
211	37.586	0.180	3.31	95	2.0	-	72	-0.055	10.87	0.003
212	37.763	0.177	3.30	96	1.7	-	72	-0.055	10.81	0.002
213	37.947	0.184	3.31	96	2.0	-	72	-0.056	10.80	0.002
214	38.126	0.179	3.31	95	2.1	-	72	-0.055	10.97	0.002
215	38.309	0.183	3.31	95	1.6	-	72	-0.056	10.74	0.002
216	38.492	0.183	3.31	95	1.9	-	72	-0.056	10.67	0.003
217	38.668	0.176	3.31	95	1.9	-	72	-0.056	10.78	0.002
218	38.852	0.184	3.30	95	1.7	-	72	-0.055	10.92	0.002
219	39.033	0.181	3.31	95	1.7	-	72	-0.058	10.73	0.003
220	39.215	0.182	3.30	95	2.1	100	72	-0.057	10.66	0.004
221	39.394	0.179	3.31	95	2.0	-	72	-0.055	10.65	0.002
222	39.575	0.181	3.30	95	1.7	-	72	-0.055	10.74	0.002
223	39.753	0.178	3.31	95	2.1	-	72	-0.055	10.67	0.003

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
224	39.934	0.181	3.29	95	1.6	-	72	-0.055	10.74	0.003
225	40.117	0.183	3.31	95	1.7	-	72	-0.056	10.76	0.002
226	40.299	0.182	3.31	95	1.8	-	72	-0.055	10.53	0.001
227	40.479	0.180	3.30	95	1.9	-	72	-0.054	10.60	0.002
228	40.663	0.184	3.29	96	2.0	-	72	-0.057	10.50	0.002
229	40.842	0.179	3.31	96	2.1	-	72	-0.053	10.50	0.003
230	41.023	0.181	3.30	95	1.7	100	72	-0.054	10.53	0.002
231	41.206	0.183	3.31	95	2.0	-	72	-0.055	10.17	0.003
232	41.385	0.179	3.30	95	1.6	-	72	-0.055	10.31	0.003
233	41.564	0.179	3.30	95	1.6	-	72	-0.055	10.38	0.002
234	41.748	0.184	3.31	95	2.0	-	72	-0.056	10.28	0.002
235	41.928	0.180	3.31	95	2.0	-	72	-0.056	10.35	0.004
236	42.106	0.178	3.31	95	2.1	-	72	-0.055	10.40	0.003
237	42.290	0.184	3.31	95	1.9	-	72	-0.056	10.46	0.003
238	42.473	0.183	3.30	95	1.6	-	72	-0.054	10.27	0.003
239	42.651	0.178	3.31	95	2.0	-	72	-0.056	10.14	0.002
240	42.832	0.181	3.30	95	2.1	100	72	-0.057	10.03	0.004
241	43.010	0.178	3.31	95	1.7	-	72	-0.055	10.22	0.006
242	43.195	0.185	3.31	95	1.9	-	72	-0.057	10.28	0.003
243	43.373	0.178	3.30	95	1.7	-	72	-0.058	10.33	0.003
244	43.558	0.185	3.30	95	2.0	-	72	-0.056	10.06	0.002
245	43.739	0.181	3.31	95	1.8	-	72	-0.056	10.28	0.003
246	43.915	0.176	3.31	95	1.9	-	72	-0.054	9.94	0.004
247	44.098	0.183	3.30	95	1.7	-	72	-0.054	9.81	0.004
248	44.278	0.180	3.31	95	2.1	-	72	-0.054	9.78	0.002
249	44.463	0.185	3.31	95	2.2	-	72	-0.055	9.78	0.004
250	44.643	0.180	3.31	95	2.0	100	72	-0.055	9.68	0.005
251	44.824	0.181	3.31	95	1.6	100	72	-0.055	9.81	0.002
Avg/Tot	44.826	0.179	3.26	91.0	1.9	100	74.3	-0.064	11.91	0.233

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
0	-0.003		0.27	73	1.4		71
1	0.113	0.116	0.94	72	1.5	-	71
2	0.250	0.137	0.94	72	1.6	-	71
3	0.391	0.141	0.95	72	1.6	-	72
4	0.528	0.137	0.94	72	1.7	-	72
5	0.666	0.138	0.95	72	1.5	-	72
6	0.809	0.143	0.97	72	1.7	-	72
7	0.946	0.137	0.96	72	1.7	-	72
8	1.088	0.142	0.97	73	1.6	-	72
9	1.228	0.140	0.97	73	1.6	-	72
10	1.371	0.143	0.97	73	1.6	97	72
11	1.509	0.138	0.98	73	1.7	-	72
12	1.652	0.143	0.98	73	1.5	-	72
13	1.793	0.141	0.97	74	1.7	-	72
14	1.934	0.141	0.98	74	1.7	-	72
15	2.077	0.143	0.99	74	1.7	-	72
16	2.218	0.141	0.98	74	1.8	-	72
17	2.362	0.144	0.98	75	1.6	-	72
18	2.503	0.141	0.98	75	1.6	-	72
19	2.644	0.141	0.99	75	1.8	-	72
20	2.788	0.144	0.98	75	1.6	100	73
21	2.927	0.139	0.99	75	1.8	-	73
22	3.071	0.144	0.99	76	1.8	-	73
23	3.216	0.145	0.99	76	1.8	-	73
24	3.359	0.143	0.99	76	1.6	-	73
25	3.501	0.142	0.99	76	1.8	-	73
26	3.645	0.144	1.00	76	1.6	-	73
27	3.787	0.142	1.00	77	1.7	-	73
28	3.933	0.146	1.00	77	1.6	-	73
29	4.076	0.143	1.00	78	1.7	-	73
30	4.220	0.144	1.00	78	1.7	101	73
31	4.365	0.145	1.01	78	1.8	-	73

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
32	4.508	0.143	1.01	78	1.8	-	73
33	4.652	0.144	1.00	79	1.6	-	73
34	4.800	0.148	1.01	79	1.8	-	73
35	4.942	0.142	1.01	79	1.8	-	73
36	5.087	0.145	1.02	80	1.8	-	73
37	5.235	0.148	1.02	80	1.7	-	73
38	5.382	0.147	1.02	80	1.6	-	73
39	5.527	0.145	1.02	80	1.7	-	73
40	5.673	0.146	1.02	81	1.7	102	73
41	5.819	0.146	1.02	81	1.6	-	73
42	5.965	0.146	1.01	81	1.6	-	73
43	6.108	0.143	1.02	81	1.6	-	73
44	6.257	0.149	1.02	81	1.7	-	73
45	6.402	0.145	1.03	82	1.6	-	73
46	6.549	0.147	1.03	82	1.7	-	73
47	6.695	0.146	1.03	82	1.6	-	73
48	6.842	0.147	1.03	82	1.6	-	73
49	6.989	0.147	1.03	82	1.7	-	73
50	7.136	0.147	1.03	82	1.8	103	73
51	7.283	0.147	1.03	83	1.6	-	73
52	7.430	0.147	1.02	83	1.6	-	73
53	7.577	0.147	1.03	83	1.7	-	73
54	7.725	0.148	1.03	83	1.7	-	73
55	7.872	0.147	1.04	83	1.7	-	73
56	8.020	0.148	1.04	83	1.7	-	73
57	8.168	0.148	1.04	83	1.6	-	73
58	8.318	0.150	1.04	84	1.8	-	73
59	8.466	0.148	1.04	83	1.7	-	73
60	8.613	0.147	1.04	84	1.8	103	73
Avg/Tot	8.616	0.144	0.99	77.7	1.7	101	72.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 2

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	474	471	247	417	546	431.0	734.6
1	470	468	245	414	546	428.6	699.7
2	463	461	240	412	546	424.2	763.1
3	455	452	234	415	546	420.1	832.9
4	446	444	228	417	545	416.0	854.6
5	438	436	224	420	544	412.2	869.7
6	430	428	220	424	543	408.6	869.6
7	422	420	217	426	541	405.1	866.9
8	415	413	214	428	539	401.8	864.5
9	409	407	211	430	537	398.8	867.3
10	404	402	208	432	534	395.9	872.2
11	399	397	206	433	532	393.3	877.2
12	394	392	203	436	529	391.0	888.3
13	390	389	201	439	527	389.1	898.8
14	386	385	200	442	524	387.3	907.5
15	383	382	198	445	521	385.8	915.7
16	380	380	196	448	519	384.5	923.3
17	378	378	195	451	516	383.5	927.1
18	376	376	194	454	513	382.7	931.2
19	375	375	193	457	511	382.2	940.6
20	374	375	192	460	508	381.7	942.1
21	373	374	191	462	506	381.3	939.4
22	372	374	191	465	504	381.1	941.1
23	372	374	190	468	501	381.1	941.7
24	372	375	190	471	499	381.5	944.6
25	373	376	190	474	497	382.0	954.5
26	373	378	191	478	495	382.9	967.0
27	374	380	191	483	493	384.1	978.5
28	375	382	192	488	491	385.5	990.5
29	377	384	193	493	489	387.1	1004.0
30	378	387	194	499	487	388.9	1014.9
31	379	389	195	505	485	390.8	1021.9
32	381	392	196	511	484	392.7	1028.7
33	383	395	198	517	482	395.1	1038.1
34	385	399	200	523	481	397.5	1043.1
35	388	403	202	528	479	399.9	1046.3
36	390	407	204	534	478	402.5	1051.8
37	393	412	207	538	476	405.1	1050.6
38	396	416	209	543	475	407.7	1048.8
39	399	421	211	547	473	410.2	1049.5
40	403	425	213	550	472	412.5	1051.0
41	406	429	215	554	471	414.9	1054.2
42	409	433	218	558	469	417.3	1054.6
43	412	437	219	560	468	419.3	1049.8
44	415	442	221	562	467	421.3	1046.9
45	418	446	222	564	466	423.1	1039.3
46	421	450	224	566	465	425.0	1034.6
47	424	454	225	567	464	426.7	1023.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 2

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	427	458	226	567	463	428.3	1020.3
49	430	463	227	567	462	429.7	1018.8
50	433	467	228	568	461	431.3	1019.0
51	435	471	230	568	461	432.8	1017.3
52	437	475	231	568	460	434.1	1013.9
53	439	479	232	567	459	435.3	1011.9
54	441	482	234	567	458	436.4	1008.2
55	443	485	235	566	457	437.0	1006.1
56	444	487	236	565	457	437.7	1001.5
57	445	489	237	564	456	438.3	998.0
58	447	491	238	563	455	438.8	992.5
59	448	492	240	562	455	439.2	993.9
60	450	493	241	561	454	439.6	996.3
61	451	493	242	560	453	440.0	996.4
62	453	493	243	559	453	440.2	998.2
63	455	494	244	559	452	440.5	999.0
64	456	494	244	558	452	440.6	999.8
65	458	494	244	558	451	441.0	1001.7
66	460	494	245	557	450	441.2	1004.1
67	461	494	245	557	450	441.5	1005.5
68	463	495	245	557	449	441.7	1004.2
69	464	495	245	556	449	441.8	1006.8
70	465	496	245	555	448	442.0	997.8
71	467	497	245	553	448	442.0	988.1
72	469	498	246	552	447	442.4	982.3
73	472	499	247	551	447	442.9	977.0
74	474	501	247	549	447	443.5	971.3
75	477	503	249	547	446	444.3	964.9
76	479	506	250	544	446	445.0	958.7
77	482	510	252	542	446	446.2	948.8
78	485	514	254	539	446	447.7	946.5
79	488	520	256	537	446	449.3	950.5
80	491	526	258	535	446	451.0	952.5
81	494	531	259	533	446	452.5	954.5
82	496	536	261	532	446	454.0	953.9
83	499	541	262	530	446	455.5	954.5
84	501	545	263	529	446	456.8	949.6
85	503	550	264	527	446	457.9	945.4
86	505	553	265	526	446	459.1	943.0
87	508	557	266	524	446	460.3	942.9
88	510	561	267	523	446	461.5	940.8
89	512	564	268	522	446	462.5	940.1
90	515	568	270	521	447	463.7	938.5
91	517	570	271	519	447	464.8	936.5
92	519	573	271	519	447	465.9	940.7
93	518	577	272	520	447	466.8	970.8
94	517	581	272	521	447	467.6	977.7
95	515	583	272	522	447	467.8	975.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 2

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	512	584	271	524	447	467.6	966.5
97	510	584	270	524	447	466.9	959.2
98	507	582	269	524	446	465.6	955.9
99	504	579	268	525	446	464.3	964.2
100	503	576	267	525	445	462.9	963.0
101	501	572	266	525	444	461.5	960.2
102	499	568	265	524	443	460.0	956.1
103	498	565	264	524	442	458.6	954.6
104	496	562	264	523	442	457.3	951.1
105	495	559	264	522	441	456.1	947.6
106	495	557	264	521	440	455.4	948.2
107	494	555	264	520	440	454.7	947.7
108	494	554	264	519	440	454.2	948.4
109	494	554	264	519	439	454.0	953.2
110	494	555	263	519	439	454.1	960.3
111	494	556	263	520	439	454.4	964.6
112	493	557	263	520	439	454.4	957.4
113	493	558	264	519	439	454.7	952.7
114	493	559	264	518	439	454.5	947.3
115	494	559	264	518	439	454.4	946.7
116	494	559	263	517	439	454.2	947.3
117	494	558	263	517	439	453.9	941.2
118	494	558	262	515	439	453.7	931.4
119	494	558	262	513	439	453.3	923.3
120	495	558	262	512	439	453.1	915.4
121	496	559	261	509	439	452.9	905.3
122	497	559	261	507	440	452.8	900.8
123	499	559	262	505	440	452.8	902.9
124	501	559	263	503	440	452.9	905.3
125	502	559	263	501	440	453.0	902.2
126	503	559	264	500	440	453.1	900.5
127	503	560	264	498	441	453.3	900.7
128	504	562	265	497	441	453.8	900.7
129	506	564	265	497	441	454.6	904.8
130	507	566	266	497	440	455.3	906.0
131	508	568	266	497	440	456.0	908.6
132	510	570	267	498	440	456.9	918.4
133	511	572	267	499	440	457.5	922.5
134	512	573	267	499	439	458.2	920.7
135	513	575	268	500	439	458.7	913.6
136	514	576	268	500	438	459.4	911.3
137	515	577	269	500	438	459.7	908.0
138	516	578	269	499	437	459.9	907.1
139	517	578	270	499	437	460.2	908.9
140	517	578	270	499	437	460.3	904.4
141	518	577	271	498	436	459.8	896.2
142	518	575	271	497	436	459.5	891.5
143	518	573	272	496	436	458.9	886.9

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 2

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	518	571	272	494	435	458.2	885.1
145	517	569	274	493	435	457.6	884.6
146	517	566	274	492	435	456.9	882.4
147	517	564	275	490	434	456.0	877.7
148	516	562	276	488	434	454.9	871.6
149	515	559	276	487	433	454.1	869.4
150	514	557	276	485	433	452.9	869.5
151	512	555	276	483	433	451.9	870.0
152	511	553	277	482	433	451.1	866.8
153	510	552	277	481	432	450.2	865.5
154	509	550	277	480	432	449.6	866.7
155	508	549	278	479	432	449.0	869.3
156	508	548	278	478	432	448.6	880.5
157	508	547	279	477	432	448.4	879.4
158	508	547	279	476	432	448.2	871.1
159	508	546	280	476	432	448.0	877.2
160	507	546	280	476	432	447.9	885.6
161	507	545	280	475	432	447.8	877.1
162	507	545	280	474	432	447.7	866.7
163	508	545	280	472	432	447.6	859.7
164	508	545	281	472	433	447.6	855.0
165	508	545	280	469	433	447.3	850.8
166	509	546	280	468	434	447.1	846.1
167	509	546	279	467	435	447.0	839.6
168	510	546	278	465	435	446.7	831.8
169	510	546	277	463	436	446.4	823.7
170	510	547	276	461	437	446.0	815.0
171	510	547	275	458	438	445.5	805.8
172	510	546	275	456	439	444.8	798.8
173	510	545	274	453	440	444.3	792.6
174	509	545	273	450	440	443.6	787.2
175	509	544	273	448	441	443.0	782.4
176	508	543	273	446	442	442.2	778.1
177	507	542	272	443	443	441.4	774.7
178	507	541	272	441	444	440.9	771.7
179	506	540	272	439	445	440.4	769.4
180	505	539	273	437	446	440.0	767.3
181	505	538	273	435	447	439.6	765.4
182	504	538	274	433	448	439.2	762.7
183	503	537	274	431	449	438.8	761.0
184	503	536	275	430	450	438.5	758.4
185	502	535	276	428	451	438.3	754.7
186	502	535	277	426	451	438.0	751.1
187	501	534	278	425	452	438.0	748.9
188	501	534	279	423	453	437.9	746.3
189	500	535	281	421	454	438.1	741.2
190	500	535	283	419	455	438.3	732.5
191	500	536	284	418	455	438.5	725.1

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 2

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	500	537	286	416	456	438.9	719.3
193	500	538	288	413	457	439.1	715.1
194	500	538	288	411	458	439.2	712.1
195	500	539	289	410	459	439.4	709.8
196	501	540	290	408	459	439.5	708.9
197	501	541	290	407	460	439.6	709.3
198	501	541	290	405	461	439.6	709.5
199	500	541	290	404	462	439.6	709.9
200	500	541	290	403	462	439.4	708.8
201	500	541	290	402	463	439.3	709.5
202	500	540	290	401	464	439.0	709.8
203	499	540	290	401	464	438.8	710.2
204	498	539	290	400	465	438.3	710.7
205	498	538	290	399	466	438.0	710.0
206	497	537	290	398	466	437.5	706.6
207	496	536	290	397	467	437.2	705.5
208	496	535	289	396	468	436.8	702.6
209	495	534	289	395	468	436.3	702.0
210	495	533	288	394	469	435.9	701.7
211	495	533	288	394	469	435.5	700.0
212	494	532	287	393	470	435.1	696.1
213	494	532	286	392	470	434.9	692.7
214	493	532	286	391	470	434.5	689.3
215	493	532	286	390	471	434.1	686.2
216	493	532	285	389	471	433.9	685.2
217	493	533	285	388	471	433.9	683.2
218	492	534	284	386	472	433.6	680.7
219	492	534	284	386	472	433.6	678.6
220	492	535	283	385	473	433.4	676.4
221	491	536	283	384	473	433.3	674.7
222	490	536	283	382	474	433.0	673.6
223	489	537	282	382	474	432.9	673.8
224	488	538	282	381	475	432.8	673.3
225	488	539	282	381	475	432.8	674.1
226	487	539	282	380	475	432.6	675.5
227	486	540	282	379	476	432.6	677.7
228	486	540	281	379	476	432.6	677.5
229	485	540	281	379	477	432.5	679.0
230	485	541	280	379	478	432.4	681.0
231	484	540	280	379	478	432.3	682.9
232	484	540	280	379	479	432.3	684.6
233	483	540	279	379	480	432.3	686.0
234	483	539	279	379	481	432.2	687.1
235	482	539	279	379	481	432.1	688.4
236	482	538	279	380	482	432.1	690.2
237	481	537	279	380	483	431.9	692.0
238	481	536	279	380	483	431.7	692.7
239	480	536	278	380	483	431.4	692.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

Stove ΔT: 2

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
240	480	534	278	380	484	431.2	692.0
241	479	533	278	380	484	430.9	691.0
242	479	532	278	380	484	430.6	691.3
243	478	531	278	380	485	430.4	690.9
244	478	531	278	380	485	430.2	683.6
245	478	531	278	379	485	429.9	674.2
246	477	531	278	378	486	429.8	670.9
247	477	530	277	377	486	429.5	668.2
248	477	530	277	376	486	429.3	667.2
249	478	529	277	376	487	429.2	667.6
250	478	528	277	375	488	428.9	667.5
251	478	526	276	374	489	428.7	667.7
Average	475.4	514.8	257.8	473.1	462.0	436.6	865.5

LAB SAMPLE DATA - ASTM E2515

Client: Blaze King
Model: PE32
Run #: 4

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/6/2024

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00927	240.4	242.4	2.0
	B	G00928	233.1	234.6	1.5
	C - 1st Hour	G00929	241.1	242.0	0.9
	Amb	G00930	240.6	240.7	0.1
Probes	**A**	6A	116382.1	116382.9	0.8
	B	6B	115953.6	115954.5	0.9
	C - 1st Hour	6C	115127.7	115128.4	0.7
O-rings	**A**	6A	3396.5	3396.7	0.2
	B	6B	3613.8	3614.2	0.4
	C - 1st Hour	6C	3401.6	3401.6	0.0

Placed in Dessicator on:	3/7/24 08:00

		200.0		200.0					
Balance Audit (mg):		Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time
Filters	**A**	242.6	3/8 8:00	242.4	3/11 9:30				
	B	234.7	3/8 8:00	234.6	3/11 9:30				
	C - 1st Hour	241.9	3/8 8:00	242.0	3/11 9:30				
	Amb	240.7	3/8 8:00	240.7	3/11 9:30				
Probes	**A**	116383.0	3/8 8:00	116382.9	3/11 9:30				
	B	115954.7	3/8 8:00	115954.5	3/11 9:30				
	C - 1st Hour	115128.5	3/8 8:00	115128.4	3/11 9:30				
O-Rings	**A**	3396.5	3/8 8:00	3396.7	3/11 9:30				
	B	3614.1	3/8 8:00	3614.2	3/11 9:30				
	C - 1st Hour	3401.4	3/8 8:00	3401.6	3/11 9:30				

Train A Aggregate, mg:	**3.0**
Train B Aggregate, mg:	**2.8**
Train C Aggregate, mg:	**1.6**
Ambient, mg:	**0.1**

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 5 Data Summary

Client:	Blaze King
Model:	PE32
Job #:	24-273
Tracking #:	183
Test Date:	3/7/2024

Techician Signature

5/3/2024
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Burn Rate (kg/hr):	1.06

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	34.787	73.473	70.695	8.646
Average Gas Velocity in Dilution Tunnel (ft/sec)	19.5			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	13162.5			
Average Gas Meter Temperature (°F)	66.5	92.5	92.2	74.7
Total Sample Volume (dscf)	35.490	71.407	68.773	8.629
Average Tunnel Temperature (°F)	83.5			
Total Time of Test (min)	394			
Total Particulate Catch (mg)	0.1	2.3	2.4	1.1
Particulate Concentration, dry-standard (g/dscf)	0.0000028	0.0000322	0.0000349	0.0001275
Total PM Emissions (g)	0.24	2.54	2.77	1.64
Particulate Emission Rate (g/hr)	0.04	0.39	0.42	1.64
Emissions Factor (g/kg)	-	0.37	0.40	-
Difference from Average Total Particulate Emissions (g)	-	0.12	0.12	-
Difference from Average Total Particulate Emissions (%)	-	4.4%	4.4%	
Difference from Average Emissions Factor (g/kg)	-	0.02	0.02	-

Final Average Results	
Total Particulate Emissions (g)	2.66
Particulate Emission Rate (g/hr)	0.40
Emissions Factor (g/kg)	0.38
HHV Efficiency (%)	82.0%
LHV Efficiency (%)	88.6%
CO Emissions (g/min)	0.30

Quality Checks	Requirement	Observed	Result
Dual Train Precision	Each train within 7.5% of average emissions (in grams), or emission factors within 0.5 g/kg	See Above	OK
Filter Temps	<90 °F	75.1	OK
Face Velocity	< 30 ft/min	11.5	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:64.6/Max:67.5	OK
Negative Probe Weight Evaluation	<5% of Total Catch	Probe Catch Not Negative	OK
Pro-Rate Variation	90% of readings between 90-110%; none greater than 120% or less than 80%	See Data Tabs	OK
Stove Surface ΔT	<126°F	73.4	OK

B415.1 Efficiency Results

Manufacturer:	Blaze King
Model:	PE32
Date:	03/07/24
Run:	5
Control #:	24-273
Test Duration:	394
Output Category:	2

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	82.0%	88.6%
Combustion Efficiency	99.0%	99.0%
Heat Transfer Efficiency	82.8%	89.5%

Output Rate (kJ/h)	16,944	16,073	**(Btu/h)**
Burn Rate (kg/h)	1.04	2.30	**(lb/h)**
Input (kJ/h)	20,671	19,609	**(Btu/h)**

Test Load Weight (dry kg)	6.85	15.10	**dry lb**
MC wet (%)	18.28		
MC dry (%)	22.37		
Particulate (g)	2.66		
CO (g)	118		
Test Duration (h)	6.57		

Emissions	**Particulate**	**CO**
g/MJ Output	0.02	1.06
g/kg Dry Fuel	0.39	17.28
g/h	0.40	18.03
g/min	0.01	0.30
lb/MM Btu Output	0.06	2.47

Air/Fuel Ratio (A/F)	11.34

VERSION: **2.4** **4/15/2010**

WOODSTOVE FUEL DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.00	19.2	2x4	17.00	23.1
2x4	17.00	19.8	2x4	17.00	19.6
2x4	17.00	19.7			
2x4	17.00	20.6			
2x4	17.00	21.6			
2x4	17.00	24.2			
2x4	17.00	24.3			
2x4	17.00	24.5			
Total Fuel Weight (lbs):		16.34	Average Moisture (%DB):		21.7

Firebox Volume (ft^3):	2.86
Total 2x4 Crib Weight, with spacers (lbs):	9.13
Total 4x4 Crib Weight, with spacers (lbs):	9.39
Total Wet Fuel Weight, with spacers (lbs):	18.52

Coal Bed Range (20-25%):
Min (lbs): 3.70
Max (lbs): 4.63

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	16.75	4.67	19.7	20.4	24.6	3.84
4x4	16.75	4.32	20.9	19.0	21.4	3.59
2x4	16.75	1.92	22.7	22.1	24.2	1.56
2x4	16.75	1.91	24.6	24.0	21.5	1.55
2x4	16.75	1.94	23.6	24.6	20.4	1.58
2x4	16.75	1.98	21.2	23.2	24.5	1.61
					Total Dry Weight, no spacers (lbs):	13.73
					Total Dry Weight, with spacers (lbs):	15.34

Spacer Moisture Readings (%DB)

9.8	9.6	9.5					
11.6	10.9	9.8					
9.8	10.3						
11.1	11.9						
10.4	11.9						
10.2	9.8						
11.5	10.9						
11.7	10.0						

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	31.1	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.48	OK
2x4 Fuel Mix	35 - 65 % of total weight	49%	OK

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	Blaze King	Job #:	24-273
Model:	PE32	Tracking #:	183
Run #:	5	Technician:	AK
Test Start Time:	12:41	Date:	3/7/2024

Total Sampling Time (min):	394		
Recording Interval (min):	1		
Meter Box γ Factor:	1.004	(A)	
Meter Box γ Factor:	1.005	(B)	
Meter Box γ Factor:	1.004	(C)	
Meter Box γ Factor:	1.013	(Ambient)	
Induced Draft Check (in. H_2O):	0		
Smoke Capture Check (%):	100%		
Date Flue Pipe Last Cleaned:	3/4/2024		
Test Fuel Scale Audit (lbs)	10.00		
Platform Scale Audit (lbs)	10.0		

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	30.04	30.08	30.06
Relative Humidity (%)	21.5	19.0	
Room Air Velocity (ft/min)	<50	<50	
Pitot Tube Leak Check	0	0	
Ambient Sample Volume:		34.787	ft^3

Sample Train Leak Checks

	Pre-test	Post-test			
(A)	0.000	0.000	cfm @	-8	in. Hg
(B)	0.000	0.000	cfm @	-7	in. Hg
(C)	0.000	0.000	cfm @	-9	in. Hg
(Ambient)	0.000	0.000	cfm @	-13	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

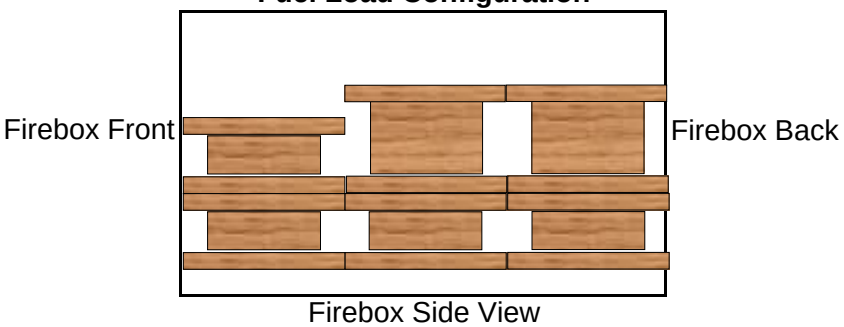
Point	dP (in H_2O)	Temp (°F)
1	0.062	68
2	0.098	68
3	0.098	68
4	0.076	68
5	0.082	68
6	0.098	68
7	0.096	68
8	0.072	68
Center	0.098	68

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	6	inches
Pitot Tube Cp:	0.99	[unitless]
Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Tunnel Area:	0.1963	ft^2
V_{strav}:	19.25	ft/sec
V_{scent}:	20.71	ft/sec
F_p:	0.930	[ratio]
Initial Tunnel Flow:	223.2	scf/min

Static Pressure: -0.170 in. H_2O

TEST FUEL PROPERTIES

Fuel Load Configuration



Firebox Side View

Actual Fuel Used Properties

Fuel Type:	D. Fir
HHV (kJ/kg)	19,810
%C	48.73
%H	6.87
%O	43.9
%Ash	0.5
MC (%DB)	22.4

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Recording Interval (min): 1
Run Time (min): 61

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
0	4.88	-0.064	607	733	405	703	336	556.8	383	68
1	4.83	-0.059	610	730	408	696	515	591.8	329	68
2	4.79	-0.057	610	722	410	691	381	562.7	291	68
3	4.76	-0.056	608	711	410	679	356	552.8	265	68
4	4.73	-0.053	603	700	410	671	345	545.8	246	67
5	4.71	-0.050	598	689	410	666	341	540.6	232	67
6	4.69	-0.049	592	677	409	657	340	534.9	221	68
7	4.68	-0.045	585	666	407	653	338	529.9	212	67
8	4.66	-0.045	578	655	406	646	337	524.4	204	67
9	4.65	-0.045	571	644	404	640	336	519.0	198	67
10	4.62	-0.045	564	633	401	633	336	513.4	193	67
11	4.60	-0.041	557	623	399	626	336	508.2	189	67
12	4.60	-0.040	550	612	397	622	336	503.3	185	67
13	4.59	-0.040	543	603	394	613	335	497.5	182	67
14	4.57	-0.042	537	593	392	608	334	492.8	178	67
15	4.56	-0.038	530	584	389	601	334	487.6	175	67
16	4.54	-0.038	524	576	386	594	333	482.8	172	67
17	4.54	-0.037	518	568	384	589	332	478.1	169	67
18	4.53	-0.037	512	559	381	583	332	473.3	167	67
19	4.52	-0.036	506	552	378	577	331	468.6	164	66
20	4.51	-0.034	499	544	375	574	331	464.5	162	66
21	4.50	-0.035	493	536	372	567	329	459.5	159	66
22	4.49	-0.034	487	529	369	560	328	454.7	157	66
23	4.48	-0.034	481	522	366	551	327	449.5	155	65
24	4.49	-0.034	476	515	363	543	326	444.6	153	65
25	4.47	-0.031	470	508	361	536	325	439.9	152	65
26	4.47	-0.032	464	502	358	526	324	434.7	150	65
27	4.47	-0.033	459	495	355	518	323	429.9	149	65
28	4.46	-0.030	454	489	352	511	321	425.2	147	65
29	4.46	-0.031	449	483	349	503	319	420.5	146	65
30	4.45	-0.030	444	477	346	496	318	416.2	144	65
31	4.45	-0.031	439	471	344	488	318	411.8	143	64
32	4.45	-0.027	434	465	341	482	315	407.4	142	64
33	4.45	-0.028	429	460	338	474	313	402.8	140	64
34	4.45	-0.029	424	454	336	468	310	398.3	139	64
35	4.45	-0.028	420	449	333	461	308	394.2	137	64
36	4.45	-0.027	415	444	330	455	306	390.2	136	64
37	4.45	-0.025	411	439	328	449	305	386.2	135	64
38	4.44	-0.027	407	434	325	444	304	382.8	134	64
39	4.44	-0.027	402	429	323	438	305	379.4	133	64
40	4.43	-0.027	398	425	321	434	302	375.8	132	64
41	4.44	-0.026	394	420	318	428	302	372.5	130	64
42	4.44	-0.025	390	416	316	423	300	368.8	129	63
43	4.44	-0.025	386	411	314	419	300	366.0	128	63
44	4.44	-0.025	382	407	312	414	298	362.7	127	63

WOODSTOVE PREBURN DATA - ASTM E2780

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Recording Interval (min): 1
Run Time (min): 61

			Temperatures (°F)							
Elapsed Time (min)	Scale Reading (lbs)	Flue Draft (in H_2O)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Flue	Ambient
45	4.44	-0.024	378	403	310	409	299	359.8	127	63
46	4.43	-0.025	375	398	308	405	298	356.8	126	63
47	4.43	-0.023	372	394	306	400	296	353.4	125	63
48	4.44	-0.024	368	390	304	396	294	350.3	124	63
49	4.44	-0.023	365	386	302	393	293	347.6	123	63
50	4.45	-0.022	362	382	300	388	291	344.5	123	64
51	4.44	-0.023	359	378	298	385	288	341.4	122	64
52	4.45	-0.024	355	375	296	382	289	339.3	122	64
53	4.46	-0.021	352	371	294	378	287	336.4	121	64
54	4.46	-0.022	349	368	292	374	284	333.5	122	64
55	4.45	-0.024	346	364	290	371	292	332.6	124	64
56	4.46	-0.024	344	361	289	369	295	331.2	125	64
57	4.45	-0.024	341	358	287	367	314	333.2	128	64
58	4.45	-0.026	338	355	285	365	394	347.2	132	64
59	4.44	-0.027	336	352	283	363	417	350.1	136	64
60	4.43	-0.028	333	349	282	361	416	348.2	140	64
61	4.42	-0.028	331	346	280	361	415	346.5	145	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
0	0.000		0.098	0.63	70	0.7		18.48		85	176	67	65
1	0.119	0.119	0.098	3.00	70	1.1	-	18.49	0.01	90	193	68	65
2	0.291	0.172	0.099	3.04	70	1.0	-	18.47	-0.02	83	184	68	65
3	0.462	0.171	0.097	3.06	70	1.1	-	18.46	-0.01	81	181	68	65
4	0.676	0.214	0.096	3.08	70	1.1	-	18.44	-0.02	80	181	68	65
5	0.847	0.171	0.099	3.08	70	1.1	-	18.42	-0.02	80	182	68	65
6	1.022	0.175	0.097	3.10	70	1.1	-	18.40	-0.02	79	182	68	65
7	1.193	0.171	0.096	3.11	70	1.1	-	18.38	-0.02	79	185	68	65
8	1.361	0.168	0.099	3.11	70	1.0	-	18.36	-0.02	79	188	69	65
9	1.534	0.173	0.099	3.13	70	1.1	-	18.33	-0.03	79	192	69	65
10	1.706	0.172	0.098	3.13	71	1.1	95	18.30	-0.03	79	195	69	65
11	1.876	0.170	0.098	3.15	71	1.1	-	18.26	-0.04	80	199	69	65
12	2.051	0.175	0.098	3.16	71	1.1	-	18.21	-0.05	80	204	69	65
13	2.227	0.176	0.097	3.17	71	1.1	-	18.17	-0.04	80	209	69	65
14	2.400	0.173	0.099	3.18	71	1.0	-	18.12	-0.05	80	214	69	65
15	2.573	0.173	0.098	3.20	72	1.1	-	18.05	-0.07	80	220	69	65
16	2.748	0.175	0.098	3.21	72	1.1	-	17.99	-0.06	81	225	69	65
17	2.923	0.175	0.098	3.22	72	1.1	-	17.93	-0.06	81	230	69	65
18	3.102	0.179	0.098	3.23	72	1.1	-	17.88	-0.05	81	235	70	65
19	3.272	0.170	0.097	3.23	73	1.1	-	17.81	-0.07	82	239	70	65
20	3.451	0.179	0.095	3.24	73	1.1	97	17.75	-0.06	82	243	70	65
21	3.629	0.178	0.098	3.25	73	1.1	-	17.68	-0.07	82	246	70	65
22	3.807	0.178	0.098	3.25	74	1.1	-	17.61	-0.07	82	248	70	65
23	3.979	0.172	0.099	3.27	74	1.1	-	17.56	-0.05	83	250	70	65
24	4.159	0.180	0.099	3.29	75	1.1	-	17.49	-0.07	83	253	70	65
25	4.335	0.176	0.098	3.29	75	1.1	-	17.42	-0.07	83	255	70	65
26	4.518	0.183	0.098	3.30	75	1.1	-	17.34	-0.08	83	258	70	65
27	4.697	0.179	0.097	3.32	76	1.1	-	17.28	-0.06	83	259	70	65
28	4.869	0.172	0.098	3.32	76	1.1	-	17.20	-0.08	83	262	70	65
29	5.050	0.181	0.097	3.30	76	1.1	-	17.13	-0.07	84	264	70	65
30	5.231	0.181	0.099	3.31	77	1.1	99	17.04	-0.09	84	266	70	65
31	5.409	0.178	0.097	3.34	77	1.1	-	16.97	-0.07	84	267	71	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
32	5.592	0.183	0.098	3.34	77	1.1	-	16.88	-0.09	84	269	71	65
33	5.769	0.177	0.097	3.35	78	1.2	-	16.80	-0.08	85	271	71	66
34	5.948	0.179	0.098	3.36	78	1.1	-	16.72	-0.08	85	275	71	66
35	6.130	0.182	0.097	3.35	78	1.1	-	16.64	-0.08	85	277	71	66
36	6.313	0.183	0.099	3.37	79	1.1	-	16.54	-0.10	85	280	71	66
37	6.490	0.177	0.097	3.37	79	1.1	-	16.45	-0.09	86	282	71	65
38	6.671	0.181	0.096	3.37	80	1.1	-	16.36	-0.09	85	283	71	66
39	6.851	0.180	0.098	3.36	80	1.1	-	16.27	-0.09	86	286	71	66
40	7.034	0.183	0.098	3.37	80	1.1	99	16.18	-0.09	86	289	71	66
41	7.218	0.184	0.098	3.39	81	1.2	-	16.08	-0.10	86	292	71	66
42	7.399	0.181	0.097	3.38	81	1.1	-	15.99	-0.09	87	293	71	66
43	7.575	0.176	0.098	3.39	81	1.1	-	15.89	-0.10	87	296	71	66
44	7.760	0.185	0.098	3.40	82	1.2	-	15.79	-0.10	87	297	71	66
45	7.942	0.182	0.098	3.41	82	1.1	-	15.70	-0.09	87	300	72	66
46	8.123	0.181	0.097	3.41	82	1.2	-	15.61	-0.09	88	300	72	66
47	8.309	0.186	0.097	3.41	83	1.1	-	15.51	-0.10	88	300	72	66
48	8.493	0.184	0.098	3.42	83	1.1	-	15.41	-0.10	88	302	72	66
49	8.669	0.176	0.099	3.42	83	1.2	-	15.31	-0.10	88	301	72	66
50	8.850	0.181	0.097	3.41	83	1.1	100	15.22	-0.09	88	302	72	66
51	9.036	0.186	0.098	3.43	84	1.2	-	15.12	-0.10	88	302	72	66
52	9.220	0.184	0.098	3.42	84	1.2	-	15.04	-0.08	88	302	72	66
53	9.407	0.187	0.098	3.43	84	1.1	-	14.94	-0.10	88	303	72	66
54	9.587	0.180	0.098	3.44	84	1.2	-	14.85	-0.09	88	303	72	66
55	9.771	0.184	0.098	3.44	85	1.2	-	14.76	-0.09	88	306	72	66
56	9.954	0.183	0.097	3.43	85	1.1	-	14.67	-0.09	88	307	72	66
57	10.139	0.185	0.097	3.43	85	1.1	-	14.58	-0.09	88	308	72	66
58	10.322	0.183	0.098	3.44	85	1.1	-	14.49	-0.09	88	309	72	66
59	10.508	0.186	0.097	3.43	86	1.2	-	14.39	-0.10	89	308	72	66
60	10.689	0.181	0.099	3.44	86	1.2	100	14.30	-0.09	89	309	72	66
61	10.870	0.181	0.098	3.47	86	1.1	-	14.20	-0.10	89	309	72	66
62	11.053	0.183	0.098	3.46	86	1.2	-	14.11	-0.09	89	308	72	66
63	11.239	0.186	0.097	3.45	87	1.2	-	14.02	-0.09	89	308	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
64	11.423	0.184	0.097	3.46	87	1.2	-	13.93	-0.09	89	309	72	66
65	11.610	0.187	0.098	3.46	87	1.2	-	13.83	-0.10	89	307	72	66
66	11.794	0.184	0.097	3.47	87	1.2	-	13.75	-0.08	89	307	73	66
67	11.976	0.182	0.096	3.47	88	1.1	-	13.65	-0.10	89	307	73	66
68	12.164	0.188	0.097	3.47	88	1.2	-	13.56	-0.09	89	307	73	66
69	12.344	0.180	0.097	3.47	88	1.2	-	13.47	-0.09	89	307	73	66
70	12.531	0.187	0.096	3.46	88	1.2	100	13.39	-0.08	89	307	73	66
71	12.717	0.186	0.097	3.48	88	1.2	-	13.29	-0.10	89	306	73	66
72	12.902	0.185	0.097	3.46	88	1.2	-	13.21	-0.08	89	304	73	66
73	13.091	0.189	0.098	3.48	89	1.2	-	13.12	-0.09	89	303	73	67
74	13.273	0.182	0.097	3.46	89	1.2	-	13.05	-0.07	89	299	73	67
75	13.458	0.185	0.096	3.47	89	1.2	-	12.97	-0.08	89	298	73	66
76	13.640	0.182	0.097	3.47	89	1.2	-	12.90	-0.07	89	298	73	66
77	13.829	0.189	0.097	3.47	89	1.2	-	12.82	-0.08	89	297	73	67
78	14.016	0.187	0.097	3.48	89	1.2	-	12.75	-0.07	88	295	73	67
79	14.202	0.186	0.096	3.49	90	1.2	-	12.67	-0.08	88	295	73	67
80	14.384	0.182	0.096	3.48	90	1.2	101	12.60	-0.07	88	294	73	66
81	14.571	0.187	0.096	3.49	90	1.2	-	12.53	-0.07	88	294	73	66
82	14.756	0.185	0.098	3.48	90	1.2	-	12.47	-0.06	88	293	73	67
83	14.941	0.185	0.096	3.50	90	1.2	-	12.39	-0.08	88	292	73	66
84	15.129	0.188	0.098	3.49	90	1.2	-	12.32	-0.07	88	292	73	67
85	15.313	0.184	0.096	3.49	91	1.2	-	12.25	-0.07	88	292	73	66
86	15.502	0.189	0.096	3.49	91	1.2	-	12.18	-0.07	88	290	73	67
87	15.688	0.186	0.097	3.50	91	1.2	-	12.12	-0.06	88	291	73	67
88	15.868	0.180	0.098	3.49	91	1.1	-	12.04	-0.08	88	290	73	67
89	16.058	0.190	0.098	3.49	91	1.2	-	11.96	-0.08	88	288	73	67
90	16.242	0.184	0.097	3.50	91	1.2	101	11.88	-0.08	88	287	73	67
91	16.431	0.189	0.096	3.49	91	1.2	-	11.80	-0.08	88	287	73	67
92	16.618	0.187	0.099	3.49	91	1.2	-	11.74	-0.06	88	284	73	67
93	16.805	0.187	0.096	3.49	92	1.2	-	11.67	-0.07	87	282	73	66
94	16.990	0.185	0.099	3.51	92	1.2	-	11.60	-0.07	87	280	73	67
95	17.177	0.187	0.098	3.49	92	1.2	-	11.53	-0.07	87	276	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
96	17.361	0.184	0.098	3.50	92	1.2	-	11.47	-0.06	87	273	73	67
97	17.547	0.186	0.098	3.51	92	1.2	-	11.40	-0.07	87	270	73	67
98	17.732	0.185	0.098	3.51	92	1.1	-	11.33	-0.07	87	266	73	67
99	17.918	0.186	0.097	3.52	92	1.2	-	11.28	-0.05	86	263	73	67
100	18.110	0.192	0.097	3.52	92	1.1	101	11.22	-0.06	86	261	73	67
101	18.296	0.186	0.097	3.50	93	1.2	-	11.16	-0.06	86	258	73	67
102	18.480	0.184	0.098	3.50	93	1.2	-	11.12	-0.04	86	255	73	67
103	18.667	0.187	0.097	3.51	93	1.2	-	11.06	-0.06	86	253	73	67
104	18.853	0.186	0.097	3.50	93	1.2	-	11.01	-0.05	86	250	73	67
105	19.040	0.187	0.098	3.52	93	1.2	-	10.96	-0.05	86	248	73	67
106	19.228	0.188	0.096	3.51	93	1.2	-	10.91	-0.05	86	246	73	67
107	19.415	0.187	0.097	3.52	93	1.2	-	10.87	-0.04	85	244	73	67
108	19.600	0.185	0.098	3.50	93	1.2	-	10.81	-0.06	85	242	73	67
109	19.789	0.189	0.098	3.52	93	1.2	-	10.77	-0.04	85	242	73	67
110	19.972	0.183	0.098	3.51	93	1.2	100	10.71	-0.06	85	241	73	67
111	20.160	0.188	0.099	3.51	93	1.2	-	10.67	-0.04	85	239	73	67
112	20.347	0.187	0.097	3.51	94	1.2	-	10.61	-0.06	85	238	73	67
113	20.532	0.185	0.096	3.52	94	1.2	-	10.58	-0.03	85	237	73	67
114	20.723	0.191	0.097	3.52	94	1.2	-	10.53	-0.05	85	235	73	67
115	20.909	0.186	0.097	3.52	94	1.2	-	10.48	-0.05	85	234	73	67
116	21.099	0.190	0.097	3.52	94	1.2	-	10.43	-0.05	85	234	73	67
117	21.283	0.184	0.097	3.52	94	1.2	-	10.39	-0.04	85	232	73	67
118	21.471	0.188	0.097	3.51	94	1.2	-	10.35	-0.04	85	232	73	67
119	21.654	0.183	0.096	3.52	94	1.2	-	10.30	-0.05	85	232	73	67
120	21.843	0.189	0.097	3.51	94	1.1	100	10.25	-0.05	85	231	73	67
121	22.029	0.186	0.097	3.52	94	1.2	-	10.21	-0.04	85	231	73	67
122	22.216	0.187	0.097	3.51	94	1.2	-	10.16	-0.05	84	231	73	67
123	22.408	0.192	0.096	3.51	94	1.2	-	10.12	-0.04	85	232	73	67
124	22.592	0.184	0.097	3.53	94	1.2	-	10.06	-0.06	84	233	73	67
125	22.783	0.191	0.096	3.53	94	1.2	-	10.01	-0.05	85	234	73	67
126	22.968	0.185	0.096	3.51	94	1.2	-	9.95	-0.06	85	236	73	67
127	23.151	0.183	0.097	3.52	94	1.2	-	9.90	-0.05	85	237	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
128	23.338	0.187	0.095	3.51	94	1.2	-	9.85	-0.05	85	238	73	67
129	23.530	0.192	0.096	3.53	95	1.2	-	9.80	-0.05	85	240	73	67
130	23.714	0.184	0.097	3.52	95	1.2	100	9.75	-0.05	85	241	73	67
131	23.904	0.190	0.098	3.52	95	1.2	-	9.69	-0.06	85	243	73	67
132	24.094	0.190	0.097	3.51	95	1.2	-	9.63	-0.06	85	244	73	67
133	24.278	0.184	0.098	3.52	95	1.2	-	9.57	-0.06	85	246	73	67
134	24.467	0.189	0.096	3.51	95	1.2	-	9.51	-0.06	85	248	73	67
135	24.654	0.187	0.097	3.52	95	1.2	-	9.45	-0.06	85	249	73	67
136	24.837	0.183	0.097	3.53	95	1.2	-	9.40	-0.05	85	251	73	67
137	25.029	0.192	0.096	3.51	95	1.2	-	9.34	-0.06	85	252	73	67
138	25.214	0.185	0.098	3.53	95	1.2	-	9.28	-0.06	85	253	73	67
139	25.406	0.192	0.098	3.52	95	1.2	-	9.21	-0.07	85	254	73	67
140	25.590	0.184	0.096	3.52	95	1.2	101	9.15	-0.06	85	254	73	67
141	25.779	0.189	0.098	3.51	95	1.2	-	9.08	-0.07	85	256	73	67
142	25.967	0.188	0.098	3.51	95	1.2	-	9.02	-0.06	86	257	73	67
143	26.154	0.187	0.097	3.53	95	1.2	-	8.96	-0.06	86	258	73	67
144	26.337	0.183	0.097	3.52	95	1.2	-	8.90	-0.06	86	258	73	67
145	26.527	0.190	0.098	3.53	95	1.2	-	8.83	-0.07	86	258	73	67
146	26.714	0.187	0.098	3.53	95	1.2	-	8.76	-0.07	86	260	73	67
147	26.906	0.192	0.097	3.53	95	1.2	-	8.70	-0.06	86	260	73	67
148	27.095	0.189	0.097	3.51	95	1.2	-	8.63	-0.07	86	260	73	67
149	27.280	0.185	0.097	3.52	95	1.2	-	8.57	-0.06	86	261	73	67
150	27.470	0.190	0.098	3.53	95	1.2	101	8.50	-0.07	86	262	73	67
151	27.655	0.185	0.096	3.53	95	1.2	-	8.44	-0.06	86	263	73	67
152	27.843	0.188	0.098	3.53	95	1.2	-	8.37	-0.07	86	263	73	67
153	28.028	0.185	0.098	3.53	96	1.2	-	8.31	-0.06	86	264	73	67
154	28.217	0.189	0.097	3.52	96	1.2	-	8.24	-0.07	86	265	73	67
155	28.408	0.191	0.096	3.54	96	1.2	-	8.17	-0.07	86	264	73	67
156	28.594	0.186	0.099	3.51	96	1.2	-	8.10	-0.07	86	263	73	67
157	28.781	0.187	0.096	3.52	96	1.2	-	8.02	-0.08	86	262	73	67
158	28.973	0.192	0.098	3.53	96	1.2	-	7.95	-0.07	86	263	73	67
159	29.158	0.185	0.097	3.54	96	1.2	-	7.89	-0.06	86	261	74	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
160	29.346	0.188	0.098	3.53	96	1.2	100	7.81	-0.08	86	260	73	67
161	29.533	0.187	0.099	3.52	96	1.2	-	7.73	-0.08	86	260	73	67
162	29.720	0.187	0.097	3.52	96	1.2	-	7.66	-0.07	86	258	73	67
163	29.908	0.188	0.098	3.53	96	1.2	-	7.59	-0.07	86	257	73	67
164	30.097	0.189	0.097	3.54	96	1.2	-	7.51	-0.08	86	255	73	67
165	30.285	0.188	0.098	3.53	96	1.2	-	7.45	-0.06	86	253	73	67
166	30.473	0.188	0.096	3.52	96	1.2	-	7.38	-0.07	86	252	74	67
167	30.658	0.185	0.097	3.53	96	1.2	-	7.31	-0.07	86	249	74	67
168	30.850	0.192	0.096	3.53	96	1.2	-	7.24	-0.07	86	246	74	67
169	31.036	0.186	0.098	3.52	96	1.2	-	7.18	-0.06	85	243	74	67
170	31.225	0.189	0.096	3.53	96	1.1	101	7.12	-0.06	85	240	74	67
171	31.417	0.192	0.098	3.53	96	1.2	-	7.06	-0.06	85	237	74	67
172	31.603	0.186	0.098	3.53	96	1.2	-	7.00	-0.06	85	236	74	67
173	31.792	0.189	0.097	3.52	96	1.2	-	6.94	-0.06	85	233	74	67
174	31.979	0.187	0.097	3.53	96	1.2	-	6.88	-0.06	85	231	74	67
175	32.163	0.184	0.098	3.53	96	1.2	-	6.83	-0.05	85	229	73	67
176	32.352	0.189	0.097	3.53	96	1.2	-	6.77	-0.06	85	227	73	67
177	32.541	0.189	0.098	3.52	96	1.2	-	6.71	-0.06	85	225	73	67
178	32.729	0.188	0.097	3.54	96	1.2	-	6.65	-0.06	85	224	74	67
179	32.919	0.190	0.097	3.53	96	1.2	-	6.61	-0.04	85	223	74	67
180	33.107	0.188	0.098	3.53	96	1.2	101	6.55	-0.06	85	222	73	67
181	33.297	0.190	0.099	3.52	96	1.2	-	6.49	-0.06	85	221	73	67
182	33.484	0.187	0.098	3.54	96	1.2	-	6.44	-0.05	85	219	73	67
183	33.670	0.186	0.097	3.53	96	1.2	-	6.40	-0.04	85	218	74	67
184	33.859	0.189	0.096	3.53	96	1.2	-	6.34	-0.06	84	217	73	67
185	34.047	0.188	0.097	3.53	96	1.2	-	6.29	-0.05	84	216	74	67
186	34.234	0.187	0.097	3.53	96	1.2	-	6.24	-0.05	84	216	74	67
187	34.423	0.189	0.098	3.53	96	1.2	-	6.19	-0.05	84	214	74	67
188	34.613	0.190	0.097	3.53	96	1.2	-	6.14	-0.05	84	212	73	67
189	34.801	0.188	0.097	3.54	96	1.2	-	6.10	-0.04	84	212	73	67
190	34.991	0.190	0.098	3.53	96	1.2	100	6.05	-0.05	84	213	73	67
191	35.178	0.187	0.097	3.54	96	1.2	-	6.00	-0.05	84	212	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
192	35.363	0.185	0.095	3.53	96	1.2	-	5.94	-0.06	84	212	73	67
193	35.553	0.190	0.097	3.55	96	1.2	-	5.91	-0.03	84	211	73	67
194	35.741	0.188	0.098	3.54	96	1.2	-	5.86	-0.05	84	209	73	67
195	35.929	0.188	0.098	3.55	96	1.2	-	5.82	-0.04	84	207	73	67
196	36.119	0.190	0.097	3.54	96	1.2	-	5.78	-0.04	83	207	73	68
197	36.307	0.188	0.097	3.53	97	1.2	-	5.75	-0.03	83	206	73	67
198	36.498	0.191	0.098	3.54	96	1.2	-	5.71	-0.04	83	205	73	67
199	36.685	0.187	0.098	3.53	96	1.2	-	5.67	-0.04	83	204	73	67
200	36.872	0.187	0.097	3.54	97	1.2	100	5.64	-0.03	83	203	73	67
201	37.057	0.185	0.098	3.54	97	1.2	-	5.60	-0.04	83	203	73	67
202	37.248	0.191	0.096	3.55	97	1.2	-	5.57	-0.03	83	202	73	67
203	37.437	0.189	0.098	3.53	97	1.2	-	5.54	-0.03	83	201	73	67
204	37.624	0.187	0.097	3.55	97	1.2	-	5.51	-0.03	83	200	73	67
205	37.812	0.188	0.096	3.53	97	1.2	-	5.48	-0.03	83	199	73	67
206	38.003	0.191	0.097	3.56	97	1.2	-	5.45	-0.03	83	198	73	67
207	38.193	0.190	0.097	3.54	97	1.2	-	5.43	-0.02	82	198	73	67
208	38.379	0.186	0.098	3.55	97	1.2	-	5.40	-0.03	82	198	73	67
209	38.571	0.192	0.097	3.54	97	1.2	-	5.37	-0.03	82	197	73	67
210	38.757	0.186	0.097	3.54	97	1.2	101	5.35	-0.02	82	198	73	67
211	38.945	0.188	0.097	3.54	97	1.2	-	5.32	-0.03	82	198	73	67
212	39.129	0.184	0.097	3.54	97	1.2	-	5.29	-0.03	82	199	73	67
213	39.321	0.192	0.097	3.54	97	1.2	-	5.26	-0.03	82	199	73	67
214	39.511	0.190	0.097	3.54	97	1.2	-	5.23	-0.03	82	200	73	67
215	39.700	0.189	0.098	3.54	97	1.2	-	5.20	-0.03	82	201	73	67
216	39.890	0.190	0.098	3.54	97	1.2	-	5.18	-0.02	82	202	73	67
217	40.081	0.191	0.097	3.53	97	1.2	-	5.15	-0.03	82	203	73	67
218	40.267	0.186	0.098	3.53	97	1.2	-	5.12	-0.03	82	204	73	67
219	40.453	0.186	0.097	3.55	97	1.2	-	5.10	-0.02	82	204	73	67
220	40.642	0.189	0.098	3.53	97	1.2	100	5.07	-0.03	82	205	73	67
221	40.829	0.187	0.098	3.53	97	1.2	-	5.03	-0.04	82	206	73	67
222	41.016	0.187	0.097	3.55	97	1.2	-	5.00	-0.03	82	209	73	67
223	41.208	0.192	0.097	3.54	97	1.2	-	4.98	-0.02	82	210	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
224	41.397	0.189	0.097	3.55	97	1.2	-	4.94	-0.04	82	212	73	67
225	41.587	0.190	0.096	3.53	97	1.2	-	4.91	-0.03	82	214	73	67
226	41.772	0.185	0.098	3.55	97	1.2	-	4.88	-0.03	82	217	73	67
227	41.964	0.192	0.097	3.54	97	1.1	-	4.83	-0.05	82	219	73	67
228	42.150	0.186	0.098	3.55	97	1.2	-	4.78	-0.05	82	222	73	67
229	42.339	0.189	0.096	3.54	97	1.2	-	4.75	-0.03	82	222	73	67
230	42.526	0.187	0.096	3.53	97	1.2	100	4.71	-0.04	82	222	73	67
231	42.717	0.191	0.097	3.55	97	1.1	-	4.67	-0.04	82	222	73	67
232	42.906	0.189	0.097	3.55	97	1.2	-	4.63	-0.04	82	224	73	67
233	43.097	0.191	0.097	3.56	97	1.2	-	4.59	-0.04	83	223	73	67
234	43.285	0.188	0.098	3.54	97	1.2	-	4.57	-0.02	83	224	73	67
235	43.472	0.187	0.099	3.55	97	1.2	-	4.53	-0.04	83	225	73	67
236	43.658	0.186	0.097	3.52	97	1.2	-	4.48	-0.05	83	225	73	67
237	43.851	0.193	0.096	3.53	97	1.2	-	4.45	-0.03	83	226	73	67
238	44.037	0.186	0.097	3.54	97	1.2	-	4.42	-0.03	83	227	73	67
239	44.224	0.187	0.097	3.54	97	1.2	-	4.38	-0.04	83	227	73	67
240	44.415	0.191	0.098	3.54	97	1.2	101	4.34	-0.04	83	227	73	67
241	44.603	0.188	0.096	3.54	97	1.2	-	4.31	-0.03	83	227	73	67
242	44.794	0.191	0.098	3.55	97	1.2	-	4.26	-0.05	83	228	73	67
243	44.983	0.189	0.096	3.55	97	1.2	-	4.24	-0.02	83	230	73	67
244	45.171	0.188	0.098	3.55	97	1.2	-	4.20	-0.04	83	230	73	67
245	45.364	0.193	0.096	3.54	97	1.2	-	4.15	-0.05	83	231	73	67
246	45.547	0.183	0.096	3.56	97	1.2	-	4.12	-0.03	83	231	73	67
247	45.732	0.185	0.098	3.54	97	1.2	-	4.08	-0.04	83	233	73	67
248	45.923	0.191	0.097	3.55	97	1.2	-	4.03	-0.05	83	234	73	67
249	46.114	0.191	0.098	3.55	97	1.2	-	3.99	-0.04	83	235	73	67
250	46.299	0.185	0.098	3.55	97	1.2	100	3.95	-0.04	83	236	73	67
251	46.491	0.192	0.098	3.55	97	1.2	-	3.91	-0.04	83	237	73	67
252	46.685	0.194	0.097	3.54	97	1.1	-	3.86	-0.05	83	237	73	67
253	46.870	0.185	0.097	3.56	97	1.2	-	3.81	-0.05	83	238	73	67
254	47.055	0.185	0.099	3.53	97	1.2	-	3.77	-0.04	83	239	73	67
255	47.242	0.187	0.097	3.56	97	1.2	-	3.73	-0.04	83	240	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
256	47.431	0.189	0.097	3.55	97	1.2	-	3.68	-0.05	84	240	73	67
257	47.619	0.188	0.097	3.56	97	1.2	-	3.63	-0.05	84	242	73	67
258	47.810	0.191	0.097	3.55	97	1.2	-	3.58	-0.05	84	242	73	67
259	47.998	0.188	0.097	3.55	97	1.2	-	3.53	-0.05	84	243	73	67
260	48.190	0.192	0.097	3.55	97	1.2	101	3.49	-0.04	84	244	73	67
261	48.381	0.191	0.097	3.55	97	1.2	-	3.44	-0.05	84	245	73	67
262	48.569	0.188	0.098	3.56	97	1.2	-	3.38	-0.06	84	246	73	67
263	48.758	0.189	0.098	3.55	97	1.2	-	3.31	-0.07	84	248	73	67
264	48.945	0.187	0.096	3.55	97	1.2	-	3.28	-0.03	84	250	73	67
265	49.134	0.189	0.097	3.54	97	1.2	-	3.22	-0.06	84	250	73	67
266	49.321	0.187	0.097	3.53	97	1.2	-	3.16	-0.06	84	253	73	67
267	49.509	0.188	0.097	3.54	97	1.2	-	3.10	-0.06	84	253	73	67
268	49.707	0.198	0.098	3.54	97	1.2	-	3.02	-0.08	84	254	73	67
269	49.890	0.183	0.096	3.54	97	1.2	-	2.99	-0.03	85	253	73	67
270	50.080	0.190	0.097	3.54	97	1.2	101	2.93	-0.06	84	254	73	67
271	50.265	0.185	0.097	3.54	97	1.2	-	2.87	-0.06	85	253	73	67
272	50.457	0.192	0.098	3.55	97	1.2	-	2.81	-0.06	84	252	73	67
273	50.644	0.187	0.098	3.55	97	1.2	-	2.76	-0.05	84	252	73	67
274	50.832	0.188	0.099	3.54	97	1.2	-	2.70	-0.06	84	250	73	67
275	51.020	0.188	0.098	3.54	97	1.2	-	2.66	-0.04	84	248	73	67
276	51.211	0.191	0.097	3.54	97	1.2	-	2.60	-0.06	84	245	73	67
277	51.396	0.185	0.098	3.56	97	1.2	-	2.57	-0.03	84	240	73	67
278	51.589	0.193	0.097	3.54	97	1.2	-	2.51	-0.06	84	235	73	67
279	51.779	0.190	0.098	3.54	97	1.2	-	2.49	-0.02	83	231	73	67
280	51.967	0.188	0.097	3.56	97	1.2	101	2.46	-0.03	83	227	73	67
281	52.156	0.189	0.097	3.55	97	1.2	-	2.42	-0.04	83	222	73	67
282	52.346	0.190	0.097	3.55	97	1.2	-	2.40	-0.02	83	216	73	67
283	52.532	0.186	0.096	3.54	97	1.2	-	2.38	-0.02	82	212	73	67
284	52.719	0.187	0.097	3.54	97	1.2	-	2.36	-0.02	82	207	73	67
285	52.911	0.192	0.098	3.54	97	1.2	-	2.34	-0.02	82	201	73	67
286	53.099	0.188	0.098	3.54	97	1.2	-	2.32	-0.02	82	197	73	67
287	53.288	0.189	0.096	3.54	97	1.2	-	2.31	-0.01	82	192	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
288	53.475	0.187	0.099	3.55	97	1.2	-	2.30	-0.01	81	188	73	67
289	53.666	0.191	0.097	3.56	97	1.2	-	2.28	-0.02	81	184	73	67
290	53.855	0.189	0.098	3.53	97	1.2	100	2.27	-0.01	81	181	73	67
291	54.042	0.187	0.098	3.55	97	1.2	-	2.26	-0.01	81	177	73	67
292	54.231	0.189	0.098	3.55	97	1.2	-	2.25	-0.01	81	175	73	67
293	54.422	0.191	0.098	3.55	97	1.1	-	2.24	-0.01	81	172	72	67
294	54.611	0.189	0.100	3.55	97	1.2	-	2.23	-0.01	81	171	73	67
295	54.798	0.187	0.097	3.54	97	1.2	-	2.22	-0.01	80	168	72	67
296	54.987	0.189	0.098	3.54	97	1.2	-	2.21	-0.01	80	167	72	67
297	55.178	0.191	0.098	3.55	97	1.2	-	2.20	-0.01	80	166	72	67
298	55.366	0.188	0.096	3.55	97	1.1	-	2.19	-0.01	80	165	72	67
299	55.555	0.189	0.096	3.54	97	1.2	-	2.18	-0.01	80	163	72	67
300	55.739	0.184	0.097	3.57	97	1.2	100	2.17	-0.01	80	162	72	67
301	55.931	0.192	0.099	3.54	97	1.2	-	2.18	0.01	80	161	72	67
302	56.118	0.187	0.099	3.54	97	1.1	-	2.16	-0.02	80	160	72	67
303	56.310	0.192	0.098	3.55	97	1.2	-	2.15	-0.01	80	160	72	67
304	56.498	0.188	0.097	3.55	97	1.2	-	2.13	-0.02	79	160	72	67
305	56.690	0.192	0.098	3.55	97	1.2	-	2.13	0.00	79	161	72	67
306	56.878	0.188	0.098	3.55	97	1.2	-	2.12	-0.01	79	162	72	67
307	57.062	0.184	0.097	3.55	97	1.2	-	2.10	-0.02	79	163	72	67
308	57.255	0.193	0.099	3.55	97	1.2	-	2.09	-0.01	79	165	72	67
309	57.441	0.186	0.099	3.55	97	1.2	-	2.07	-0.02	79	168	72	67
310	57.630	0.189	0.097	3.54	97	1.2	100	2.07	0.00	79	169	72	67
311	57.814	0.184	0.098	3.55	97	1.2	-	2.05	-0.02	79	172	72	67
312	58.007	0.193	0.099	3.54	97	1.2	-	2.03	-0.02	79	174	72	67
313	58.197	0.190	0.097	3.55	97	1.2	-	2.02	-0.01	79	176	72	67
314	58.386	0.189	0.099	3.55	97	1.2	-	2.00	-0.02	79	179	72	67
315	58.573	0.187	0.097	3.54	97	1.2	-	1.98	-0.02	79	182	72	67
316	58.765	0.192	0.097	3.56	97	1.2	-	1.96	-0.02	79	185	72	67
317	58.953	0.188	0.098	3.55	97	1.2	-	1.95	-0.01	79	188	72	67
318	59.140	0.187	0.099	3.54	97	1.2	-	1.93	-0.02	79	191	72	67
319	59.329	0.189	0.098	3.55	97	1.2	-	1.90	-0.03	79	194	71	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
320	59.516	0.187	0.098	3.54	97	1.2	100	1.88	-0.02	79	197	71	67
321	59.706	0.190	0.099	3.55	97	1.2	-	1.87	-0.01	80	200	72	66
322	59.892	0.186	0.099	3.55	97	1.2	-	1.83	-0.04	80	202	72	66
323	60.084	0.192	0.098	3.55	97	1.2	-	1.82	-0.01	80	204	72	67
324	60.275	0.191	0.098	3.54	97	1.2	-	1.79	-0.03	80	207	71	66
325	60.459	0.184	0.098	3.55	97	1.2	-	1.78	-0.01	80	209	71	66
326	60.652	0.193	0.098	3.54	97	1.2	-	1.75	-0.03	80	211	71	66
327	60.835	0.183	0.098	3.55	97	1.2	-	1.72	-0.03	80	213	71	66
328	61.027	0.192	0.096	3.55	96	1.2	-	1.70	-0.02	80	214	71	66
329	61.211	0.184	0.098	3.56	96	1.2	-	1.68	-0.02	80	217	71	66
330	61.404	0.193	0.098	3.53	96	1.2	100	1.65	-0.03	80	218	71	66
331	61.594	0.190	0.098	3.55	96	1.2	-	1.63	-0.02	80	221	71	66
332	61.783	0.189	0.097	3.56	96	1.2	-	1.59	-0.04	80	222	71	66
333	61.970	0.187	0.099	3.54	96	1.2	-	1.58	-0.01	81	224	71	66
334	62.161	0.191	0.098	3.55	96	1.2	-	1.56	-0.02	81	226	71	66
335	62.350	0.189	0.098	3.54	96	1.2	-	1.54	-0.02	81	227	71	66
336	62.532	0.182	0.098	3.55	96	1.2	-	1.51	-0.03	81	227	71	66
337	62.725	0.193	0.099	3.54	96	1.2	-	1.49	-0.02	81	229	71	66
338	62.912	0.187	0.098	3.54	96	1.2	-	1.45	-0.04	81	230	71	66
339	63.104	0.192	0.097	3.54	96	1.2	-	1.43	-0.02	81	231	71	66
340	63.292	0.188	0.098	3.54	96	1.2	100	1.40	-0.03	81	231	71	66
341	63.479	0.187	0.098	3.55	96	1.2	-	1.38	-0.02	81	232	71	66
342	63.671	0.192	0.099	3.55	96	1.2	-	1.35	-0.03	81	232	71	66
343	63.862	0.191	0.099	3.56	96	1.2	-	1.32	-0.03	81	232	71	66
344	64.048	0.186	0.098	3.55	96	1.2	-	1.30	-0.02	81	233	71	66
345	64.234	0.186	0.098	3.55	96	1.2	-	1.28	-0.02	81	234	71	66
346	64.426	0.192	0.099	3.54	96	1.2	-	1.24	-0.04	81	235	71	66
347	64.610	0.184	0.097	3.54	96	1.2	-	1.22	-0.02	81	236	71	66
348	64.801	0.191	0.097	3.54	96	1.2	-	1.20	-0.02	81	236	71	66
349	64.989	0.188	0.098	3.54	96	1.2	-	1.18	-0.02	81	237	71	66
350	65.179	0.190	0.098	3.55	96	1.2	100	1.15	-0.03	81	237	71	66
351	65.368	0.189	0.097	3.54	96	1.2	-	1.12	-0.03	81	238	71	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
352	65.556	0.188	0.097	3.54	96	1.2	-	1.09	-0.03	81	238	71	66
353	65.745	0.189	0.098	3.54	96	1.2	-	1.06	-0.03	81	239	71	66
354	65.931	0.186	0.099	3.56	96	1.2	-	1.04	-0.02	81	239	71	66
355	66.120	0.189	0.098	3.54	96	1.2	-	1.02	-0.02	81	239	71	66
356	66.304	0.184	0.098	3.55	96	1.2	-	1.00	-0.02	81	239	71	66
357	66.498	0.194	0.098	3.54	96	1.2	-	0.96	-0.04	81	240	71	66
358	66.686	0.188	0.099	3.54	96	1.2	-	0.93	-0.03	81	240	71	66
359	66.877	0.191	0.098	3.55	96	1.2	-	0.91	-0.02	81	240	71	66
360	67.065	0.188	0.097	3.53	96	1.2	100	0.89	-0.02	81	240	71	66
361	67.254	0.189	0.098	3.55	96	1.2	-	0.85	-0.04	81	240	71	66
362	67.442	0.188	0.097	3.54	96	1.2	-	0.83	-0.02	81	241	71	66
363	67.628	0.186	0.098	3.55	96	1.2	-	0.80	-0.03	82	240	71	66
364	67.817	0.189	0.097	3.54	96	1.2	-	0.78	-0.02	82	241	71	66
365	68.005	0.188	0.098	3.54	96	1.2	-	0.75	-0.03	81	241	71	66
366	68.195	0.190	0.098	3.52	96	1.2	-	0.72	-0.03	81	241	71	66
367	68.383	0.188	0.099	3.55	96	1.1	-	0.70	-0.02	81	239	71	66
368	68.576	0.193	0.097	3.54	96	1.2	-	0.67	-0.03	81	239	71	66
369	68.759	0.183	0.098	3.53	96	1.2	-	0.64	-0.03	81	240	71	66
370	68.951	0.192	0.098	3.55	96	1.2	100	0.61	-0.03	81	239	71	66
371	69.137	0.186	0.097	3.55	96	1.2	-	0.60	-0.01	81	239	71	66
372	69.325	0.188	0.098	3.54	96	1.2	-	0.56	-0.04	81	238	71	66
373	69.513	0.188	0.098	3.54	96	1.2	-	0.52	-0.04	81	238	71	66
374	69.700	0.187	0.099	3.53	96	1.2	-	0.50	-0.02	81	238	71	66
375	69.891	0.191	0.098	3.55	96	1.2	-	0.47	-0.03	81	238	71	66
376	70.080	0.189	0.098	3.55	96	1.1	-	0.45	-0.02	81	237	71	66
377	70.270	0.190	0.099	3.53	96	1.2	-	0.42	-0.03	81	237	71	66
378	70.458	0.188	0.098	3.56	96	1.2	-	0.39	-0.03	81	235	71	66
379	70.646	0.188	0.099	3.53	96	1.2	-	0.36	-0.03	81	236	71	66
380	70.829	0.183	0.097	3.55	96	1.2	100	0.34	-0.02	81	235	71	66
381	71.021	0.192	0.098	3.54	96	1.2	-	0.32	-0.02	81	234	71	66
382	71.208	0.187	0.098	3.53	96	1.2	-	0.29	-0.03	81	235	71	66
383	71.397	0.189	0.097	3.54	96	1.2	-	0.25	-0.04	81	234	71	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Fuel Weight (lb)		Temperature Data (°F)			
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Dilution Tunnel dP (in H_2O)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Scale Reading	Weight Change	Dilution Tunnel	Flue	Filter	Ambient
384	71.587	0.190	0.098	3.53	96	1.2	-	0.23	-0.02	81	233	71	66
385	71.775	0.188	0.099	3.54	96	1.2	-	0.21	-0.02	81	233	71	66
386	71.965	0.190	0.098	3.53	96	1.2	-	0.18	-0.03	81	232	71	66
387	72.153	0.188	0.098	3.55	96	1.2	-	0.16	-0.02	81	232	71	66
388	72.342	0.189	0.097	3.55	96	1.2	-	0.13	-0.03	81	233	71	66
389	72.528	0.186	0.099	3.55	96	1.2	-	0.10	-0.03	81	232	71	66
390	72.716	0.188	0.097	3.53	96	1.1	101	0.07	-0.03	81	231	71	66
391	72.903	0.187	0.097	3.54	96	1.2	-	0.05	-0.02	81	231	71	66
392	73.094	0.191	0.098	3.53	96	1.2	-	0.02	-0.03	81	230	71	66
393	73.282	0.188	0.097	3.54	96	1.2	-	0.01	-0.01	80	229	71	66
394	73.473	0.191	0.098	3.54	96	1.1	100	0.00	-0.01	81	228	71	66
Avg/Tot	73.473	0.186	0.097	3.49	92.5	1.2	100			83.5	237.0	72.2	66.5

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
0	-0.003		0.76	70	1.5		69	-0.036	3.36	0.233
1	0.125	0.128	3.17	70	1.8	-	70	-0.038	1.03	0.471
2	0.300	0.175	3.17	70	2.0	-	70	-0.034	3.01	0.014
3	0.469	0.169	3.17	70	1.7	-	70	-0.035	4.35	0.008
4	0.641	0.172	3.17	70	2.1	-	70	-0.037	4.40	0.009
5	0.815	0.174	3.18	70	1.7	-	70	-0.038	4.53	0.009
6	0.987	0.172	3.18	70	2.1	-	70	-0.037	4.95	0.008
7	1.156	0.169	3.17	70	1.7	-	70	-0.039	4.95	0.008
8	1.329	0.173	3.17	70	1.9	-	71	-0.042	5.03	0.009
9	1.503	0.174	3.19	71	1.9	-	71	-0.040	5.41	0.009
10	1.671	0.168	3.20	71	2.1	97	71	-0.043	5.23	0.010
11	1.842	0.171	3.20	71	2.1	-	71	-0.042	5.29	0.010
12	2.019	0.177	3.20	71	1.8	-	71	-0.043	7.04	0.009
13	2.193	0.174	3.20	71	1.8	-	71	-0.047	7.33	0.011
14	2.360	0.167	3.20	72	2.1	-	71	-0.047	7.23	0.007
15	2.536	0.176	3.21	72	1.8	-	71	-0.048	7.64	0.006
16	2.711	0.175	3.21	72	1.9	-	71	-0.049	7.67	0.008
17	2.881	0.170	3.20	72	2.0	-	71	-0.051	7.78	0.007
18	3.056	0.175	3.21	73	1.6	-	71	-0.051	8.31	0.009
19	3.225	0.169	3.20	73	1.8	-	71	-0.053	8.89	0.011
20	3.403	0.178	3.21	73	2.1	100	71	-0.052	8.21	0.009
21	3.578	0.175	3.22	74	2.1	-	72	-0.054	7.88	0.006
22	3.750	0.172	3.22	74	2.0	-	72	-0.053	7.94	0.007
23	3.920	0.170	3.21	74	2.0	-	72	-0.055	7.80	0.007
24	4.099	0.179	3.22	75	1.7	-	72	-0.054	7.90	0.006
25	4.270	0.171	3.22	75	2.0	-	72	-0.057	7.95	0.006
26	4.446	0.176	3.23	75	1.9	-	72	-0.056	8.12	0.010
27	4.620	0.174	3.23	76	1.6	-	72	-0.055	8.09	0.008
28	4.793	0.173	3.23	76	2.1	-	72	-0.055	8.41	0.008
29	4.972	0.179	3.24	76	1.7	-	72	-0.057	8.61	0.008
30	5.145	0.173	3.24	77	1.8	100	72	-0.057	8.65	0.008
31	5.315	0.170	3.23	77	1.9	-	72	-0.057	8.82	0.006

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
32	5.494	0.179	3.24	77	1.9	-	72	-0.057	8.84	0.010
33	5.671	0.177	3.24	78	2.0	-	73	-0.057	9.08	0.008
34	5.846	0.175	3.25	78	2.1	-	73	-0.058	9.06	0.013
35	6.018	0.172	3.24	78	1.7	-	73	-0.059	9.37	0.006
36	6.194	0.176	3.24	79	1.9	-	73	-0.060	9.39	0.008
37	6.368	0.174	3.24	79	1.6	-	73	-0.059	9.60	0.006
38	6.547	0.179	3.24	79	1.6	-	73	-0.060	9.89	0.007
39	6.720	0.173	3.23	80	2.1	-	73	-0.062	9.69	0.007
40	6.895	0.175	3.24	80	2.0	100	73	-0.061	9.88	0.011
41	7.073	0.178	3.24	80	1.6	-	73	-0.061	9.93	0.006
42	7.251	0.178	3.25	81	2.1	-	73	-0.062	10.05	0.009
43	7.422	0.171	3.25	81	1.7	-	73	-0.061	10.18	0.005
44	7.600	0.178	3.25	81	1.7	-	73	-0.062	10.34	0.007
45	7.777	0.177	3.25	82	1.7	-	73	-0.062	10.07	0.009
46	7.952	0.175	3.25	82	1.9	-	74	-0.064	10.25	0.008
47	8.131	0.179	3.26	82	1.7	-	74	-0.064	10.39	0.004
48	8.306	0.175	3.25	82	1.8	-	74	-0.061	10.68	0.007
49	8.479	0.173	3.25	83	1.7	-	74	-0.062	10.61	0.006
50	8.658	0.179	3.25	83	2.0	101	74	-0.064	11.03	0.008
51	8.837	0.179	3.26	83	2.1	-	74	-0.063	10.87	0.009
52	9.013	0.176	3.26	84	2.1	-	74	-0.062	10.84	0.008
53	9.191	0.178	3.26	84	2.1	-	74	-0.061	10.61	0.006
54	9.366	0.175	3.26	84	1.9	-	74	-0.063	10.39	0.007
55	9.546	0.180	3.25	84	2.1	-	74	-0.065	10.90	0.007
56	9.725	0.179	3.26	85	1.7	-	74	-0.065	10.86	0.005
57	9.902	0.177	3.26	85	2.1	-	74	-0.065	11.44	0.008
58	10.078	0.176	3.26	85	2.0	-	74	-0.064	11.53	0.007
59	10.256	0.178	3.26	85	1.6	-	74	-0.064	11.12	0.007
60	10.432	0.176	3.27	86	1.6	100	74	-0.064	11.39	0.007
61	10.609	0.177	3.26	86	2.1	-	74	-0.064	11.39	0.005
62	10.785	0.176	3.26	86	1.9	-	74	-0.063	11.54	0.004
63	10.963	0.178	3.26	86	2.1	-	74	-0.064	11.59	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
64	11.142	0.179	3.28	87	2.0	-	74	-0.064	11.22	0.005
65	11.321	0.179	3.27	87	1.9	-	75	-0.067	11.40	0.004
66	11.498	0.177	3.27	87	1.9	-	75	-0.064	11.61	0.008
67	11.674	0.176	3.27	87	1.9	-	75	-0.064	11.67	0.009
68	11.855	0.181	3.26	87	2.2	-	75	-0.063	11.32	0.013
69	12.031	0.176	3.27	88	1.9	-	75	-0.064	12.17	0.016
70	12.211	0.180	3.27	88	2.0	101	75	-0.063	11.95	0.020
71	12.389	0.178	3.28	88	2.0	-	75	-0.061	11.92	0.017
72	12.565	0.176	3.27	88	2.1	-	75	-0.063	11.59	0.016
73	12.746	0.181	3.27	89	1.9	-	75	-0.064	11.62	0.006
74	12.926	0.180	3.27	89	2.1	-	75	-0.063	11.51	0.007
75	13.106	0.180	3.28	89	2.2	-	75	-0.063	11.34	0.006
76	13.281	0.175	3.28	89	1.9	-	75	-0.060	11.10	0.008
77	13.460	0.179	3.28	89	1.7	-	75	-0.060	11.16	0.006
78	13.638	0.178	3.28	89	2.1	-	75	-0.061	10.68	0.006
79	13.818	0.180	3.28	90	2.1	-	75	-0.061	10.63	0.006
80	13.995	0.177	3.28	90	1.6	101	75	-0.061	10.58	0.006
81	14.176	0.181	3.28	90	2.1	-	75	-0.059	10.62	0.006
82	14.353	0.177	3.28	90	1.8	-	75	-0.061	10.53	0.006
83	14.532	0.179	3.28	90	1.6	-	75	-0.064	10.63	0.005
84	14.713	0.181	3.28	90	1.9	-	75	-0.061	10.72	0.009
85	14.890	0.177	3.29	90	2.2	-	75	-0.060	10.51	0.008
86	15.071	0.181	3.28	91	2.1	-	75	-0.061	10.86	0.007
87	15.248	0.177	3.28	91	2.1	-	75	-0.061	10.87	0.009
88	15.425	0.177	3.28	91	1.6	-	75	-0.061	11.06	0.017
89	15.608	0.183	3.29	91	2.2	-	75	-0.065	11.83	0.028
90	15.787	0.179	3.28	91	2.2	101	75	-0.063	11.30	0.025
91	15.967	0.180	3.28	91	1.6	-	75	-0.062	11.15	0.023
92	16.145	0.178	3.29	91	2.1	-	75	-0.061	11.69	0.025
93	16.324	0.179	3.28	92	2.1	-	75	-0.061	11.55	0.020
94	16.503	0.179	3.30	92	1.7	-	75	-0.061	11.59	0.031
95	16.684	0.181	3.28	92	2.2	-	75	-0.058	11.71	0.023

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
96	16.864	0.180	3.29	92	1.7	-	75	-0.058	11.74	0.025
97	17.043	0.179	3.28	92	1.8	-	75	-0.057	11.62	0.015
98	17.218	0.175	3.29	92	1.6	-	75	-0.059	11.43	0.018
99	17.397	0.179	3.29	92	2.2	-	75	-0.057	11.29	0.013
100	17.581	0.184	3.29	92	1.6	101	75	-0.058	11.11	0.010
101	17.762	0.181	3.29	92	1.6	-	75	-0.055	11.11	0.007
102	17.939	0.177	3.29	93	1.8	-	75	-0.055	11.13	0.007
103	18.119	0.180	3.28	93	1.9	-	75	-0.057	10.64	0.006
104	18.298	0.179	3.29	93	1.8	-	75	-0.053	10.55	0.007
105	18.479	0.181	3.28	93	2.2	-	75	-0.056	10.96	0.005
106	18.660	0.181	3.29	93	1.8	-	75	-0.055	10.73	0.004
107	18.839	0.179	3.29	93	1.9	-	75	-0.053	10.73	0.005
108	19.014	0.175	3.28	93	2.0	-	75	-0.053	10.80	0.004
109	19.197	0.183	3.29	93	1.8	-	75	-0.052	10.23	0.005
110	19.375	0.178	3.29	93	1.9	100	75	-0.053	10.17	0.005
111	19.558	0.183	3.29	93	2.2	-	75	-0.051	10.16	0.003
112	19.739	0.181	3.29	93	2.1	-	75	-0.052	10.21	0.007
113	19.915	0.176	3.29	93	1.6	-	75	-0.053	10.45	0.005
114	20.096	0.181	3.30	93	1.9	-	75	-0.051	10.16	0.004
115	20.273	0.177	3.29	94	1.8	-	75	-0.052	10.21	0.005
116	20.457	0.184	3.29	94	2.2	-	75	-0.051	10.49	0.005
117	20.636	0.179	3.30	94	1.8	-	75	-0.053	10.35	0.003
118	20.818	0.182	3.29	94	1.9	-	75	-0.050	10.01	0.006
119	20.993	0.175	3.29	94	2.1	-	75	-0.052	10.34	0.004
120	21.176	0.183	3.29	94	1.8	100	75	-0.051	10.15	0.004
121	21.354	0.178	3.29	94	1.8	-	75	-0.051	10.31	0.002
122	21.535	0.181	3.29	94	1.8	-	75	-0.051	10.47	0.004
123	21.717	0.182	3.29	94	2.1	-	75	-0.051	10.61	0.004
124	21.894	0.177	3.29	94	1.8	-	75	-0.049	10.75	0.006
125	22.076	0.182	3.29	94	2.1	-	75	-0.051	10.93	0.004
126	22.256	0.180	3.30	94	1.7	-	75	-0.050	11.12	0.005
127	22.434	0.178	3.29	94	2.1	-	75	-0.050	11.58	0.003

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
128	22.615	0.181	3.30	94	1.8	-	75	-0.052	11.61	0.004
129	22.798	0.183	3.29	94	1.7	-	75	-0.053	11.68	0.003
130	22.973	0.175	3.29	94	2.0	100	75	-0.053	12.01	0.004
131	23.153	0.180	3.29	95	1.7	-	75	-0.051	11.98	0.005
132	23.338	0.185	3.29	95	2.2	-	75	-0.053	11.93	0.004
133	23.517	0.179	3.30	95	1.7	-	75	-0.053	11.99	0.004
134	23.699	0.182	3.29	95	1.7	-	75	-0.055	12.08	0.004
135	23.878	0.179	3.29	95	2.2	-	75	-0.057	12.11	0.005
136	24.054	0.176	3.29	95	2.2	-	75	-0.053	12.03	0.005
137	24.238	0.184	3.29	95	2.1	-	75	-0.052	11.95	0.007
138	24.416	0.178	3.29	95	2.0	-	75	-0.056	12.02	0.008
139	24.601	0.185	3.30	95	1.8	-	75	-0.053	12.09	0.013
140	24.777	0.176	3.29	95	2.2	101	75	-0.055	12.16	0.017
141	24.955	0.178	3.29	95	2.2	-	75	-0.056	12.66	0.014
142	25.139	0.184	3.29	95	2.2	-	75	-0.057	12.25	0.007
143	25.320	0.181	3.29	95	2.2	-	75	-0.056	12.51	0.017
144	25.499	0.179	3.30	95	1.6	-	75	-0.053	12.47	0.015
145	25.678	0.179	3.29	95	1.7	-	75	-0.054	12.49	0.013
146	25.857	0.179	3.29	95	1.9	-	75	-0.056	12.26	0.015
147	26.040	0.183	3.29	95	1.7	-	75	-0.056	12.76	0.014
148	26.220	0.180	3.29	95	2.2	-	75	-0.056	12.93	0.015
149	26.399	0.179	3.29	95	1.8	-	75	-0.056	12.76	0.018
150	26.583	0.184	3.29	95	2.1	101	75	-0.059	12.74	0.019
151	26.763	0.180	3.29	95	2.1	-	75	-0.055	12.88	0.025
152	26.941	0.178	3.30	95	2.2	-	75	-0.055	12.94	0.043
153	27.118	0.177	3.29	95	2.1	-	75	-0.056	12.70	0.043
154	27.300	0.182	3.29	95	1.7	-	75	-0.055	12.74	0.074
155	27.484	0.184	3.30	95	2.2	-	75	-0.056	12.90	0.110
156	27.661	0.177	3.29	95	1.7	-	75	-0.060	13.44	0.155
157	27.839	0.178	3.29	95	1.7	-	75	-0.056	13.21	0.188
158	28.023	0.184	3.29	95	1.7	-	75	-0.058	13.12	0.249
159	28.203	0.180	3.29	95	1.8	-	75	-0.059	13.30	0.289

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
160	28.384	0.181	3.29	95	2.0	100	75	-0.058	13.40	0.391
161	28.566	0.182	3.29	96	1.8	-	75	-0.059	13.30	0.520
162	28.743	0.177	3.29	96	2.1	-	75	-0.057	13.09	0.826
163	28.921	0.178	3.29	96	2.2	-	75	-0.056	13.01	0.972
164	29.101	0.180	3.28	95	1.6	-	75	-0.056	13.26	1.048
165	29.284	0.183	3.29	96	2.0	-	75	-0.057	12.97	1.150
166	29.465	0.181	3.29	96	1.7	-	75	-0.057	12.29	1.685
167	29.645	0.180	3.29	96	1.7	-	75	-0.055	12.59	1.924
168	29.828	0.183	3.29	96	1.9	-	75	-0.055	12.23	1.911
169	30.008	0.180	3.30	96	2.2	-	75	-0.055	12.19	1.906
170	30.188	0.180	3.29	96	1.8	100	75	-0.055	12.42	1.971
171	30.372	0.184	3.29	96	2.1	-	75	-0.054	11.97	1.736
172	30.551	0.179	3.29	96	2.0	-	75	-0.054	12.08	1.770
173	30.731	0.180	3.30	96	1.9	-	75	-0.051	12.05	1.794
174	30.909	0.178	3.29	96	2.1	-	75	-0.051	12.04	1.896
175	31.087	0.178	3.30	96	2.1	-	75	-0.052	12.10	1.853
176	31.272	0.185	3.30	96	1.6	-	75	-0.049	11.76	1.818
177	31.453	0.181	3.30	96	2.0	-	75	-0.050	11.78	1.874
178	31.633	0.180	3.30	96	1.7	-	75	-0.049	11.93	1.981
179	31.814	0.181	3.29	96	1.8	-	75	-0.050	11.96	1.970
180	31.993	0.179	3.30	96	2.2	100	75	-0.050	11.70	1.959
181	32.173	0.180	3.30	96	2.0	-	75	-0.050	11.61	1.814
182	32.355	0.182	3.30	96	1.7	-	75	-0.050	11.87	1.650
183	32.534	0.179	3.29	96	2.1	-	75	-0.047	11.83	1.511
184	32.717	0.183	3.30	96	1.7	-	75	-0.048	11.83	1.611
185	32.896	0.179	3.29	96	2.1	-	75	-0.050	11.56	1.536
186	33.076	0.180	3.29	96	1.8	-	75	-0.047	11.82	1.510
187	33.257	0.181	3.30	96	2.1	-	75	-0.045	11.82	1.320
188	33.439	0.182	3.30	96	1.7	-	75	-0.048	12.19	1.251
189	33.621	0.182	3.30	96	2.2	-	75	-0.047	12.25	1.197
190	33.801	0.180	3.30	96	1.6	100	75	-0.048	12.07	1.213
191	33.980	0.179	3.30	96	2.1	-	75	-0.047	12.15	1.224

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
192	34.157	0.177	3.30	96	1.7	-	75	-0.048	11.71	1.188
193	34.342	0.185	3.30	96	2.0	-	75	-0.049	12.24	1.152
194	34.524	0.182	3.30	96	2.0	-	75	-0.047	12.10	1.088
195	34.704	0.180	3.29	96	2.1	-	75	-0.046	12.21	1.001
196	34.885	0.181	3.30	96	1.8	-	75	-0.044	12.39	1.099
197	35.065	0.180	3.30	96	2.0	-	75	-0.045	11.68	1.035
198	35.245	0.180	3.30	96	2.0	-	75	-0.046	11.84	0.874
199	35.427	0.182	3.30	96	2.1	-	75	-0.046	11.62	0.944
200	35.606	0.179	3.30	96	2.1	100	75	-0.044	11.74	0.948
201	35.786	0.180	3.31	96	1.7	-	75	-0.043	11.82	0.714
202	35.968	0.182	3.29	96	1.8	-	75	-0.043	11.58	0.494
203	36.149	0.181	3.30	96	1.6	-	75	-0.042	11.90	0.342
204	36.330	0.181	3.30	96	2.1	-	75	-0.042	11.73	0.226
205	36.509	0.179	3.30	96	1.9	-	75	-0.042	11.55	0.163
206	36.694	0.185	3.30	96	2.2	-	75	-0.043	11.70	0.084
207	36.875	0.181	3.31	96	2.1	-	75	-0.041	11.34	0.018
208	37.050	0.175	3.30	96	2.0	-	75	-0.045	11.74	0.005
209	37.234	0.184	3.30	96	2.0	-	75	-0.039	11.47	0.004
210	37.416	0.182	3.30	96	2.2	100	75	-0.042	11.30	0.005
211	37.597	0.181	3.30	96	1.6	-	75	-0.041	11.32	0.003
212	37.776	0.179	3.30	96	1.9	-	75	-0.043	11.09	0.003
213	37.959	0.183	3.31	96	1.8	-	75	-0.042	11.02	0.003
214	38.139	0.180	3.31	96	1.8	-	75	-0.043	11.06	0.001
215	38.319	0.180	3.30	97	1.6	-	75	-0.043	11.04	0.003
216	38.502	0.183	3.30	96	2.1	-	75	-0.041	10.85	0.005
217	38.686	0.184	3.31	97	1.6	-	75	-0.044	10.60	0.003
218	38.864	0.178	3.30	97	1.6	-	75	-0.041	10.88	0.003
219	39.043	0.179	3.30	97	2.0	-	75	-0.044	10.84	0.002
220	39.224	0.181	3.30	97	1.7	100	75	-0.044	11.27	0.002
221	39.405	0.181	3.30	97	2.0	-	75	-0.044	11.31	0.003
222	39.584	0.179	3.30	97	1.9	-	75	-0.046	11.43	0.001
223	39.769	0.185	3.30	97	2.2	-	75	-0.043	11.41	0.002

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
224	39.949	0.180	3.31	97	1.7	-	75	-0.044	11.80	0.001
225	40.128	0.179	3.31	97	1.7	-	75	-0.044	11.46	0.003
226	40.305	0.177	3.30	97	1.8	-	75	-0.046	12.12	0.004
227	40.491	0.186	3.32	97	1.6	-	75	-0.046	11.94	0.003
228	40.672	0.181	3.31	97	1.8	-	75	-0.046	12.53	0.003
229	40.854	0.182	3.31	97	1.9	-	75	-0.049	11.84	0.003
230	41.034	0.180	3.29	97	2.1	100	74	-0.048	11.47	0.001
231	41.213	0.179	3.30	97	2.2	-	75	-0.045	11.16	0.002
232	41.394	0.181	3.30	97	1.8	-	75	-0.048	10.68	0.003
233	41.579	0.185	3.30	97	1.6	-	75	-0.048	11.01	0.001
234	41.759	0.180	3.31	97	1.7	-	75	-0.047	10.96	0.002
235	41.939	0.180	3.31	97	1.9	-	75	-0.049	10.75	0.003
236	42.115	0.176	3.30	97	1.7	-	75	-0.048	10.82	0.002
237	42.302	0.187	3.31	97	1.7	-	75	-0.047	10.59	0.001
238	42.479	0.177	3.30	97	1.7	-	75	-0.048	10.87	0.003
239	42.661	0.182	3.31	97	1.6	-	75	-0.048	10.79	0.004
240	42.844	0.183	3.30	97	2.1	100	75	-0.047	10.80	0.002
241	43.024	0.180	3.30	97	2.2	-	75	-0.050	10.87	0.002
242	43.203	0.179	3.30	97	2.2	-	75	-0.048	10.84	0.002
243	43.384	0.181	3.30	97	2.1	-	75	-0.049	10.90	0.004
244	43.566	0.182	3.31	97	1.8	-	75	-0.049	11.12	0.001
245	43.750	0.184	3.30	97	2.1	-	75	-0.048	11.37	0.001
246	43.929	0.179	3.31	97	1.6	-	75	-0.050	11.21	0.002
247	44.106	0.177	3.30	97	1.6	-	75	-0.051	11.18	0.002
248	44.288	0.182	3.30	97	2.0	-	75	-0.050	11.50	0.002
249	44.469	0.181	3.31	97	1.6	-	75	-0.050	11.24	0.002
250	44.649	0.180	3.31	97	1.9	99	75	-0.050	11.75	0.002
251	44.831	0.182	3.31	97	1.7	-	75	-0.050	11.52	0.003
252	45.017	0.186	3.31	97	2.0	-	75	-0.050	11.76	0.003
253	45.195	0.178	3.31	97	2.0	-	75	-0.052	11.73	0.003
254	45.371	0.176	3.31	97	2.1	-	75	-0.049	12.11	0.001
255	45.552	0.181	3.31	97	1.6	-	75	-0.048	12.30	0.002

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
256	45.734	0.182	3.31	97	1.6	-	75	-0.051	12.07	0.002
257	45.916	0.182	3.31	97	2.2	-	75	-0.051	12.26	0.001
258	46.097	0.181	3.31	97	2.0	-	75	-0.050	12.05	0.002
259	46.275	0.178	3.31	97	2.1	-	75	-0.049	12.42	0.002
260	46.457	0.182	3.30	97	1.6	100	75	-0.053	12.09	0.004
261	46.641	0.184	3.31	97	1.7	-	75	-0.051	12.22	0.002
262	46.822	0.181	3.30	97	2.0	-	75	-0.051	12.45	0.001
263	47.005	0.183	3.31	97	2.1	-	75	-0.053	12.63	0.001
264	47.186	0.181	3.31	97	2.0	-	75	-0.054	12.62	0.000
265	47.364	0.178	3.31	97	1.8	-	75	-0.052	12.97	0.003
266	47.545	0.181	3.30	97	2.1	-	75	-0.052	13.05	0.005
267	47.724	0.179	3.30	97	1.9	-	75	-0.055	12.96	0.008
268	47.913	0.189	3.30	97	1.6	-	75	-0.058	13.31	0.039
269	48.089	0.176	3.30	97	1.6	-	75	-0.054	13.24	0.080
270	48.270	0.181	3.30	97	1.6	101	75	-0.052	13.83	0.129
271	48.447	0.177	3.30	97	1.6	-	75	-0.055	12.98	0.182
272	48.630	0.183	3.30	97	2.2	-	75	-0.053	13.53	0.221
273	48.812	0.182	3.30	97	1.6	-	75	-0.056	13.68	0.262
274	48.995	0.183	3.30	97	2.2	-	75	-0.054	13.19	0.301
275	49.175	0.180	3.31	97	2.2	-	75	-0.052	13.35	0.312
276	49.354	0.179	3.30	97	1.7	-	75	-0.050	12.75	0.348
277	49.531	0.177	3.30	97	1.6	-	75	-0.051	12.80	0.398
278	49.715	0.184	3.30	97	1.6	-	75	-0.050	13.06	0.241
279	49.897	0.182	3.30	97	1.7	-	75	-0.050	12.41	0.202
280	50.079	0.182	3.30	97	1.8	100	75	-0.049	12.48	0.094
281	50.260	0.181	3.31	97	1.9	-	75	-0.046	12.25	0.056
282	50.441	0.181	3.30	97	1.9	-	75	-0.045	11.99	0.008
283	50.619	0.178	3.30	97	1.6	-	75	-0.044	11.12	0.002
284	50.802	0.183	3.30	97	2.1	-	75	-0.044	10.85	0.001
285	50.985	0.183	3.31	97	2.2	-	74	-0.043	10.39	0.001
286	51.164	0.179	3.31	97	1.7	-	74	-0.040	10.43	0.002
287	51.345	0.181	3.30	97	2.1	-	74	-0.040	9.76	0.002

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
288	51.522	0.177	3.31	97	2.2	-	74	-0.039	9.79	0.002
289	51.704	0.182	3.30	97	1.6	-	74	-0.038	9.63	0.002
290	51.887	0.183	3.31	97	1.7	100	74	-0.036	9.27	0.001
291	52.069	0.182	3.31	97	2.2	-	74	-0.037	9.25	0.002
292	52.250	0.181	3.31	97	1.8	-	74	-0.034	8.96	0.001
293	52.433	0.183	3.31	97	1.6	-	74	-0.035	8.76	0.001
294	52.613	0.180	3.31	97	1.6	-	74	-0.034	9.09	0.003
295	52.791	0.178	3.31	96	1.8	-	74	-0.038	8.93	0.001
296	52.973	0.182	3.31	96	2.1	-	74	-0.034	8.79	0.002
297	53.156	0.183	3.30	96	1.9	-	74	-0.033	8.79	0.000
298	53.335	0.179	3.31	96	1.8	-	74	-0.034	8.88	0.001
299	53.514	0.179	3.31	96	1.6	-	74	-0.034	8.94	0.002
300	53.693	0.179	3.30	96	2.1	100	74	-0.034	8.93	0.001
301	53.878	0.185	3.31	97	2.2	-	74	-0.031	8.82	0.001
302	54.059	0.181	3.31	97	2.0	-	74	-0.030	8.78	0.002
303	54.244	0.185	3.30	97	1.6	-	74	-0.033	8.70	0.001
304	54.422	0.178	3.31	96	1.8	-	74	-0.034	8.80	0.000
305	54.603	0.181	3.30	96	2.1	-	73	-0.035	8.93	0.001
306	54.782	0.179	3.31	96	1.8	-	73	-0.034	8.93	0.002
307	54.961	0.179	3.31	96	2.2	-	73	-0.033	9.35	0.002
308	55.145	0.184	3.30	96	1.7	-	73	-0.032	9.24	0.001
309	55.326	0.181	3.30	96	2.0	-	73	-0.036	8.91	0.001
310	55.507	0.181	3.30	96	1.7	100	73	-0.036	9.22	0.002
311	55.684	0.177	3.31	96	1.9	-	73	-0.034	9.51	0.001
312	55.867	0.183	3.30	96	2.2	-	73	-0.036	9.58	0.002
313	56.049	0.182	3.31	96	2.2	-	73	-0.038	9.48	0.002
314	56.232	0.183	3.31	96	1.6	-	73	-0.037	9.74	0.002
315	56.408	0.176	3.30	96	1.7	-	73	-0.038	9.63	0.001
316	56.591	0.183	3.31	96	1.7	-	73	-0.041	9.53	0.002
317	56.772	0.181	3.30	96	1.7	-	73	-0.040	9.53	0.002
318	56.953	0.181	3.31	96	1.7	-	73	-0.038	9.58	0.001
319	57.134	0.181	3.30	96	2.2	-	73	-0.040	9.82	0.000

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5
Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
320	57.317	0.183	3.31	96	2.2	100	73	-0.041	9.70	0.002
321	57.497	0.180	3.31	96	2.2	-	73	-0.043	9.70	0.002
322	57.673	0.176	3.31	96	1.9	-	73	-0.043	9.79	0.001
323	57.857	0.184	3.31	96	2.0	-	73	-0.042	9.68	0.001
324	58.039	0.182	3.31	96	2.0	-	73	-0.043	9.82	0.002
325	58.218	0.179	3.31	96	1.8	-	73	-0.044	9.62	0.000
326	58.402	0.184	3.31	96	1.7	-	73	-0.046	9.86	0.002
327	58.579	0.177	3.30	96	1.6	-	73	-0.046	9.79	0.001
328	58.761	0.182	3.31	96	1.6	-	73	-0.045	9.76	0.003
329	58.939	0.178	3.31	96	2.1	-	73	-0.045	9.88	0.002
330	59.125	0.186	3.30	96	2.1	99	73	-0.045	9.60	0.000
331	59.307	0.182	3.31	96	2.2	-	73	-0.046	9.87	0.002
332	59.487	0.180	3.31	96	2.0	-	73	-0.045	9.57	0.001
333	59.663	0.176	3.31	96	1.9	-	73	-0.048	9.60	0.001
334	59.847	0.184	3.31	96	2.2	-	73	-0.048	9.52	0.002
335	60.028	0.181	3.31	96	1.6	-	73	-0.049	9.60	0.002
336	60.206	0.178	3.30	96	1.6	-	73	-0.048	9.60	0.001
337	60.392	0.186	3.30	96	2.1	-	73	-0.047	9.43	0.002
338	60.572	0.180	3.31	96	1.6	-	73	-0.048	9.53	0.002
339	60.754	0.182	3.31	96	1.7	-	73	-0.048	9.65	0.002
340	60.932	0.178	3.31	96	1.9	99	73	-0.048	9.57	0.001
341	61.111	0.179	3.30	96	2.0	-	73	-0.051	9.45	0.001
342	61.295	0.184	3.31	96	1.7	-	73	-0.049	9.55	0.001
343	61.480	0.185	3.31	96	2.2	-	73	-0.048	9.59	0.002
344	61.657	0.177	3.30	96	1.6	-	73	-0.049	9.53	0.002
345	61.835	0.178	3.31	96	1.6	-	73	-0.048	9.66	0.001
346	62.020	0.185	3.30	96	1.7	-	73	-0.050	9.62	0.002
347	62.199	0.179	3.30	96	2.1	-	73	-0.048	9.80	0.001
348	62.380	0.181	3.31	96	2.0	-	73	-0.050	9.79	0.002
349	62.561	0.181	3.30	96	1.6	-	73	-0.050	9.75	0.003
350	62.741	0.180	3.31	96	2.2	100	73	-0.052	9.66	0.001
351	62.921	0.180	3.31	96	1.7	-	73	-0.049	9.60	0.001

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
352	63.102	0.181	3.31	96	1.7	-	73	-0.050	9.63	0.001
353	63.283	0.181	3.31	96	1.8	-	73	-0.049	9.85	0.002
354	63.466	0.183	3.30	96	1.7	-	73	-0.049	9.99	0.000
355	63.646	0.180	3.31	96	1.6	-	73	-0.050	9.93	0.002
356	63.822	0.176	3.31	96	1.9	-	73	-0.051	9.84	0.001
357	64.006	0.184	3.31	96	2.0	-	73	-0.051	9.74	0.002
358	64.187	0.181	3.31	96	2.2	-	73	-0.050	9.65	0.001
359	64.368	0.181	3.31	96	1.8	-	73	-0.049	9.60	0.002
360	64.550	0.182	3.31	96	1.9	100	73	-0.050	9.76	0.001
361	64.731	0.181	3.31	96	1.6	-	73	-0.051	9.72	0.001
362	64.909	0.178	3.30	96	1.9	-	73	-0.050	9.87	0.001
363	65.089	0.180	3.30	96	1.9	-	73	-0.052	10.04	0.002
364	65.272	0.183	3.30	96	2.0	-	73	-0.050	10.14	0.000
365	65.454	0.182	3.31	96	1.6	-	73	-0.051	9.93	0.001
366	65.634	0.180	3.31	96	1.9	-	73	-0.048	10.07	0.001
367	65.814	0.180	3.30	96	1.6	-	73	-0.049	9.79	0.002
368	65.997	0.183	3.31	96	2.1	-	73	-0.049	9.58	0.001
369	66.172	0.175	3.31	96	2.0	-	73	-0.051	9.92	0.000
370	66.356	0.184	3.30	96	1.7	100	73	-0.051	10.14	0.001
371	66.538	0.182	3.30	96	1.7	-	73	-0.050	9.94	0.001
372	66.718	0.180	3.30	96	1.9	-	73	-0.050	9.97	0.002
373	66.897	0.179	3.31	95	2.1	-	73	-0.049	9.99	0.001
374	67.078	0.181	3.30	96	1.6	-	73	-0.050	10.15	0.003
375	67.260	0.182	3.30	96	1.7	-	73	-0.049	10.32	0.001
376	67.440	0.180	3.31	95	1.6	-	73	-0.050	10.04	0.002
377	67.621	0.181	3.31	96	1.6	-	73	-0.049	10.26	0.002
378	67.802	0.181	3.30	95	2.1	-	73	-0.050	9.94	0.001
379	67.980	0.178	3.30	95	2.1	-	73	-0.052	10.04	0.002
380	68.159	0.179	3.30	95	1.7	100	73	-0.049	9.99	0.002
381	68.343	0.184	3.31	95	1.9	-	73	-0.049	10.17	0.000
382	68.525	0.182	3.31	95	2.0	-	73	-0.054	10.12	0.002
383	68.705	0.180	3.31	95	2.1	-	73	-0.049	10.17	0.004

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data							Flue Gas Data		
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)	Flue Draft (in H_2O)	CO_2 (%)	CO (%)
384	68.885	0.180	3.30	95	2.2	-	73	-0.050	9.96	0.001
385	69.065	0.180	3.30	95	1.7	-	72	-0.050	9.85	0.001
386	69.245	0.180	3.30	95	1.6	-	72	-0.048	10.23	0.002
387	69.427	0.182	3.30	95	1.8	-	72	-0.050	9.98	0.001
388	69.609	0.182	3.30	95	1.6	-	72	-0.049	9.92	0.000
389	69.790	0.181	3.31	95	2.1	-	72	-0.047	10.04	0.001
390	69.968	0.178	3.31	95	1.6	100	72	-0.048	9.81	0.001
391	70.149	0.181	3.30	95	2.1	-	72	-0.049	10.26	0.002
392	70.330	0.181	3.30	95	2.1	-	72	-0.051	9.90	0.002
393	70.511	0.181	3.30	95	1.7	-	72	-0.048	10.09	0.002
394	70.692	0.181	3.30	95	2.0	100	72	-0.047	9.82	0.001
Avg/Tot	70.695	0.179	3.28	92.2	1.9	100	73.9	-0.050	10.62	0.168

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
0	-0.001		0.26	69	1.5		68
1	0.113	0.114	0.94	68	1.7	-	69
2	0.253	0.140	0.94	68	1.5	-	69
3	0.392	0.139	0.96	68	1.6	-	69
4	0.530	0.138	0.94	68	1.7	-	69
5	0.670	0.140	0.96	69	1.6	-	69
6	0.808	0.138	0.96	69	1.5	-	69
7	0.948	0.140	0.96	69	1.5	-	69
8	1.089	0.141	0.98	69	1.6	-	69
9	1.229	0.140	0.97	69	1.6	-	69
10	1.368	0.139	0.98	70	1.7	96	69
11	1.510	0.142	0.99	70	1.7	-	69
12	1.653	0.143	0.99	70	1.7	-	69
13	1.795	0.142	0.99	70	1.8	-	69
14	1.936	0.141	1.00	70	1.6	-	69
15	2.080	0.144	1.00	70	1.6	-	69
16	2.222	0.142	0.99	71	1.7	-	70
17	2.363	0.141	1.00	71	1.7	-	70
18	2.508	0.145	1.00	71	1.6	-	70
19	2.648	0.140	1.00	72	1.6	-	70
20	2.793	0.145	0.99	72	1.5	100	70
21	2.936	0.143	1.00	72	1.7	-	70
22	3.080	0.144	1.01	73	1.8	-	70
23	3.221	0.141	1.00	73	1.7	-	70
24	3.366	0.145	1.00	73	1.8	-	70
25	3.507	0.141	1.01	73	1.6	-	70
26	3.654	0.147	1.01	73	1.6	-	70
27	3.798	0.144	1.01	74	1.7	-	70
28	3.940	0.142	1.01	74	1.7	-	70
29	4.086	0.146	1.01	74	1.7	-	70
30	4.230	0.144	1.02	75	1.6	100	71
31	4.374	0.144	1.02	75	1.7	-	71

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

	Particulate Sampling Data						
Elapsed Time (min)	Gas Meter (ft^3)	Sample Rate (cfm)	Orifice dH (in H_2O)	Meter Temp (°F)	Meter Vacuum (in Hg)	Pro. Rate (%)	Filter (°F)
32	4.522	0.148	1.03	75	1.7	-	71
33	4.667	0.145	1.03	76	1.7	-	71
34	4.812	0.145	1.02	76	1.8	-	71
35	4.957	0.145	1.02	76	1.7	-	71
36	5.103	0.146	1.02	76	1.8	-	71
37	5.247	0.144	1.03	77	1.8	-	71
38	5.395	0.148	1.04	77	1.6	-	71
39	5.543	0.148	1.04	77	1.7	-	71
40	5.689	0.146	1.04	78	1.6	101	71
41	5.836	0.147	1.04	78	1.8	-	71
42	5.983	0.147	1.04	78	1.6	-	71
43	6.127	0.144	1.03	78	1.7	-	71
44	6.277	0.150	1.04	79	1.6	-	71
45	6.424	0.147	1.04	79	1.6	-	72
46	6.569	0.145	1.04	79	1.7	-	72
47	6.719	0.150	1.04	80	1.6	-	72
48	6.866	0.147	1.04	80	1.6	-	72
49	7.012	0.146	1.04	80	1.6	-	72
50	7.160	0.148	1.05	81	1.8	102	72
51	7.308	0.148	1.05	80	1.8	-	72
52	7.456	0.148	1.05	80	1.7	-	72
53	7.607	0.151	1.05	81	1.8	-	72
54	7.753	0.146	1.05	81	1.7	-	72
55	7.904	0.151	1.05	81	1.8	-	72
56	8.052	0.148	1.05	81	1.7	-	72
57	8.201	0.149	1.06	81	1.8	-	72
58	8.350	0.149	1.06	81	1.8	-	72
59	8.498	0.148	1.06	82	1.6	-	72
60	8.645	0.147	1.06	82	1.8	102	72
Avg/Tot	8.646	0.144	1.00	74.7	1.7	100	70.5

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	328	343	277	360	414	344.3	545.7
1	324	339	273	359	413	341.5	535.0
2	319	334	269	355	412	337.8	499.9
3	315	329	264	352	411	334.1	512.5
4	310	323	259	351	410	330.6	525.5
5	305	318	254	348	409	326.9	530.7
6	301	313	250	347	407	323.6	532.7
7	296	308	246	345	406	320.4	537.8
8	292	303	243	345	404	317.3	547.1
9	288	299	239	344	403	314.4	555.2
10	284	295	236	343	401	311.7	560.1
11	281	291	232	342	399	309.0	569.4
12	278	287	229	343	333	294.0	602.7
13	275	284	227	346	304	287.1	641.7
14	272	281	224	349	306	286.5	666.4
15	270	279	222	353	285	281.6	686.6
16	267	277	220	357	274	279.0	706.4
17	266	275	218	362	272	278.6	721.4
18	264	273	216	366	270	277.9	739.0
19	263	272	214	372	263	276.9	758.3
20	262	271	213	377	260	276.6	763.3
21	262	271	211	381	259	276.8	747.9
22	262	270	210	383	259	276.8	738.5
23	262	270	209	387	258	277.1	744.5
24	262	269	208	390	259	277.8	750.3
25	262	269	207	393	260	278.1	753.9
26	262	269	207	396	259	278.7	759.3
27	263	269	206	399	260	279.4	765.6
28	264	270	206	402	262	280.7	774.3
29	264	270	205	405	261	281.2	784.3
30	265	271	205	409	262	282.3	792.8
31	266	272	205	413	264	283.9	802.1
32	267	273	205	416	264	285.0	813.8
33	268	274	205	420	269	287.3	826.6
34	270	276	205	425	272	289.5	834.7
35	271	277	205	429	273	290.9	843.1
36	272	279	204	434	276	293.0	853.0
37	274	281	205	439	282	295.9	863.2
38	275	283	205	445	300	301.4	873.2
39	276	285	205	450	328	308.9	886.1
40	278	287	205	456	357	316.7	892.0
41	279	290	206	461	372	321.7	898.5
42	281	293	206	466	372	323.7	908.1
43	283	296	207	473	372	326.1	920.7
44	284	299	208	478	372	328.2	926.1
45	285	302	208	484	373	330.3	929.4
46	287	305	209	489	373	332.3	925.8
47	288	308	209	494	373	334.4	923.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	289	311	210	498	373	336.2	924.3
49	291	314	211	502	374	338.2	924.1
50	293	318	211	506	374	340.2	928.0
51	294	321	212	510	374	342.3	932.6
52	296	324	212	515	375	344.4	946.0
53	298	327	213	522	375	346.9	968.5
54	299	330	214	527	375	349.1	988.5
55	301	333	215	535	376	351.8	1004.5
56	303	335	216	541	376	354.3	1008.2
57	304	338	217	546	377	356.4	1002.5
58	306	341	218	551	377	358.6	1002.9
59	308	344	219	555	378	360.8	1001.6
60	309	348	220	559	378	362.9	1002.3
61	311	351	221	563	378	364.9	1003.7
62	312	355	223	567	379	367.2	1004.2
63	314	359	223	571	379	369.3	1003.6
64	316	363	224	574	380	371.3	999.5
65	317	366	225	577	380	373.2	998.9
66	319	370	226	580	381	375.1	997.4
67	320	374	227	582	381	377.1	995.8
68	322	378	228	585	382	379.0	997.0
69	324	382	230	588	382	381.2	1001.0
70	325	387	231	591	383	383.2	1004.3
71	327	391	232	594	383	385.3	1000.9
72	329	395	232	593	383	386.5	994.4
73	331	400	233	597	384	388.8	984.0
74	333	404	233	597	384	390.0	972.2
75	334	407	234	597	384	391.3	967.3
76	335	410	234	597	384	392.2	968.5
77	337	413	235	599	385	393.6	970.9
78	338	416	235	599	385	394.6	981.4
79	339	418	235	600	385	395.5	996.9
80	340	419	236	603	385	396.6	1014.8
81	341	421	237	606	385	398.0	1025.6
82	342	423	239	607	385	399.0	1020.6
83	343	424	240	608	386	400.0	1013.6
84	344	425	242	608	386	400.9	1010.8
85	346	426	243	608	386	401.7	1009.1
86	347	426	245	608	386	402.3	1009.7
87	348	427	246	608	386	403.1	1011.2
88	350	427	248	607	386	403.6	1013.4
89	351	428	250	608	386	404.4	1017.0
90	352	428	251	608	386	405.0	1024.8
91	353	429	252	610	386	405.8	1024.2
92	354	429	253	608	386	406.0	1015.6
93	355	429	255	609	386	406.7	1009.5
94	356	430	256	607	386	406.9	997.4
95	356	431	257	605	386	407.1	996.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	357	432	258	606	386	407.7	1008.2
97	358	432	259	606	386	408.0	1015.6
98	359	432	259	606	386	408.2	1016.0
99	359	432	260	607	386	408.7	1011.6
100	360	431	261	607	386	408.8	1006.6
101	360	430	261	606	386	408.6	1008.5
102	360	429	261	606	386	408.3	1002.2
103	361	427	261	605	386	407.8	996.3
104	361	425	261	604	386	407.3	989.4
105	361	423	261	603	386	406.7	983.3
106	361	421	261	601	386	406.2	978.0
107	361	419	262	598	386	405.1	973.0
108	361	418	261	596	386	404.3	967.9
109	361	416	261	593	386	403.4	961.5
110	361	414	261	590	386	402.4	954.6
111	361	412	261	588	387	401.6	947.1
112	361	410	260	584	387	400.4	939.6
113	361	409	260	581	387	399.6	933.2
114	361	407	260	577	387	398.5	927.0
115	361	405	259	575	388	397.6	921.8
116	361	404	259	571	388	396.5	916.9
117	361	403	259	568	388	395.8	912.4
118	361	401	259	565	389	394.9	908.1
119	361	400	258	563	389	394.1	905.9
120	361	399	258	559	389	393.1	906.1
121	361	398	257	558	390	392.8	907.8
122	361	397	257	556	390	392.1	910.5
123	362	396	257	555	391	391.9	915.2
124	362	395	256	554	391	391.7	920.9
125	362	394	256	554	392	391.4	927.1
126	362	393	256	554	392	391.5	935.1
127	363	393	255	555	393	391.7	946.3
128	363	392	255	556	394	392.0	956.1
129	364	392	255	558	394	392.4	963.7
130	364	391	255	560	395	393.1	972.7
131	365	391	255	562	396	393.7	983.0
132	366	391	255	566	396	394.6	991.4
133	366	391	255	569	397	395.6	997.8
134	367	391	255	572	398	396.5	999.8
135	368	392	255	574	399	397.4	1004.7
136	369	392	255	576	399	398.2	1006.6
137	370	392	255	579	400	399.1	1008.7
138	371	393	256	581	400	400.1	1010.2
139	371	394	256	583	401	400.9	1013.1
140	372	395	256	584	402	401.7	1015.3
141	373	396	257	587	402	402.9	1018.6
142	375	397	257	589	403	404.3	1017.2
143	377	399	258	591	403	405.5	1020.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	379	401	259	592	404	406.8	1024.6
145	380	402	260	594	404	408.1	1027.9
146	382	404	261	595	405	409.3	1029.9
147	383	406	262	597	406	410.6	1034.0
148	385	408	263	600	406	412.2	1035.3
149	386	410	264	601	406	413.3	1035.0
150	388	412	265	602	407	414.6	1038.4
151	389	414	266	604	407	416.0	1038.6
152	391	416	267	606	408	417.4	1039.2
153	392	417	268	607	408	418.6	1041.0
154	394	419	269	608	409	419.7	1041.6
155	395	421	270	610	409	421.0	1046.5
156	396	423	272	611	410	422.3	1047.0
157	398	425	273	612	410	423.4	1046.7
158	399	426	274	614	411	424.9	1044.9
159	400	428	276	615	411	426.1	1043.8
160	402	430	277	617	412	427.5	1039.2
161	403	432	278	618	412	428.7	1031.3
162	405	434	280	617	413	429.5	1019.7
163	406	435	282	617	413	430.5	1012.1
164	407	437	283	616	413	431.2	1006.7
165	408	437	284	615	414	431.6	1000.7
166	408	437	284	614	414	431.6	1018.6
167	408	437	284	616	414	432.0	1025.4
168	408	437	284	618	414	432.0	1023.9
169	407	436	284	618	414	431.7	1020.0
170	406	435	283	619	414	431.6	1015.3
171	406	434	283	620	414	431.2	1012.7
172	405	433	283	620	414	430.8	1009.8
173	404	432	283	619	414	430.2	1004.8
174	404	431	282	618	414	429.6	1000.9
175	403	430	282	617	413	429.1	997.0
176	403	429	282	616	413	428.3	993.4
177	402	428	281	615	413	427.8	990.0
178	402	428	281	613	412	427.1	988.0
179	401	427	280	613	412	426.5	986.4
180	401	426	280	611	412	425.7	984.8
181	400	426	280	609	411	425.1	983.7
182	400	425	279	608	411	424.4	981.9
183	399	424	279	607	410	423.9	980.3
184	399	423	279	605	410	423.1	977.2
185	399	422	279	604	409	422.7	974.2
186	398	422	278	604	409	422.1	971.8
187	398	421	278	602	408	421.4	970.3
188	397	420	278	601	408	420.8	969.1
189	396	420	278	601	407	420.3	968.7
190	396	419	278	599	407	419.6	968.6
191	395	418	277	599	406	419.2	968.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	395	418	277	597	406	418.6	966.3
193	394	417	277	596	406	417.9	965.4
194	394	417	277	595	405	417.6	964.8
195	394	416	277	594	405	417.1	965.5
196	394	416	277	594	404	416.9	961.6
197	394	415	277	592	404	416.3	952.8
198	393	414	277	590	403	415.7	947.7
199	393	414	277	589	403	415.1	944.5
200	393	413	277	588	403	414.6	942.1
201	392	413	277	586	403	414.1	940.6
202	392	412	277	585	402	413.5	944.4
203	391	411	277	584	402	413.2	948.5
204	391	410	277	583	402	412.8	948.2
205	391	410	277	582	403	412.3	942.2
206	391	409	277	579	403	411.6	932.9
207	390	408	276	576	403	410.8	923.8
208	390	407	276	573	404	409.9	915.7
209	390	407	276	570	404	409.2	908.5
210	389	406	276	567	405	408.5	902.6
211	389	405	275	565	405	407.8	897.3
212	389	404	275	562	406	407.1	893.7
213	388	403	275	559	407	406.3	890.2
214	388	402	274	557	407	405.7	887.0
215	388	402	274	554	408	405.0	885.3
216	388	401	274	551	408	404.3	883.2
217	387	400	273	549	409	403.7	881.7
218	387	400	273	548	409	403.3	880.8
219	387	399	273	545	410	402.6	880.8
220	387	398	272	544	410	402.2	883.5
221	387	398	272	543	410	401.9	887.5
222	386	397	272	542	410	401.4	892.4
223	386	397	271	542	410	401.3	897.2
224	386	397	271	542	410	401.2	903.1
225	386	396	271	543	410	401.3	911.0
226	387	397	271	544	410	401.6	912.1
227	388	397	272	544	410	402.0	903.9
228	389	397	273	542	410	402.0	879.9
229	391	397	273	539	410	401.9	867.2
230	392	397	274	536	411	401.9	854.4
231	394	397	274	532	412	401.8	844.9
232	395	398	274	529	413	401.7	838.0
233	397	398	274	526	414	401.6	832.5
234	399	398	274	522	415	401.6	828.0
235	401	398	275	519	417	401.7	823.9
236	402	398	275	517	418	402.0	821.4
237	404	399	275	514	420	402.3	819.1
238	405	399	275	511	422	402.6	818.0
239	407	399	276	510	424	403.1	817.9

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
240	408	400	276	507	426	403.5	818.4
241	409	400	276	507	429	404.2	819.1
242	410	401	276	505	431	404.7	820.4
243	411	401	277	504	433	405.2	822.5
244	412	402	277	503	435	405.8	824.8
245	413	403	277	502	438	406.5	828.3
246	414	403	277	503	440	407.5	831.8
247	415	404	278	503	442	408.3	836.6
248	416	405	278	503	444	409.2	841.8
249	417	405	279	504	446	410.2	847.0
250	418	406	279	505	448	411.3	851.9
251	419	407	279	506	450	412.4	857.0
252	421	408	280	507	452	413.6	862.0
253	422	409	281	509	454	414.9	866.6
254	423	410	281	510	456	416.0	871.0
255	424	411	282	513	458	417.4	876.6
256	425	412	283	514	460	418.7	882.5
257	426	413	283	517	461	420.1	887.5
258	427	414	284	519	463	421.4	891.4
259	429	415	285	522	465	423.0	897.0
260	430	416	285	523	466	423.9	902.1
261	431	417	286	527	467	425.7	908.2
262	432	419	287	530	469	427.2	912.9
263	433	420	288	533	470	428.7	922.7
264	434	421	289	536	471	430.2	940.7
265	435	423	290	541	472	432.1	953.3
266	436	425	291	545	473	434.0	965.9
267	436	427	292	548	473	435.4	965.5
268	437	429	294	553	474	437.3	968.2
269	439	432	295	555	474	439.0	970.4
270	440	434	297	560	475	441.0	967.5
271	441	437	298	562	475	442.3	964.1
272	442	439	300	565	475	444.2	963.4
273	444	441	301	567	476	445.6	963.0
274	445	443	302	568	476	446.9	957.8
275	446	445	304	570	477	448.3	953.7
276	447	447	305	570	477	449.2	949.7
277	448	448	306	572	477	450.1	948.8
278	449	449	307	572	477	450.7	950.1
279	449	450	308	572	477	451.1	946.0
280	449	450	308	571	477	451.2	937.4
281	449	450	309	570	477	450.9	927.0
282	449	449	309	569	477	450.4	909.3
283	448	448	309	566	477	449.5	890.9
284	446	447	309	563	477	448.3	873.1
285	445	445	309	558	477	446.5	862.9
286	442	444	308	554	476	444.7	855.3
287	440	441	308	549	475	442.7	845.1

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
288	437	439	307	545	474	440.4	832.2
289	434	436	306	540	473	438.1	817.0
290	431	433	306	534	472	435.3	802.5
291	429	431	305	529	471	432.9	788.9
292	426	428	304	524	469	430.2	776.2
293	423	425	303	518	468	427.4	765.0
294	421	422	302	512	466	424.6	755.7
295	418	420	301	507	465	422.1	747.4
296	415	417	300	502	463	419.5	739.9
297	413	414	299	497	462	416.9	732.8
298	410	411	298	491	460	414.1	726.4
299	408	409	297	487	459	411.7	720.3
300	406	406	296	482	457	409.2	714.4
301	403	403	295	478	456	406.9	709.0
302	401	400	294	473	454	404.5	704.2
303	399	398	293	469	453	402.2	700.6
304	397	395	292	467	451	400.2	698.2
305	394	393	291	462	450	397.8	697.0
306	393	390	289	459	448	395.9	697.4
307	391	388	288	457	447	394.0	699.2
308	389	385	287	454	446	392.2	700.7
309	388	383	286	452	445	390.7	692.5
310	387	381	285	448	443	388.9	683.0
311	386	379	284	446	442	387.6	676.9
312	386	377	283	443	442	386.1	673.9
313	385	376	282	441	441	384.9	673.5
314	385	374	281	438	440	383.8	674.4
315	385	373	281	436	440	382.9	676.4
316	385	371	280	434	440	381.9	679.6
317	385	370	279	433	439	381.3	683.4
318	385	369	278	432	440	380.7	687.0
319	386	368	277	431	440	380.2	691.1
320	386	367	277	430	440	379.9	695.2
321	387	366	276	431	440	379.9	698.8
322	387	365	275	430	440	379.7	702.1
323	388	365	275	430	441	379.7	706.2
324	388	364	275	430	441	379.5	710.3
325	389	364	274	430	442	379.8	714.1
326	390	363	274	430	442	380.0	717.4
327	391	363	274	432	443	380.5	720.1
328	392	363	274	432	444	380.8	723.2
329	393	363	274	433	445	381.4	726.7
330	394	363	274	434	446	382.0	729.6
331	395	363	274	435	447	382.9	732.3
332	396	363	275	435	448	383.3	734.9
333	398	363	275	436	449	384.1	737.4
334	399	364	275	437	450	384.8	739.7
335	400	364	276	438	451	385.8	742.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
336	401	364	277	439	452	386.5	743.6
337	403	365	277	440	453	387.4	744.4
338	404	366	278	440	454	388.2	745.1
339	406	366	279	440	455	389.0	746.0
340	407	367	279	440	456	389.8	747.3
341	408	367	280	442	457	390.9	748.3
342	410	368	281	443	458	391.7	749.7
343	411	368	282	443	458	392.5	752.0
344	412	369	282	444	459	393.2	755.7
345	413	369	283	445	460	394.0	760.4
346	414	370	284	446	460	394.8	764.0
347	415	371	284	448	461	395.8	766.6
348	416	371	285	449	461	396.6	768.7
349	417	372	285	450	462	397.2	769.9
350	418	373	286	452	462	398.1	770.7
351	420	373	287	452	462	398.8	771.2
352	421	374	287	452	463	399.5	771.1
353	422	375	288	452	463	400.0	770.8
354	423	376	289	455	463	401.1	769.7
355	424	377	290	455	463	401.7	769.2
356	426	377	290	456	463	402.5	768.7
357	427	378	291	456	464	403.0	768.5
358	428	379	292	456	464	403.6	768.6
359	428	380	292	457	464	404.2	770.0
360	429	381	292	457	464	404.6	772.6
361	430	383	293	458	464	405.2	773.6
362	430	384	293	458	464	405.7	774.1
363	430	385	293	459	464	406.2	771.9
364	431	386	293	459	464	406.6	768.2
365	431	388	294	459	464	407.0	765.4
366	431	389	294	459	464	407.5	761.6
367	432	391	294	458	464	407.6	759.4
368	432	392	295	459	464	408.1	757.7
369	432	393	295	458	463	408.3	756.0
370	432	395	296	457	463	408.5	754.8
371	432	396	296	457	463	409.0	752.4
372	432	398	297	457	463	409.2	749.5
373	432	399	297	456	462	409.4	748.1
374	432	401	298	456	462	409.7	746.7
375	433	404	298	456	462	410.3	744.8
376	433	406	298	453	461	410.4	741.7
377	433	408	299	455	462	411.3	738.4
378	434	410	300	453	462	411.7	734.4
379	435	411	301	452	462	412.1	731.8
380	436	413	301	452	462	412.8	730.1
381	437	414	302	451	463	413.3	727.6
382	438	415	303	450	463	413.8	725.9
383	439	416	304	448	463	414.2	724.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

Stove ΔT: 73

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
384	440	417	306	448	464	414.6	721.4
385	440	417	307	447	464	415.2	719.1
386	441	418	308	447	464	415.6	717.8
387	441	419	309	447	465	416.1	719.4
388	442	420	310	446	465	416.5	719.3
389	442	420	312	445	465	416.8	717.2
390	441	421	313	444	466	417.1	709.6
391	441	422	315	443	466	417.2	704.1
392	440	423	316	441	466	417.3	700.8
393	440	423	318	441	466	417.4	699.6
394	439	424	320	440	466	417.7	697.8
Average	378.4	388.8	267.4	519.1	412.8	393.3	868.1

LAB SAMPLE DATA - ASTM E2515

Client: Blaze King
Model: PE32
Run #: 5

Job #: 24-273
Tracking #: 183
Technician: AK
Date: 3/7/2024

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00931	240.8	242.0	1.2
	B	G00932	238.2	239.4	1.2
	C - 1st Hour	G00933	239.3	239.6	0.3
	Amb	G00934	239.9	240.0	0.1
Probes	**A**	7A	116557.6	116558.1	0.5
	B	7B	117127.6	117128.8	1.2
	C - 1st Hour	7C	116550.1	116550.8	0.7
O-rings	**A**	7A	3572.0	3572.6	0.6
	B	7B	3523.0	3523.0	0.0
	C - 1st Hour	7C	3406.8	3406.9	0.1

Placed in Dessicator on:	3/8/24 11:00

Balance Audit (mg):		200.0		200.0					
		Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time	Weight (mg)	Date/Time
Filters	**A**	242.0	3/11 9:30	242.0	3/12 8:45				
	B	239.5	3/11 9:30	239.4	3/12 8:45				
	C - 1st Hour	239.6	3/11 9:30	239.6	3/12 8:45				
	Amb	240.1	3/11 9:30	240.0	3/12 8:45				
Probes	**A**	116558.1	3/11 9:30	116558.1	3/12 8:45				
	B	117128.7	3/11 9:30	117128.8	3/12 8:45				
	C - 1st Hour	116550.9	3/11 9:30	116550.8	3/12 8:45				
O-Rings	**A**	3572.4	3/11 9:30	3572.6	3/12 8:45				
	B	3523.1	3/11 9:30	3523.0	3/12 8:45				
	C - 1st Hour	3406.8	3/11 9:30	3406.9	3/12 8:45				

Train A Aggregate, mg:	**2.3**
Train B Aggregate, mg:	**2.4**
Train C Aggregate, mg:	**1.1**
Ambient, mg:	**0.1**

ASTM E2515 - Glass Fiber Filters

	Date:	2/20/24	2/21/24					
	Time:	9:00	13:30					
		Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00901		230.3	230.1	–	–	SB	24-264	#4
G00902		233.4	233.3	–	–	SB	↓	↓
G00903		228.4	228.3	–	–	SB	24-264	5
G00904		232.1	232.1	–	–	SB	↓	↓
G00905		~~232.~~ 231.8	231.6	–	–	SB	↓	↓
G00906		231.5	231.5	–	–	SB	↓	↓
G00907		230.9	230.8	–	–	SB	24-264	6
G00908		232.2	232.2	–	–	SB	↓	↓
G00909		231.5	231.5	–	–	SB	↓	↓
G00910		248.4	248.5	–	–	SB	↓	↓
G00911		239.5	239.5	–	–	SB	24-264	7
G00912		238.1	238.0	–	–	SB	↓	↓
G00913		239.5	239.4	–	–	SB	↓	↓
G00914		237.6	237.7	–	–	SB	↓	↓
G00915		240.3	240.2	–	–	SB	24-273	#1
G00916		238.7	238.7	–	–	SB	↓	↓

	Date:	2/27/24	2/28/24	2/28/24				
	Time:	15:00	0930	1830				
		Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00917		239.5	239.7	–	–	A	24-273	#1
G00918		~~238.6~~ 238.4	238.6	–	–	A	↓	↓
G00919		239.9	240.3	240.3	–	A	↓	#2
G00920		240.6	240.5	–	–	A	↓	↓
G00921		239.9	240.0	–	–	A	↓	↓
G00922		239.1	239.2	–	–	A	↓	↓
G00923		230.8	230.8	–	–	A	↓	#3
G00924		240.4	240.5	–	–	A	↓	↓
G00925		239.8	239.8	–	–	A	↓	↓
G00926		241.0	241.2	–	–	A	↓	↓
G00927		240.2	240.4	–	–	A	↓	#4
G00928		233.1	233.1	–	–	A	↓	↓
G00929		241.0	241.1	–	–	A	↓	↓
G00930		240.7	240.6	–	–	A	↓	↓
G00931		240.8	240.8	–	–	A	↓	#5
G00932		238.3	238.2	–	–	A	↓	↓

ASTM E2515 - Glass Fiber Filters

Date:	3/4/24	3/6/24	-	-			
Time:	12:15	0815	-	-			
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00933	239.1	239.3	-	-	A	24-273	#5
G00934	239.7	239.9	-	-	A	↓	↓
G00935	239.0	238.9	-	-	A	24-274	#1
G00936	239.0	239.0	-	-	A	↓	↓
G00937	240.4	240.4	-	-	A	↓	↓
G00938	238.5	238.4	-	-	A	↓	↓
G00939	240.9	240.9	-	-	A	24-274	#2
G00940	239.5	239.6	-	-	A	↓	↓
G00941	239.2	239.1	-	-	A	↓	↓
G00942	240.0	240.0	-	-	A	↓	↓
G00943	239.4	240.1	-	-	A	24-274	#3
G00944	238.5	238.5	-	-	A	↓	↓
G00945	239.5	239.4	-	-	A	↓	↓
G00946	240.0	239.9	-	-	A	↓	↓
G00947	238.5	238.5	-	-	A	24-274	#4
G00948	239.6	239.6	-	-	A	↓	↓

Date:	3/11/24	3/12/24					
Time:	11:00	13:30					
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00949	239.7	239.5	-	-	A	24-274	#4
G00950	238.8	238.6	-	-	A	↓	↓
G00951	238.1	237.9	-	-	A	24-274	#5
G00952	240.4	240.5	-	-	A	↓	↓
G00953	239.8	239.7	-	-	A	↓	↓
G00954	241.2	241.2	-	-	A	↓	↓
G00955	240.1	239.9	-	-	A	24-274	#6
G00956	239.6	239.7	-	-	A	↓	↓
G00957	240.4	240.2	-	-	A	↓	↓
G00958	238.0	238.6	-	-	A	↓	↓
G00959	238.6	238.5	-	-	A		
G00960	238.3	238.2	-	-	A		
G00961	240.5	240.4	-	-	A		
G00962	239.7	239.5	-	-	A		
G00963	240.0	239.9	-	-	A		
G00964	239.8	239.6	-	-	A		

ASTM E2515 - Probe Samples 1-10

Date:	2/27/24	2/28/24	2/28/24				
Time:	1430	0930	1830				
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
1A	115626.7	115626.9	-	-	A	24-264	#6
1B	115902.1	115902.1	-	-	A		
1C	116432.4	116432.6	-	-	A		
2A	116056.7	116056.8	-	-	A	24-264	#7
2B	116173.7	116173.8	-	-	A		
2C	116428.7	116428.8	-	-	A		
3A	115880.2	115880.4	-	-	A	24-273	#1
3B	116120.3	116120.4	-	-	A		
3C	116617.8	116618.2	116618.3	-	A		
4A	116022.9	116022.78	-	-	A	24-273	#2
4B	116181.7	116181.7	-	-	A		
4C	116997.2	116997.6	116997.5	-	A		
5A	116757.3	116757.5	-	-	A	24-273	#3
5B	116875.2	116875.7	116875.7	-	A		
5C	115854.9	115855.3	115855.3	-	A		

Date:	3/4/24	3/6/24	3/6/24				
Time:	1215	0930	1630				
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
6A	116382.4	116382.3	116382.1	-	A	24-273	#4
6B	115954.2	115953.8	115953.6	-	A		
6C	115127.4	115127.7	-	-	A		
7A	116557.8	116557.6	-	-	A	24-273	#5
7B	117128.2	117127.8	117127.6	-	A		
7C	116550.6	116550.2	116550.1	-	A		
8A	116633.0	116632.9	-	-	A	24-274	#1
8B	116649	116648	-	-	A		
8C	116624	116673	-	-	A		
9A	116530.2	116530.0	-	-	A	24-274	#2
9B	117737.8	117737.0	117736.8	-	A		
9C	116602.8	116602.4	116602.2	-	A		
10A	116645.2	116644.7	116644.6	-	A	24-274	#3
10B	117752.7	117752.6	-	-	A		
10C	116727.4	116727.7	-	-	A		

ASTM E2515 - O-Ring Samples 1-10

Date:	2/27/24	2/28/24					
Time:	1445	0900					
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
1A	3568.6	3568.6	-	-	A	24-264	#6
1B	3557.0	3557.1	-	-	A		
1C	4167.5	4167.4	-	-	A		
2A	3553.8	3557.8	-	-	A	24-264	#7
2B	3573.3	3573.2	-	-	A		
2C	3391.5	3391.5	-	-	A		
3A	3580.1	3580.2	-	-	A	24-273	#1
3B	3568.9	3569.0	-	-	A		
3C	3623.3	3623.2	-	-	A		
4A	3377.3	3377.3	-	-	A	24-273	#2
4B	3580.5	3580.5	-	-	A		
4C	3372.9	3373.0	-	-	A		
5A	3536.4	3536.5	-	-	A	24-273	#3
5B	3532.2	3532.4	-	-	A		
5C	3376.8	3376.8	-	-	A		

Date:	3/4/24	3/6/24	-	-			
Time:	12:00	0900	-	-			
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
6A	3396.4	3396.5	-	-	A	24-273	#4
6B	3613.8	3613.8	-	-	A		
6C	3401.6	3401.6	-	-	A		
7A	3572.0	3572.0	-	-	A	24-273	#5
7B	3523.1	3523.0	-	-	A		
7C	3406.8	3406.8	-	-	A		
8A	3552.3	3552.3	-	-	A	24-274	~~#6~~ #1
8B	3557.3	3557.4	-	-	A		
8C	3586.6	3586.6	-	-	A		
9A	3580.7	3580.6	-	-	A	24-274	#2
9B	3523.7	3523.7	-	-	A		
9C	3430.7	3430.7	-	-	A		
10A	3360.7	3360.7	-	-	A	24-274	#3
10B	3570.7	3570.7	-	-	A		
10C	3366.2	3366.4	-	-	A		

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 5 Test Date: 3/7/24

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Knob open 60º
Targeted Burn Category: II (fan confirmation)

Preburn Notes

Time	Notes
	-None-

Test Notes
Test Burn Start Time: 12:41 Test Fuel Loaded by: 35 seconds
Door Closed: 45 seconds Air Control Set at: 0 seconds
Other Loading Notes: Bypass open @ 0 sec, closed @ 45 sec, fan off (fan confirmation)

Time	Notes
	-None-

Test Burn End Time: 19:15

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 16.98 CO (%): 4.300
Mid Gas CO_2 (%): 10.09 CO (%): 2.530

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	08:26	08:28	08:29	19:31	19:33	19:34
CO_2	-0.09	17.03	10.16	-0.02	17.07	10.12
CO	0.007	4.282	2.524	0.014	4.311	2.498

Flue Gas Probe Leak Check: Initial: No Leakage Final: No Leakage

Technician Signature: Date: 3/18/24

ASTM E2780 Wood Heater Run Sheets

Client: Blaze King Job Number: 24-273 Tracking #: 183
Model: PE32 Run Number: 5 Test Date: 3/7/24

Test Fuel Front/Side View

Test Fuel Iso View

Test Fuel Loaded in Stove

Air Setting

Technician Signature: Date: 3/18/24

Sample Calculations – ASTM E2780 & E2515

Client: Blaze King
Model: PE32
Run: 1

Equations used to calculate the parameters listed below are described in this appendix. Sample calculations are provided for each equation. The raw data and printout results from a sample run are also provided for comparison to the sample calculations.

M_{Sdb} – Weight of test fuel spacers, dry basis, kg

M_{Cdb}– Weight of test fuel crib, excluding nails and spacers, dry basis, kg

D_{Cdb} - Density of fuel crib, excluding spacers and nails, dry basis, lbs/ft^3

M_{FTAdb} - Total weight of fuel crib excluding nails, dry basis, kg

BR – Dry burn rate, kg/hr

V_s – Average gas velocity in the dilution tunnel, ft/sec

Q_{sd} – Average gas flow rate in dilution tunnel, dscf/hr

$V_{m(std)}$ – Volume of gas sampled, corrected to dry standard conditions, dscf

m_n – Total particulate matter collected, mg

C_s - Concentration of particulate matter in tunnel gas, dry basis, corrected to STP, g/dscf

E_T – Total particulate emissions, g

PR - Proportional rate variation

PM_R – Particulate emissions for test run, g/hr

PM_F – Particulate emission factor for test run, g/dry kg of fuel burned

M_{Sdb} – Weight of test fuel spacers, dry basis, kg
ASTM E2780 equation (1)

$$M_{Sdb} = (M_{Swb})(100/(100 + FM_S))$$

Where,

FM_S = average fuel moisture of test fuel spacers, % dry basis

M_{Swb} = weight of test fuel spacers, wet basis, kg

Sample Calculation:

FM_S = 14.4 %

M_{Swb} = 2.9 lbs

0.4536 = Conversion factor from lbs to kg

M_{Sdb} = [(2.9 x 0.4536) (100/(100 + 14.4)

M_{Sdb} = **1.17** kg

M_{Cdb}– Weight of test fuel crib, excluding nails and spacers, dry basis, kg
ASTM E2780 equation (2)

$$M_{Cdb} = \Sigma[(M_{CPnwb})(100/(100 + FM_{CPn}))]$$

Where,

M_{CPnwb} = weight of each test fuel piece n in fuel crib, excluding nails and spacers, wet basis, kg

FM_{CPn} = Average fuel moisture of test fuel n in fuel crib, % dry basis

Sample Calculation (test fuel piece 1):

MC_{Pnwb} = 4.34

FM_{CPn} = 22.7

= 4.3 (100/(100+ 22.7)

= 3.5 lbs

Total dry crib weight, excluding spacers = 13.02 lbs

M_{Cdb} = **5.91** kg

D_{Cdb} - Density of fuel crib, excluding spacers and nails, dry basis, lbs/ft^3
ASTM E2780 equation (3)

$$D_{Cdb} = M_{Cdb}/V_C$$

Where,

V_C = Volume of fuel crib, ft^3

Sample calculation:

V_C = 762.1 in^3

1728 = conversion from in^3 to ft^3

D_{Cdb} = 13.02 / 762.1 * 1728

= **29.53** lbs/ft^3

M_{FTAdb} - Total weight of fuel crib excluding nails, dry basis, kg
ASTM E2780 equation (4)

$$M_{FTAdb} = M_{Sdb} + M_{Cdb}$$

Sample calculation:

$$M_{FTAdb} = 1.17 + 5.91$$

$$= \mathbf{7.07} \text{ kg}$$

BR – dry burn rate, kg/hr
ASTM E2780 equation (5)

$$BR = \frac{60\ M_{FTAdb}}{\theta}$$

Where,

θ = Total length of test run, min

Sample Calculation:

M_{Bdb} = 7.07 kg
θ = 389 min

$$BR = \frac{60 \times 7.07}{389}$$

BR = **1.09** kg/hr

V_s – Average gas velocity in the dilution tunnel, ft/sec
ASTM E2515 equations (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 pitot tube center point reading = $\frac{V_{strav}}{V_{scent}}$, ASTM E2515 Equation (1)
v_{scent}	=	Dilution tunnel velocity calculated after the multi-point pitot traverse at the center, ft/sec
v_{strav}	=	Dilution tunnel velocity calculated after the multi-point pitot traverse, ft/sec
k_p	=	Pitot tube constant, 85.49
C_p	=	Pitot tube coefficient: 0.99, unitless
ΔP*	=	Velocity pressure in the dilution tunnel, in H_2O
T_s	=	Absolute average gas temperature in the dilution tunnel, °R; (°R = °F + 460)
P_s	=	Absolute average gas static pressure in dilution tunnel, = P_{bar} + P_g , in Hg
P_{bar}	=	Barometric pressure at test site, in. Hg
P_g	=	Static pressure of tunnel, in. H_20; (in Hg = in H_20/13.6)
M_s	=	
		**The dilution tunnel wet molecular weight; M_s = 28.78 assuming a dry weight of 29 lb/lb-mole

Sample calculation:

$$Fp = \frac{19.24}{20.55} = 0.936$$

$$V_s = 0.936 \times 85.49 \times 0.99 \times 0.312 \times \left(\frac{77.5 + 460}{\left(29.87 + \frac{-0.17}{13.6}\right) \times 28.78} \right)^{1/2}$$

V_s = **19.58** ft/s

*The ASTM test standard mistakenly has the square root of the average delta p instead of the average of the square root of delta p. The current EPA Method 2 is also incorrect. This was verified by Mike Toney at EPA.

**The ASTM test standard mistakenly identifies Ms as the dry molecular weight. It should be the wet molecular weight as indicated in EPA Method 2.

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

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

Where:

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, ft^2
T_{std}	=	Standard absolute temperature, 528 °R
P_s	=	Absolute average gas static pressure in dilution tunnel, = P_{bar} + P_g , 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

Sample calculation:

$$Q_{sd} = 3600 \times (1 - 0.02) \times 19.58 \times 0.1963 \times \frac{528}{77.5 + 460} \times \frac{29.87 + \frac{-0.17}{13.6}}{29.92}$$

Q_{sd} = **13290.7** dscf/hr

$V_{m(std)}$ – Volume of Gas Sampled Corrected to Dry Standard Conditions, 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_2O
T_m	=	Absolute average dry gas meter temperature, °R

Sample Calculation:

Using equation for Train A:

$$V_{m(std)} = 17.64 \times 71.667 \times 1.004 \times \frac{\left(29.87 + \frac{3.37}{13.6}\right)}{(90.9 + 460)}$$

$V_{m(std)}$ = **69.382** dscf

Using equation for Train B:

$$V_{m(std)} = 17.64 \times 69.739 \times 1.005 \times \frac{\left(29.87 + \frac{3.25}{13.6}\right)}{(90.5 + 460)}$$

$V_{m(std)}$ = **67.613** dscf

Using equation for ambient train:

$$V_{m(std)} = 17.64 \times 34.95 \times 1.013 \times \frac{\left(\underline{29.865} + \frac{0.00}{13.6}\right)}{(63.9 + 460)}$$

$V_{m(std)}$ = **35.604** dscf

m_n – 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

Sample Calculation:

Using equation for Train A:

m_n = 0.0 + 1.0 + 0.6

m_n = **1.6** mg

Using equation for Train B:

m_n = 0.3 + 1.2 + 0

m_n = **1.5** mg

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

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

Where:

K_2	=	Constant, 0.001 g/mg
m_n	=	Total mass of particulate matter collected in the sampling train, mg
$V_{m(std)}$	=	Volume of gas sampled corrected to dry standard conditions, dscf

Sample calculation:

For Train A:

$$C_s = 0.001 \times \frac{1.6}{69.38}$$

C_s = **0.00002** g/dscf

For Train B

$$C_s = 0.001 \times \frac{1.5}{67.61}$$

C_s = **0.00002** g/dscf

For Ambient Train

$$C_r = 0.001 \times \frac{0.0}{35.60}$$

C_r = **0.000000** g/dscf

E_T – 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

Sample calculation:

For Train A

E_T = (0.000023 - 0.000000) x 13290.7 x 389 /60

E_T = **1.99** g

For Train B

E_T = (0.000022 - 0.000000) x 13290.7 x 389 /60

E_T = **1.91** g

Average

E = **1.95** g

PR - Proportional Rate Variation

ASTM E2515 equation (16)

$$PR = \left[\frac{\theta \times V_{mi} \times V_s \times T_m \times T_{si}}{\theta_i \times V_m \times V_{si} \times T_{mi} \times T_s} \right] \times 100$$

Where:

θ = Total sampling time, min

θ_i = Length of recording interval, min

V_{mi} = Volume of gas sample measured by the dry gas meter during the “ith” time interval, dcf

V_m = Volume of gas sample as measured by dry gas meter, dcf

V_{si} = Average gas velocity in the dilution tunnel during the "ith" time interval, ft/sec

V_s = Average gas velocity in the dilution tunnel, ft/sec

T_{mi} = Absolute average dry gas meter temperature during the "ith" time interval, ^oR

T_m = Absolute average dry gas meter temperature, ^oR

T_{si} = Absolute average gas temperature in the dilution tunnel during the "ith" time interval, ^oR

T_s = Absolute average gas temperature in the dilution tunnel, ^oR

Sample calculation (for the first 10-min interval of Train 1):

$$PR = \left(\frac{389 \times 1.563 \times 19.58 \times (77.6 + 460) \times (90.9 + 460)}{10 \times 71.667 \times 19.43 \times (77.5 + 460) \times (71.1 + 460)} \right) \times 100$$

PR = **89** %

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

Sample Calculation:

E_T (Dual train average) = 1.95 g

θ = 389 min

$PM_R = 60 \times (1.95 / 389)$

PM_R = **0.30** g/hr

PM_F – Particulate emission factor for test run, g/dry kg of fuel burned
ASTM E2780 equation (7)

$$PM_F = E_T/M_{FTAdb}$$

Sample Calculation:

E_T (Dual train average)	=	1.95	g
M_{Bdb}	=	7.07	kg
PM_F	=	1.95 / 7.07	
PM_F	=	**0.28**	g/kg

Stack Loss Efficiency and CO emissions calculations are done in accordance with CSA B415.1, using the password protected excel spreadsheet provided with the test standard. No alterations or alternative calculations are used for determining efficiency or CO emissions. The following pages are a sample of the calculations page from the B415.1 Spreadsheet (V2_4 - Dated April 15, 2010).

Manufacturer:	Blaze King
Model:	PE32
Date:	03/04/24
Run:	1
Control #:	24-273
Test Duration:	**389** min

Note: In the “Input data”, "Calc. % O_2", "Fuel Properties", and “Mass Balance” columns, [e], [d], [g], [a]. [b], [c], [h], [u], [w], [j], and [k] refer to their respective variables in Clauses 13.7.3 to 13.7.5.

	HHV	LHV
Eff	**82.95%**	**89.65%**
Comb Eff	**99.45%**	**99.45%**
HT Eff	**83.41%**	**90.15%**
Output	**17,763**	**kJ/h**
Burn Rate	**1.08**	**kg/h**
Grams CO	**71**	**g**
Input	**21,414**	**kJ/h**
MC wet	**18.14**	

	Ultimate CO_2
$CO_{2\text{-ult}}$	19.64
	F_0
	1.063

Overall Heating Efficiency:	82.95%		Air Fue	
Combustion Efficiency:	99.45%		Dry Molecular W	
Heat Transfer Efficiency:	83.41%		Dry Moles Exhaus	
			Air Fuel Ratio	
Heat Output:	16,850	Btu/h	17,763	kJ/h
Heat Input:	20,313	Btu/h	21,414	kJ/h
Burn Duration:	6.48	h		
Burn Rate:	2.38	lb/h	1.081	kg/h
Stack Temp:	232.8	Deg. F	111.6	Deg. C

Averages	**0.09**	**11.75**	**0.72**	**20.16**	**8.36**	**111.54**	**17.71**	**99.6%**	**83.7%**	**83.4%**	**10.40**	**3.40**
INPUT DATA			**Oxygen Calculation**			**Input Data**		**Combust Eff**	**Heat Transfer**	**Net Eff**	**Air Fuel**	**Wet Wt Now**
Elapsed Time	**Weight Remaining (kg)**	**% CO [e]**	**% CO_2 [d]**	**Excess Air EA**	**Total O_2**	**Calc. % O_2 [g]**	**Flue Gas (°C)**	**Room Temp (°C)**	**%**	**%**	**%**	**Ratio**	**Wt**
0	8.56	0.13	8.74	121.4%	20.35	11.55	109.2	18.4	99.2%	82.4%	81.7%	13.4	8.56
1	8.54	0.51	2.91	474.9%	20.71	17.55	117.3	18.4	89.0%	68.4%	60.9%	34.0	8.54
2	8.53	0.02	5.21	275.9%	20.59	15.38	105.9	18.4	100.6%	78.7%	79.2%	22.7	8.53
3	8.52	0.01	6.37	208.1%	20.52	14.15	101.6	18.4	100.5%	81.0%	81.4%	18.6	8.52
4	8.50	0.01	6.38	207.4%	20.52	14.13	100.3	18.4	100.5%	81.1%	81.6%	18.6	8.50
5	8.48	0.01	6.00	226.9%	20.54	14.54	100.1	18.3	100.6%	80.7%	81.2%	19.8	8.48
6	8.47	0.01	6.30	211.4%	20.52	14.22	99.9	18.4	100.5%	81.1%	81.5%	18.8	8.47
7	8.44	0.01	6.64	195.5%	20.50	13.86	100.3	18.3	100.5%	81.4%	81.8%	17.9	8.44
8	8.43	0.01	6.42	205.8%	20.52	14.09	100.7	18.4	100.6%	81.2%	81.6%	18.5	8.43
9	8.41	0.01	6.38	207.5%	20.52	14.13	100.3	18.3	100.6%	81.1%	81.6%	18.6	8.41
10	8.39	0.01	6.64	195.4%	20.50	13.86	102.1	18.3	100.5%	81.3%	81.7%	17.9	8.39
11	8.37	0.01	6.77	189.6%	20.49	13.71	103.1	18.3	100.5%	81.3%	81.7%	17.5	8.37
12	8.34	0.01	6.93	183.1%	20.48	13.55	104.3	18.3	100.5%	81.4%	81.7%	17.1	8.34
13	8.33	0.01	7.15	174.6%	20.47	13.32	105.4	18.3	100.5%	81.5%	81.8%	16.6	8.33
14	8.30	0.01	7.23	171.2%	20.46	13.22	106.5	18.4	100.4%	81.5%	81.8%	16.4	8.30
15	8.28	0.01	7.65	156.5%	20.43	12.78	107.2	18.4	100.4%	81.8%	82.1%	15.5	8.28
16	8.25	0.01	7.67	156.0%	20.43	12.76	108.6	18.4	100.4%	81.7%	82.0%	15.5	8.25
17	8.22	0.01	7.63	157.0%	20.44	12.80	109.9	18.2	100.4%	81.5%	81.8%	15.5	8.22
18	8.20	0.01	7.93	147.5%	20.42	12.49	111.9	18.2	100.4%	81.6%	81.9%	15.0	8.20
19	8.17	0.01	7.91	148.0%	20.42	12.50	112.7	18.2	100.4%	81.5%	81.8%	15.0	8.17
20	8.14	0.01	7.90	148.6%	20.42	12.52	114.2	18.2	100.4%	81.4%	81.7%	15.0	8.14
21	8.12	0.01	7.80	151.5%	20.42	12.62	115.5	18.2	100.4%	81.2%	81.5%	15.2	8.12
22	8.09	0.01	7.83	150.8%	20.42	12.59	116.2	18.2	100.4%	81.1%	81.5%	15.2	8.09
23	8.05	0.01	8.19	139.4%	20.40	12.20	117.5	18.1	100.3%	81.4%	81.6%	14.5	8.05
24	8.03	0.01	8.46	131.9%	20.38	11.92	117.6	18.1	100.3%	81.6%	81.8%	14.0	8.03
25	8.00	0.00	8.51	130.8%	20.38	11.87	119.1	18.1	100.4%	81.5%	81.8%	14.0	8.00
26	7.97	0.01	8.58	128.8%	20.37	11.79	119.5	18.1	100.4%	81.5%	81.8%	13.8	7.97
27	7.94	0.01	8.66	126.8%	20.37	11.71	120.3	18.1	100.3%	81.5%	81.8%	13.7	7.94
28	7.90	0.01	8.87	121.4%	20.35	11.49	120.8	18.1	100.3%	81.6%	81.9%	13.4	7.90
29	7.87	0.01	8.94	119.5%	20.35	11.40	122.1	18.0	100.3%	81.6%	81.9%	13.3	7.87
30	7.84	0.01	9.25	112.2%	20.33	11.08	122.7	18.1	100.3%	81.8%	82.0%	12.8	7.84
31	7.80	0.01	9.41	108.6%	20.32	10.90	123.2	18.1	100.3%	81.9%	82.1%	12.6	7.80
32	7.77	0.01	9.45	107.7%	20.32	10.86	125.0	18.1	100.3%	81.8%	82.0%	12.6	7.77
33	7.73	0.01	9.30	111.0%	20.33	11.02	125.8	18.1	100.3%	81.6%	81.8%	12.8	7.73
34	7.70	0.01	9.20	113.4%	20.33	11.13	127.5	18.1	100.3%	81.4%	81.6%	12.9	7.70
35	7.67	0.01	9.00	118.2%	20.35	11.35	128.1	18.1	100.3%	81.2%	81.4%	13.2	7.67
36	7.64	0.01	9.01	117.8%	20.34	11.33	129.1	18.1	100.3%	81.1%	81.4%	13.2	7.64
37	7.60	0.01	9.38	109.2%	20.32	10.94	129.9	18.1	100.3%	81.4%	81.6%	12.7	7.60

el Ratio (A/F)	
Weight (M_d)	30.21
st Gas (N_t):	358.93
o (A/F)	10.33

%HC 0.88

Combustion Efficiency: 99.45%
Total Input (kJ): 138,833 131,676 (Btu)
Total Output (kJ): 115,161 109,225 (Btu)
Efficiency: 82.95%
Total CO (g): 71.38

Moisture of Wood (wet basis): 18.1446
Initial Dry Weight Wt_{do} (kg): 7.01
Moisture Content Dry 22.17

Load Weight (kg): **8.56**

Fuel Heating	**HHV**	**LHV**		**HHV**
Value in kj/kg - CV:	**19,810**	**18,329**	Btu/lb	**8522.5**

60.25	**2.98**	**57.41**	**138875**	**4.06**	**6.87**	**2.74**	**19810.00**	**18.14**	**79.80**	**21.17**	**2.92**	**10.02**	**0.00**	**0.29**	**40.54**
% Wet	**Dry Wt.**	**% Dry**		**Fuel Properties**				**Mw**	**Mass Balance**					**kg Wood per**	
Consumed	**Now**	**Comsumed**	**Total**	**Carbon**	**Hydrogen**	**Oxygen**	**Calorific**	**Moisture**	**(moles/100 mole dry flue gas)**					**100 mole dfp**	
x	**Wt_{dn}**	**y**	**Input**	**/12= [a]**	**/1= [b]**	**/16= [c]**	**Value**	**Fuel Burnt**	**[h]**	**[u]**	**[w]**	**[j]**	**[k]**	**Nk**	**CO_2**
0.00	7.01	0.00	0	4.06	6.87	2.74	19810.00	18.14	79.58	21.11	2.18	7.50	0.00	0.22	40.22
0.21	6.99	0.21	405	4.06	6.87	2.74	19810.00	18.14	79.03	20.96	0.85	2.84	0.05	0.08	34.29
0.37	6.98	0.37	221	4.06	6.87	2.74	19810.00	18.14	79.40	21.06	1.28	4.45	-0.02	0.13	40.87
0.53	6.97	0.53	221	4.06	6.87	2.74	19810.00	18.14	79.48	21.08	1.56	5.42	-0.02	0.16	40.89
0.69	6.96	0.69	294	4.06	6.87	2.74	19810.00	18.14	79.48	21.08	1.57	5.43	-0.02	0.16	40.90
0.95	6.94	0.95	294	4.06	6.87	2.74	19810.00	18.14	79.45	21.08	1.47	5.11	-0.02	0.15	40.92
1.11	6.93	1.11	294	4.06	6.87	2.74	19810.00	18.14	79.47	21.08	1.55	5.36	-0.02	0.15	40.89
1.38	6.91	1.38	331	4.06	6.87	2.74	19810.00	18.14	79.49	21.09	1.63	5.65	-0.02	0.16	40.89
1.59	6.90	1.59	258	4.06	6.87	2.74	19810.00	18.14	79.48	21.08	1.58	5.46	-0.02	0.16	40.91
1.75	6.89	1.75	294	4.06	6.87	2.74	19810.00	18.14	79.48	21.08	1.57	5.43	-0.02	0.16	40.91
2.01	6.87	2.01	368	4.06	6.87	2.74	19810.00	18.14	79.50	21.09	1.63	5.65	-0.02	0.16	40.89
2.28	6.85	2.28	405	4.06	6.87	2.74	19810.00	18.14	79.50	21.09	1.66	5.76	-0.02	0.17	40.89
2.60	6.83	2.60	331	4.06	6.87	2.74	19810.00	18.14	79.51	21.09	1.70	5.89	-0.02	0.17	40.87
2.76	6.82	2.76	294	4.06	6.87	2.74	19810.00	18.14	79.53	21.10	1.76	6.07	-0.02	0.17	40.88
3.02	6.80	3.02	405	4.06	6.87	2.74	19810.00	18.14	79.53	21.10	1.78	6.15	-0.02	0.18	40.87
3.34	6.77	3.34	405	4.06	6.87	2.74	19810.00	18.14	79.56	21.10	1.88	6.50	-0.02	0.19	40.86
3.60	6.76	3.60	441	4.06	6.87	2.74	19810.00	18.14	79.56	21.10	1.88	6.51	-0.02	0.19	40.87
3.97	6.73	3.97	441	4.06	6.87	2.74	19810.00	18.14	79.56	21.10	1.88	6.49	-0.02	0.19	40.86
4.24	6.71	4.24	441	4.06	6.87	2.74	19810.00	18.14	79.58	21.11	1.95	6.73	-0.02	0.19	40.86
4.61	6.69	4.61	478	4.06	6.87	2.74	19810.00	18.14	79.58	21.11	1.95	6.72	-0.02	0.19	40.86
4.93	6.66	4.93	405	4.06	6.87	2.74	19810.00	18.14	79.58	21.11	1.94	6.71	-0.02	0.19	40.88
5.19	6.64	5.19	441	4.06	6.87	2.74	19810.00	18.14	79.57	21.11	1.92	6.63	-0.02	0.19	40.86
5.56	6.62	5.56	515	4.06	6.87	2.74	19810.00	18.14	79.57	21.11	1.92	6.65	-0.02	0.19	40.88
5.94	6.59	5.94	478	4.06	6.87	2.74	19810.00	18.14	79.60	21.11	2.02	6.96	-0.02	0.20	40.84
6.25	6.57	6.25	441	4.06	6.87	2.74	19810.00	18.14	79.61	21.12	2.08	7.18	-0.02	0.21	40.86
6.57	6.55	6.57	478	4.06	6.87	2.74	19810.00	18.14	79.62	21.12	2.09	7.22	-0.02	0.21	40.88
6.94	6.52	6.94	515	4.06	6.87	2.74	19810.00	18.14	79.62	21.12	2.11	7.28	-0.02	0.21	40.88
7.31	6.50	7.31	515	4.06	6.87	2.74	19810.00	18.14	79.63	21.12	2.13	7.35	-0.02	0.21	40.87
7.68	6.47	7.68	515	4.06	6.87	2.74	19810.00	18.14	79.64	21.13	2.18	7.53	-0.02	0.22	40.86
8.06	6.44	8.06	515	4.06	6.87	2.74	19810.00	18.14	79.65	21.13	2.20	7.59	-0.02	0.22	40.86
8.43	6.42	8.43	552	4.06	6.87	2.74	19810.00	18.14	79.67	21.13	2.28	7.85	-0.02	0.23	40.85
8.85	6.39	8.85	589	4.06	6.87	2.74	19810.00	18.14	79.68	21.14	2.31	7.98	-0.02	0.23	40.86
9.27	6.36	9.27	589	4.06	6.87	2.74	19810.00	18.14	79.68	21.14	2.32	8.02	-0.02	0.23	40.84
9.70	6.33	9.70	515	4.06	6.87	2.74	19810.00	18.14	79.67	21.13	2.29	7.89	-0.02	0.23	40.85
10.02	6.31	10.02	515	4.06	6.87	2.74	19810.00	18.14	79.66	21.13	2.26	7.80	-0.02	0.23	40.86
10.44	6.28	10.44	552	4.06	6.87	2.74	19810.00	18.14	79.65	21.13	2.21	7.63	-0.02	0.22	40.86
10.81	6.25	10.81	552	4.06	6.87	2.74	19810.00	18.14	79.65	21.13	2.22	7.65	-0.02	0.22	40.86
11.23	6.22	11.23	552	4.06	6.87	2.74	19810.00	18.14	79.68	21.13	2.31	7.96	-0.02	0.23	40.86

Moisture Content M_{Cwb}: 18.14461

Dry kg : 7.01

CA: 49

HY: 7

OX: 43.9

LHV
7885.2

31.43	0.28	-0.01	284.97	34.54	12.31	384.69	3696.47	2800.04	2727.30	2696.13	3518.60	3265.07	290.86	58397.38	33595.86
Moles per kg of Dry Wood					Moisture	Stack Temp	Heat Content Change - Ambient to Stack Temperature Flue Gas Constituent						Room Temp		
O_2	CO	HC	N_2	H_2O	Present	K	CO_2	O_2	CO	N_2	CH_4	H_2O	K	CO_2	O_2
53.12	0.59	0.00	366.12	34.52	12.31	382.32	3568.56	2706.48	2636.99	2606.68	3389.55	3157.20	291.54	143.54	143.78
206.86	5.99	0.54	931.46	33.44	12.31	390.43	3899.04	2951.92	2874.85	2842.08	3714.87	3441.59	291.54	133.68	610.63
120.60	0.12	-0.18	622.74	34.88	12.31	379.09	3437.80	2609.14	2542.59	2513.28	3261.33	3044.33	291.54	140.51	314.67
90.88	0.06	-0.14	510.52	34.80	12.31	374.76	3262.42	2478.39	2415.74	2387.77	3089.82	2892.63	291.54	133.41	225.25
90.55	0.05	-0.14	509.26	34.80	12.31	373.48	3210.81	2439.86	2378.36	2350.79	3039.45	2847.92	291.54	131.32	220.92
99.13	0.05	-0.15	541.74	34.83	12.31	373.26	3206.07	2436.43	2375.06	2347.51	3034.57	2843.98	291.43	131.18	241.53
92.34	0.06	-0.14	516.01	34.80	12.31	373.09	3195.12	2428.14	2366.98	2339.53	3024.14	2834.32	291.54	130.64	224.22
85.34	0.06	-0.13	489.57	34.78	12.31	373.48	3212.93	2441.50	2379.96	2352.37	3041.39	2849.84	291.48	131.36	208.36
89.85	0.04	-0.14	506.67	34.80	12.31	373.87	3226.52	2451.59	2389.74	2362.04	3054.77	2861.53	291.54	132.01	220.28
90.63	0.04	-0.14	509.59	34.80	12.31	373.48	3212.93	2441.50	2379.96	2352.37	3041.39	2849.84	291.48	131.43	221.27
85.32	0.05	-0.13	489.51	34.78	12.31	375.21	3282.50	2493.42	2430.35	2402.22	3109.30	2910.11	291.48	134.23	212.74
82.78	0.05	-0.13	479.91	34.77	12.31	376.26	3325.18	2525.26	2461.24	2432.78	3151.01	2947.05	291.48	135.97	209.05
79.92	0.06	-0.12	469.04	34.76	12.31	377.43	3374.50	2562.10	2496.99	2468.15	3199.11	2989.81	291.43	137.93	204.76
76.21	0.05	-0.12	455.05	34.75	12.31	378.59	3419.64	2595.68	2529.55	2500.37	3243.42	3028.74	291.48	139.80	197.81
74.72	0.05	-0.11	449.39	34.75	12.31	379.65	3460.32	2625.92	2558.86	2529.38	3283.40	3063.79	291.54	141.44	196.20
68.29	0.05	-0.10	425.07	34.73	12.31	380.37	3489.61	2647.73	2580.02	2550.31	3312.11	3089.09	291.54	142.59	180.81
68.05	0.04	-0.10	424.21	34.73	12.31	381.71	3543.73	2688.01	2619.08	2588.96	3365.19	3135.79	291.54	144.84	182.92
68.49	0.05	-0.10	425.85	34.73	12.31	383.09	3606.50	2734.89	2664.58	2633.97	3426.38	3190.21	291.37	147.37	187.32
64.37	0.05	-0.10	410.27	34.72	12.31	385.04	3687.70	2795.32	2723.17	2691.96	3506.05	3260.28	291.32	150.69	179.93
64.55	0.05	-0.10	410.95	34.72	12.31	385.82	3719.37	2818.85	2745.98	2714.52	3537.20	3287.54	291.32	151.98	181.95
64.80	0.03	-0.10	411.96	34.72	12.31	387.32	3780.50	2864.24	2789.97	2758.06	3597.38	3340.14	291.32	154.55	185.61
66.10	0.05	-0.10	416.83	34.72	12.31	388.65	3834.89	2904.61	2829.08	2796.77	3650.98	3386.90	291.32	156.71	192.00
65.78	0.03	-0.10	415.64	34.73	12.31	389.37	3864.37	2926.48	2850.27	2817.74	3680.05	3412.23	291.32	157.98	192.49
60.83	0.06	-0.09	396.83	34.70	12.31	390.65	3920.79	2968.45	2890.97	2858.01	3735.43	3460.89	291.21	160.13	180.56
57.55	0.04	-0.09	384.48	34.70	12.31	390.76	3923.22	2970.18	2892.63	2859.66	3737.98	3462.87	291.26	160.28	170.92
57.04	0.02	-0.09	382.63	34.70	12.31	392.26	3986.67	3017.28	2938.26	2904.82	3800.50	3517.43	291.21	162.98	172.10
56.15	0.02	-0.09	379.25	34.70	12.31	392.65	4000.47	3027.43	2948.08	2914.54	3814.30	3529.16	291.26	163.52	169.98
55.30	0.03	-0.08	376.01	34.69	12.31	393.43	4034.42	3052.65	2972.52	2938.72	3847.72	3558.38	291.21	164.88	168.80
52.93	0.04	-0.08	367.04	34.68	12.31	393.98	4057.18	3069.49	2988.83	2954.87	3870.23	3577.88	291.21	165.76	162.47
52.11	0.03	-0.08	363.94	34.68	12.31	395.21	4109.38	3108.20	3026.33	2991.98	3921.75	3622.71	291.15	167.91	161.96
48.92	0.04	-0.07	351.87	34.67	12.31	395.82	4130.22	3123.48	3041.08	3006.59	3942.70	3640.33	291.26	168.72	152.80
47.35	0.02	-0.07	345.98	34.67	12.31	396.37	4153.01	3140.34	3057.41	3022.75	3965.29	3659.84	291.26	169.71	148.69
46.96	0.04	-0.07	344.45	34.66	12.31	398.15	4226.01	3194.30	3109.65	3074.46	4037.68	3722.28	291.26	172.60	150.01
48.39	0.04	-0.07	349.88	34.67	12.31	398.98	4260.26	3219.61	3134.14	3098.71	4071.67	3751.56	291.26	174.03	155.80
49.46	0.03	-0.08	353.94	34.67	12.31	400.65	4330.93	3271.88	3184.75	3148.80	4141.70	3812.04	291.21	176.97	161.83
51.54	0.03	-0.08	361.81	34.68	12.31	401.21	4351.69	3287.13	3199.48	3163.39	4162.50	3829.64	291.26	177.81	169.43
51.37	0.03	-0.08	361.17	34.68	12.31	402.21	4394.99	3319.16	3230.49	3194.09	4205.40	3866.71	291.21	179.57	170.52
47.62	0.03	-0.07	347.00	34.67	12.31	403.04	4427.22	3342.87	3253.41	3216.78	4237.65	3894.09	291.26	180.89	159.20

SUMS					AVERAGE	SUMS						
31445.51	296946.04	-3290.27	636287.07	226856.55	3282.66	23665.03	751.56	22913.46	115210.46	758.10	71.38	0.54
Energy Losses (kJ/kg of Dry Fuel)					Total							
Flue Gas Constituent					Loss	Total	Chemical	Sensible and	Total	Chem	Grams Produced	
CO	N_2	CH_4	H_2O Comb	H_2O Fuel MC	Rate	Loss	Loss 1	Latent Loss	Output	Loss 2	CO	HC
168.18	954.37	0.33	1626.88	580.36	3617.44	0.00	0	0.00	0	0	0.00	0.00
1711.56	2647.28	482.64	1585.54	583.86	7755.19	158.41	44	113.99	246	44	3.42	0.18
33.59	1565.12	-158.03	1639.65	578.97	4114.48	45.84	-1	47.23	175	-1	0.04	-0.03
16.50	1219.01	-123.08	1630.70	577.10	3678.88	40.99	-1	42.17	180	-1	0.02	-0.02
14.63	1197.16	-123.44	1629.18	576.55	3646.31	54.17	-2	55.78	240	-2	0.02	-0.03
13.62	1271.75	-136.24	1630.39	576.50	3728.73	55.39	-2	57.21	239	-2	0.02	-0.04
18.53	1207.22	-124.24	1628.79	576.38	3661.54	54.39	-2	55.96	240	-2	0.03	-0.03
15.82	1151.64	-115.42	1628.41	576.57	3596.74	60.11	-2	61.77	271	-2	0.03	-0.03
10.92	1196.78	-124.14	1629.73	576.71	3642.28	47.35	-1	48.81	210	-1	0.01	-0.03
12.81	1198.75	-124.39	1629.35	576.57	3645.78	54.16	-2	55.81	240	-2	0.02	-0.03
14.06	1175.90	-116.20	1630.59	577.31	3628.63	67.38	-2	69.27	300	-2	0.03	-0.04
13.78	1167.52	-112.69	1631.50	577.77	3622.91	74.00	-2	76.02	331	-2	0.03	-0.04
16.84	1157.66	-107.18	1632.41	578.29	3620.70	60.51	-2	62.02	271	-2	0.03	-0.03
13.07	1137.79	-103.58	1633.38	578.77	3597.05	53.44	-1	54.78	241	-1	0.02	-0.03
14.52	1136.68	-100.78	1634.30	579.20	3601.57	73.57	-2	75.33	331	-2	0.03	-0.04
15.26	1084.06	-91.20	1634.18	579.52	3545.20	72.42	-2	73.96	332	-2	0.03	-0.03
12.18	1098.25	-92.27	1635.91	580.09	3561.93	79.37	-2	81.15	362	-2	0.03	-0.04
15.29	1121.67	-91.50	1637.72	580.76	3598.62	80.19	-2	81.88	361	-2	0.03	-0.04
13.26	1104.44	-86.51	1639.62	581.62	3583.06	79.84	-2	81.47	362	-2	0.03	-0.03
13.28	1115.52	-86.75	1640.59	581.96	3598.54	86.87	-2	88.64	391	-2	0.03	-0.04
8.88	1136.22	-89.14	1642.67	582.61	3621.40	73.97	-2	75.61	331	-2	0.02	-0.03
13.48	1165.76	-88.91	1644.27	583.18	3666.49	81.70	-2	83.38	360	-2	0.03	-0.04
8.96	1171.15	-90.51	1645.32	583.50	3668.89	95.38	-2	97.50	420	-2	0.02	-0.04
17.10	1134.14	-79.68	1645.86	584.10	3642.21	87.93	-2	89.43	390	-2	0.04	-0.03
12.43	1099.47	-77.10	1645.65	584.12	3595.78	80.13	-1	81.56	361	-1	0.03	-0.03
5.50	1111.47	-79.53	1647.80	584.79	3605.12	87.03	-2	88.81	391	-2	0.01	-0.03
6.81	1105.33	-77.65	1648.01	584.94	3600.94	93.62	-2	95.45	421	-2	0.02	-0.04
8.10	1104.98	-75.84	1648.83	585.30	3605.05	93.72	-2	95.48	421	-2	0.02	-0.04
10.54	1084.55	-71.33	1649.03	585.54	3586.56	93.24	-2	94.82	422	-2	0.03	-0.03
9.15	1088.90	-70.79	1650.53	586.09	3593.75	93.43	-2	95.03	422	-2	0.02	-0.03
10.11	1057.93	-65.76	1650.60	586.30	3560.70	99.18	-2	100.73	453	-2	0.03	-0.03
6.21	1045.80	-65.28	1651.23	586.55	3542.90	105.27	-2	107.01	483	-2	0.02	-0.03
11.13	1059.01	-62.49	1653.09	587.31	3570.67	106.09	-2	107.61	482	-2	0.03	-0.03
10.05	1084.17	-65.04	1654.38	587.67	3601.06	93.62	-1	95.04	421	-1	0.03	-0.03
7.63	1114.49	-67.69	1656.76	588.42	3638.41	94.59	-2	96.15	420	-2	0.02	-0.03
9.10	1144.54	-70.02	1657.62	588.64	3677.11	102.42	-2	104.11	449	-2	0.02	-0.03
9.08	1153.60	-69.78	1658.88	589.09	3690.96	102.81	-2	104.49	449	-2	0.02	-0.03
7.48	1116.21	-65.12	1659.33	589.43	3647.42	101.60	-2	103.20	450	-2	0.02	-0.03

EPA Method 28R Weighted Average Emissions

Client: Blaze King
Stove Model: PE32
Test Dates: 3/4//24 - 3/6/24
Job Number: 24-273

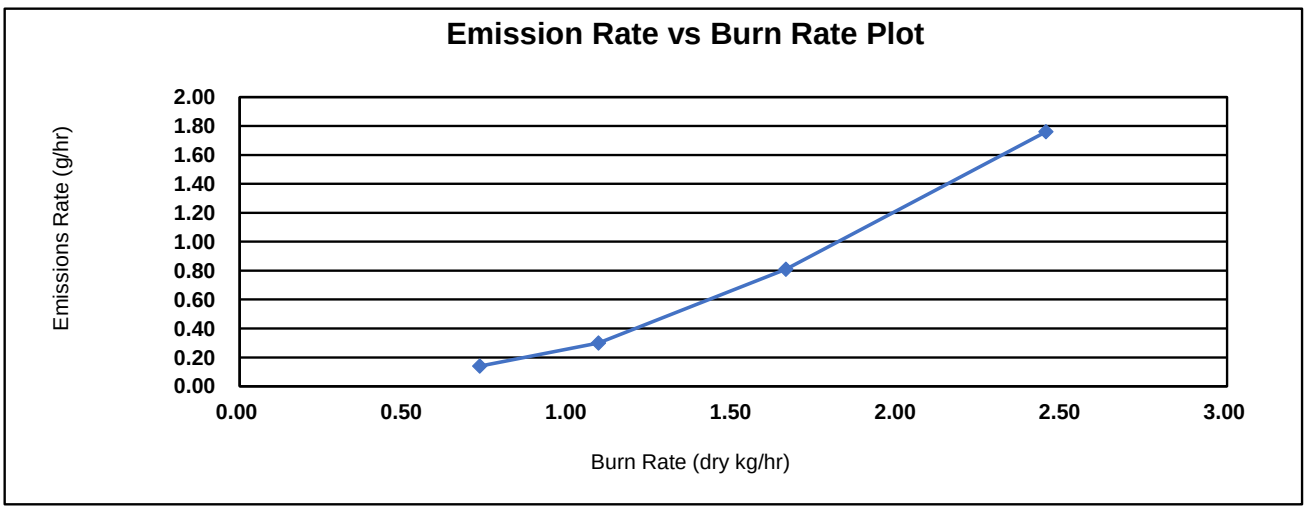
Signature/Date: 3/18/2024

Weighted Average Particulate Emissions (g/hr):	**0.55**
Weighted Average HHV Efficiency (%):	**81.5%**
Weighted Average LHV Efficiency (%):	**88.2%**
Average CO Emissions (g/min):	**0.62**

Individual Run Summaries

Run Number:	2	Run Number:	1
Burn Rate (dry kg/hr):	0.73	Burn Rate (dry kg/hr):	1.09
Emissions Rate (g/hr):	0.14	Emissions Rate (g/hr):	0.30
HHV Efficiency (%):	83.9%	HHV Efficiency (%):	82.9%
LHV Efficiency (%):	90.7%	LHV Efficiency (%):	89.7%
Weighting Percentage (%):	25.13%	Weighting Percentage (%):	36.74%

Run Number:	4	Run Number:	3
Burn Rate (dry kg/hr):	1.66	Burn Rate (dry kg/hr):	2.45
Emissions Rate (g/hr):	0.81	Emissions Rate (g/hr):	1.76
HHV Efficiency (%):	79.8%	HHV Efficiency (%):	75.4%
LHV Efficiency (%):	86.2%	LHV Efficiency (%):	81.5%
Weighting Percentage (%):	28.50%	Weighting Percentage (%):	9.62%



Low Burn Rate Justification

Completed by Ashnil Reddy
Product Development, Blaze King Ind.
December 14, 2016
Revised January 13, 2021

The two main components of a Blaze King thermostat are the damper blade and the bimetallic coil; they work in unison to produce a consistent heat output. The damper blade is controlled by a thermostat knob that can be positioned accordingly based on desired heat output. The bimetallic coil regulates the volume of intake combustion air by adjusting the damper blade angle based on its reaction with heat radiating off the unit. As the fire loses intensity and the unit radiates less heat, the bimetallic coil contracts and repositions the damper blade angle to allow more combustion air to stoke the fire so the unit can continue to radiate the desired heat output. As the fire gains intensity, the same procedure occurs in the opposite direction.

When preforming a 5G emission test run in the Low Burn Rate Category (<0.8kg/hr), Blaze King's target fuel consumption rate is 0.1lb of test fuel per 10 minute interval. To achieve this, the thermostat knob is positioned such that the damper blade is almost fully closed. If the blade is closed beyond this point, inadequate intake air would cause the burn to stall. This low burn rate is consistently achievable in a test lab environment given that external conditions are held constant. However, when burning in a real world environment, external conditions cannot be held constant which could yield a faster low burn rate given the same thermostat knob setting as used in the test lab environment.

A great example of a real world inconsistency that would affect low burn rate is chimney draft. If the unit were installed with a chimney height of 20ft or greater, the increased draft associated with that chimney height could increase the velocity of combustion air into the unit and result in a faster low burn rate given the same thermostat knob setting as used in the test lab. In this scenario, the operator would be able to turn the thermostat knob lower to account for the increased draft and maintain the same low burn rate that was achieved in the test lab environment. If the consumer were to turn the thermostat knob too low, the fire would stall due to inadequate intake air as previously mentioned. This proves that when the damper blade is closed within the thermostat, regardless of the thermostat knob position, the low burn rate achieved during emissions testing is no greater than the rate that an operator can achieve in real world use.

In compliment with this verbal justification is a data set obtained during inhouse testing. The goal of this test run was to determine the thermostat knob setting that would yield the lowest burn rate achievable while sustaining combustion. For this test, the thermostat knob was positioned at 80 degrees below fully open; the run subsequently failed due to fuel consumption stalling and the fire going out. It was later found that a thermostat knob setting positioned at 76 degrees below fully open yielded the desired low burn rate.

Blaze King / Valley Comfort

Wood Heater Test Data - EPA Method 5G

Run:

Manufacturer: Blaze King
Model: PE32
Tracking No.:
Project No.: Low Burn - Invalid Run Stalled
Test Date: 02-Jul-18
Beginning Clock Time: 00:00
Recording Interval: 10 min.
Total Sampling Time: 890 min.
Burn Rate: N/A kg/hr

Velocity Traverse Data									
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP									"H2O
Initial Temp.									oF

Equipment Numbers: THERMOSTAT KNOB WAS CLOSED 80° FROM FULLY OPEN
NOTE: THERM KNOB WAS CLOSED 76° FROM FULLY OPEN FOR OFFICIAL EPA LOW BURN
TEST TERMINATED AT 890 MINS BECAUSE < .1 LB/MIN WEIGHT CHANGE FOR 30 MINUTES

PM Control Module: BK-06
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.56 lb/lb-mole
Dilution Tunnel H2O: 4.00 percent
Dilution Tunnel Static: -0.680 "H2O
Pitot Tube Cp: 0.99
Meter Box Y Factor: 0.988
Barometric Pressure: Begin Middle End Average 0.00 "Hg

Signature/Date:
Tunnel Velocity: #DIV/0! ft/sec.
Intial Tunnel Flow: #DIV/0! scfm
Average Tunnel Flow: #DIV/0! scfm
Tunnel Area: 0.196 ft2
Post-Test Leak Check: .008@6 cfm@"Hg
Fuel Moisture (dry basis 22.3 %
Total Particulate: mg
Filter Holder No.:

	Particulate Sampling Data								Fuel Weight, lb		Wood Heater Temperature Data, oF											Stack	
Elapsed Time	Gas Meter Cubic Feet	Sample Rate, cfm	Orifice dH	Meter oF	Meter Vac. In. Hg.	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%)	Scale Reading	Weight Change	Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Firebox Interior	Average Surface	Stack	Filter	Impinger exit	Ambient	Draft In. H2O	Catalyst Temp.
0	1.000					#DIV/0!	#DIV/0!		20.78		252.89	386.58	200.39	221.34	219.33		256.1	223.14			69.78		382.99
10	1.000	0.00					#DIV/0!	#DIV/0!	20.71	-0.07	234.17	360.64	175.17	191.65	188.9		230.1	199.55			69.95		444.57
20	1.000	0.00						#DIV/0!	20.56	-0.15	231.32	347.64	158.76	170.75	168.45		215.4	185.54			69.39		495.28
30	1.000	0.00						#DIV/0!	20.3	-0.26	246.05	347.92	150.46	159.71	158.64		212.6	183.97			69.39		580.11
40	1.000	0.00					#DIV/0!	#DIV/0!	19.76	-0.54	279.84	354.64	146.54	162.68	160.83		220.9	195.46			69.16		679.73
50	1.000	0.00					#DIV/0!	#DIV/0!	19.11	-0.65	299.51	361.25	147.38	172.2	170.41		230.2	203.97			69.67		685.51
60	1	0.00					#DIV/0!	#DIV/0!	18.42	-0.69	314.3	362.65	147.49	180.55	177.08		236.4	213.44			69.05		709.6
70	1.000	0.00					#DIV/0!	#DIV/0!	17.68	-0.74	341.14	366.3	149.85	186.27	182.46		245.2	225.43			68.88		765.74
80	1.000	0.00					#DIV/0!	#DIV/0!	16.94	-0.74	369.88	371.34	151.58	196.3	192.26		256.3	237.98			69.67		785.91
90	1.000	0.00					#DIV/0!	#DIV/0!	16.4	-0.54	360.36	369.27	151.7	200.5	199.83		256.3	235.46			69.78		735.15
100	1.000	0.00					#DIV/0!	#DIV/0!	15.87	-0.53	372.35	367.81	152.03	201.9	204.7		259.8	237.82			69.84		806.59
110	1.000	0.00					#DIV/0!	#DIV/0!	15.43	-0.44	400.25	368.59	151.75	200.39	200.28		264.3	244.6			70.45		856.18
120	1	0.00					#DIV/0!	#DIV/0!	14.85	-0.58	428.6	366.35	153.38	201.84	199.15		269.9	252.55			70.45		874.27
130	1.000	0.00					#DIV/0!	#DIV/0!	14.38	-0.47	434.21	364	154.39	206.21	201.45		272.1	255.75			70.62		854.44
140	1.000	0.00					#DIV/0!	#DIV/0!	13.94	-0.44	426.31	363.38	156.24	208.74	204.37		271.8	254.96			70.28		835.5
150	1.000	0.00					#DIV/0!	#DIV/0!	13.49	-0.45	427.43	365.4	157.97	213.16	207.45		274.3	255.91			71.12		846.99
160	1.000	0.00					#DIV/0!	#DIV/0!	13.03	-0.46	437.34	369.94	160.61	218.04	211.54		279.5	258.83			71.4		863.18
170	1.000	0.00					#DIV/0!	#DIV/0!	12.61	-0.42	442.72	374.81	164.47	223.64	215.24		284.2	261.97			71.63		855.34
180	1	0.00					#DIV/0!	#DIV/0!	12.19	-0.42	440.2	377.22	167.44	228.52	218.43		286.4	262.25			71.96		841.94
190	1.000	0.00					#DIV/0!	#DIV/0!	11.81	-0.38	437.4	377.22	171.08	231.32	220.17		287.4	262.36			72.02		841.55
200	1.000	0.00					#DIV/0!	#DIV/0!	11.4	-0.41	438.41	375.88	174.28	234.51	222.18		289.1	263.7			72.41		843.23
210	1.000	0.00					#DIV/0!	#DIV/0!	11.03	-0.37	434.6	372.18	177.3	235.91	224.71		288.9	263.53			72.58		830.91
220	1.000	0.00					#DIV/0!	#DIV/0!	10.67	-0.36	433.14	368.09	181.39	237.26	224.65		288.9	263.31			72.92		833.2
230	1.000	0.00					#DIV/0!	#DIV/0!	10.28	-0.39	441.77	364.78	186.49	238.49	226.95		291.7	265.5			73.03		852.2
240	1	0.00					#DIV/0!	#DIV/0!	9.89	-0.39	448.33	361.93	191.53	239.11	229.36		294.1	267.79			73.2		844.35
250	1.000	0.00					#DIV/0!	#DIV/0!	9.57	-0.32	437.29	355.76	195.57	237.7	231.82		291.6	266.9			73.48		806.14
260	1.000	0.00					#DIV/0!	#DIV/0!	9.31	-0.26	412.07	346.52	199.27	238.71	231.32		285.6	261.97			73.65		758.23
270	1.000	0.00					#DIV/0!	#DIV/0!	9.1	-0.21	383.67	336.88	200.44	236.14	229.36		277.3	255.3			73.98		706.35
280	1.000	0.00					#DIV/0!	#DIV/0!	8.92	-0.18	356.04	326.68	200.5	231.93	226.83		268.4	247.4			74.21		665.56

Wood Heater Test Data - EPA Method 5G

Run:

Manufacturer: Blaze King
Model: PE32
Tracking No.:
Project No.: Low Burn - Invalid Run Stalled
Test Date: 02-Jul-18
Beginning Clock Time: 00:00
Recording Interval: 10 min.
Total Sampling Time: 890 min.
Burn Rate: N/A kg/hr

Velocity Traverse Data									
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP									"H2O
Initial Temp.									oF

Equipment Numbers: THERMOSTAT KNOB WAS CLOSED 80° FROM FULLY OPEN
NOTE: THERM KNOB WAS CLOSED 76° FROM FULLY OPEN FOR OFFICIAL EPA LOW BURN
TEST TERMINATED AT 890 MINS BECAUSE < .1 LB/MIN WEIGHT CHANGE FOR 30 MINUTES

PM Control Module: BK-06
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.56 lb/lb-mole
Dilution Tunnel H2O: 4.00 percent
Dilution Tunnel Static: -0.680 "H2O
Pitot Tube Cp: 0.99
Meter Box Y Factor: 0.988
Barometric Pressure: Begin Middle End Average 0.00 "Hg

Signature/Date:
Tunnel Velocity: #DIV/0! ft/sec.
Intial Tunnel Flow: #DIV/0! scfm
Average Tunnel Flow: #DIV/0! scfm
Tunnel Area: 0.196 ft2
Post-Test Leak Check: .008@6 cfm@"Hg
Fuel Moisture (dry basis 22.3 %
Total Particulate: mg
Filter Holder No.:

	Particulate Sampling Data								Fuel Weight, lb		Wood Heater Temperature Data, oF											Stack	
Elapsed Time	Gas Meter Cubic Feet	Sample Rate, cfm	Orifice dH	Meter oF	Meter Vac. In. Hg.	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%)	Scale Reading	Weight Change	Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Firebox Interior	Average Surface	Stack	Filter	Impinger exit	Ambient	Draft In. H2O	Catalyst Temp.
290	1.000	0.00					#DIV/0!	#DIV/0!	8.75	-0.17	339.23	316.71	201.23	226.83	223.92		261.6	241.57			74.26		655.19
300	1	0.00					#DIV/0!	#DIV/0!	8.55	-0.2	336.43	307.01	204.09	222.86	222.63		258.6	240.17			74.37		672.56
310	1.000	0.00					#DIV/0!	#DIV/0!	8.33	-0.22	343.49	298.11	209.58	219.55	222.91		258.7	241.79			74.32		695.76
320	1.000	0.00					#DIV/0!	#DIV/0!	8.1	-0.23	353.24	290.21	213.33	217.25	226.11		260.0	243.87			74.54		716.21
330	1.000	0.00					#DIV/0!	#DIV/0!	7.84	-0.26	366.86	283.71	216.58	215.85	233.56		263.3	246.05			74.54		738.29
340	1.000	0.00					#DIV/0!	#DIV/0!	7.61	-0.23	372.01	278.94	218.82	215.29	240.62		265.1	247.62			74.82		740.58
350	1.000	0.00					#DIV/0!	#DIV/0!	7.38	-0.23	371.28	275.69	220.17	215.57	245.21		265.6	248.18			74.77		727.98
360	1	0.00					#DIV/0!	#DIV/0!	7.18	-0.2	359.4	273.79	219.66	215.63	248.85		263.5	246.05			75.05		695.25
370	1.000	0.00					#DIV/0!	#DIV/0!	7.03	-0.15	339.62	274.07	214.84	214.56	249.81		258.6	240.11			74.93		653.4
380	1.000	0.00					#DIV/0!	#DIV/0!	6.91	-0.12	323.54	276.42	209.13	212.83	249.69		254.3	233.5			74.93		633.62
390	1.000	0.00					#DIV/0!	#DIV/0!	6.76	-0.15	318.39	278.16	203.92	210.98	249.41		252.2	229.58			75.16		644.15
400	1.000	0.00					#DIV/0!	#DIV/0!	6.58	-0.18	326.29	279.84	200.44	210.36	251.26		253.6	229.3			75.27		681.64
410	1.000	0.00					#DIV/0!	#DIV/0!	6.37	-0.21	352.85	283.87	202.46	210.59	253.79		260.7	235.91			75.38		737
420	1	0.00					#DIV/0!	#DIV/0!	6.17	-0.2	357.61	288.69	205.49	213.27	259.61		264.9	241.18			75.44		722.82
430	1.000	0.00					#DIV/0!	#DIV/0!	6.01	-0.16	353.97	292.84	208.23	216.36	264.99		267.3	243.64			75.55		705.34
440	1.000	0.00					#DIV/0!	#DIV/0!	5.84	-0.17	345.9	295.42	208.23	217.81	267.79		267.0	243.2			75.61		684.22
450	1.000	0.00					#DIV/0!	#DIV/0!	5.71	-0.13	334.81	295.36	206.89	217.81	267.51		264.5	240.62			75.77		662.03
460	1.000	0.00					#DIV/0!	#DIV/0!	5.57	-0.14	325.67	293.79	203.75	216.41	264.32		260.8	237.03			75.89		645.22
470	1.000	0.00					#DIV/0!	#DIV/0!	5.47	-0.1	313.63	291.55	198.71	214.28	260.73		255.8	231.54			75.77		618.27
480	1	0.00					#DIV/0!	#DIV/0!	5.36	-0.11	303.54	288.36	193.89	210.53	256.42		250.5	225.55			75.83		609.64
490	1.000	0.00					#DIV/0!	#DIV/0!	5.23	-0.13	305	285.78	188.4	207.06	252.44		247.7	222.07			75.77		641.8
500	1.000	0.00					#DIV/0!	#DIV/0!	5.08	-0.15	307.86	287.18	187.67	205.49	251.04		247.8	221.85			75.83		637.93
510	1.000	0.00					#DIV/0!	#DIV/0!	4.98	-0.1	303.2	289.25	188.34	204.09	248.46		246.7	221.51			75.77		623.87
520	1.000	0.00					#DIV/0!	#DIV/0!	4.86	-0.12	297.43	289.25	187.05	202.01	243.53		243.9	219.83			75.77		619.28
530	1.000	0.00					#DIV/0!	#DIV/0!	4.74	-0.12	295.64	290.93	186.44	200.39	238.49		242.4	219.1			75.77		620.28
540	1	0.00					#DIV/0!	#DIV/0!	4.62	-0.12	293.4	293.68	184.53	199.15	233.22		240.8	217.76			75.55		617.76
550	1.000	0.00					#DIV/0!	#DIV/0!	4.49	-0.13	291.61	295.75	184.36	199.32	228.18		239.8	217.48			75.72		620.28
560	1.000	0.00					#DIV/0!	#DIV/0!	4.3	-0.19	303.88	298.16	184.92	202.01	223.64		242.5	221.34			75.55		668.25
570	1.000	0.00					#DIV/0!	#DIV/0!	4.09	-0.21	326.12	299.51	185.54	207.62	220.5		247.9	227.95			75.72		720.36

Wood Heater Test Data - EPA Method 5G

Run:

Manufacturer: Blaze King
Model: PE32
Tracking No.:
Project No.: Low Burn - Invalid Run Stalled
Test Date: 02-Jul-18
Beginning Clock Time: 00:00
Recording Interval: 10 min.
Total Sampling Time: 890 min.
Burn Rate: N/A kg/hr

Velocity Traverse Data									
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP									"H2O
Initial Temp.									oF

Equipment Numbers: THERMOSTAT KNOB WAS CLOSED 80° FROM FULLY OPEN
NOTE: THERM KNOB WAS CLOSED 76° FROM FULLY OPEN FOR OFFICIAL EPA LOW BURN
TEST TERMINATED AT 890 MINS BECAUSE < .1 LB/MIN WEIGHT CHANGE FOR 30 MINUTES

PM Control Module: BK-06
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.56 lb/lb-mole
Dilution Tunnel H2O: 4.00 percent
Dilution Tunnel Static: -0.680 "H2O
Pitot Tube Cp: 0.99
Meter Box Y Factor: 0.988
Barometric Pressure: Begin Middle End Average 0.00 "Hg

Signature/Date:
Tunnel Velocity: #DIV/0! ft/sec.
Intial Tunnel Flow: #DIV/0! scfm
Average Tunnel Flow: #DIV/0! scfm
Tunnel Area: 0.196 ft2
Post-Test Leak Check: .008@6 cfm@"Hg
Fuel Moisture (dry basis 22.3 %
Total Particulate: mg
Filter Holder No.:

	Particulate Sampling Data								Fuel Weight, lb		Wood Heater Temperature Data, oF											Stack	
Elapsed Time	Gas Meter Cubic Feet	Sample Rate, cfm	Orifice dH	Meter oF	Meter Vac. In. Hg.	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%)	Scale Reading	Weight Change	Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Firebox Interior	Average Surface	Stack	Filter	Impinger exit	Ambient	Draft In. H2O	Catalyst Temp.
580	1.000	0.00					#DIV/0!	#DIV/0!	3.81	-0.28	359.24	301.97	187.72	216.75	220.11		257.2	237.48			75.27		789.44
590	1.000	0.00					#DIV/0!	#DIV/0!	3.5	-0.31	400.64	304.77	191.03	229.69	223.02		269.8	249.47			75.05		837.07
600	1	0.00					#DIV/0!	#DIV/0!	3.21	-0.29	415.04	305.89	194.45	243.03	226.11		276.9	256.19			75.44		815.72
610	1.000	0.00					#DIV/0!	#DIV/0!	2.98	-0.23	400.92	305.39	195.23	253.11	228.18		276.6	255.91			75.44		766.81
620	1.000	0.00					#DIV/0!	#DIV/0!	2.82	-0.16	374.25	302.81	193.5	260.96	227.23		271.8	251.1			75.44		707.92
630	1.000	0.00					#DIV/0!	#DIV/0!	2.7	-0.12	343.66	298.27	190.19	262.64	222.58		263.5	243.31			75.16		650.93
640	1.000	0.00					#DIV/0!	#DIV/0!	2.62	-0.08	320.41	292.61	184.98	261.52	217.08		255.3	235.24			75.1		621.29
650	1.000	0.00					#DIV/0!	#DIV/0!	2.5	-0.12	308.14	286.79	180.61	259.28	211.43		249.3	229.19			75.16		619.39
660	1	0.00					#DIV/0!	#DIV/0!	2.35	-0.15	292.78	281.97	179.1	263.87	209.02		245.3	226.33			74.77		578.77
670	1.000	0.00					#DIV/0!	#DIV/0!	2.2	-0.15	284.88	280.01	178.82	272.56	208.79		245.0	227.9			74.71		573.95
680	1.000	0.00					#DIV/0!	#DIV/0!	2.07	-0.13	280.46	279.17	179.71	276.7	208.4		244.9	230.76			74.37		556.69
690	1.000	0.00					#DIV/0!	#DIV/0!	1.94	-0.13	275.36	277.26	179.1	277.09	207.39		243.2	231.09			74.49		547.28
700	1.000	0.00					#DIV/0!	#DIV/0!	1.83	-0.11	270.93	274.63	176.91	274.91	206.83		240.8	227.95			74.15		539.26
710	1.000	0.00					#DIV/0!	#DIV/0!	1.73	-0.1	267.74	274.07	175.45	273.73	205.88		239.4	225.15			74.04		534.56
720	1	0.00					#DIV/0!	#DIV/0!	1.63	-0.1	268.52	273.4	172.65	266.22	203.47		236.9	222.97			73.98		550.97
730	1.000	0.00					#DIV/0!	#DIV/0!	1.53	-0.1	270.2	271.94	171.14	258.83	200.56		234.5	220.78			73.65		553.94
740	1.000	0.00					#DIV/0!	#DIV/0!	1.43	-0.1	268.97	270.31	169.35	253.28	199.15		232.2	218.82			73.59		552.26
750	1.000	0.00					#DIV/0!	#DIV/0!	1.32	-0.11	268.75	272.11	167.89	247.4	197.36		230.7	216.47			73.31		558.26
760	1.000	0.00					#DIV/0!	#DIV/0!	1.22	-0.1	266.95	273.45	166.38	242.75	195.74		229.1	214.68			73.2		554.95
770	1.000	0.00					#DIV/0!	#DIV/0!	1.12	-0.1	260.28	274.18	163.86	238.94	193.78		226.2	211.59			73.14		530.41
780	1	0.00					#DIV/0!	#DIV/0!	1.03	-0.09	259.22	275.36	160.61	232.72	189.74		223.5	208.12			72.69		550.47
790	1.000	0.00					#DIV/0!	#DIV/0!	0.93	-0.1	259.28	273.51	157.41	225.71	185.48		220.3	204.87			72.86		550.36
800	1.000	0.00					#DIV/0!	#DIV/0!	0.86	-0.07	253.95	272.11	154.11	219.94	181.67		216.4	200.39			72.58		532.6
810	1.000	0.00					#DIV/0!	#DIV/0!	0.82	-0.04	243.2	271.88	150.13	212.43	176.52		210.8	193.72			72.36		495.84
820	1.000	0.00					#DIV/0!	#DIV/0!	0.75	-0.07	230.59	268.8	145.14	204.65	170.92		204.0	186.44			72.08		473.6
830	1.000	0.00					#DIV/0!	#DIV/0!	0.72	-0.03	219.94	263.81	140.6	197.42	165.2		197.4	179.43			72.19		451.91
840	1	0.00					#DIV/0!	#DIV/0!	0.67	-0.05	210.47	257.82	136.46	190.75	159.43		191.0	172.99			71.96		432.24
850	1.000	0.00					#DIV/0!	#DIV/0!	0.64	-0.03	197.42	251.77	132.2	183.35	153.77		183.7	165.93			72.08		391.68
860	1.000	0.00					#DIV/0!	#DIV/0!	0.61	-0.03	172.2	245.32	128.05	174.5	147.83		173.6	154.72			71.74		279.22

Wood Heater Test Data - EPA Method 5G

Run:

Manufacturer: Blaze King
Model: PE32
Tracking No.:
Project No.: Low Burn - Invalid Run Stalled
Test Date: 02-Jul-18
Beginning Clock Time: 00:00
Recording Interval: 10 min.
Total Sampling Time: 890 min.
Burn Rate: N/A kg/hr

Velocity Traverse Data

	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP									"H2O
Initial Temp.									oF

Equipment Numbers: THERMOSTAT KNOB WAS CLOSED 80° FROM FULLY OPEN
NOTE: THERM KNOB WAS CLOSED 76° FROM FULLY OPEN FOR OFFICIAL EPA LOW BURN
TEST TERMINATED AT 890 MINS BECAUSE < .1 LB/MIN WEIGHT CHANGE FOR 30 MINUTES

PM Control Module: BK-06
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.56 lb/lb-mole
Dilution Tunnel H2O: 4.00 percent
Dilution Tunnel Static: -0.680 "H2O
Pitot Tube Cp: 0.99
Meter Box Y Factor: 0.988
Barometric Pressure: Begin Middle End Average 0.00 "Hg

Signature/Date:
Tunnel Velocity: #DIV/0! ft/sec.
Intial Tunnel Flow: #DIV/0! scfm
Average Tunnel Flow: #DIV/0! scfm
Tunnel Area: 0.196 ft2
Post-Test Leak Check: .008@6 cfm@"Hg
Fuel Moisture (dry basis 22.3 %
Total Particulate: mg
Filter Holder No.:

	Particulate Sampling Data								Fuel Weight, lb		Wood Heater Temperature Data, oF											Stack	
Elapsed Time	Gas Meter Cubic Feet	Sample Rate, cfm	Orifice dH	Meter oF	Meter Vac. In. Hg.	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%)	Scale Reading	Weight Change	Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Firebox Interior	Average Surface	Stack	Filter	Impinger exit	Ambient	Draft In. H2O	Catalyst Temp.
870	1.000	0.00					#DIV/0!	#DIV/0!	0.59	-0.02	156.01	238.04	123.46	164.92	141.39		164.8	145.08			71.63		248.18
880	1.000	0.00					#DIV/0!	#DIV/0!	0.59	0	145.08	229.52	119.25	156.07	135.62		157.1	137.13			71.29		226.78
890	1.000	0.00					#DIV/0!	#DIV/0!	0.59	0	136.4	219.55	115.11	147.77	129.73		149.7	130.35			71.4		210.31
Avg/Total	0.00	0.00	#DIV/0!	#DIV/0!		#DIV/0!	#DIV/0!	#DIV/0!		-0.23	324.50	307.69	177.47	218.79	213.29		248.26	227.70			73.35		650.81

Note To File

Subject: Low Burn Rate Justification

Parties: EPA Staff

Dr. Rafael Sanchez-OEECA

Robert (Bob) Scinta-OEECA

Steffan Johnson-OAQPS

Patrick Yellin-OEECA

Angelina Brashear-OAQPS

Mike Toney-OAQPS

Ashnil Reddy-Blaze King

Chris Neufeld-Blaze King

Background: On January 1, 2021, we received an email from Dr. Sanchez in which he comments that EPA had received an email expressing concern about the low burn rate on the PE32 test report. The email expressing concern was from ADEC.

EPA requested data to support the PE32 was in fact tested at the lowest burn rate possible. Data was submitted (attached) to EPA on January 13, 2021. Subsequently, EPA requested a virtual phone call with Blaze King's Ashnil Reddy and Chris Neufeld where we were to be asked questions related to the data. OAQPS was given the time to review the data and Low Burn Justification memorandum submitted 01/13/2021.

Blaze King and EPA conducted a virtual phone call. Present were all the parties cited in the header of this memorandum. Several questions were asked about the data and responded to by Ashnil Reddy. OEECA's Bob Scinta inquired of Steffan Johnson if he was satisfied that the Blaze King Princess 32 had in fact been tested at the lowest burn rate possible. Stef asked Angelina Brashear her opinion, having reviewed the supporting data and she commented she was. Stef then asked Mike Toney, having also reviewed the data, and he too acknowledged his support.

Stef then said that as far has he and his staff were concerned, the data a supporting document supported the PE32 had been tested at the lowest possible burn rate.

Bob Scinta commented that as far as EPA was concerned, Blaze King had provided sufficient data for the agency to review and it was the decision of EPA that the PE32 had been tested at the lowest possible burn rate.

Update: Dr. Rafael Sanchez called me (Chris Neufeld) and asked that we included the letter of Low Burn Justification with each test report for all our units that use out thermostat.

This cover memo and supporting documents and data will be included in all CBI reports submitted to EPA

Appendix B: Labels & Manuals

PRINCESS PE32

SN - 50.

BLAZE KING CATALYTIC STOVE - POÊLE À BOIS CATALYTIQUE

PFS Report # F18-420

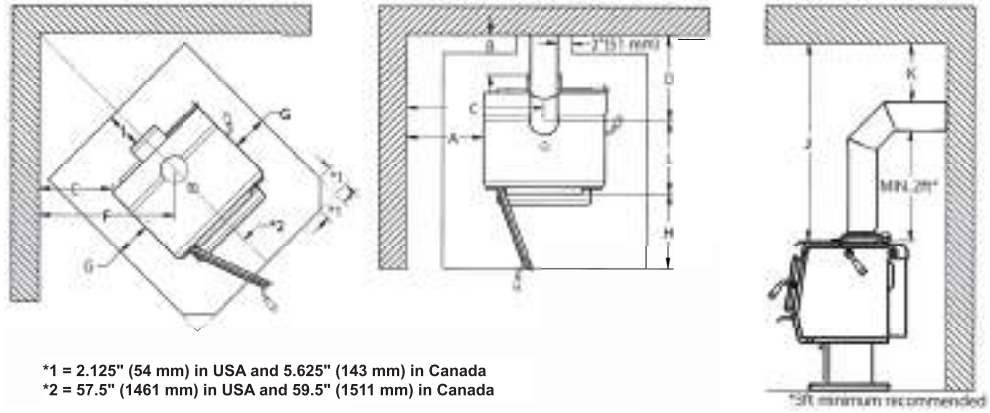
MODEL / MODÈLE: PE32
ROOM HEATER, SOLID FUEL TYPE / APPAREIL DE CHAUFFAGE, TYPE COMBUSTIBLE SOLIDE
TESTED TO / TESTÉ: UL 1482-11(R2022) & CAN/ULC-S627:2023
CERTIFIED FOR USE IN BOTH USA AND CANADA / CERTIFIÉ POUR UNE UTILISATION AUX ÉTATS-UNIS ET AU CANADA
APPROVED FOR USE IN MOBILE HOMES (USA) AND IN TRANSPORTABLE BUILDINGS (CAN) / APPROUVÉ POUR UNE UTILISATION DANS LES MAISONS MOBILES (USA) ET DANS LES BÂTIMENTS TRANSPORTABLES (CAN)

Install and use this appliance in accordance with Blaze King's installation and operation instructions. Contact local building or fire officials about restrictions and installation inspection in your area. To be installed as a freestanding space heater with the clearances listed below and in the installation instructions. Not to be installed in any fireplace. DO NOT CONNECT THIS APPLIANCE TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE. The flue diameter is 6". Except for the installation detailed below, use a 6" listed, factory built chimney suitable for use with solid fuels conforming to UL-103HT (USA) or CAN/ULC-S629 (CAN) or a code compliant, masonry chimney.
Mobile Home (USA) or Transportable Building (CAN) and residential close clearance installations require a 6" listed double wall, close clearance chimney connector with matching listed factory built chimney suitable for use with solid fuels and conforming to UL-103HT (USA) or CAN/ULC-S629 (CAN). Mobile Home (USA) or Transportable Buildings (CAN) installations are approved for roof exit only. Do not install in a sleeping room. Connection through a wall or ceiling requires special methods, see instructions and refer to local building codes to ensure proper installation.

Installez et utilisez cet appareil conformément aux instructions d'installation et d'utilisation de Blaze King. Contactez les responsables locaux du bâtiment ou des pompiers au sujet des restrictions et de l'inspection de l'installation dans votre région. À installer en tant qu'appareil de chauffage autonome avec les dégagements indiqués ci-dessous et dans les instructions d'installation. Ne pas installer dans une cheminée. NE RACCORDEZ PAS CET APPAREIL À UN CONDUIT DE CHEMINÉE DESSERVANT UN AUTRE APPAREIL. Le diamètre du conduit est de 6". À l'exception de l'installation détaillée ci-dessous, utilisez une cheminée de 6" homologuée et fabriquée en usine adaptée à une utilisation avec des combustibles solides conformes à UL-103HT (USA) ou CAN/ULC-S629 (CAN) ou un code conforme, cheminée en maçonnerie.
Les installations de maisons mobiles (USA) ou de bâtiments transportables (CAN) et résidentielles à dégagement réduit nécessitent un connecteur de cheminée homologué à double paroi et à dégagement réduit avec une cheminée fabriquée en usine homologuée adaptée à une utilisation avec des combustibles solides et conforme à UL-103HT (USA) ou CAN/ULC-S629 (CAN). Les installations de maisons mobiles (USA) ou de bâtiments transportables (CAN) sont approuvées pour une sortie sur le toit uniquement. Ne pas installer dans une chambre à coucher. La connexion à travers un mur ou un plafond nécessite des méthodes spéciales, voir les instructions et se référer aux codes du bâtiment locaux pour assurer une installation correcte.

MINIMUM CLEARANCES TO COMBUSTIBLES (see owners manual for complete description of all requirements)
*** In Canada, 18" clearances from single wall pipe is required. Check with local codes and pipe manufacturers for minimum pipe clearances.**
DÉGAGEMENTS MINIMUM AUX COMBUSTIBLES (voir les directives d'installation pour la description complète de toutes les conditions)
*** Au Canada, un dégagement de 18 po est exigé pour un tuyau à simple paroi. Vérifier avec le code du bâtiment local et avec le manufacturier de tuyaux pour les dégagements.**

Residential Installations / Installations Résidentielles	A	B	* C	* D	E	* F	J
Roof Exit or Wall Exit, Parallel or Corner minimum clearances Dégagements minimaux de sortie de toit ou de sortie murale, parallèle ou d'angle	10" 254 mm	6" 153 mm	23.5" 597 mm	15.125" 385 mm	4" 102 mm	17.125" 435 mm	44" 1118 mm
Mobile Home (USA) or Transportable Building (CAN) / Maison mobile (USA) or Bâtiment transportable (CAN)							
Roof Exit, Parallel or Corner minimum clearances; outside Air Kit and Fan Kit or Rear Shield required Dégagements minimaux de sortie de toit, parallèles ou en coin; Kit d'air extérieur et kit de ventilateur ou écran arrière requis	10" 254 mm	6" 153 mm	23.5" 597 mm	15.125" 385 mm	4" 102 mm	17.125" 435 mm	44" 1118 mm



***1 = 2.125" (54 mm) in USA and 5.625" (143 mm) in Canada**
***2 = 57.5" (1461 mm) in USA and 59.5" (1511 mm) in Canada**

G = 3" (77 mm) in USA 8" (203 mm) in Canada	H = 16" (406 mm) in USA 18" (457 mm) in Canada	I = 0" (0 mm) in USA 8" (203 mm) in Canada	* K = 18" (457 mm) for single wall pipe in Canada	L = 17.375" (442 mm)

This appliance does not require thermal hearth pad floor protection; however, if installed on a combustible floor, a non-combustible floor shield must be used. Minimum floor protection size is: 32.75" x 42.5" (832 mm x 1080 mm) in USA or 43" x 52.5" (1093 mm x 1334 mm) in Canada.
This appliance is certified to comply with 2020 particulate emission standards using crib wood (certified to EPA test methods 28R/5G with an emission-rate of 0.55 g/hr). It is against federal regulations to operate this appliance in a manner inconsistent with operating instructions in the owner's manual or if the catalytic combustor is deactivated or removed. This appliance needs periodic inspection and repair for proper operation; consult the owner's manual for instruction.
ONLY OPERATE WITH DOOR CLOSED; open door to feed fire ONLY. DO NOT OBSTRUCT COMBUSTION AIR OPENINGS OR THE SPACE BENEATH THE APPLIANCE. Provide adequate outside air for combustion. For use with solid wood fuel only; do not burn other fuels as this will cause the catalyst in the combustor to become inactive. The performance of the combustor or its durability has not been evaluated as part of the certification. Combustor OEM part number: 115-0556. Replace glass with 5mm ceramic glass only. This appliance must be installed with either Blaze King Leg Kit Z1713, Classic Base Kit Z3284, or Pedestal Kit Z3903; attach as instructed in the installation instructions.

Cet appareil ne nécessite pas de protection thermique du sol du foyer; cependant, s'il est installé sur un plancher combustible, un protecteur de plancher non combustible doit être utilisé. La taille minimale de la protection de plancher est de: 32.75" x 42.5" (832 mm x 1080 mm) aux USA ou 43" x 52.5" (1093 mm x 1334 mm) au Canada.
Cet appareil est certifié conforme aux normes d'émission de particules 2020 utilisant du bois de lit (certifié selon les méthodes de test EPA 28R/5G avec un taux d'émission de 0.55 g/h). Il est contraire aux réglementations fédérales d'utiliser cet appareil d'une manière incompatible avec les instructions d'utilisation du manuel du propriétaire ou si la chambre de combustion catalytique est désactivée ou retirée. Cet appareil nécessite une inspection et une réparation périodiques pour un bon fonctionnement; consultez le manuel du propriétaire pour obtenir des instructions.
FONCTIONNER UNIQUEMENT AVEC LA PORTE FERMÉE; ouvrir la porte UNIQUEMENT pour alimenter le feu. NE PAS OBSTRUER LES OUVERTURES D'AIR DE COMBUSTION ou l'espace sous l'appareil. Fournir suffisamment d'air extérieur pour la combustion. À utiliser uniquement avec du bois de chauffage solide; ne brûlez pas d'autres combustibles car cela rendrait le catalyseur dans la chambre de combustion inactif. Les performances de la chambre de combustion ou sa durabilité n'ont pas été évaluées dans le cadre de la certification. Numéro de pièce OEM de la chambre de combustion: 115-0556. Remplacez le verre par du verre céramique de 5 mm uniquement. Cet appareil doit être installé avec Blaze King Kit de jambe Z1713, Base Classique Kit Z3284, ou Piédestal Kit Z3903; fixer comme indiqué dans les instructions d'installation.

MANUFACTURED IN

☐ USA:
Blaze King Industries
146A Street
Walla Walla, WA.
99362

☐ CANADA:
Valley Comfort Systems
1290 Commercial Way
Penticton, B.C.
V2A 3H5

MANUFACTURE DATE

JAN ☐ FEB ☐ MAR ☐ APR ☐ MAY ☐ JUN ☐
JUL ☐ AUG ☐ SEP ☐ OCT ☐ NOV ☐ DEC ☐
2024 ☐ 2025 ☐ 2026 ☐ 2027 ☐ 2028 ☐ 2029 ☐

Blaze King

PRINCESS PE32

SOLID FUEL CATALYTIC STOVE

OPERATION & INSTALLATION MANUAL

NATIONAL FIREPLACE INSTITUTE NFI CERTIFIED www.nficertified.org

We recommend that our woodburning hearth products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) as NFI Woodburning Specialists or who are certified in Canada by Wood Energy Technical Training (WETT).

Wood Energy Technical Training www.wettinc.ca

U.S. EPA CERTIFIED TO COMPLY WITH 2020 PARTICULATE EMISSION STANDARDS USING CRIB WOOD

PFS® C US

REPORT #F18-420

Installer: Please COMPLETE THE DETAILS ON THE LAST PAGE and leave this manual with the homeowner.
Homeowner: Please SAVE THESE INSTRUCTIONS for future reference.

MANUFACTURED BY

Valley Comfort Systems Inc., 1290 Commercial Way, Penticton BC, Canada, V2A 3H5
web: www.blazeking.com email: info@blazeking.com

ATTENTION: The authority having jurisdiction (municipal building department, fire department, etc.) should be consulted before installation to determine the need to obtain a permit.

Pour la version française de nos manuels S.V.P. vous référez à notre site web: www.blazeking.com

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CERTIFICATION LABEL

For reference only - please refer to label on the appliance

PRINCESS PE32

SN - 50.

170-0260 [04 24]

The content within this manual describes the installation and operation of the Blaze King PE32. It is against federal regulations to operate this appliance in a manner inconsistent with the operating instructions in this manual. Blaze King grants no warranty, implied or stated, for the installation and maintenance of this appliance and assumes no responsibility of any consequential damage(s).

EPA CERTIFICATION TEST DATA		
Burn Category	**CO Avg**	**Emission Rate**
Low Burn	0.30 g/min	0.14 g/hr
Med-low Burn	0.18 g/min	0.30 g/hr
Med-high Burn	0.72 g/min	0.81 g/hr
High Burn	1.54 g/min	1.76 g/hr
EPA emission rate weighted average		0.55 g/hr

This appliance was tested and listed to CAN/ULC-S627:2023 & UL1482-11 (R2022) by PFS-TECO Testing Laboratories. This appliance is certified to comply with the 2020 U.S. Environmental Protection Agency's particulate emission standards using crib wood. Under specific test conditions, this appliance has been shown to deliver heat at rates ranging from 11,358 to 34,434 Btu/hr. This appliance has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting.

This appliance contains a catalytic combustor which needs periodic inspection and may require replacement to ensure proper operation. It is against federal regulations to operate this appliance if the catalytic combustor is deactivated or removed.

⚠WARNING

IF THIS APPLIANCE IS NOT PROPERLY INSTALLED OR OPERATED, A HOUSE FIRE MAY RESULT LEADING TO SERIOUS BODILY HARM AND EVEN DEATH. TO REDUCE THE RISK OF FIRE, PLEASE READ THIS ENTIRE MANUAL BEFORE INSTALLING AND OPERATING THIS APPLIANCE. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

DO NOT OPERATE THIS APPLIANCE WITHOUT FULLY ASSEMBLING ALL COMPONENTS. DO NOT INSTALL DAMAGED, INCOMPLETE, OR SUBSTITUTE COMPONENTS. FAILURE TO POSITION COMPONENTS IN ACCORDANCE WITH THE DIAGRAMS IN THIS BOOKLET, OR FAILURE TO USE COMPONENTS SPECIFICALLY APPROVED WITH THIS APPLIANCE, MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY.

SMOKE DETECTORS, CARBON MONOXIDE DETECTORS, AND FIRE EXTINGUISHERS

IT IS VERY IMPORTANT TO HAVE AT LEAST ONE SMOKE DETECTOR AND ONE CARBON MONOXIDE MONITOR IN THE ROOM CONTAINING THE APPLIANCE. IT IS RECOMMENDED TO HAVE SEVERAL SMOKE DETECTORS AND CARBON MONOXIDE MONITORS POSITIONED IN KEY AREAS THROUGHOUT YOUR HOME. IF AN ALARM SOUNDS, EVACUATE THE HOME IMMEDIATELY. AFTER YOU HAVE DETERMINED THAT THERE IS NO RISK TO HEALTH OR PROPERTY, YOU MAY CORRECT THE CAUSE OF THE ALARM. DO NOT DE-ACTIVATE OR RELOCATE THE SMOKE DETECTORS OR CARBON MONOXIDE MONITORS. ALL HOMES WITH A SOLID FUEL BURNING APPLIANCE SHOULD HAVE AT LEAST ONE FIRE EXTINGUISHER IN A CENTRAL LOCATION THAT IS KNOWN TO ALL OCCUPANTS IN THE HOUSE.

CALIFORNIA PROPOSITION 65

WARNING: This product can expose you to chemicals including benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information: **www.P65Warnings.ca.gov**

SPECIFICATIONS

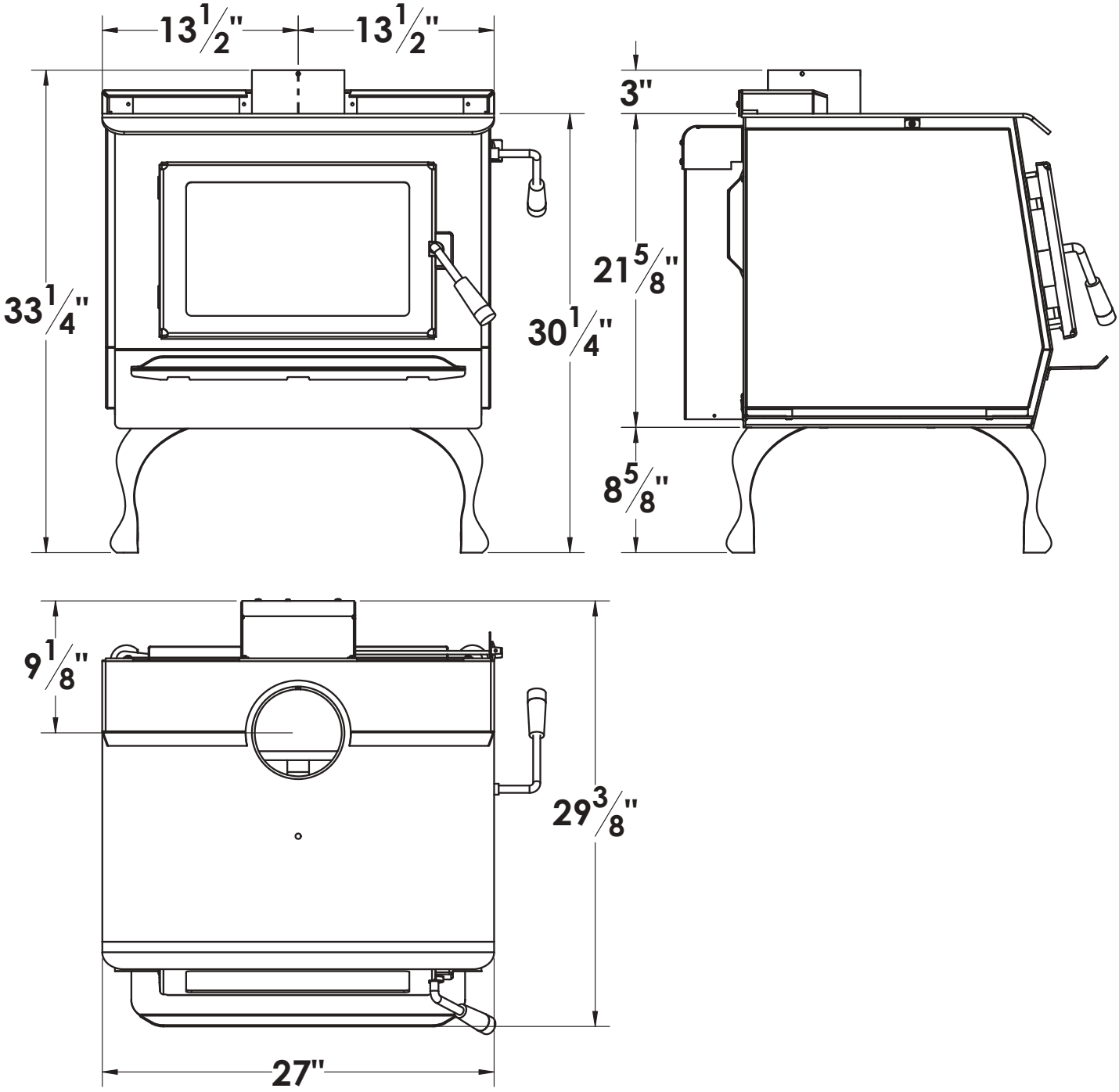
PRINCESS PE32, PE32 SPECIFICATIONS	
Flue Collar Opening	6” I.D. (152 mm)
Firebox Door Opening	16 1/2” x 8 3/4” (420 mm x 223 mm)
Firebox Volume	2.86 ft^3 (0.081 m^3)
Tested Fuel Length	16.75” (426 mm)
Wood Capacity (approximate)	White Oak - 60 lb (27.2 kg) / Douglas Fir - 40 lb (18.1 kg)
Shipping Weight (Firebox only)	368 lb (166.9 kg)
Shipping Weight (Pedestal Kit)	50 lb (22.7 kg)
Shipping Weight (Base Kit)	30 lb (13.6 kg)
Shipping Weight (Leg Kit)	20 lb (9.1 kg)

PARTS INCLUDED
1. Fire Poker
2. Manual Kit (w/ Warranty Cards, Catalytic Thermometer, Bypass Handle)

REQUIRED KIT	
1. S.Z4786 - Door	
REQUIRED KIT (MUST INSTALL ONE OPTION)	
1. S.Z1713 - Parlor Leg Kit	2. S.Z3903 - Ultra Pedestal Kit
3. S.Z3284 - Classic Base Kit	

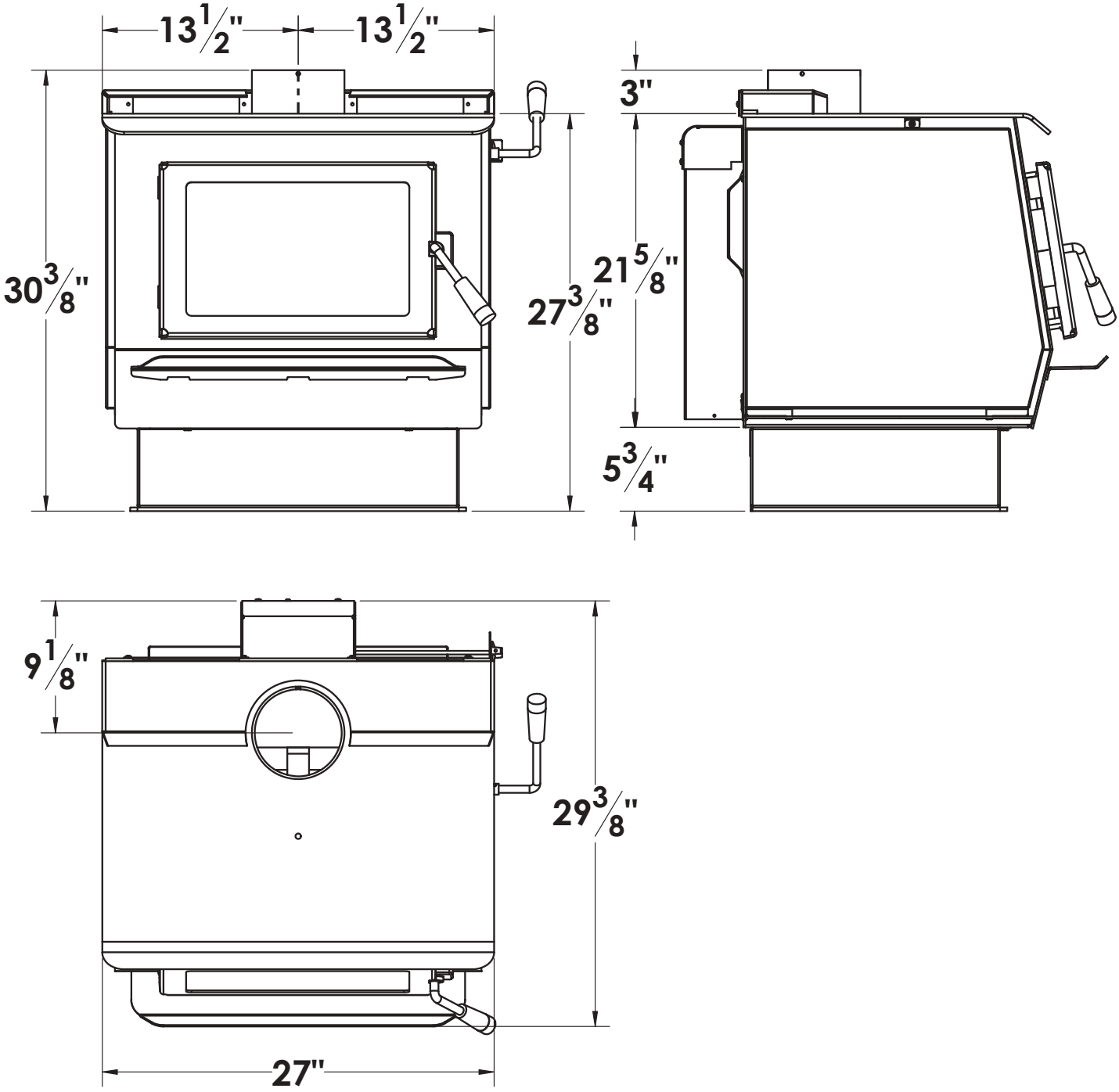
OPTIONAL ACCESSORIES	
1. S.Z1714 - Fan Kit	2. S.Z3820 - Leg Ash Drawer Kit
3. S.Z4015 - Rear Shield	4. S.Z1726B - Fresh Air Kit 3”
5. S.Z1726 Fresh Air Kit 4”	

PE32 WITH PARLOR LEG KIT (S.Z1713)

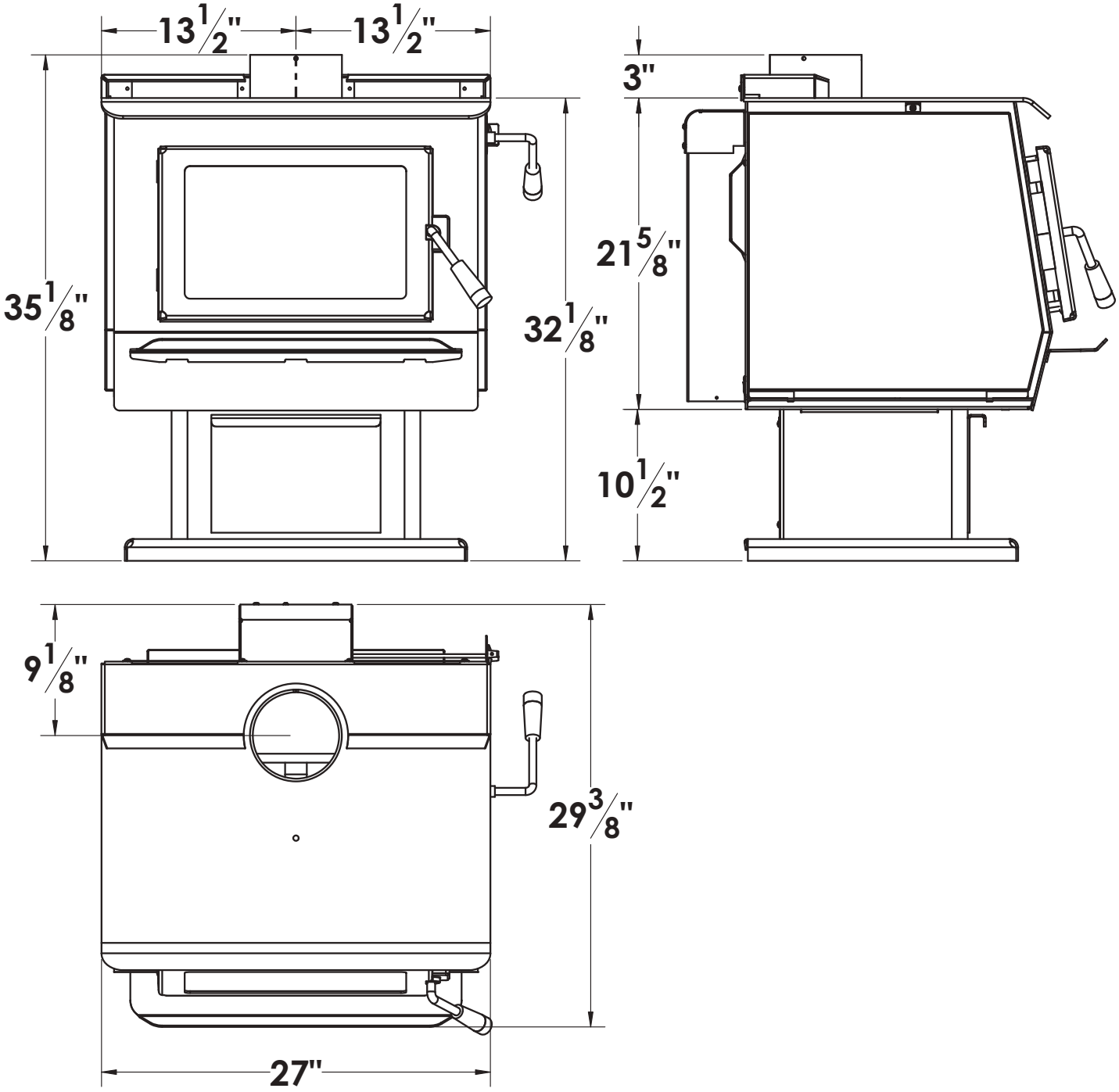


APPLIANCE DIMENSIONS

PE32 WITH CLASSIC BASE KIT (S.Z3284)



PE32 WITH ULTRA PEDESTAL KIT (S.Z3903)

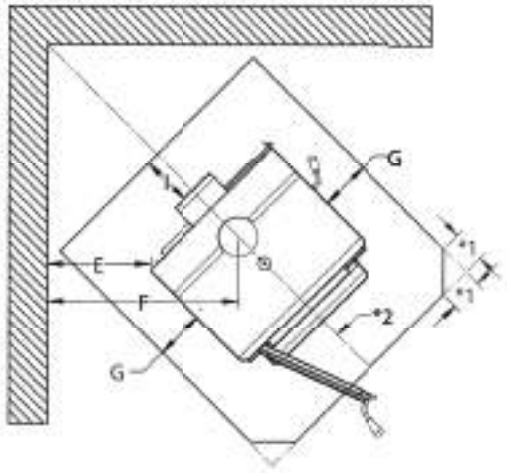


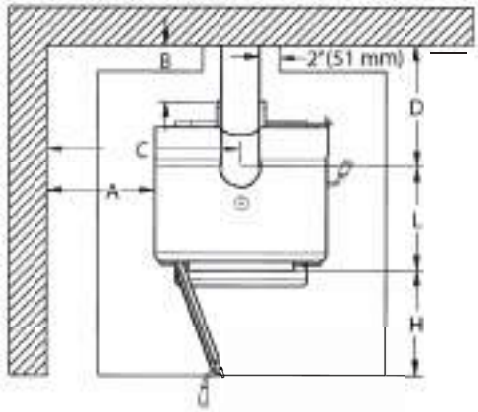
SAFETY CLEARANCES

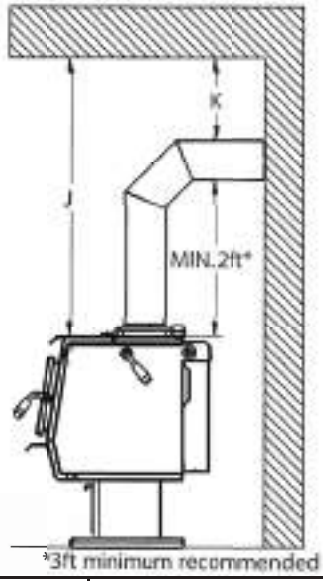
MINIMUM CLEARANCES

This appliance must be installed in compliance with all local codes and regulations. Minimum clearances may only be reduced by means approved by the regulatory authority. Flue pipe must be 6" diameter and 24 MSG steel construction. Do not use aluminum or galvanized steel. Refer to local codes and pipe manufacturer specs for required minimum clearances. ***In Canada, a minimum 18" (450 mm) clearance from single wall pipe is required.**

RESIDENTIAL INSTALLATION	A	B	* C	* D	E	* F	J
Roof or Wall exit; Parallel or Corner min clearances	10" 254 mm	6" 153 mm	23.5" 597 mm	15.125" 385 mm	4" 102 mm	17.125" 435 mm	44" 1118 mm
MOBILE HOME (USA) OR TRANSPORTABLE BUILDING (CAN) INSTALLATION							
Roof exit only; Parallel or Corner min clearances *Fan Kit or Rear Shield Kit + Outside Air Kit required	10" 254 mm	6" 153 mm	23.5" 597 mm	15.125" 385 mm	4" 102 mm	17.125" 435 mm	44" 1118 mm







*1 = 2.125" (54 mm) in USA and 5.625" (143 mm) in Canada
*2 = 57.5" (1461 mm) in USA and 59.5" (1511 mm) in Canada

G = 3" (76 mm) in USA 8" (203 mm) in Canada	H = 16" (406 mm) in USA 18" (456 mm) in Canada	I = 0" (0 mm) in USA 8" (203 mm) in Canada	* K = 18" (456 mm) for single wall pipe in Canada	L = 17.375" (442 mm)

FLOOR PROTECTION

This appliance does not require thermal hearth pad floor protection; however, if installed on a combustible floor, a non-combustible floor shield must be used. In the USA, this floor shield must extend 16" out from the front and 8" out from either side of the fuel-loading door. In Canada, to comply with CSA B365, any combustible covering beneath the appliance and/or within the area extending horizontally at least 18" (450 mm) beyond the appliance on any side equipped with a door, and at least 8" (200 mm) beyond the appliance on other sides, shall be protected by a continuous, durable, non-combustible pad that will provide ember protection. The 18" (450 mm) ember protection required on any side with a door shall extend for the full width of the appliance plus the 8" (200 mm) required on each side of the appliance without a door. Where an appliance is installed less than 8" (200 mm) from a wall, the ember pad need only extend to the base of the wall. An ember pad shall not be placed on top of a carpet unless the pad is structurally supported to prevent displacement and distortion. A non-combustible shield is also required underneath the chimney connector and extend at least 2" on either side of the chimney connector. This shield does not need an insulation value, but must be listed under UL 1618-2009 (Type 1) and have a minimum size of:

32.75" x 42.5" (832 mm x 1080 mm) in USA and 43" x 52.5" (1093 x 1334 mm) in Canada

Blaze King does not recommend adhesive based vinyl flooring in front of appliances due to thermal expansion and warping which could be permanent.

⚠WARNING

DO NOT CONNECT TO OR USE THIS APPLIANCE IN CONJUNCTION WITH ANY AIR DISTRIBUTION DUCTWORK UNLESS SPECIFICALLY APPROVED FOR SUCH INSTALLATIONS
THIS APPLIANCE MUST BE CONNECTED TO: 1) A CHIMNEY COMPLYING WITH THE REQUIREMENTS FOR TYPE HT CHIMNEYS IN THE STANDARD FOR CHIMNEYS, FACTORY-BUILT, RESIDENTIAL TYPE AND BUILDING HEATING APPLIANCE, UL 103, OR 2) A CODE-APPROVED MASONRY CHIMNEY WITH A FLUE LINER. FAILURE TO DO SO MAY RESULT IN A HOUSE FIRE CAUSING SERIOUS BODILY HARM.

COMBUSTION AIR

In air tight homes (most modern construction), careful considerations must be taken into account before installing a wood burning appliance. It is important to ensure there is adequate intake (combustion) air for all exhausting type appliances within the dwelling. Heat recovery ventilator (HRV) systems along with constant running fan motors in air handlers are examples of appliances that must be taken into account when balancing intake air (others include fireplaces, range hoods, dryers, etc.). It is recommended that a fresh air intake inlet into the room where the appliance is located be installed. Failure to do so may result in air starvation, smoke spillage, and carbon monoxide threats. Consult a HVAC specialist for proper installation practices.

DRAFT PERFORMANCE

Draft is the movement of combustion air into the appliance and out through the chimney as exhaust gas. In essence, it is the difference in pressure between the exhaust gas inside the chimney and the outside air that creates this movement. Warmer, lighter exhaust gasses in the chimney tend to move upward. The amount of draft created by your chimney can depend on chimney length, horizontal offsets, insulating properties, local geography, external forces, and other factors. External factors (outdoor temperature, wind, barometric pressure, topography, etc.) or internal factors within the dwelling (negative pressure from exhaust fans, chimneys, air infiltration, etc.) may adversely affect draft.

Too much draft can yield very high temperatures within the appliance and may result in damage. An uncontrollable burn or excessive room temperatures are indicators of too much draft. Too little draft may cause back puffing (smoke spillage) into the room and plugging of the chimney, chimney cap, or spark arrestor screen. Inadequate draft can also lead to low heat output and the inability for the combustor to remain active at low burn rate settings. Your Blaze King heater is a high efficiency appliance and will require fine tuning of your chimney system in order to maximize draft performance. **Blaze King cannot be responsible for external forces leading to less than optimal draft performance.**

ROLE OF THE CHIMNEY

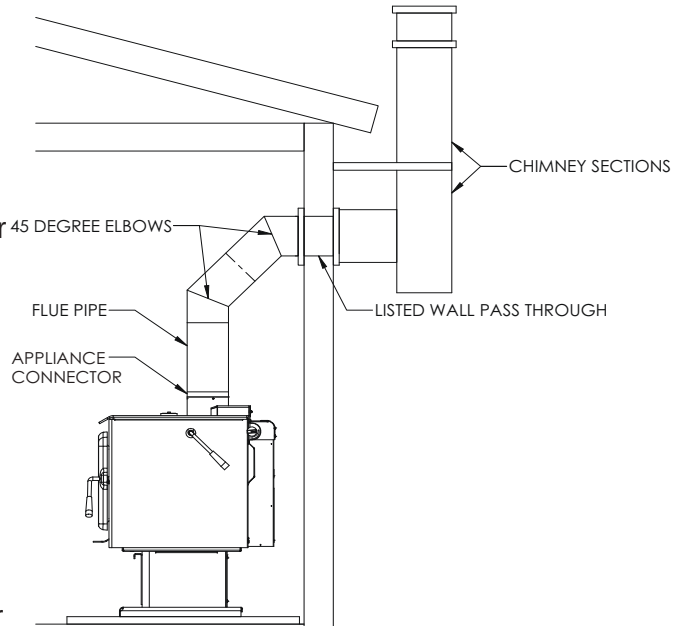
The role of the chimney is to maintain sufficient draft to achieve complete combustion. To ensure maximum performance, Blaze King recommends a minimum vertical chimney height of 15 ft (from stove top to termination) when installing an appliance at sea level (and up to 1000 ft of elevation). For freestanding installations, it is also recommended to use double wall pipe from stove top adaptor to ceiling support box. Double wall pipe helps to keep the chimney warm and improve draft performance. For wall exit installations, a vertical length of 3 ft from stove top to elbow is recommended. It is also recommended to use a pair of 45 degree elbows rather than a single 90 degree elbow to allow for a smoother transition of airflow. When possible, outside chimney systems should be isolated from the external environment by building a chase around the chimney. Doing so will help keep the chimney warm and maintain sufficient draft (please refer to the "***RECOMMENDED FLUE HEIGHTS***" section). **Without a properly installed chimney, this appliance will not operate at its maximum performance which could yield incomplete combustion.**

CHIMNEY CONNECTIONS

VENTING SYSTEM

A venting system consists of:

- Appliance Connector - a “stove top adaptor” that creates a positive connection between the appliance and flue pipe.
- Flue Pipe - either single or double wall pipe that is only used within the room, connecting the appliance to either a ceiling box or wall pass through.
- Chimney - a listed, factory built component with either 1” or 2” insulation that is suitable for use with solid fuels, conforming to CAN/ULC-S629 in Canada or UL 103HT in the USA. Note: This appliance may also be connected to a code compliant Masonry Chimney.

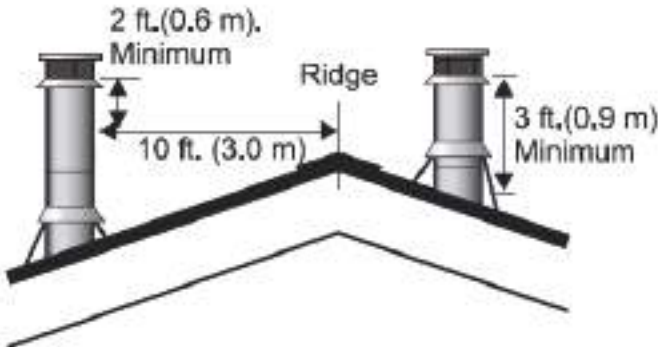


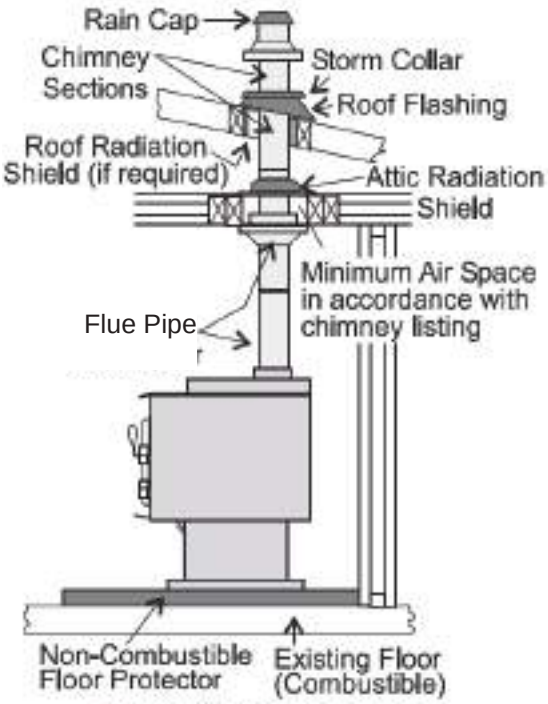
Do not install the chimney directly at the outlet of the appliance. A chimney connector is required unless the appliance is specifically approved for that type of installation. The flue pipe between the appliance connector and chimney should be kept as direct as possible. Do not use a flue pipe to pass through an attic or roof space, closet or similar concealed space, or a floor or ceiling. All joints within the venting system must be securely fastened with sheet metal screws. A chimney support package must be used when a connection is made through a ceiling to a listed prefabricated chimney. A listed wall thimble must be used when a connection is made through a combustible wall to a chimney. These accessories are necessary to provide safe clearances to combustible walls and ceilings as these components can get extremely hot during use. In the event of a creosote fire, temperatures inside the chimney may exceed 2000F (1100°C). An effective vapor barrier must be maintained at the location where the chimney or vent component penetrates the exterior structure. Do not connect this appliance to a chimney serving another appliance, doing so will affect the safe operation of both appliances and will void warranty. You must comply with the local authority having jurisdiction and, in Canada, CSA installation standard B365-M87.

CONNECTION TO A METAL PREFABRICATED CHIMNEY

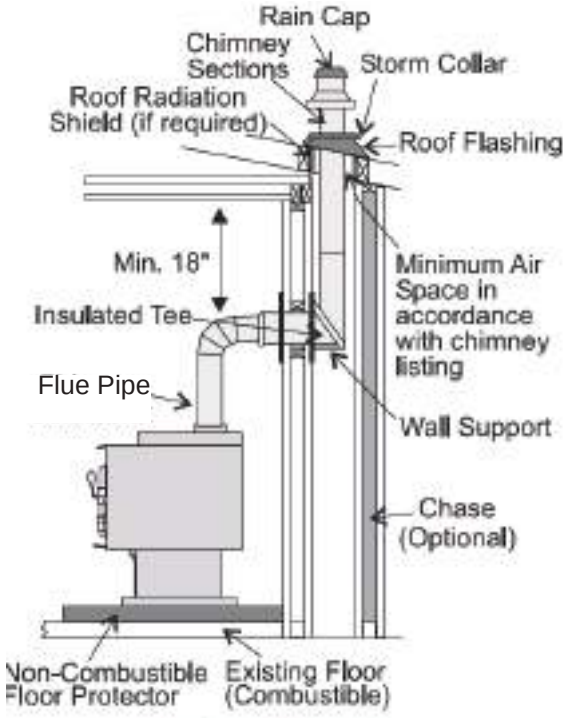
Refer to the prefabricated chimney manufacturer’s installation instructions to ensure safe clearance to combustibles are maintained when installing. All components (ceiling support package or wall pass through and “T” section package, fire stops, insulation shield, roof flashing, chimney cap, etc.) must be purchased from the same prefab chimney manufacturer. There are two common methods of a prefab chimney installation: the recommended method is to install the chimney inside the dwelling up through the ceiling(s) and the roof, while the alternative method is to install an exterior chimney that runs up the outside of the structure. Though not recommended, the alternative method is sometimes it is the only option. In that case it is recommended to build a chase around the external chimney.

The chimney must meet a minimum height above the roof and/or other obstruction(s) for safety purposes and to ensure sufficient draft. It is required that the chimney be at least 3ft higher than the highest point where it passes through the roof and at least 2ft higher than the highest part of the roof or any obstruction within 10ft (measured horizontally) of the chimney. Refer to the “***RECOMMENDED CHIMNEY HEIGHTS***” chart for minimum flue height recommendations and CAN/ULC-S629 in Canada or UL-103HT in the USA for installation codes.





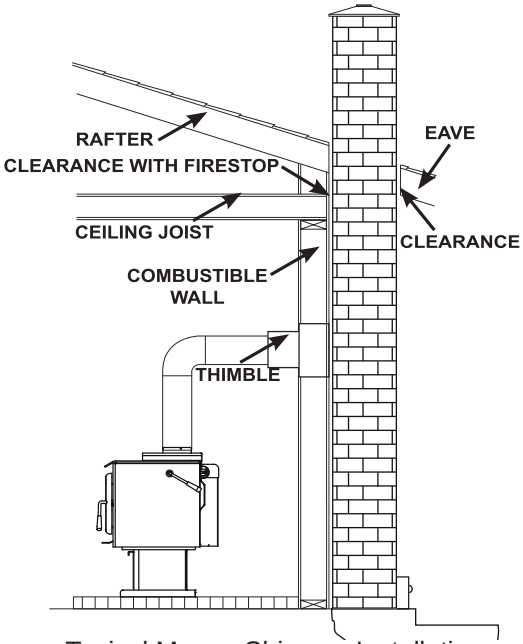
Prefab Chimney Through Ceiling Installation



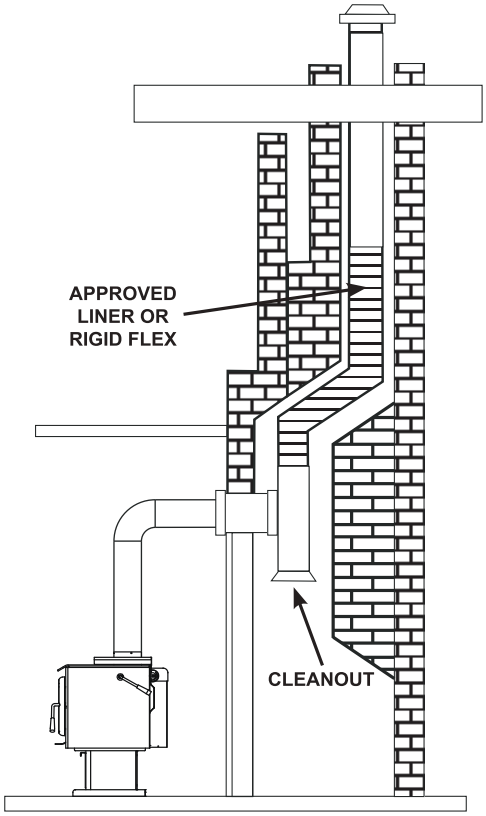
Prefab Chimney Exterior Installation

CONNECTION TO A MASONRY CHIMNEY

First and foremost, ensure the masonry chimney meets the minimum standards per the National Fire Protection Association by having it inspected by a certified professional. There must be no cracks, no loose mortar, and no signs of deterioration or blockage. Ensure the chimney is properly cleaned before installing the appliance. When connecting the appliance through a combustible wall, special methods are required; refer to local jurisdiction for the approved methods of passing a chimney connector through a combustible wall in your area (In the USA, refer to the NFPA minimum standards, and in Canada, refer to CAN/CSA-B365, the Installation Code for Solid Fuel Burning Appliances and Equipment). **Blaze King recommends the use of a stainless steel liner, preferably insulated, inside a masonry chimney. This is to help maintain a proper draft to achieve optimal performance of the appliance.**



Typical Mason Chimney Installation



Blaze King Recommend Installation

RECOMMENDED CHIMNEY HEIGHTS

Every installation is unique, especially when considering geographical location. As previously mentioned, maintaining sufficient draft is of utmost importance, but this can be a challenge as draft can be heavily influenced by topographical and geographical phenomena. The understanding of pressure planes and the stack effect are imperative in planning and executing a successful installation.

As previously mentioned, Blaze King recommends a minimum vertical chimney height of 15 feet (from stove top to termination) when installing an appliance at sea level (and up to 1000 feet of elevation). If the install is at a higher elevation, please refer to the table below for recommended chimney heights:

MINIMUM RECOMMENDED CHIMNEY HEIGHT				
ELEVATION ABOVE SEA LEVEL	**NUMBER OF ELBOWS**			
	0	**2 X 15°**	**2 X 30°**	**2 X 45°**
0 - 1000 ft 0 - 305 m	15 ft 4.6 m	16 ft 4.9 m	18 ft 5.5 m	19 ft 5.8 m
1000 - 2000 ft 305 - 610 m	15.5 ft 4.7 m	16.5 ft 5.0 m	18.5 ft 5.6 m	19.5 ft 5.9 m
2000 - 3000 ft 610 - 914 m	16 ft 4.9 m	17 ft 5.2 m	19 ft 5.8 m	20 ft 6.1 m
3000 - 4000 ft 914 - 1219 m	16.5 ft 5.0 m	17.5 ft 5.3 m	19.5 ft 5.9 m	20.5 ft 6.2 m
4000 - 5000 ft 1219 - 1524 m	17 ft 5.2 m	18 ft 5.5 m	20 ft 6.1 m	21 ft 6.4 m
5000 - 6000 ft 1524 - 1829 m	17.5 ft 5.3 m	18.5 ft 5.6 m	20.5 ft 6.2 m	21.5 ft 6.6 m
6000-7000 ft 1829 - 2134 m	18 ft 5.5 m	19 ft 5.8 m	21 ft 6.4 m	22 ft 6.7 m
7000 - 8000 ft 2134 - 2438 m	18.5 ft 5.6 m	19.5 ft 5.9 m	21.5 ft 6.6 m	22.5 ft 6.9 m
NOTE: No more than one offset (two elbows) are allowed. Two 45°elbows equal one 90° elbow				

For other common chimney components, use the following vertical height(s) to compensate for:

90° elbow = 2.0 ft (0.610 m)
"T" section = 3.0 ft (0.915 m)
1.0 ft (0.305 m) of horizontal run = 2 ft (0.610 m) of vertical rise

Example Chimny Height Calculation (at sea level):

Min Chimney Height	= 15.0 ft (4.575 m)
One 90° Elbow	= 2.0 ft (0.610 m)
2.0' Horizontal Run	= 4.0 ft (1.200 m)
One Base "T"	= 3.0 ft (0.915 m)
Final Chimney Height = 24.0 ft (7.3 m)	

The above figures are only guidelines, please refer to the "***DRAFT PERFORMANCE"*** section.

⚠WARNING

IF THIS APPLIANCE IS NOT PROPERLY INSTALLED OR OPERATED, A HOUSE FIRE AND/OR PERSONAL INJURY MAY RESULT. TO REDUCE THE RISK OF FIRE AND PERSONAL INJURY, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

ALCOVES AND FIREPLACES

In Canada, DO NOT INSTALL THIS APPLIANCE IN AN ALCOVE OR FIREPLACE.
In USA, please adhere to minimum safe clearance dimensions.

ELECTRICAL CONNECTION

Your Blaze King fan kit is equipped with a three-prong (grounded) plug to decrease shock hazard. This plug should be inserted directly into a properly grounded, three hole receptacle. DO NOT CUT OR REMOVE THE GROUNDING PRONG FROM THIS PLUG. DO NOT ROUTE THE POWER CORD IN FRONT OF OR UNDER THE APPLIANCE.

MOBILE HOME or TRANSPORTABLE BUILDING INSTALLATION

For Mobile Home (in USA) or Transportable Building (in Canada) installations, an Outside Air Kit (S.Z1726 / S.Z1726B) and either a Fan Kit (S.Z1714) or Rear Shield Kit (S.Z4015) are required. It is recommended that the kits be installed prior to appliance installation (refer to the instructions provided with the kits).

When a metal prefabricated chimney is used, the manufacturer's installation instructions must be followed precisely. The ceiling support package must be purchased from the same manufacturer (ie. fire stops, insulation shield and roof flashing, chimney cap, etc). Be sure to maintain required safe clearances to combustibles as recommended by the manufacturer. The flue pipe must be double wall, close clearance type with either CAN/ULC-S629 or ULCS610 designation (single wall pipe is not allowed). Insulated chimney components must be a listed factory built chimney suitable for use with solid fuels and conforming to, CAN/ULC-S629 in Canada or UL-103HT in the USA. Where the space heater is installed in mobile home or transportable building, removal of the chimney is required for transportation of the building

Note: Under no circumstances should the fresh air intake hose (Outside Air Kit) penetrate a wall at a location higher than the bottom of the intake air channel on the rear of the appliance (ie. the fresh air hose must feed up into the intake channel on the rear of the appliance).

CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL, AND CEILING/ROOF MUST BE MAINTAINED.

⚠WARNING

THE APPLIANCE MAY ONLY BE INSTALLED IN AN OPEN AREA THAT IS NOT USED FOR SLEEPING. UNDER NO CIRCUMSTANCES SHOULD THE APPLIANCE BE INSTALLED INSIDE A BEDROOM. FAILURE TO COMPLY MAY LEAD TO SERIOUS BODILY HARM IN THE EVENT OF A HOUSE FIRE.

For mobile home or transportable building installations, the appliance must be securely fastened to the floor using the tie-downs provided in the Outside Air Kit.

- For Parlor Leg Kit (S.Z1713), use the S.ZR8039 Leg Anchor Kit to secure stove to the floor. **(Fig. 1)**
- For Ultra Pedestal Kit (S.Z3903), use #10 screws and washers through the two holes in the pedestal base to secure the stove to the floor. **(Fig. 2)**
- For Classic Base Kit (S.Z3284), use #10 screws and shipping brackets **(Fig. 3)** from the firebox crate to secure the stove to the floor. **(Fig. 4)**

Fig. 1

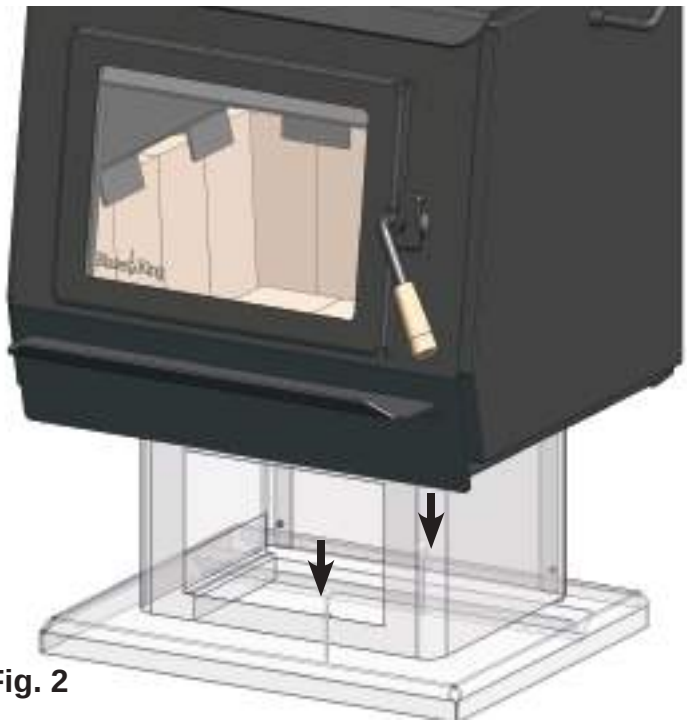


Fig. 2

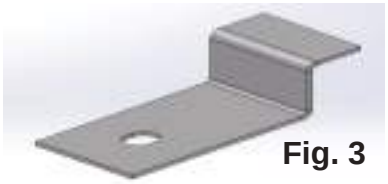


Fig. 3

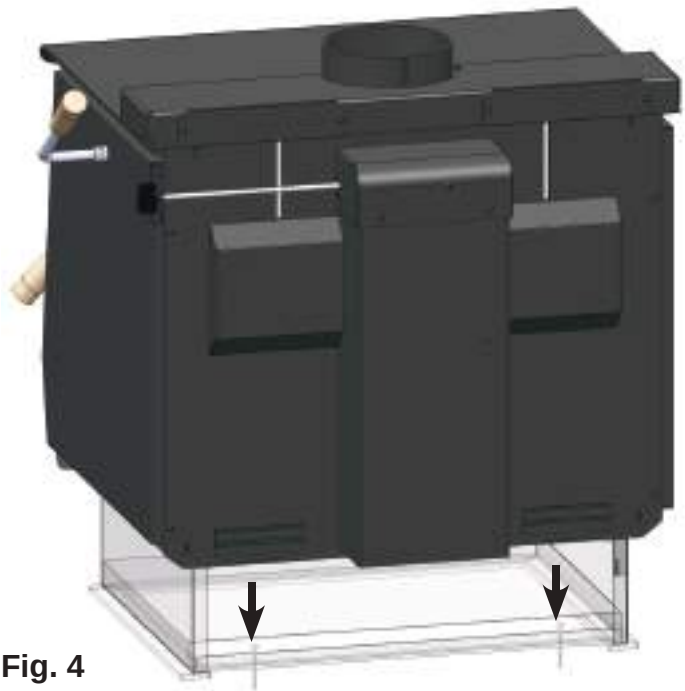


Fig. 4

OPTIONAL ACCESSORIES

- **REAR SHIELD KIT (S.Z4015)** - used to achieve minimum rear clearances; required for mobile home or alcove installations.
- **FAN KIT (S.Z1714)** - used to disperse super heated air from appliance throughout the dwelling; required for mobile home or alcove installations.
- **OUTSIDE AIR KIT (S.Z1726 / S.Z1726B)** - The fresh air intake hose is a flexible metal tube used to supply combustion air into the appliance from the outdoor environment. It can be installed through an external wall or up through the floor (DO NOT CHANGE THE STRUCTURAL INTEGRITY OF THE FLOOR). This hose must be kept open at all times. **Under no circumstances should the fresh air intake hose penetrate a wall at a location higher than the bottom of the intake air channel on the rear of the appliance (ie. the fresh air hose must feed up into the intake channel on the rear of the appliance).**

NOTE: EITHER S.Z1713 PARLOR LEG KIT, S.Z3284 CLASSIC BASE KIT, OR S.Z3903 ULTRA PEDESTAL KIT, MUST BE INSTALLED BEFORE THE APPLIANCE CAN BE CONNECTED TO THE CHIMNEY AND BE READY FOR USE.

PARLOR LEG KIT (S.Z1713)

TOOLS NEEDED FOR INSTALLATION: 3/4” wrench or socket wrench

INSTALLATION

1. Lean the appliance backwards onto the main air tube to gain access to the bottom side.
   NOTE: Use extreme caution when maneuvering the appliance to avoid injury and/or damage to the floor or appliance. It is recommended to place cardboard inside the firebox to support the bricks when leaning the appliance over.

2. Position each leg accordingly, using alignment holes in appliance base as guides. Fasten the legs to the appliance using the hardware supplied with the kit. (**Fig. 5**)

3. Lift the appliance back to its upright position.

4. Adjust levelling bolts at the bottom of each leg in order to level appliance.

Fig. 5

CLASSIC BASE KIT (S.Z3284)

TOOLS NEEDED FOR INSTALLATION: 7/16” and 3/4” wrench or socket wrench

INSTALLATION

1. Lean the appliance backwards to gain access to the bottom side.
   NOTE: Use extreme caution when maneuvering the appliance to avoid injury and/or damage to the floor or appliance. It is recommended to place cardboard inside the firebox to support the bricks when leaning the appliance over.

2. There are two 1/2” x 1/2” long bolts supplied with the classic base kit, thread them as shown, leave approximately a 1/4” of thread showing. (**Fig. 6)**

3. Slide the classic base slots onto the bolts from the previous step. (**Fig. 7)**

4. There are two 1/4-20 x 1/2” bolts supplied with the classic base kit, tighten until snug. (**Fig. 8**)

5. Tighten the 1/2” x 1/2” bolts until snug.

6. Lift the appliance back to its upright position.

Fig. 6

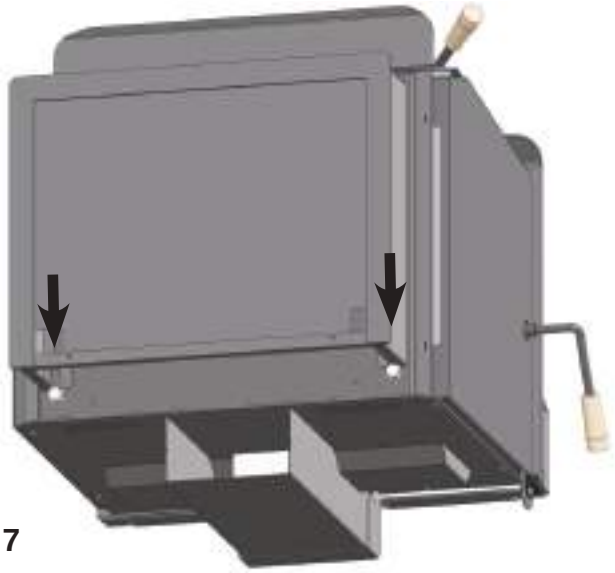


Fig. 7

Fig. 8

ULTRA PEDESTAL KIT (S.Z3903)

TOOLS NEEDED FOR INSTALLATION: 7/16" wrench or socket wrench

INSTALLATION

1. Lean the appliance backwards to gain access to the bottom side. **NOTE: Use extreme caution when maneuvering the appliance to avoid injury and/or damage to the floor or appliance. It is recommended to place cardboard inside the firebox to support the bricks when leaning the appliance over.**

2. Remove "ASH CHANNEL SEAL" by unscrewing the 1/4" nut. (**Fig. 9**)

3. Thread all four 1/4"-20 button head cap screws into the stove base until halfway in (included w/ Pedestal Kit). (**Fig. 10**)

4. Remove the ash drawer from the assembled pedestal. (Can also remove pedestal rear panel if required).

5. Utilizing the key holes on the top of the pedestal body, install the pedestal into place by pushing it against the bottom of the appliance and then sliding it downward (assuming appliance is on its back). (**Fig. 11**)

6. Once the pedestal is in position, fully tighten all four fasteners and then lift appliance back to its upright position.

7. Insert the ash drawer into the pedestal front. (Reattach pedestal rear panel if removed)

Fig. 9

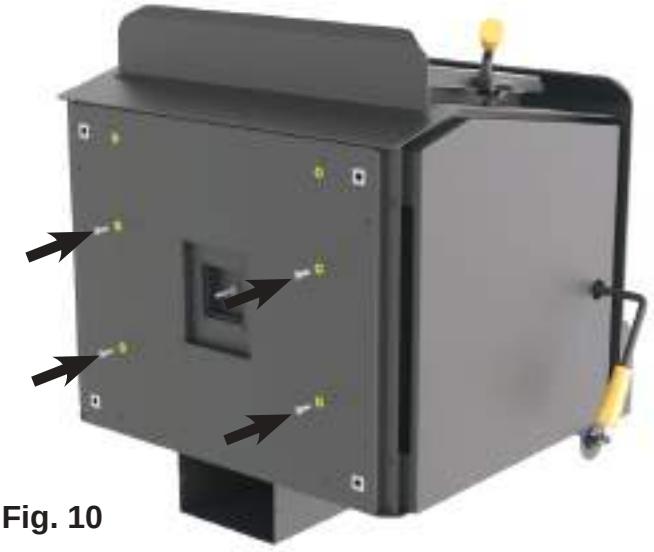


Fig. 10

Fig. 11

DOOR INSTALLATION AND CHANGE-OUT (S.Z4786)

To install the door upon appliance installation or to change it out, follow these steps:

1. Align bottom door hinge hole with bottom firebox hinge pin. (**Fig. 12**)
   Note: Door is heavy, hold firmly.

2. Lower door onto bottom hinge pin, then align top door hinge hole with top firebox hinge pin.

3. Lower door onto pins until door hinge surface contacts firebox hinge surface.

NOTE: If the door is satin or gold plated, please follow the instructions on the "PLATED DOOR & TRIM CARE" card found inside the manual kit.

Fig. 12

⚠WARNING

DO NOT OPERATE THIS APPLIANCE WITH THE LOADING DOOR UNINSTALLED OR LEFT OPEN. DOING SO MAY LEAD TO A RUN AWAY FIRE RESULTING IN PROPERTY DAMAGE.

YOUR FIRST FIRE!

The following pages contain information on the operation of the major components on your Blaze King appliance. Please take the time to read through this section as it will give you a better understanding of how your appliance works. This understanding will help you to operate your appliance at its optimum level thus extended its life while allowing you to get the highest efficiencies from your heater.

INTRODUCTION

All Blaze King wood burning appliances are designed as radiant room space heaters. They have been tested and certified to be installed in insulated, habitable rooms within your dwelling. The appliance has not been designed to be installed in a concrete, uninsulated basement or in a shop/garage environment. Such applications may cause the thermostat to be unresponsive due the constant call for heat resulting in appliance being in a constant over fire situation. **Consequential damage from this type of operation will deem the warranty null and void.**

All Blaze King wood appliances are designed to burn cord wood only. Dimensional timber off cuts, very low moisture content small diameter wood and pressed wood logs, when used in excess, may result in excessive internal firebox temperatures that can cause irreversible damage to the firebox's internal structure. Excessive temperatures can be caused by many small pieces of very low moisture content wood being used as a primary fuel source. This may be evident by warping or warped internal plates and retainers, possible cracking of the outer firebox and possibly premature failure of the catalytic combustor. All wood appliances should be cleaned out and inspected at the end of every burning season to identify if any internal components have been affected during the burning season. If problems are observed steps must be taken to identify and correct the problem before the subsequent burning season. Failure to do so will result in the warranty of the product being null and void.

EFFICIENCY

Efficiency was determined using the method outlined in B415.1-10 test method. It is represented by the Higher Heating Value (HHV) as the fuel used during testing contains between 19% - 25% water moisture included in the total calculated fuel weight. (Other test methods such as LHV or Low Heating Value, does not take the water moisture into account).

Annual Fuel Utilization Efficiency (AFUE) attempts to represent the actual, season long, average efficiency of an appliance. HHV is the actual, calculated average efficiency obtained under test conditions. Using correctly seasoned wood is important when trying to gain efficiency. The more seasoned (dry) the wood, the higher the efficiency (less energy wasted on eliminating moisture during combustion). Operating your Blaze King at lower settings will result in higher efficiencies as the fuel will undergo a more complete combustion. For maximum efficiency, the appliance should be installed in a location that provides adequate intake/combustion air as well as a location that will allow for the straightest run of optimal chimney length to establish necessary draft.

FAN OPERATION

Fans are an optional item for most Blaze King appliances. If fans are installed on your appliance, they should be turned off until the stove reaches normal operating temperatures. Approximately 30 minutes after a fire has been established within the appliance, the fan speed should match the thermostat control setting. (i.e. if your thermostat is set to a medium heat output then your fan should also be set at medium, low—low, high—high etc.). We recommend the use of fans on all of our wood appliances. The fan system recirculates room air over the hot surfaces of your appliance and helps spread this super heated air around your home.

SELECTING WOOD

It takes a great deal of energy to evaporate the moisture contained in green or wet wood and that energy will not be heating your home. Green or wet wood will also greatly increase creosote issues. To ensure that your wood fuel has a moisture content of 20% or lower, only use seasoned wood that has been split, stacked, and protected from rain or snow for at least 24 months. Firewood should be split and stacked in a manner that allows for air flow to all areas.

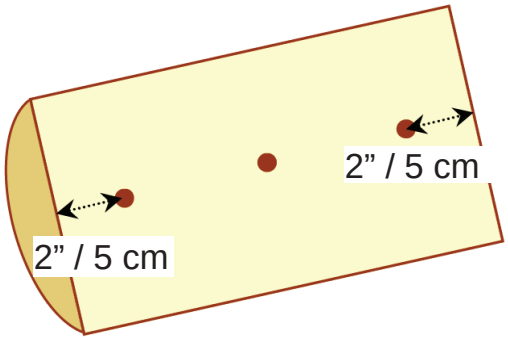
Both hardwood and softwood burn equally well in this appliance, but the more dense hardwood will weigh more per cord and burn a little slower and longer. Never burn salt-water driftwood as it is very corrosive and will deteriorate the structure of the appliance. The burning of salt-water driftwood will void the warranty. The only way to accurately determine wood moisture is to purchase and measure with a moisture meter.

⚠WARNING

THIS APPLIANCE IS DESIGNED TO BURN NATURAL WOOD ONLY. DO NOT BURN WET UNSEASONED WOOD. DOING SO CAN CAUSE EXCESSIVE CREOSOTE ACCUMULATION AND IF IGNITED, CAN CAUSE A CHIMNEY FIRE THAT MAY RESULT IN A HOUSE FIRE CAUSING SERIOUS BODILY HARM. BURNING AIR DRIED SEASONED WOOD WILL REDUCE THE RISK OF CHIMNEY FIRES AND YIELD HIGHER EFFICIENCIES AND LOWER EMISSIONS.

HOW TO USE MOISTURE METERS

1. Randomly select three logs from your wood pile and split each one down the middle.
2. Three points of measurement are required to determine the moisture content of each log: 2” (5 cm) from either end and in the middle of the split surface of the log. To take these measurements, insert the moisture meter pins at the points described, keeping the pins in line with the wood grain. Record each measurement.
3. Do this to all three logs and take an average of the readings (this is an approximate indication).



⚠WARNING

DO NOT BURN TREATED WOOD, COAL, CHARCOAL, COLORED PAPER, CARDBOARD, SOLVENTS OR GARBAGE. BURNING THESE MATERIALS MAY RESULT IN THE RELEASE OF TOXIC FUMES AND/OR CARBON MONOXIDE WHICH MAY RESULT IN POISONING. DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA, OR ENGINE GEL. DO NOT USE CHEMICALS OR FLUIDS SUCH AS GASOLINE TYPE LANTERN FUEL, KEROSENE, OR CHARCOAL LIGHTER FLUID TO START OR FRESHEN UP A FIRE IN THIS APPLIANCE. DOING SO MAY LEAD TO OVER FIRING RESULTING IN A HOUSE FIRE AND SERIOUS BODILY HARM.

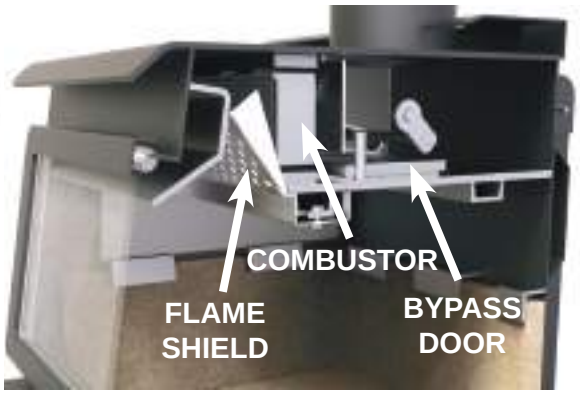
FIRE POKER

The steel fire poker that is provided with this appliance serves two purposes:

1) to manipulate fuel loads
2) to remove the ash plug via hook welded to the top plate.

BYPASS DOOR

Your catalytic wood burning appliance is fitted with a bypass door which allows exhaust from the fire to temporarily bypass the catalytic combustor. The bypass door is located inside the dome of the firebox at the top of the appliance. It is a hinged, steel plate door and is controlled by the bypass handle located on the right side of the appliance. When the handle is pointing forward, the bypass door is open. To close the bypass door you must rotate the handle clockwise until it points to the rear of the appliance. To ensure the bypass door is fully closed, push down on the bypass handle until you hear a positive click.



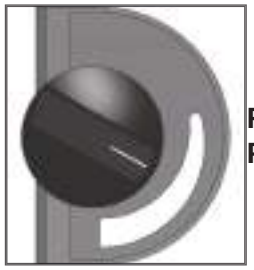
CATALYTIC THERMOMETER

The catalytic thermometer is located on the top of the appliance. Its sole purpose is measure the exhaust gasses after they have passed through the combustor to indicate whether the combustor is ACTIVE or INACTIVE. It is important to ensure that the appliance is operated in the ACTIVE zone. When the thermometer reads INACTIVE it means that the combustor temperature is below 500F and is not producing a clean burn. For the most accurate reading, turn the fan off for approximately 5 minutes before reading the thermometer. For calibration instructions, please refer to the "***MAINTENANCE***" section.

THERMOSTAT

The thermostat is located at the rear of the appliance and is controlled by the thermostat knob which is located at the upper right rear corner of the appliance. When the knob is positioned at the HIGH setting, the appliance will operate at its highest burn rate and deliver its maximum heat output. As the knob is rotated counter clockwise the burn rate will decrease along with heat output. Burn rate is greatly influenced by location, installation, and external environment, so you may find it necessary to reposition the knob until you find the ideal setting to suit your situation. Please note that all adjustments to the thermostat should be done gradually as too rapid a change may cause the thermostat to operate improperly. The thermostat has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with operating instructions in this manual.

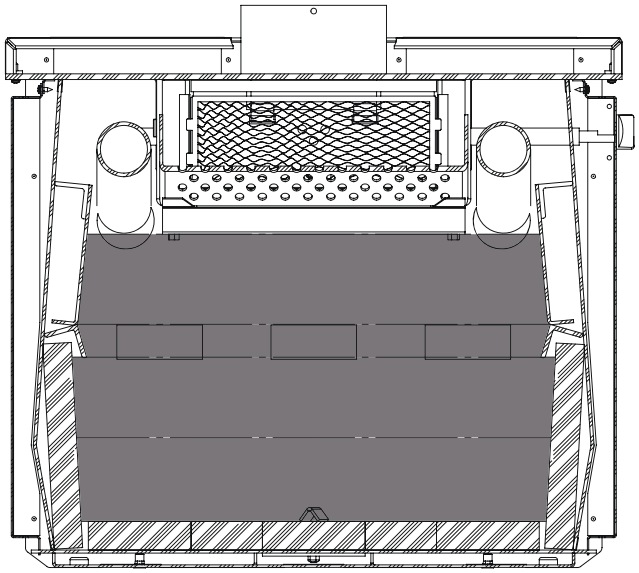
HIGH SETTING
MAXIMUM HEAT OUTPUT



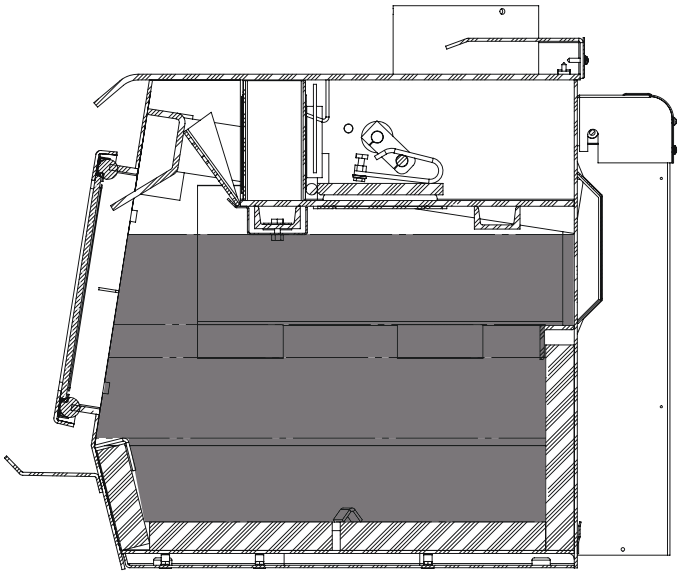
ROTATE COUNTER CLOCKWISE
FOR REDUCED HEAT OUTPUT

USABLE FIREBOX LOADING AREA

Your Blaze King wood heater is designed and tested to be an exceptionally clean burning and highly efficient heater. To obtain both clean burning and utmost efficiencies, you should **ONLY** load fuel in the area indicated by the grey shaded area in the image below. Attempting to load fuel in any additional space will void your warranty and represents a safety hazard.



Inside fuel loading area - FRONT VIEW



Inside fuel loading area - SIDE VIEW

LIGHTING THE FIRE

NOTE: As you heat up the appliance for the first time, the paint will go through a curing process and will give off a strong odor coupled with smoke. To minimize the inconvenience, burn the stove at a low temperature setting for several hours. It is recommended to open a door or window until the odor and smoke dissipates. You may also notice a change in color as the paint cures, this is normal and will appear uniform after subsequent firings.

1. **ENSURE ALL BRICKS ARE CORRECTLY POSITIONED INSIDE THE FIREBOX AND BUILD THE FIRE DIRECTLY ON THE BRICK IN THE BOTTOM OF THE STOVE. DO NOT USE A GRATE.**
2. Position the thermostat to the **HIGH** setting and turn the fan (if equipped) **OFF**.
3. Open the bypass then open the loading door.
4. Place 10 balls of non-glossy paper towards the front of the bottom of the firebox then stack 20 pieces of kindling on top of the paper in a crisscross fashion (leaving air gaps in between sticks).
5. Light the fire and allow it to get a good start while leaving the loading door cracked open. **DO NOT LEAVE THE STOVE UNATTENDED.**
6. Once the kindling is fully on fire, place two or three medium size logs onto the fire. Keeping the loading door unlatched, allow the logs to catch fire. **DO NOT LEAVE THE STOVE UNATTENDED.**
7. Once the logs are burning, latch the loading door shut. Once loading door is closed and combustor temperature begins to climb, close the bypass door, turn fan(s) on to high (if equipped). Leaving the loading door open after the wood load has caught fire may cause premature failure of the catalytic combustor.
8. When nearly all of the wood in the firebox is fully burning and the catalytic thermometer is in the active zone, open the bypass door and loading door, and finish loading the appliance. Lay the wood as far back in the stove as possible. Latch the loading door shut, and close the bypass door.
9. Let the fire burn with the thermostat at the **HIGH** setting until the fire is well established. This ensures that the stove, catalyst, and wood load are all stabilized at optimum operating temperatures. The temperature in the stove and the gases entering the combustor must be raised to at least 500F (indicated by the thermometer needle in the **ACTIVE ZONE**) for catalytic activity to be initiated.
10. Gradually turn the thermostat down to the desired heat output setting once the fire is well established. Please note that if the thermostat is turned down too low too quickly, the fire may go out or the combustor may stop working, indicated by the thermometer needle falling into the **INACTIVE ZONE**. If this happens, simply turn the thermostat back to a higher heat output setting to let the fire reestablish itself.
11. Turn the fan (if equipped) on after the initial warm up.

Probably the least understood requirement of maintaining a good fire is that of establishing a good base of coals or embers. A glowing hot coal bed will help to maintain more even temperatures as well as assist in relighting the next fuel load. Put as much wood into the appliance as needed, practice will teach the amount of wood necessary to keep the fire going until the next reloading time. Don't be afraid to fill it completely if necessary. With the Blaze King thermostat, the wood will only burn at the rate set on the thermostat. Once the fire is established, the appliance should be left to complete the full burn cycle. This is evident by a) only a glowing coal bed (ember bed) remaining or b) the catalytic thermometer hovers just inside the active zone. Following this procedure will maximize the efficiency of the appliance as well as limit exhaust emissions and smoke spillage.

RELOADING PROCEDURE

WHEN PREPARING TO RELOAD, IF THE NEEDLE ON THE CATALYTIC THERMOMETER IS STILL IN THE ACTIVE ZONE, FOLLOW THE PROCEDURE BELOW; IF THE NEEDLE HAS DROPPED INTO THE INACTIVE ZONE, REFER BACK TO THE "LIGHTING THE FIRE" PROCEDURE ON THE PREVIOUS PAGE.

It is important to note that the catalytic thermometer is simply displaying the temperature of the catalytic combustor. It may be used as an aid when it comes to identifying a reload point, but other factors such as lack of fuel in the firebox or dropping room temperatures should be used as well.

1. Have your next load of wood ready before beginning. Turn the thermostat to **HIGH** to ensure the remaining coal bed is active before reloading. Wait a few minutes for the air flow to stabilize.
2. To help minimize smoke spillage into the room, open the bypass door and again wait a few minutes for the air flow to stabilize.
3. Open the bypass door and crack open the loading door to allow ambient room air to be introduced into the firebox, this may take a minute to stabilize.
4. Slowly open the loading door and proceed to reload the firebox. If you experience excessive smoke spillage, slightly close the loading door to re-establish a draft through the chimney.
5. Once loaded, latch the loading door shut and (if opened) close the bypass door immediately. Let the fire burn on the HIGH thermostat setting until the fire is well established. At that point, turn the thermostat down to the desired setting. Keep in mind, you may not see a large amount of flame activity in the lower thermostat setting. The thermometer needle will remain in the active zone indicating that the burn cycle is continuing.
6. Should you burn the stove on a very low setting for extended periods of time, you will begin to see creosote deposits forming on the glass door. To remove these deposits, simply run the stove on **HIGH** for approximately 30 minutes. The **HIGH** setting will burn off most of the deposits.

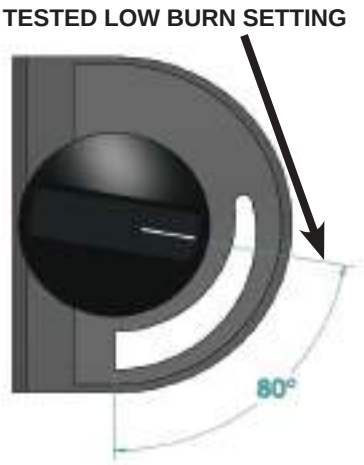
Note: Our loading instructions are outlined in general terms due to the variables that arise with each installation. Such variables include type of wood fuel, chimney height and configuration, installation altitude, seasonal weather conditions, draft, and the desired heat output required. Over time you will learn which settings are necessary to achieve optimal performance with your specific installation.

⚠WARNING

THIS APPLIANCE IS HOT WHILE IN OPERATION. CHILDREN AND PETS MUST BE KEPT FROM TOUCHING THE APPLIANCE WHEN IN USE. COMBUSTIBLE OBJECTS MUST BE KEPT A MINIMUM OF 48"(1219 MM) FROM THE FRONT OF THE APPLIANCE. COMBUSTIBLE MATERIAL SUCH AS CLOTHING OR FURNITURE PLACED TOO CLOSE TO THE APPLIANCE CAN CATCH FIRE. DO NOT STORE WOOD WITHIN THE SPECIFIED SAFETY CLEARANCES OR WITHIN THE SPACE REQUIRED FOR RE-FUELING AND ASH REMOVAL. FAILURE TO COMPLY MAY CAUSE SKIN BURNS OR RESULT IN A HOUSE FIRE CAUSING SERIOUS BODILY HARM.

OPTIMAL LOW BURN THERMOSTAT SETTING

Your Blaze King appliance was tested and certified in accordance to the New Source Performance Standards for Residential Wood Heaters. During this test series, the low burn rate of the unit was determined by setting the thermostat knob to a position that yielded the lowest burn rate achievable. If you find that you are setting your thermostat beyond the test setting, please note that if the thermostat is turned down too low the fire will go out or the combustor may stop working which is indicated by the thermometer needle falling into the **INACTIVE ZONE**. If this happens, simply turn the thermostat back to a higher heat output setting and let the fire reestablish itself.



WOOD BURNING IN THE SHOULDER SEASON

There are a few things to consider if you choose to light a fire during the spring or fall seasons when the outside temperature is milder, perhaps 55F to 70F (13°C to 21°C).

You may notice smoke spillage out of the loading door when it is opened during start up or reloading. This is caused by a lack of natural draft within the chimney system. The temperature difference between the chimney system and the outside air causes flue gasses to be drawn up and out of the chimney. Smaller temperature differences produce less draft in your chimney system than larger temperature differences. This air movement, referred to as Stack Effect, is also influenced by air density and moisture differences. To eliminate the smoke spillage you may have to stoke the fire for longer than usual. Once the fire warms the chimney the draft will improve and spillage will be reduced. When operating the appliance on a lower thermostat setting, the resultant lower flue temperatures can cause your chimney system to cool down. This also decreases natural draft and spillage may occur.

General Rules for burning in the shoulder season:

- Run your appliance on **HIGH** for 30 minutes after start up and reloading before gradually turning the thermostat down to the desired heat output setting.
- The thermostat setting needs to be high enough to keep the catalytic thermometer in the active zone. If the thermometer will not stay in the active zone, turn the thermostat to a higher setting and then wait 15 minutes to confirm that the thermometer remains in the active zone. Repeat as required.
- If your appliance is producing too much heat, try to reduce the volume of wood fuel loads rather than turning your thermostat down. It is good burning practice to build smaller, hotter fires on milder days in the spring and fall.

ICE - FORMATION AND PREVENTION

Most of what you see coming from the chimney of a properly operating catalytic appliance is water vapor. In extremely cold weather, and with some exterior chimneys, this vapor may freeze in the chimney to the point of actually blocking the chimney and extinguishing the fire. In such weather, burn the appliance for 5 to 10 minutes with the thermostat set to **HIGH** to melt any possible ice build.

CATALYTIC COMBUSTOR

⚠WARNING

DO NOT OPERATE THIS APPLIANCE WITHOUT THE CATALYTIC COMBUSTOR INSTALLED. DOING SO WILL LEAD TO EXCESSIVE SMOKE AND TEMPERATURES THAT COULD RESULT IN A HOUSE FIRE CAUSING SERIOUS BODILY HARM. ONLY BURN SEASONED WOOD. FAILURE TO DO SO MAY DAMAGE THE COMBUSTOR AND WILL VOID ALL WARRANTIES.

COMBUSTOR MONITORING

It is good practice to monitor the catalytic combustor to ensure it is functioning properly. An improperly functioning combustor will result in a loss of heating efficiency and an increase in emissions and creosote buildup. The following list of items should be checked on a periodic basis:

- Combustors should be visually inspected at least three times during the heating season to determine if physical degradation has occurred. Actual removal of the combustor is not recommended unless more detailed inspection is warranted because of decreased performance. Please refer to the "***COMBUSTOR TROUBLESHOOTING***" section.
- This appliance is equipped with a catalytic thermometer to monitor combustor operation. A properly functioning combustor will maintain temperatures in excess of 500 F (indicated by the thermometer needle in the ACTIVE zone) and often reach temperatures in excess of 1000 F. If the combustor temperature falls below 500 F (thermometer needle in the INACTIVE zone), refer to the "***COMBUSTOR TESTING***" section.
- A good way to determine whether the combustor is functioning properly is by comparing the amount of smoke exiting the chimney while the combustor is engaged (bypass door closed) versus when the combustor is bypassed (bypass door open).
  Note: Open the bypass door, wait a few minutes and observe the smoke exiting the chimney, then close the bypass door again. Significantly more smoke may be seen when the exhaust is not routed through the combustor (bypass mode). Smoke may be visible shortly after lighting the fire and shortly after reloading the fire so allow the fire to stabilize before making observations.

COMBUSTOR TESTING

Follow these instructions to test the catalytic combustor:

1. Light a fire per the "***LIGHTING THE FIRE"*** instructions.
2. After burning a well established fire for 1 hour, position the thermostat knob to a medium-low burn rate setting.
3. After 5 minutes at the lower burn rate, observe the location of the thermometer needle. A properly functioning combustor will have a temperature greater than 500F with the thermometer needle in the ACTIVE zone. An improperly functioning combustor will yield thermometer reading in the INACTIVE zone.
4. Repeat step 3 for at least 3 burn cycles.
5. If the thermometer needled is still not reaching the ACTIVE zone, your combustor may require cleaning.
6. If, after cleaning the combustor and reburning, the thermometer needle is still not reaching the ACTIVE zone, your combustor may need replacing. Contact your Blaze King dealer for a replacement combustor.

Note - It is also possible that the catalytic thermometer itself may not be functioning properly. Before deeming the combustor "dysfunctional", please refer to the "***CATALYTIC THERMOMETER"*** section.

⚠WARNING

DO NOT PERFORM ANY CLEANING UNTIL THE FIRE IS OUT AND THE APPLIANCE IS COOL. HOT ASH IN A VACUUM CLEANER BAG COULD MELT THE VACUUM AND COULD RESULT IN A HOUSE FIRE CAUSING SERIOUS BODILY HARM.

COMBUSTOR CLEANING

Under certain conditions, ash particles may become attached to the face of the combustor. These particles may be seen while the combustor is glowing under fire or when the fire is out. Any deposits on the face of the combustor should be removed. There are two ways to clean the face of the combustor: (1) Brushing the combustor with a soft bristle paint brush, or (2) Passing a vacuum cleaner wand or brush near the face of the combustor. Limit cleaning to the face of the combustor (note - the flame shield will have to be removed to gain access to the face). Do not scrape the combustor with any hard tool or brush and do not run pipe cleaner through the individual cells of the combustor as this may do more harm than good. Do not remove the combustor during this process. **Note - simply burning a hot fire usually proves to be the best method of cleaning the combustor of deposits.**

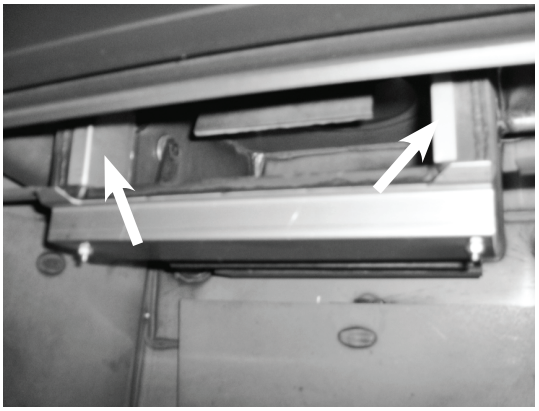
COMBUSTOR REPLACEMENT

If the catalytic combustor has been deemed "dysfunctional" per the guidelines in "***COMBUSTOR TESTING"***, discontinue use of the appliance until the combustor is replaced. Follow the steps below to complete the replacement **(BLAZE KING RECOMMENDS THAT YOUR DEALER OR CERTIFIED INSTALLER PERFORM THIS PROCEDURE):**

1. The appliance must be cool to touch, having gone at least 12 hours without being burned. A combustor can reach 1400F and hold temperatures for several hours, even after the fire is out. After waiting 12 hours, begin by removing the flame shield by simply lifting the shield off the two tabs at either lower corner. Pay particular attention to orientation of the flame shield in order to reinstall in the correct position.

2. Once the flame shield is removed, you will have access to the combustor. The combustor can be made of different materials such as cordierite, mulite, or stainless steel. They are all the same with regard to removal and caution should be taken so as to not drop or damage the combustor. If your combustor has never been cleaned according the manufacturers directions, you may wish to clean the combustor before replacing it with a new combustor (please refer to the "***COMBUSTOR CLEANING"*** section).

3. There are metal tabs across the bottom and on either side of the combustor. Using a flat blade screwdriver or pocket knife blade, slide the tip in between the metal tab on the left side of the combustor and the steel dome of the stove (the dome is the housing that encases the combustor). Apply slight pressure until the combustor begins to move forward. Repeat the process on the metal tab on the right side of the combustor. By working back and forth the combustor will work free of the dome housing. It is normal for the gasket that is wrapped around the combustor to fall apart during this process. New combustors are shipped with a new gasket.



4. With the combustor removed, you will see two bypass retainers on either side of the combustor opening within the dome. These retainers are not fixed in position and can fall into the firebox upon combustor removal. Ensure that they are put back into position before replacing the combustor. Use the screwdriver or pocket knife to scrape any old gasket from the surface areas of the dome. If you intend to reuse your existing combustor, you will need to order replacement combustor gasket. It is a good idea to have this combustor gasket on hand prior to performing this procedure.

5. The new combustor will already be wrapped in gasket. Note the 1” wide masking tape - this will help to keep the leading edge of the gasket from snagging during installation. If you intend to reuse you original combustor, wrap the combustor gasket as you see here and use the 1” masking tape around the front and rear perimeter. During the first fire the masking tape will burn off and the combustor gasket will swell to provide a tight seal. This seal ensures optimal efficiency and performance. Do not burn the appliance without the combustor gasket installed.

6. Before installing, align the combustor within the opening of the dome housing. Slowly push the combustor in at the top and apply even pressure to the left and right corners. This will allow for a better view of the bottom edge for the final fitting. **DO NOT FORCE THE COMBUSTOR INTO THE OPENING. TAKE YOUR TIME AND WORK IT INTO PLACE SLOWLY.**

7. Once the combustor is fully reinserted into the opening of the dome housing, replace the flame shield. Note the flame shield sides are shaped like a triangle. The point of the triangle should face down to install correctly. Do not operate your appliance without the flame shield in place. The flame shield protects the face of the combustor against direct flame impingement and potential collisions when loading fuel.

8. When correctly installed, the flame shield will rest on the two tabs located on the dome guard and will lean slightly forward. Now that the combustor and flame shield have been properly reinstalled, the appliance can be relit.

A few reminders, do not burn anything other than dry, seasoned cordwood. Burning other materials may contaminate or ruin your new combustor. Also, remember to keep your firebox door gasket seal properly adjusted (please refer to the "***LOADING DOOR TENSION ADJUSTMENT"*** section). Doing so will ensure optimal performance of both the appliance and the combustor.

COMBUSTOR WARRANTY

This appliance contains a catalytic combustor, which needs periodic inspection and may require replacement for proper operation. It is against federal regulations to operate this appliance if the catalytic combustor is deactivated or removed.

The catalytic combustor supplied with this appliance is **OEM Blaze King part #115-0556**.

Please consult the catalytic combustor warranty info also supplied with this appliance. Warranty claims should be addressed to:

CANADA	USA
Blaze King Industries / Valley Comfort Systems Warranty Department 1290 Commercial Way Penticton, BC, Canada V2A 3H5	Blaze King Industries Warranty Department 146 A Street Walla Walla, Washington, USA 99362

CATALYTIC COMBUSTOR

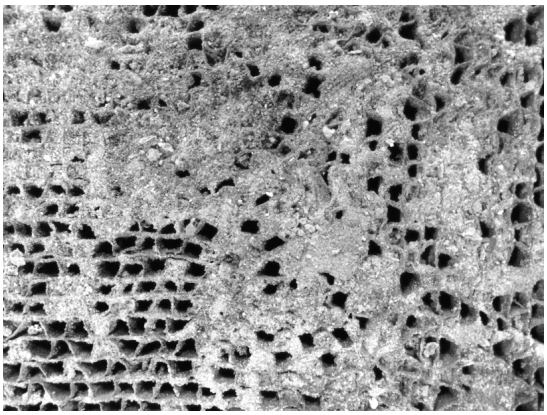
COMBUSTOR TROUBLESHOOTING

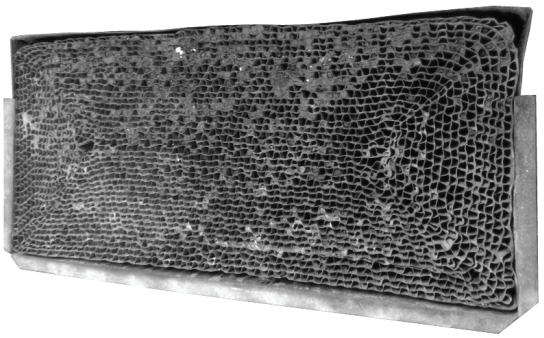
PROBLEM: CREOSOTE PLUGGING

Possible Cause: The combustor is coated with creosote burning material that produces substantial char and fly-ash.
Solution: Only burn dry, seasoned wood. Do not burn materials such as garbage, gift wrap, or cardboard.

Possible Cause: Burning wet, pitchy wood or burning large amounts of small diameter wood without the catalytic thermometer needle in the ACTIVE zone.
Solution: Burn dry, seasoned wood until temperatures are high enough to initiate catalyst light-off (indicated by the catalytic thermometer needle in the ACTIVE zone).

Possible Cause: Combustor not functioning.
Solution: If proper burning procedures have been followed and this problem persists, replace the combustor with an OEM Blaze King combustor (failure to do so will void your warranty).

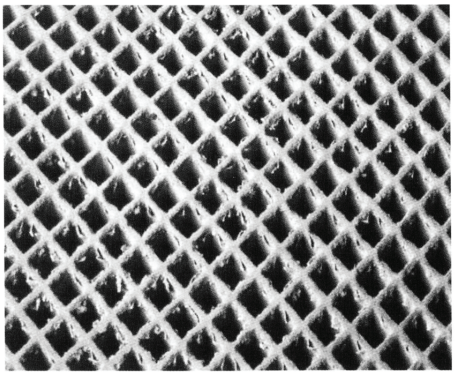




PROBLEM: COMBUSTOR PEELING

Possible Cause: Over firing and flame impingement can yield extreme temperatures (above 1800F/1000°C) at combustor surface and can cause peeling.
Solution: Avoid extreme temperatures by adjusting size of fuel loads. If peeling is severe, replace combustor.

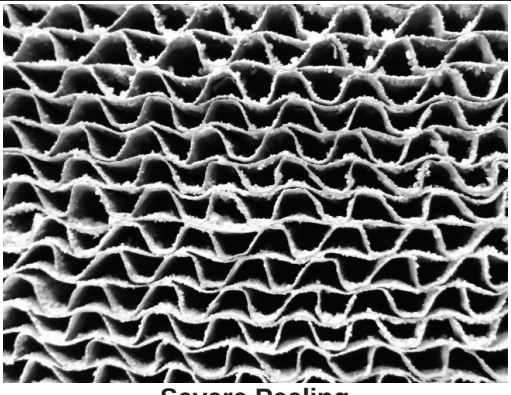
The images to the right are examples of minor peeling (does not affect proper combustor function) and severe peeling (closed or plugged combustor that needs replacement).



Minor Peeling

PROBLEM: CATALYTIC DEACTIVATION

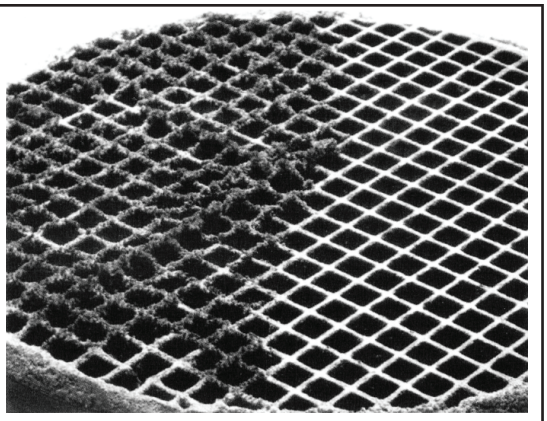
Possible Cause: Burning improper fuels (ie. garbage, pressure-treated lumber, painted wood, etc.).
Solution: Burn good quality, dry, seasoned wood. If proper burning procedures have been followed and this problem persists, replace the combustor with an OEM Blaze King combustor (failure to do so will void your warranty).



Severe Peeling

PROBLEM: COMBUSTOR MASKING

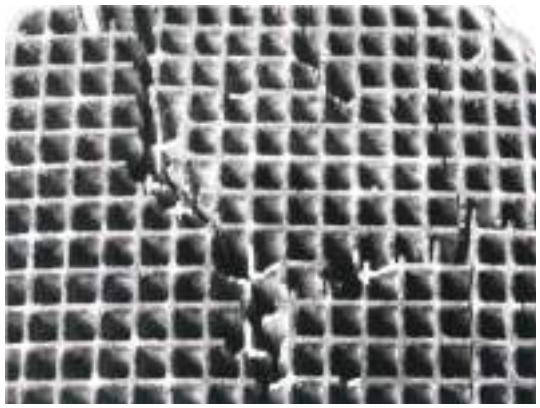
Possible Cause: The combustor is coated with a layer of fly-ash or soot from burning material that produces substantial char and fly-ash.
Solution: When the appliance is cool to touch, clean the front face of the combustor with a soft-bristled brush or vacuum lightly (refer to ***COMBUSTOR CLEANING*** for proper procedure).



PROBLEM: THERMAL CRACKING

Possible Cause: Extreme temperature fluctuations (ie. opening loading door while the combustor is in the ACTIVE zone) can cause thermal shock which can lead to cracking.
Solution: Avoid flooding a hot, active combustor with cool room air when reloading.

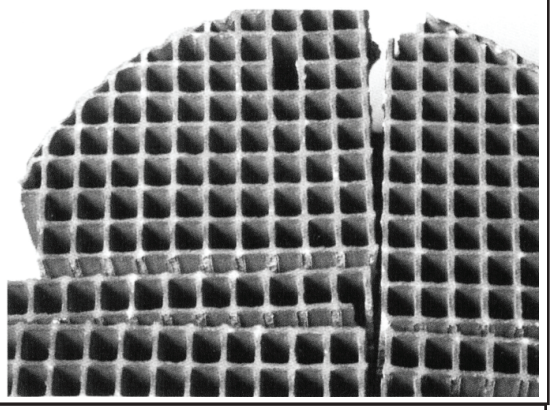
If cracking causes large pieces of the combustor to separate, replace the combustor with an OEM Blaze King combustor (failure to do so will void your warranty).



PROBLEM: MECHANICAL CRACKING

Possible Cause: Mishandling the combustor or operating the appliance without the proper gasket installed.
Solution: Handle with care. Ensure combustor is wrapped with gasket upon reinstallation.

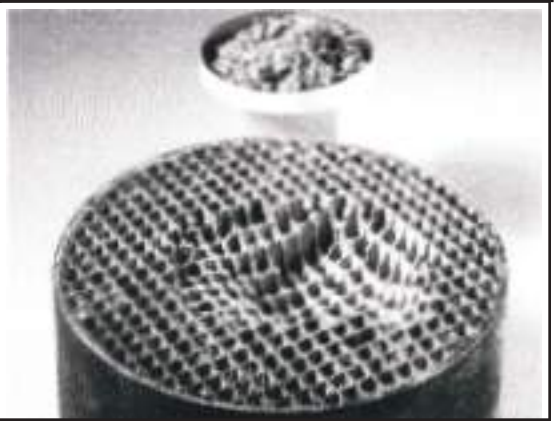
Possible Cause: Distortion of surrounding dome housing.
Solution: The combustor should slide in and out of the dome housing with relative ease. If this is not the case, contact your dealer for further inspection.



PROBLEM: COMBUSTOR CRUMBLING

Possible Cause: Excess air leaking into the firebox.
Solution: Ensure tight seal at loading door (see ***MAINTENANCE*** for instruction on gasket inspection).

Possible Cause: Excessive chimney draft.
Solution: Use a manometer to check and ensure chimney draft is within manufacturer specifications. Adjusting the appliance thermostat can help regulate chimney draft.



⚠WARNING

TO PREVENT SERIOUS BURNS, DO NOT PERFORM ANY MAINTENANCE UNTIL THE APPLIANCE IS COOL. APPLIANCE SURFACES, INCLUDING THE GLASS AND ANY ATTACHED COMPONENT, WILL REMAIN HOT FOR EXTENDED PERIODS OF TIME AFTER THE FIRE HAS BEEN PUT OUT.

RECOMMENDED MAINTENANCE

It is strongly recommended to complete the following tasks on a regular basis throughout the heating season:

1. Visually inspect Catalytic Combustor and clean as required (see "***COMBUSTOR CLEANING***")
2. Clean behind internal baffles (where applicable) and inspect metal components for warping/distortion.
3. Check Catalytic Thermometer for proper calibration.
4. Check Thermostat for proper function.
5. Check Fan Assemblies for proper operation.
6. Remove all ash from firebox and ash drawer after final burn of season.
7. Check all gaskets for proper seal and adjust as required.
8. Inspect and clean the Venting System.

CATALYTIC THERMOMETER MAINTENANCE

The catalytic thermometer probe (shaft) should be cleaned regularly. Ensure the fire is out and the appliance is cool, then remove the thermometer and wipe the probe clean. While removed, confirm the thermometer indicator needle points towards the bottom of the INACTIVE zone (allow the thermometer to sit at room temperature for 10 minutes before checking). If the needle does not point towards the bottom of the INACTIVE zone, it may need adjustment. Grasp the probe with a pair of pliers then slightly loosen the bolt on the top of the dial. Turn the dial to align the needle to the bottom of the INACTIVE zone and then retighten the bolt. Once finished, reinsert the thermometer back into the appliance. **Note: If your appliance is equipped with a fan kit, turn it off and wait 10 minutes before observing the catalytic thermometer reading.**

THERMOSTAT or THERMOMETER MAINTENANCE

Any thermostat or thermometer maintenance must be completed by a certified installer. If the thermostat or thermometer malfunctions, contact your dealer for replacement.

OPTIONAL FAN ASSEMBLY MAINTENANCE

Fan assemblies should be inspected at the beginning of each burn season to ensure they are free from debris such as ash, dust, pet dander, lint, etc. The accumulation of such debris could prevent the fan blades/blower wheels from rotating freely and put excessive strain on the fan motors, ultimately leading to failure.

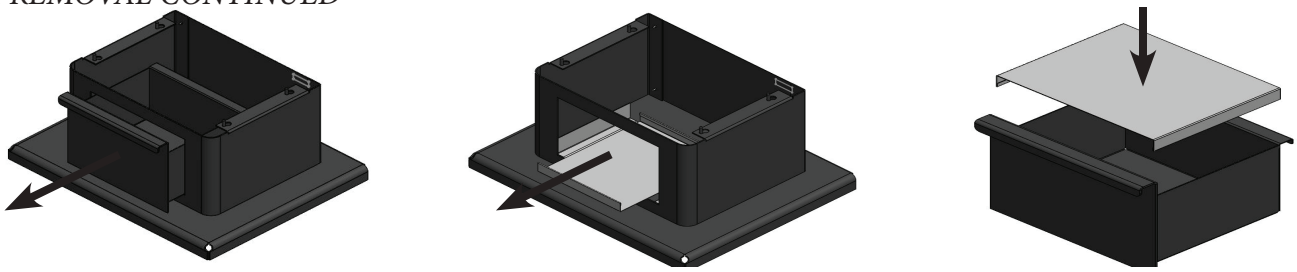
ASH REMOVAL

Ashes should be removed any time they come within one inch of the door opening, though it is not advisable to completely remove all of the ashes as wood burns best on a bed of ashes around 1/2" thick. When removing ashes, ensure the fire is out and the appliance is cool to touch. Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground (outside), well away from all combustible materials, while awaiting final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled. Do not place other waste in this container.

⚠WARNING

NEVER STORE HOT ASHES IN A GARAGE OR BASEMENT. HOT ASHES WILL GENERATE CARBON MONOXIDE AND / OR FLAMMABLE GASES. THESE GASES MAY CAUSE SUFFOCATION AND POSSIBLE DEATH.

ASH REMOVAL CONTINUED



LOADING DOOR TENSION ADJUSTMENT

To tighten the loading door seal, use a 9/16" wrench to loosen the retainer nut threaded onto the latch catch on the outer right face of the firebox. Once loose, tighten the nut on inside firebox (also threaded onto the latch catch) to secure the latch catch in a position closer to the firebox. Ensure the outer nut is tight and preform a paper test (see "DOOR GASKET PAPER TEST") to ensure the proper seal was achieved. DO NOT FORCE THE NUT LOOSE. Use penetrating oil if necessary to make loosening the nut easier.

LOADING DOOR GASKET INSPECTION

Inspect the loading door gasket for physical deterioration, missing sections, or obvious leakage. The appliance door flange should make a groove in the gasket material. The side of the gasket on the inside of the groove will be dark or black while the outer side will be light or white. Dark smudges on the outer side of the gasket may indicate an air leak. If the groove in the gasket is very shallow or if there is a heavy ash or creosote deposit along the bottom edge of the gasket, it may need to be replaced. Frayed or broken gasket material, or a gasket that is hard and unyielding, will also indicate a need for replacement. Any time a piece of gasket is missing or broken the entire gasket must be replaced. A way to physically check if the gasket needs replacing is by performing a paper test (see ***"DOOR GASKET PAPER TEST")***

LOADING DOOR GASKET REPLACEMENT

If door gasket replacement is required, only replace with OEM door gasket ordered through your Blaze King dealer. This gasket will be properly sized and ready to install. **Do not stretch or cut the gasket at any time during this installation. Ensure only high temperature silicone adhesive is used for this installation (do not use household silicone caulking). Blaze King recommends that your dealer perform this task:**

1. Ensure the fire is out and the appliance is cooled to touch before removing the loading door.
2. Use a pair of pliers to pull the old door gasket out of the channel and dispose of it.
3. Clean the gasket channel of any residual adhesive to ensure the new adhesive will adhere sufficiently.
4. To ensure proper fit, dry fit the new gasket by distributing it evenly around the frame and then remove.
5. Run a small bead of a high temperature silicone adhesive along the center of the gasket channel.
6. Starting in the lower right corner, insert the new gasket into the gasket channel. Be sure to distribute the gasket evenly around the entire channel frame.
7. Allow the adhesive to dry for at least 1 hour before reinstalling and closing the loading door.
8. Confirm proper gasket installation by performing a paper test (see ***"DOOR GASKET PAPER TEST").***

⚠WARNING

DO NOT OPERATE THIS APPLIANCE IF THE DOOR GASKET IS MISSING OR DAMAGED. OVER-FIRING MAY OCCUR WHICH CAN CAUSE DAMAGE TO THE APPLIANCE OR IGNITE CREOSOTE IN THE CHIMNEY WHICH COULD LEAD TO A HOUSE FIRE CAUSING SERIOUS BODILY HARM.

DOOR GASKET PAPER TEST

Perform this test when inspecting or replacing loading door gasket:

1. Ensure the fire is out and the appliance is cooled to touch.
2. Insert a piece of paper (ie. a dollar bill) into the door opening and then latch the door shut.
3. Pull the paper out of the door while noting any obvious resistance when doing so.
4. If no resistance is felt, adjust the door tension (see "***LOADING DOOR TENSION ADJUSTMENT***").
5. Repeat this process around the perimeter of the door until consistent resistance is achieved.

DOOR GLASS GASKET INSPECTION

To inspect the door glass gasket:

1. Ensure the fire is out and the appliance is cooled to touch.
2. Hold the glass by placing the palm of each hand on either side and try to move it; If the glass moves:
   a. Inspect the glass retainers and ensure the screws holding the retainers in place are tight (hand tight plus 1/4 turn). If loose, retighten, but do not over tighten.
   b. Inspect the door glass gasket. If the gasket is frayed or missing sections, replace the gasket.

⚠WARNING

REFRAIN FROM STRIKING THE GLASS OR SLAMMING THE DOOR SHUT. DO NOT OPERATE THIS APPLIANCE IF THE DOOR GLASS OR GASKET SEAL IS BROKEN. DOING SO MAY LEAD TO A RUN AWAY FIRE WHICH COULD RESULT IN PROPERTY DAMAGE.

DOOR GLASS GASKET REPLACEMENT

If door glass gasket replacement is required, only replace with OEM door glass gasket ordered through your Blaze King dealer. The OEM gasket will be ordered to size and ready to re-install. **Do not stretch or cut the gasket at any time during this installation. Blaze King recommends that your dealer perform this task:**

1. Ensure the fire is out and the appliance is cooled to touch.
2. Remove the old glass gasket.
3. Starting at the corner opposite of the "Blaze King" logo, carefully wrap the gasket around the edges of the door glass, pressing firmly onto the sides of the glass with the gasket centered on the edge. Finish the wrapping with a 1/2" overlap. Ensure the thickness of the gasket remains consistent and uniform.
4. Reposition the glass onto the door and then install the glass retainers with original fasteners. Ensure the glass is parallel to the frame and tighten the fasteners (hand tight plus 1/4 turn).

DOOR GLASS CLEANING

The best way to keep the glass clean is to leave the appliance on high burn for a period of time after each reloading The moisture which is driven from a new load of wood contributes much of the creosote on the inside of the glass. Removing that moisture at the beginning of the burn cycle helps to keep the glass clean. Leaving the thermostat on a higher setting for 30 minutes to an hour before turning to low for an overnight burn will also help. Heavier deposits may require hand cleaning. Manual glass cleaning should be done when the appliance and glass are cool. **DO NOT CLEAN THE GLASS WHILE IT IS HOT AND DO NOT USE ABRASIVE CLEANERS TO CLEAN THE GLASS.** Use a soft cloth. After using any cleaner, thoroughly rinse the glass with water to remove any deposits left by the cleaner. Failure to remove all traces of glass cleaner will result in the glass cleaner residue baking on. This residue may be very difficult to remove.

BYPASS DOOR GASKET INSPECTION

Visually note the amount of smoke exiting the chimney while the bypass door is both OPEN and CLOSED. There should be significantly less smoke when the door is in the CLOSED position. If this is not the case, the bypass gasket may need to be replaced.

Note: This inspection could also yield a dead combustor, see "*COMBUSTOR MONITORING*".

BYPASS DOOR GASKET REPLACEMENT

If bypass door gasket replacement is required, only replace with OEM 5/8" fiber glass gasket ordered through your Blaze King dealer. The OEM gasket will be ordered to size and ready to re-install. **Do not stretch or cut the gasket at any time during this installation. Ensure only THERMOSEAL® 1000F high-temperature resistant cement is used for this installation (do not use household silicone caulking). Blaze King recommends that your dealer perform this task:**

1. Ensure the fire is out and the appliance is cooled to touch
2. Remove the flue pipe from the appliance in order to have a clear view of the bypass door **(Fig. 13)**.
3. Remove the combustor (see "*COMBUSTOR REPLACEMENT*").
4. After removing the combustor you will notice stainless bypass retainers on both the left and right sides of the combustor opening **(Fig. 14)**. They secure the bypass door in position during operation. Remove the stainless bypass retainers and set aside.
5. Working down through the flue collar, unhinge the bypass door from the bypass rod (rotating the bypass handle into a neutral position will help), then rotate the bypass door 90 degrees to remove through the combustor opening **(Fig. 15)**.
6. Remove the old gasket and clean away any residual cement from the gasket channel.
7. Apply the new high-temperature cement along the channel.
8. Place the new gasket into the channel, tapping it down to seat it securely.
9. Apply high temp anti-seize lubricant to the under side of the bypass hook **(Fig. 16)** and then reinstall the bypass door by following the previous steps in reverse order.
10. Rotate the bypass handle several times to OPEN/CLOSE the bypass door to ensure smooth and proper operation. Once satisfied, reattach the flue pipe.
11. Reinstall stainless bypass retainers into combustor opening.
12. Refer back to "*COMBUSTOR REPLACEMENT*" to reinstall the combustor. **Note: if the gasket around the combustor is damaged, it will have to be replaced.**

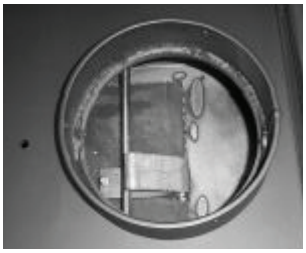


Fig. 13

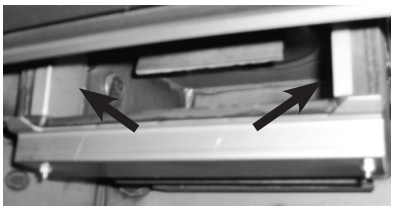


Fig. 14

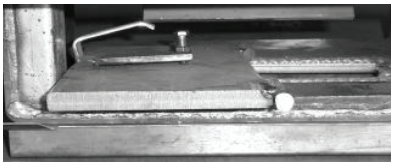


Fig. 15

Fig. 16

VENTING SYSTEM MAINTENANCE

The entire chimney system must be cleaned and inspected regularly, especially during the coldest months of the burn season. The most efficient method to clean the chimney is to “sweep” it using a brush. Brush downwards so soot and creosote residues will come off the inner surface and fall to the bottom of the chimney where they can be removed easily. **Ensure the bypass door is OPEN prior to chimney cleaning so soot and creosote fall into the firebox.** Once cleaned, inspect the chimney for any possible damage. If damage is present, the chimney section in question must be replaced.

CREOSOTE FORMATION AND REMOVAL

When wood is burned slowly, it produces tar and other organic vapors which combine with expelled moisture to form creosote. These vapors condense in the relatively cooler chimney flue of a slow burning fire and when ignited, make an extremely hot fire. Be aware that the hotter the fire, the less creosote is deposited. The flue pipe and chimney should be inspected regularly during the heating season, until a safe frequency for cleaning is established to determine if a creosote build up has occurred. If creosote accumulation is excessive, cleaning is required. It is recommended that a professional chimney sweep does the cleaning. Both the chimney and the appliance have to be cleaned at least once a year or as often as necessary.

⚠WARNING

A CHIMNEY FIRE CAN PERMANENTLY DAMAGE YOUR VENTING SYSTEM, WHICH CAN ONLY BE REPAIRED BY REPLACING THE DAMAGED COMPONENTS. FAILURE TO REPAIR COULD LEAD TO FURTHER PROPERTY DAMAGE. DAMAGE FROM A CHIMNEY FIRE IS NOT COVERED BY THE LIMITED WARRANTY.

RUN-AWAY OR CHIMNEY FIRE

CAUSES:

1. Using incorrect fuel or small fuel pieces which would normally be used as kindling.
2. Leaving the door ajar too long and creating extreme temperatures as the air rushes in the open door.
3. Improperly installed or worn gaskets.
4. Creosote build up in the chimney.
5. Leaving the bypass door open too long.

SOLUTIONS:

1. Do not burn treated or processed wood, coal, charcoal, colored paper, or cardboard.
2. Be careful not to over fire the appliance by leaving the door open too long after the initial start-up.
3. Replace worn, dried out (inflexible) gaskets.
4. Have your chimney cleaned regularly.

WHAT TO DO IF A RUN-AWAY OR CHIMNEY FIRE STARTS:

1. Close the thermostat by rotating the knob fully counter clockwise and ensure the firebox door and the bypass door are closed.
2. Call the local fire department.
3. Examine the chimney, attic, and roof of the house to see if any part has become hot enough to catch fire. If necessary, hose area down with a fire extinguisher or water from a garden hose.
4. Do not operate the appliance again until you are certain the chimney has not been damaged

IT IS ADVISED TO HAVE A WELL UNDERSTOOD PLAN OF ACTION IN THE EVENT OF A CHIMNEY FIRE

Your Blaze King is designed to allow a wide selection of heat output levels. If you begin to lose control of the amount of heat the stove is emitting, determine the cause early so that major problems may be avoided.
The six major needs of a well-controlled fire are:

1. Knowledgeable operator.
2. Adequate air supply.
3. Firewood of good quality and proper size.
4. Catalytic combustor in good condition.
5. Clean chimney, properly sized and installed.
6. Door gasket tight and firm.

Considering all of the above, number one is the most important for safe and efficient operation of any wood stove. Please study the operation instructions carefully. Consult your BLAZE KING dealer if you have any questions not answered in this manual.

All of the six above mentioned needs are interrelated. A deficiency in any one will affect all of the others. If you encounter a problem, determine the source of the problem and then follow-up by checking the other needs as possible contributing factors.

PROBLEM: Chimney Fire	
CAUSE Act immediately regardless of cause	**SOLUTION** Turn the thermostat to lowest setting, make sure the loading door and the bypass door are tightly closed. **Call Fire Department.**
After the fire is out, have your chimney and flue connector inspected by a certified chimney sweep. A damaged masonry chimney should be repaired or rebuilt. A prefabricated chimney (factory built) that is damaged should be replaced. Any damage to the flue connector should be corrected before the system is used again. Possible causes of a chimney fire, and remedies for those causes, can be found further in this section: “Excessive Creosote Formation”, and “Spots of Creosote Accumulation in Chimney or Flue Pipe”.	

PROBLEM: Not enough heat.	
CAUSE Green or wet wood. Not enough fuel in stove.	**SOLUTION** Use a moisture meter to ensure you are burning seasoned wood. Don’t be afraid to FULLY load the stove. A FULL load of wood won’t burn any hotter than the thermostat is set.
Obstruction in chimney or cap screen. Combustor plugged or coated.	Remove obstruction. See “COMBUSTOR, TESTING” See “COMBUSTOR, CLEANING”
Combustor not functioning.	See “COMBUSTOR, TESTING”. If needed, replace combustor, See”“COMBUSTOR, REPLACING”.
Thermostat set too low.	Raise thermostat setting.
Thermostat not operating properly.	Consult your Blaze King dealer.
Poor draft caused by a poorly designed chimney system.	Measure draft with Manometer. See “CHIMNEY DRAFTS” Consult your Blaze King dealer or a chimney sweep.
Strong, gusting winds causing downdraft in chimney	Install wind-resistant chimney cap. Directional caps may not stay freely rotating. If you have a directional cap, check it frequently.
Tightly sealed house, inadequate air supply.	Slightly open a window, near the stove or install an outside air kit.
Reloading too much wood on top of too few coals.	Allow a larger bed of coals to build up.

PROBLEM: Too much heat.	
CAUSE Bypass door left open.	**SOLUTION** Close the bypass door.
Thermostat set too high.	Lower thermostat setting.
Loading door gasket leaking, admitting excess air into firebox.	Replace door gasket and/or adjust door. See “GASKET INSPECTION”
Excessive draft in the chimney.	Measure draft with a Manometer. See “DRAFTS”. Consult your Blaze King dealer or a chimney sweep. Install a cap.
Thermostat not operating properly.	Consult your Blaze King dealer.
Wood is too small.	Use larger pieces.

PROBLEM: One or both fans will not run, or there is no adjustment for fan speed.	
CAUSE Fans mounted improperly.	**SOLUTION** Check that fan blade’s not touch edges of hole.
Fan speed control.	Consult your Blaze King dealer for replacement.

PROBLEM: Fans minimum speed too fast or maximum speed too slow.	
CAUSE Fan speed control out of adjustment.	**SOLUTION** Consult your Blaze King Dealer.

PROBLEM: Excessive creosote formation in chimney and chimney Connector.	
CAUSE Bypass door left open.	**SOLUTION** Close bypass door.
Bypass door not sealing tightly.	Inspect bypass door and seal for warping. Ash or creosote buildup may occur on door or seat. With stove cold scrape and vacuum area around bypass. Be sure all mating steel surfaces are clean and smooth.
Improper operation.	Check thermostat setting and operating procedures. See “THERMOSTAT & OPTIMAL THERMOSTAT SETTING”
Wood too green or wet.	Use seasoned wood. Use a moisture meter to confirm.
Catalytic combustor not operating properly.	Inspect the combustor. See “CATALYTIC COMBUSTOR, TESTING”
Poor draft caused by a poorly designed chimney system.	Measure draft with Manometer. See “DRAFTS”. Consult your Blaze King dealer or a chimney sweep.
Chimney too cold or poorly insulated.	Upgrade chimney system. Consult your Blaze King dealer or a chimney sweep.

PROBLEM: Catalytic Thermometer (on top of stove) does not go into "Active" zone, or does not stay there for long. (Fans must be in “off” position for 10 minutes prior to checking)	
CAUSE Improper operation.	**SOLUTION** Check thermostat setting and operating procedures. See “THERMOSTAT & OPTIMAL THERMOSTAT SETTING”
Obstruction in chimney or cap.	Clean chimney, remove obstructions.
Faulty catalytic thermometer.	Check catalytic thermometer calibration.
Wood too green or wet.	Use seasoned wood.

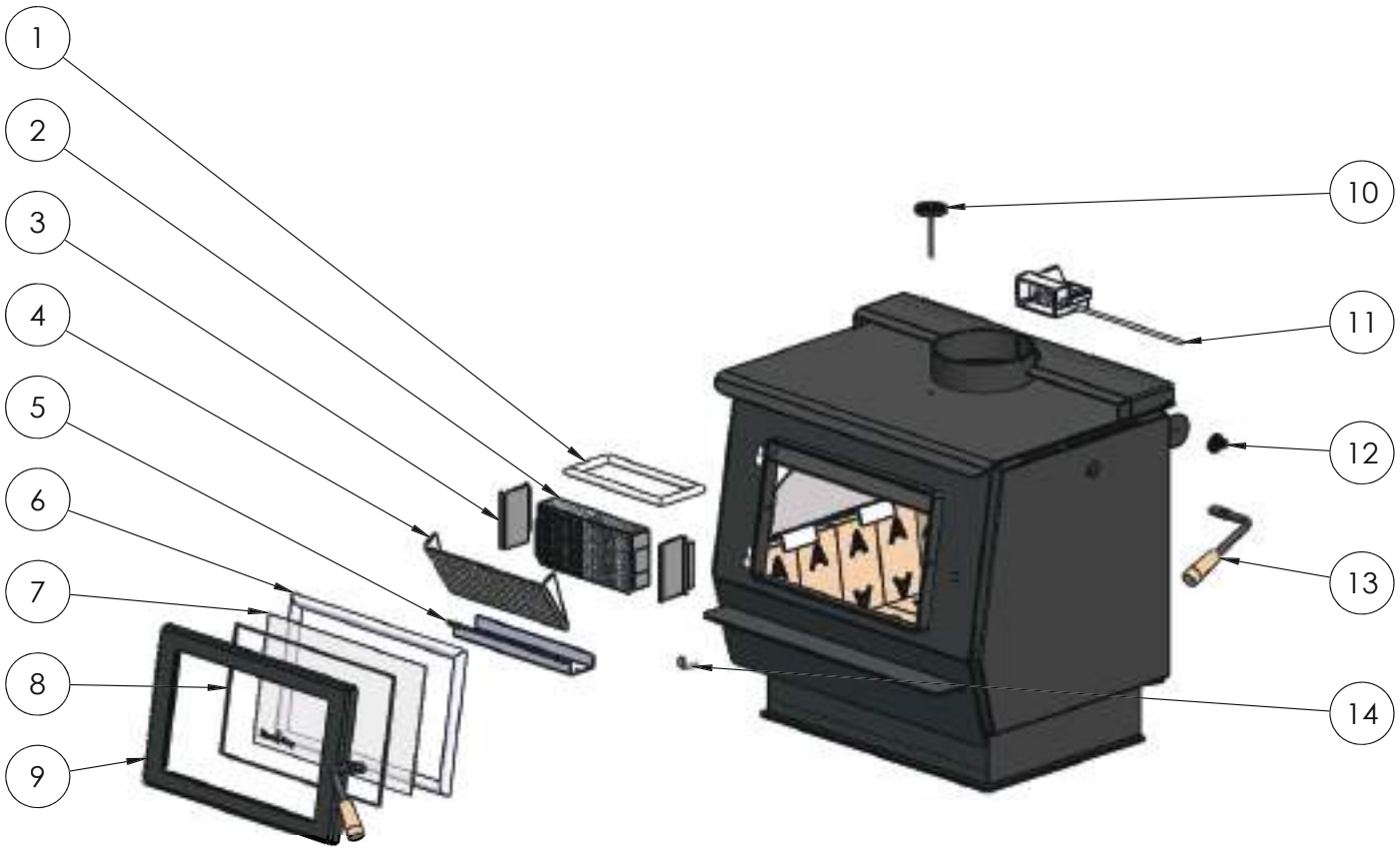
Combustor plugged or coated.	Clean combustor. See “CATALYTIC COMBUSTOR TESTING”
Combustor not functioning.	Check and test combustor. If needed replace combustor. See “CATALYTIC COMBUSTOR, REPLACING”
Thermostat not operating properly.	Consult your blaze King Dealer.
Bypass door leaking or not closing completely.	Inspect and clean area around bypass doors. Adjust or replace gasket if necessary. Consult your Blaze King Dealer.

PROBLEM: Spots of creosote accumulation in flue pipe or chimney.	
CAUSE Air leaks in flue pipe or chimney.	**SOLUTION** Inspect flue pipe and chimney. Repair or replace as necessary. Check to be sure that the flue pipe is installed correctly.
CAUTION: a leaking chimney system is a fire hazard and demands immediate attention.	
Poor draft caused by an oversize flue, single wall pipe, to many elbows, etc.	Measure draft with Manometer. See “DRAFTS”. Consult your Blaze King dealer or a chimney sweep.

PROBLEM: Door glass quickly becomes coated with creosote.	
CAUSE Low thermostat setting or lowering the thermostat setting too far, too quickly.	**SOLUTION** Turn the thermostat to the warmest setting during the first 20-30 minutes or until the fire is well established after each reloading.
Poor draft caused by an oversize or short flue, etc.	Measure draft with Manometer. See “DRAFTS”. Consult your Blaze King dealer or a chimney sweep.
Obstruction in chimney or cap screen.	Remove obstruction. Clean chimney and/or cap screen.
Strong, gusting winds causing downdraft in chimney.	Install wind-resistant chimney cap.
Tightly sealed house, inadequate air supply.	Open a window, slightly, near the stove. Install a Fresh Air Kit.
Burning poorly seasoned wet wood, or wood with high pitch content.	Use seasoned wood with low pitch content, such as some types of pine.

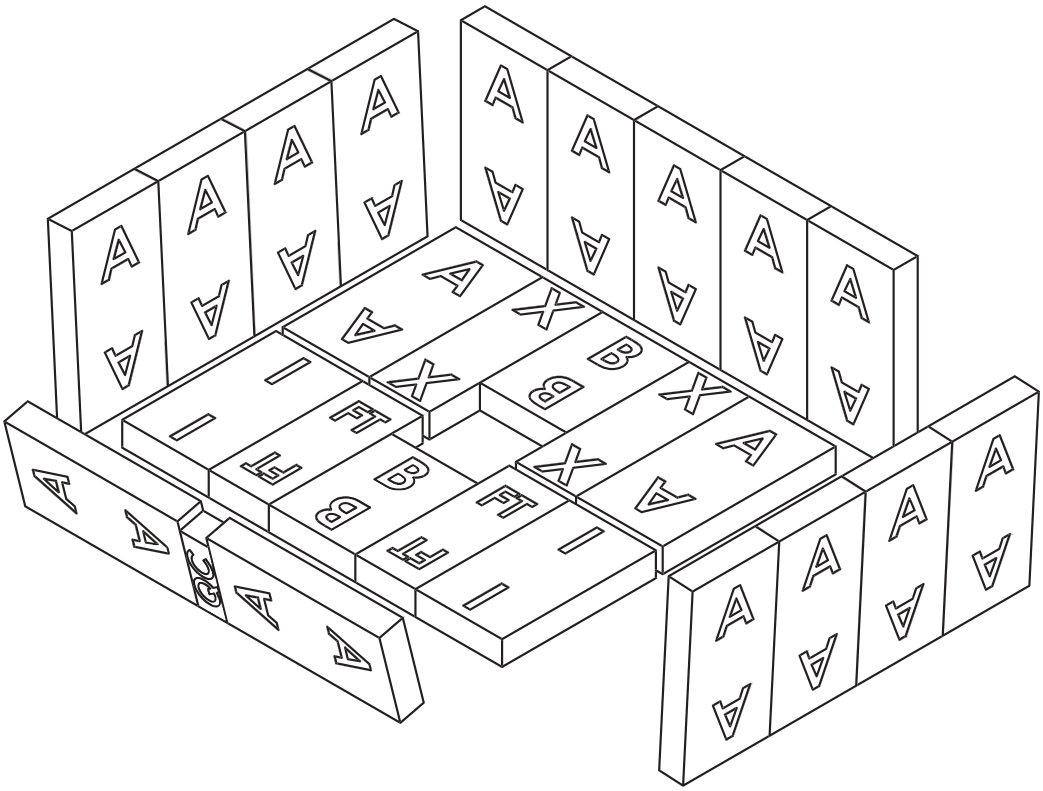
PROBLEM: The combustor temperature cannot be controlled. Turning the thermostat down often makes the combustor temperature go up.
CAUSE Turning the thermostat down, particularly in the first half of the burn cycle, causes the fire to emit more smoke, which is fuel for the combustor. The combustor temperature therefore climbs for up to several hours. This is normal, and is of no concern. As long as only the combustor temperature is elevated, there is nothing to worry about.

PROBLEM: Smoke spills from door opening when loading fuel	
CAUSE Spark arrestor screen on cap plugged.	**SOLUTION** Clean spark arrestor screen to bare metal wire.
Chimney too cold.	Make certain double wall stove pipe is used in installation.
Not enough vertical rise.	Make certain a minimum vertical rise of 36” is observed prior to elbows. Use two 45 elbows instead of 90 elbow.
Chimney not drafting.	Turn thermostat to highest setting, open bypass, leave loading door closed and wait 5-10 minutes to increase chimney or flue temperature.



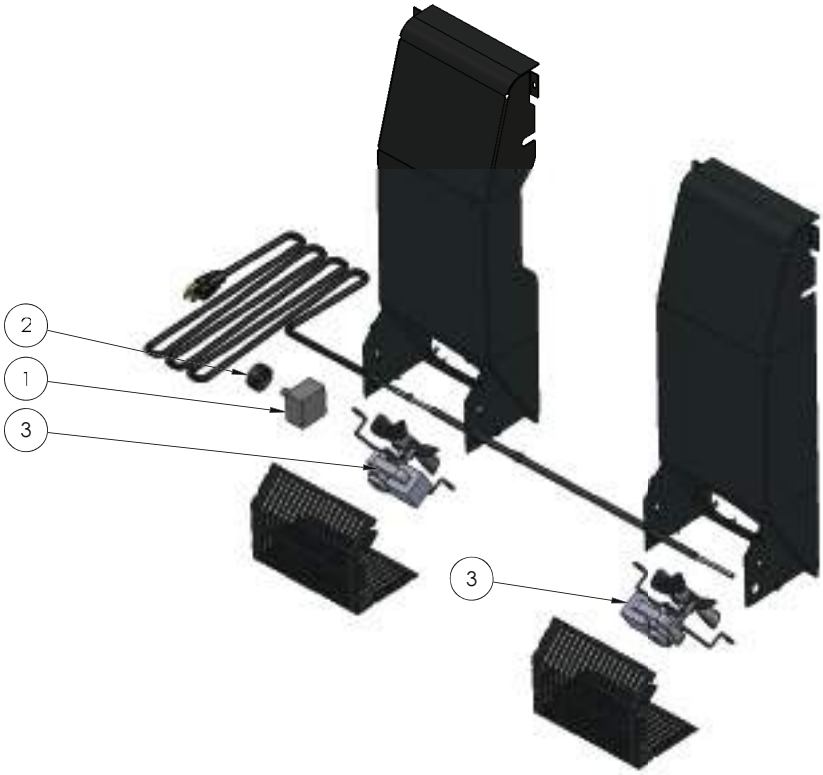
No. exploded view	Part #	Description	QTY
1	S.155.0255.B.3	BYPASS GASKET - 3 ft	1
2	115-0556	COMBUSTOR	1
3	S.Z4819	BYPASS RETAINER KIT	1
4	S.Z4438	FLAME SHIELD	1
5	S.Z4551	DOME GUARD REPLACEMENT KIT	1
6	S.155.0186.6	DOOR GASKET - 5 ft	1
7	130-0246	GLASS CERAMIC 5MM	1
8	S.155.0254.6	DOOR GLASS GASKET - 4 ft	1
9	S.Z4786	DOOR ASSEMBLY	1
10	120-0342-E	CATALYTIC THERMOMETER	1
11	S.Z3032	THERMOSTAT PE32	1
12	220-0102	THERMOSTAT KNOB	1
13	S.Z2452.M	BYPASS HANDLE	1
14	S.0693	LATCH CATCH	1

Brick Layout



Part #	QTY
A SIZE BRICK	17
B SIZE BRICK	2
FT SIZE BRICK	2
I SIZE BRICK	2
QC SIZE BRICK	1
X SIZE BRICK	2

S.Z1714 Fan Kit



No.	Part #	Description	QTY
1	145-0136	RHEOSTAT WITH OFF (O/H/LOW)	1
2	220-0137	RHEOSTAT KNOB BLACK SILVER LINE	1
3	150-0175-C	FAN AXIAL SPIDER MOUNT	1

WARRANTY

BLAZE KING WOOD LIMITED WARRANTY

Blaze King and Valley Comfort's respective brands extend the following warranty for wood fired appliances purchased from an authorized Blaze King / Valley Comfort dealer and installed in the United States of America or Canada. Warranty starts with date of purchase by the original owner (End User) except as noted for replacement parts.

Warranty Period		Components Covered	
Parts	Labor	Wood	
1 Year		X	All parts, materials and surface finishes (flaking and peeling) Subject to Conditions, Exclusion, and Limitations listed.
2 Years		X	Fan assemblies and motors, thermal sensors, catalytic thermometer, bi-metallic thermostat assembly, door handle metal components.
5 Years	2 Years	X	Firebox & Heat Exchanger, Bypass Door Steel Components
6 Years		X	Catalyst Combustor (see Conditions, Exclusions, and Limitations)
1 Year		X	Other Replacement Parts
SEE CONDITIONS, EXCLUSIONS, AND LIMITATIONS.			

Blaze King Wood Limited 5 Year Warranty

Blaze King is the manufacturer of the Blaze King line of heating products. At Blaze King, our commitment to the highest level of quality and customer service is the most important thing we do. Each Blaze King stove is built on a tradition of using only the finest materials and is backed by our limited warranty to the original purchaser. With Blaze King, you're not just buying a stove; you're buying a company with years of unequalled performance and quality.

Limited Six (6) Year Warranty:
The CATALYTIC COMBUSTOR is under warranty by Blaze King for six (6) years from the date of original retail purchase. The purchaser shall pay the following share of the then current retail price for the combustor: The first three (3) years no charge, 4th year 60%; 5th year 70%, 6th year 80%. The Combustor must be returned to your dealer along with a completed COMBUSTOR FAILURE REPORT and original proof of purchase document.

Limited (5) Year Warranty:
Under this warranty, Blaze King covers the stove body and accessories against defects in materials and workmanship, for part repair or replacement for the first five (5) years *** to the original purchaser. This Warranty covers: All Steel firebox components against defects in material and workmanship. Please see the exclusions and limitation section below as certain restrictions and exclusions apply this warranty.

Limited Two (2) Year Warranty:
Under this warranty, Blaze King covers, fan assemblies , modular thermostat and door handle steel components against defects in materials and workmanship, for part repair or replacement and limited labor for the first two (2) years to the original purchaser. Please see the exclusions and limitation section below as certain restrictions and exclusions apply to this warranty.

Limited One (1) Year Warranty:
Under this warranty, Blaze King covers all parts and materials against defects in materials and workmanship including exterior paint finishes, for part repair or replacement and limited labor for the first year to the original purchaser. Please see the exclusions and limitation section below as certain restrictions and exclusions apply to this warranty.

How the Warranty Works

1. All warranties by the manufacturer are set herein and no claim shall be made against the manufacturer on any oral warranty or representation. All claims under this Limited Warranty must be made in writing by your dealer.
2. Any stove or part thereof that is repaired or replaced during the Limited Warranty period will be warranted under the terms of the Limited Warranty for a period not exceeding the remaining term of the original Limited Warranty or six (6) months, whichever is longer.
3. For any part or parts of this stove, which in our judgment show evidence of defects, Blaze King reserves the option to repair or to replace the defective part(s) through an accredited distributor or agent, provided the defective part is returned to the distributor or agent, transportation prepaid, if requested.
4. If you discover a problem that you think may be covered by the Limited Warranty, you MUST REPORT it to your Blaze King dealer WITHIN 30 DAYS from the date the problem was first detected, giving them proof of purchase and the date of purchase. The dealer will investigate the problem and work with Blaze King to determine whether the problem:
   a) Is covered by the Limited Warranty or
   b) Can be fixed in your home or does the product need to be returned to Blaze King for repair.
5. If Blaze King determines that the stove needs to be returned to Blaze King for repair, the customer has the responsibility and the expense of removing it from their home and shipping it to Blaze King. If the problem is covered by the Warranty, Blaze King will repair or replace the item at their discretion and the customer will be responsible for return shipping and re-installation in their home.
6. If the problem is not covered by the Limited Warranty, the customer will be responsible for all repair costs, as well as all storage, shipping and the cost of removing and re-installing the stove.
   If you are not satisfied with the service provided by the Blaze King dealer, write to Blaze King at the address listed on the first page of the Owner's Manual. Include a copy of the original purchase invoice and a description of the problem.

Exclusions and Limitations:

1. This Warranty does not cover tarnish, discoloration or wear on the plated surfaces Painted finishes will change color after initial firing and will continue to change through the lifetime of the stove. This is normal occurrence for all high temperature coatings.
2. This Warranty does not cover gasket material or firebrick.
3. Blaze King strongly recommends installation by a certified installer. Failure to comply may adversely affect coverage under the terms of this warranty. This Limited Warranty covers defects in materials and workmanship only if the product has been installed in accordance with local building and fire codes; in their absence refer to the owner's manual. If the product is damaged or broken as a result of any alteration, wilful abuse, mishandling, accident, neglect, or misuse of the product, the Limited Warranty does not apply.
4. The stove must be operated and maintained at all times in accordance with the instructions in the Owner's Manual. If the unit shows signs of neglect or misuse, it is not covered under the terms of this Warranty policy. Performance problems due to operator error will not be covered by the Limited Warranty policy.
   Some minor expansion, contraction, or movement of certain parts and resulting noise, is normal and not a defect and, therefore, is not covered under this Limited Warranty.
5. Misuse includes over-firing. Over-firing can be identified later by warped plates and paint pigment being burnt off. Over-firing this appliance can cause serious damage and will nullify the Limited Warranty.
6. The Limited Warranty will cover glass thermal breakage only and will not cover misuse of the stove glass, including but not limited to:
   a) Glass that is struck, has surface contaminates or has had harsh or abrasive cleaners used on it.
   b) If the door is slammed or is closed while wood in the firebox is protruding out the stove opening thus striking the glass.
7. This warranty does not cover products made or provided by other manufacturers and used in conjunction with the operation of this stove without prior authorization from Blaze King The use of such products may nullify the Limited Warranty on this stove. If unsure as to the extent of this Limited Warranty, contact your authorized Blaze King dealer before installation.
8. Blaze King will not be responsible for inadequate performance caused by environmental conditions.
9. The Limited Warranty does not cover installation and operational related problems such as use of downdrafts or spillage caused by environmental conditions. Environmental conditions include but are not limited to nearby trees, buildings, roof tops, wind, hills, mountains, inadequate venting or ventilation, excessive offsets, negative air pressures or other influences caused by mechanical systems such as furnaces, fans, clothes dryers etc.
10. The Limited Warranty does not cover damage caused by burning salt-saturated wood, corrosive driftwood, chemically treated wood or any fuel not recommended in the Owner's Manual (use cord wood only).
11. The Limited Warranty is void if:
    a) The stove has been operated in atmospheres contaminated by chlorine, fluorine or other damaging chemicals.
    b) The stove is subject to submersion in water or prolonged periods of dampness or condensation.
    c) Any damage to the unit, combustion chamber or other components due to water, or weather damage which is the result of, but not limited to, improper chimney/venting installation.
    d) Salt air in coastal areas or high humidity can be corrosive to the finish; these environmental conditions can cause rusting. Damage caused by salt air or high humidity is not covered by the Limited Warranty.
12. Exclusions to the Limited Warranty include: injury, loss of use, damage, failure to function due to accident, negligence, misuse, improper installation, alteration or adjustment of the manufacturer's settings of components, lack of proper and regular maintenance, alteration, or act of God.
13. The Limited Warranty does not cover damage caused to the stove while in transit. If this occurs, do not operate the stove and contact your courier and/or dealer.
14. The Limited Warranty does not extend to or include paint, door or glass gaskets or firebricks damage caused by normal wear and tear, such as paint discoloration or chipping, worn or torn gaskets, chipped or cracked firebrick, etc.
15. The Limited Warranty does not include damage to the unit caused by abuse, improper installation, or modification of the unit.
16. Damage to plated surfaces caused by fingerprints, scratches, melted items, or other external scores and residues left on the plated surfaces from the use of abrasive cleaners or polishes is not covered in this warranty.

17. Blaze King is free of liability for any damages caused by the stove, as well as inconvenience expenses and materials. The Limited Warranty does not cover incidental or consequential damages.

18. The Limited Warranty does not cover any loss or damage incurred by the use or removal of any component or apparatus to or from the Blaze King stove without the express written permission of Blaze King and bearing a Blaze King label of approval.

19. Any statement or representation of Blaze King Products and their performance contained in Blaze King advertising, packaging literature, or printed material is not part of the Limited Warranty.

20. The Limited Warranty is automatically voided if the stove's serial number has been removed or altered in any way. If the stove is used for commercial purposes, it is excluded from the Limited Warranty.

21. No dealer, distributor, or similar person has the authority to represent or warrant Blaze King Products beyond the terms contained within the Limited Warranty. Blaze King assumes no liability for such warranties or representations.

22. Blaze King will not cover the cost of the removal or re-installation of the stove, hearth, facing, mantels, venting or other components.

23. Labor to replace or repair items under this Limited Warranty will be covered per our warranty service fee reimbursement and labor rates are set per component schedule. Labor rates vary from location to location and as such total labor costs may not be covered. Please consult with your dealer or service technician for any additional charges such as travel time or additional labor charges that may apply.

24. For parts of the Blaze King wood stove or fireplace insert warranted beyond the first year, the five year limited warranty will have the same obligations as described in this document, provided, however that the purchaser shall pay the following percentage of the then current retail cost of the repair or the replacement, according to the year after purchase in the which the defect is brought to the attention of Blaze King.*** During the 2nd year----purchaser pays 20%. 3rd year ----purchaser pays 40%. 4th year -----purchaser pays 60%. 5th year---- purchaser pays 80%.

25. If a defect or problem is determined by Blaze King to be non warrantable, Blaze King is not liable for travel costs for service work. In the event of in-home repair work, the customer will pay any in-home travel fees or service charges required by the Authorized Dealer.

26. At no time will Blaze King be liable for any consequential damages which exceed the purchase price of the unit. Blaze King has no obligation to enhance or modify any stove once manufactured (example: as a stove model evolves, field modifications or upgrades will not be performed).

27. This Limited Warranty is applicable only to the original purchaser and it is nontransferable.

28. This warranty only covers Blaze King Products that are purchased through an authorized Blaze King dealer.

29. If for any reason any section of the Limited Warranty is declared invalid, the balance of the warranty remains in effect and all other clauses shall remain in effect.

30. The Limited Warranty is the only warranty supplied by Blaze King, the manufacturer of the stove. All other warranties, whether express or implied, are hereby expressly disclaimed and the purchaser's recourse is expressly limited to the Limited Warranty.

31. Blaze King and its employees or representatives will not assume any liability for damages, either directly or indirectly, caused by improper usage, operation, installation, servicing or maintenance of this stove.

32. Blaze King reserves the right to make changes without notice. Please complete and mail the warranty registration card and have the installer fill in the installation data sheet in the back of the manual for warranty and future reference.

33. Blaze King is responsible for stocking parts for a maximum of seven (7) years after discontinuing the manufacture or incorporation of the item into its products. An exception to this would be if an OEM supplier is not able to supply a part.

INSTALLER NOTES

Installer - Please complete the following information:

Dealer Name & Address:_____

_____

Installer Name (print): _____

Installer Signature: _____

Installer Phone #: _____

Date Installed:_____

Appliance Serial No.: _____

Appendix C: Calibrations

Established 1974

QUALITY CONTROL SERVICES

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

A2LA ACCREDITED
CERTIFICATE #1550.01

PFS Teco
11785 SE Hwy 212 STE#305
Clackamas, OR 97015

Report Number: DIRI0182484A0912013i231228

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Digiweigh	DWP12i 300kg x 0.	82484A0912013i	#050	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
lbs	0.01	QC033	12/28/23	12/14/22	12/2024

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: 100 Tol: 0.05	Test Wt: HB44 Tol: HB44	Test Wt: 100 Tol: 0.01	☐ Good ☑ Fair ☐ Poor
As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	Temperature: 19.3°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
400	399.87	400.01	0.006
200	200.00	200.00	0.005
100	100.02	100.02	0.005
75	75.02	75.02	0.005
50	50.02	50.02	0.005
25	25.00	25.00	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	7/18/22	7/2024	20221688

Permanent Information Concerning this Equipment:

Comments/Information Concerning this Calibration

12/28/23: RH-42.5%

Report prepared/reviewed by: R.B. **Date:** 12-28-23 **Technician:** C.Call

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: DIRI01

Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	XC-60
Lab ID #:	53
Serial #:	1902130
Calibration Date:	2/1/2024
Calibration Expiration:	8/1/2024
Barometric Pressure:	29.34 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	NI	Aquatech	Dwyer
Model:	SK25DA	NI-9213	DBX2	475
Lab ID#:	47	215	202	174
Calibration Expiration Date:	4/17/2024	2/28/2024	5/23/2024	4/21/2024
Calibration γ Factor:	0.9988			

Use in accordance with EPA Method 5, sections 10.3 and 16.1. Use only calibrated, NIST traceable reference standard DGM. Caibrate over expected operating flow range of DUT.

Calibration Data	Run 1	Run 2	Run 3
Standard DGM Initial Volume (L)	0.000	0.000	0.000
Standard DGM Final Volume (L)	152.041	148.633	164.152
Standard DGM Temperature (°F)	74.0	75.0	75.0
Standard DGM Pressure (in H_2O)	0.00	0.00	0.0
DGM Initial Volume (ft^3)	0.000	0.000	0.000
DGM Final Volume (ft^3)	5.491	5.416	6.003
DGM Temperature (°F)	96.0	98.0	100.0
DGM Pressure (in H_2O)	4.55	1.83	2.90
Net Volume for Standard DGM (ft^3)	5.369	5.249	5.797
Net Volume for DGM (ft^3)	5.491	5.416	6.003

Dry Gas Meter γ Factor	1.005	1.005	1.002
γ Factor Deviation From Average	1.005	1.005	1.002

Average Gas Meter γ Factor: 1.004

Measurement Uncertainty: Total measurement uncertainty +/- 0.748% RD, K=2

Calculations:

1. Deviation = |Average value for all runs - current run value|
2. $\gamma = [V_{std} \times (\gamma_{Std}) \times (P_{bar}+P_{std}/13.6) \times (T_{DGM} + 460)] / [V_{DGM} \times (T_{std} + 460) \times (P_{bar} + P_{DGM}/ 13.6)]$

Technician:

Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	XC-60
Lab ID #:	54
Serial #:	1902133
Calibration Date:	2/1/2024
Calibration Expiration:	8/1/2024
Barometric Pressure:	29.34 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	NI	Aquatech	Dwyer
Model:	SK25DA	NI-9213	DBX2	475
Lab ID#:	47	215	202	174
Calibration Expiration Date:	4/17/2024	2/28/2024	5/23/2024	4/21/2024
Calibration γ Factor:	0.9988			

Use in accordance with EPA Method 5, sections 10.3 and 16.1. Use only calibrated, NIST traceable reference standard DGM. Caibrate over expected operating flow range of DUT.

Calibration Data	Run 1	Run 2	Run 3
Standard DGM Initial Volume (L)	0.000	0.000	0.000
Standard DGM Final Volume (L)	148.890	148.972	150.647
Standard DGM Temperature (°F)	75.0	75.0	75.0
Standard DGM Pressure (in H_2O)	0.00	0.00	0.0
DGM Initial Volume (ft^3)	0.000	0.000	0.000
DGM Final Volume (ft^3)	5.418	5.418	5.520
DGM Temperature (°F)	101.0	101.0	101.0
DGM Pressure (in H_2O)	3.96	4.95	2.02
Net Volume for Standard DGM (ft^3)	5.258	5.261	5.320
Net Volume for DGM (ft^3)	5.418	5.418	5.520

Dry Gas Meter γ Factor	1.006	1.005	1.004
γ Factor Deviation From Average	1.006	1.005	1.004

Average Gas Meter γ Factor: 1.005

Measurement Uncertainty: Total measurement uncertainty +/- 0.748% RD, K=2

Calculations:

1. Deviation = |Average value for all runs - current run value|
2. $\gamma = [V_{std} \times (\gamma_{Std}) \times (P_{bar}+P_{std}/13.6) \times (T_{DGM} + 460)] / [V_{DGM} \times (T_{std} + 460) \times (P_{bar} + P_{DGM}/ 13.6)]$

Report and Certificate of Calibration

CAL-CERT CALIBRATION CERTIFICATION

www.Cal-Cert.com

Toll Free 800-336-4662

Address 3777 SE International Way Milwaukie, OR 97222

Local 503-654-6620

A2LA ACCREDITED CERT #4986.01

Report #:	33086-203325-4525	**Customer PO#:**	1109		
Customer Name:	PFS TECO				
Customer Address:	1507 Matt Pass				
City:	Cottage Grove	**State:**	WI	**Zip:**	53527
Contact:	Ethan Frederick				
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015			

Calibration Standards

10-01442 | Compound Gauge | Fluke | SN: 4582643 | Cal: 01/26/2024 | Due: 01/31/2025 | Vendor: Fluke | Report #: EVL943251
LP-01782 | Thermo-Hygrometer | Comark | SN: 06247790052 | Cal: 01/24/2024 | Due: 01/31/2025 | Range: 122 °F 95 %RH | Report #: 32568-205513-3646

Instrument Data

Calibration Date:	February 26, 2024	**Reference:**	ASME B40.100
Recommended Due Date:	February 26, 2025	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Newport Industries	**Temperature:**	64 °F
Type:	Pressure Transducer	**Humidity:**	36% RH
Model Number:	Unknown	**Cal Factor:**	None
Serial #:	Unknown	**Asset #:**	54B
Capacity:	1 PSI	**Service Location:**	Service Address
Tolerance:	± 1.00% of Span	**As Found:**	Pass
Gauge Class:	A	**As Left:**	Pass

Instrument Range: 1.00 **Range Resolution:** 0.01 **Mode Verified:** Pressure

UUT Reading PSI	Standard As Found PSI	Standard Verification Reading #1 PSI	Error PSI	Standard Verification Reading #2 PSI	Error PSI	Tolerance PSI	Expanded Uncertainty ± PSI
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.005
0.10	0.10	0.10	0.00	0.10	0.00	0.01	0.005
0.25	0.25	0.25	0.00	0.25	0.00	0.01	0.006
0.50	0.50	0.50	0.00	0.50	0.00	0.01	0.014
0.75	0.75	0.75	0.00	0.74	-0.01	0.01	0.018
1.00	1.00	1.00	0.00	0.99	-0.01	0.01	0.013
0.75	0.76	0.76	0.01	0.76	0.01	0.01	0.005
0.50	0.50	0.50	0.00	0.51	0.01	0.01	0.015
0.25	0.25	0.25	0.00	0.26	0.01	0.01	0.017
0.10	0.11	0.11	0.01	0.11	0.01	0.01	0.008
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.005

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Manufacturer: Newport Industries **Type:** Pressure Transducer **Serial #:** Unknown

Remarks:

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
Cleaning and preventative maintenance were performed as part of this service.

Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
A2LA is recognized under the ILAC mutual recognition agreement (MRA).

This certificate is hereby issued that the above instrument was tested for accuracy with calibrated standards traceable to the National Institute of Standards and Technology (NIST). The information provided on this form complies with the data gathering and reporting requirements of ISO/IEC 17025 and ANSI/NCSL Z540.1, and meets the requirements of all applicable references and Cal-Cert procedures listed above.
Any stated measurement uncertainty includes the uncertainty of the Calibration standards used, combined with the uncertainty of the measurement process using the RSS method with a k=2 for an approximate 95% level of confidence. The calibration process meets or exceeds a ratio of 4:1 unless otherwise stated.
All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

This report shall not be reproduced except in full, without written approval from Cal-Cert.

Service Engineer: Steven White **Date:** February 26, 2024

Technical Manager: Marshall Doyle **Signature:**

Report #: 33086-203325-4525

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Report and Certificate of Calibration

CAL-CERT CALIBRATION CERTIFICATION

www.Cal-Cert.com

Toll Free 800-336-4662

Address 3777 SE International Way Milwaukie, OR 97222

Local 503-654-6620

A2LA ACCREDITED CERT #4986.01

Report #:	33086-203326-4525	**Customer PO#:** 1109	
Customer Name:	PFS TECO		
Customer Address:	1507 Matt Pass		
City:	Cottage Grove	**State:** WI	**Zip:** 53527
Contact:	Ethan Frederick		
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015	

Calibration Standards

10-01442 | Compound Gauge | Fluke | SN: 4582643 | Cal: 01/26/2024 | Due: 01/31/2025 | Vendor: Fluke | Report #: EVL943251
LP-01782 | Thermo-Hygrometer | Comark | SN: 06247790052 | Cal: 01/24/2024 | Due: 01/31/2025 | Range: 122 °F 95 %RH | Report #: 32568-205513-3646

Instrument Data

Calibration Date:	February 26, 2024	**Reference:**	ASME B40.100
Recommended Due Date:	February 26, 2025	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Newport Industries	**Temperature:**	64 °F
Type:	Pressure Transducer	**Humidity:**	36% RH
Model Number:	Unknown	**Cal Factor:**	None
Serial #:	Unknown	**Asset #:**	54C
Capacity:	5 In H2O	**Service Location:**	Service Address
Tolerance:	± 1.00% of Span	**As Found:**	Pass
Gauge Class:	A	**As Left:**	Pass

Instrument Range: 5.00 **Range Resolution:** 0.01 **Mode Verified:** Pressure

UUT Reading In H2O	Standard As Found In H2O	Standard Verification Reading #1 In H2O	Error In H2O	Standard Verification Reading #2 In H2O	Error In H2O	Tolerance In H2O	Expanded Uncertainty ± In H2O
0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.005
0.50	0.50	0.50	0.00	0.48	-0.02	0.05	0.045
1.25	1.25	1.25	0.00	1.23	-0.02	0.05	0.036
2.50	2.49	2.49	-0.01	2.49	-0.01	0.05	0.006
3.75	3.74	3.74	-0.01	3.74	-0.01	0.05	0.007
5.00	4.98	4.98	-0.02	4.99	-0.01	0.05	0.026
3.75	3.74	3.74	-0.01	3.74	-0.01	0.05	0.023
2.50	2.50	2.50	0.00	2.49	-0.01	0.05	0.014
1.25	1.26	1.26	0.01	1.24	-0.01	0.05	0.042
0.50	0.51	0.51	0.01	0.50	0.00	0.05	0.04
0.00	0.00	0.00	0.00	0.01	0.01	0.05	0.005

Copyright 2013 Cal-Cert. All rights reserved.

Manufacturer: Newport Industries **Type:** Pressure Transducer **Serial #:** Unknown

Remarks:

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
Cleaning and preventative maintenance were performed as part of this service.

Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
A2LA is recognized under the ILAC mutual recognition agreement (MRA).

This certificate is hereby issued that the above instrument was tested for accuracy with calibrated standards traceable to the National Institute of Standards and Technology (NIST). The information provided on this form complies with the data gathering and reporting requirements of ISO/IEC 17025 and ANSI/NCSL Z540.1, and meets the requirements of all applicable references and Cal-Cert procedures listed above.
Any stated measurement uncertainty includes the uncertainty of the Calibration standards used, combined with the uncertainty of the measurement process using the RSS method with a k=2 for an approximate 95% level of confidence. The calibration process meets or exceeds a ratio of 4:1 unless otherwise stated.
All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

This report shall not be reproduced except in full, without written approval from Cal-Cert.

Service Engineer: Steven White **Date:** February 26, 2024

Technical Manager: Marshall Doyle **Signature:**

Report #: 33086-203326-4525

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Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	XC-60
Lab ID #:	55
Serial #:	1902130
Calibration Date:	2/5/2024
Calibration Expiration:	8/5/2024
Barometric Pressure:	29.39 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	NI	Aquatech	Dwyer
Model:	SK25DA	NI-9213	DBX2	475
Lab ID#:	47	215	202	174
Calibration Expiration Date:	4/17/2024	2/28/2024	5/23/2024	4/21/2024
Calibration γ Factor:	0.9988			

Use in accordance with EPA Method 5, sections 10.3 and 16.1. Use only calibrated, NIST traceable reference standard DGM. Caibrate over expected operating flow range of DUT.

Calibration Data	Run 1	Run 2	Run 3
Standard DGM Initial Volume (L)	0.000	0.000	0.000
Standard DGM Final Volume (L)	202.311	156.489	164.235
Standard DGM Temperature (°F)	72.0	72.0	74.0
Standard DGM Pressure (in H_2O)	0.00	0.00	0.0
DGM Initial Volume (ft^3)	0.000	0.000	0.000
DGM Final Volume (ft^3)	7.085	5.526	5.749
DGM Temperature (°F)	77.0	77.0	78.0
DGM Pressure (in H_2O)	0.00	0.00	0.0
Net Volume for Standard DGM (ft^3)	7.145	5.526	5.800
Net Volume for DGM (ft^3)	7.085	5.526	5.749

Dry Gas Meter γ Factor	1.017	1.008	1.015
γ Factor Deviation From Average	1.017	1.008	1.015

Average Gas Meter γ Factor: 1.013

Measurement Uncertainty: Total measurement uncertainty +/- 0.748% RD, K=2

Calculations:

1. Deviation = |Average value for all runs - current run value|
2. $\gamma = [V_{std} \times (\gamma_{Std}) \times (P_{bar}+P_{std}/13.6) \times (T_{DGM} + 460)] / [V_{DGM} \times (T_{std} + 460) \times (P_{bar} + P_{DGM}/ 13.6)]$

Technician:

Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	XC-50-DIR
Lab ID #:	203
Serial #:	A2204292
Calibration Date:	2/2/2024
Calibration Expiration:	8/2/2024
Barometric Pressure:	29.55 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	NI	Aquatech	Dwyer
Model:	SK25DA	NI-9213	DBX2	475
Lab ID#:	47	215	202	174
Calibration Expiration Date:	4/17/2024	2/28/2024	5/23/2024	4/21/2024
Calibration γ Factor:	0.9988			

Use in accordance with EPA Method 5, sections 10.3 and 16.1. Use only calibrated, NIST traceable reference standard DGM. Caibrate over expected operating flow range of DUT.

Calibration Data	Run 1	Run 2	Run 3
Standard DGM Initial Volume (L)	0.000	0.000	0.000
Standard DGM Final Volume (L)	137.050	146.311	151.880
Standard DGM Temperature (°F)	67.0	66.0	67.0
Standard DGM Pressure (in H_2O)	0.0	0.00	0.0
DGM Initial Volume (ft^3)	0.000	0.000	0.000
DGM Final Volume (ft^3)	5.006	5.317	5.489
DGM Temperature (°F)	88.0	86.0	88.0
DGM Pressure (in H_2O)	1.06	1.52	2.81
Net Volume for Standard DGM (ft^3)	4.840	5.167	5.364
Net Volume for DGM (ft^3)	5.006	5.317	5.489

Dry Gas Meter γ Factor	1.001	1.004	1.008
γ Factor Deviation From Average	1.001	1.004	1.008

Average Gas Meter γ Factor: 1.004

Measurement Uncertainty: Total measurement uncertainty +/- 0.748% RD, K=2

Calculations:

1. Deviation = |Average value for all runs - current run value|
2. $\gamma = [V_{std} \times (\gamma_{Std}) \times (P_{bar}+P_{std}/13.6) \times (T_{DGM} + 460)] / [V_{DGM} \times (T_{std} + 460) \times (P_{bar} + P_{DGM}/ 13.6)]$

Technician:

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Local 503-654-6620

A2LA ACCREDITED CERT #4986.01

Report #:	33086-203319-4525	**Customer PO#:**	1109		
Customer Name:	PFS TECO				
Customer Address:	1507 Matt Pass				
City:	Cottage Grove	**State:**	WI	**Zip:**	53527
Contact:	Ethan Frederick				
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015			

Calibration Standards

10-01442 | Compound Gauge | Fluke | SN: 4582643 | Cal: 01/26/2024 | Due: 01/31/2025 | Vendor: Fluke | Report #: EVL943251
LP-01782 | Thermo-Hygrometer | Comark | SN: 06247790052 | Cal: 01/24/2024 | Due: 01/31/2025 | Range: 122 °F 95 %RH | Report #: 32568-205513-3646

Instrument Data

Calibration Date:	February 26, 2024	**Reference:**	ASME B40.100
Recommended Due Date:	February 26, 2025	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Red Lion	**Temperature:**	65 °F
Type:	Pressure Transducer	**Humidity:**	36% RH
Model Number:	Unknown	**Cal Factor:**	None
Serial #:	Unknown	**Asset #:**	203B
Capacity:	1 In H2O	**Service Location:**	Service Address
Tolerance:	± 1.00% of Span	**As Found:**	Pass
Gauge Class:	A	**As Left:**	Pass

Instrument Range: 1.00 **Range Resolution:** 0.001 **Mode Verified:** Pressure

UUT Reading In H2O	Standard As Found In H2O	Standard Verification Reading #1 In H2O	Error In H2O	Standard Verification Reading #2 In H2O	Error In H2O	Tolerance In H2O	Expanded Uncertainty ± In H2O
0.000	0.000	0.000	0.00	0.000	0.00	0.01	0.0005
0.100	0.098	0.098	0.00	0.099	0.00	0.01	0.0036
0.250	0.252	0.252	0.00	0.250	0.00	0.01	0.0055
0.500	0.502	0.502	0.00	0.499	0.00	0.01	0.0065
0.750	0.751	0.751	0.00	0.748	0.00	0.01	0.0086
1.000	1.001	1.001	0.00	0.998	0.00	0.01	0.0068
0.750	0.752	0.752	0.00	0.749	0.00	0.01	0.0073
0.500	0.501	0.501	0.00	0.499	0.00	0.01	0.0065
0.250	0.251	0.251	0.00	0.250	0.00	0.01	0.0024
0.100	0.103	0.103	0.00	0.101	0.00	0.01	0.0057
0.000	0.001	0.001	0.00	0.000	0.00	0.01	0.0005

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Manufacturer: Red Lion **Type:** Pressure Transducer **Serial #:** Unknown

Remarks:

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Cleaning and preventative maintenance were performed as part of this service.

Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
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Any stated measurement uncertainty includes the uncertainty of the Calibration standards used, combined with the uncertainty of the measurement process using the RSS method with a k=2 for an approximate 95% level of confidence. The calibration process meets or exceeds a ratio of 4:1 unless otherwise stated.
All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

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Service Engineer: Steven White **Date:** February 26, 2024

Technical Manager: Marshall Doyle **Signature:**

Report #: 33086-203319-4525

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Local 503-654-6620

A2LA ACCREDITED CERT #4986.01

Report #:	33086-203320-4525	**Customer PO#:** 1109	
Customer Name:	PFS TECO		
Customer Address:	1507 Matt Pass		
City:	Cottage Grove	**State:** WI	**Zip:** 53527
Contact:	Ethan Frederick		
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015	

Calibration Standards

10-01442 | Compound Gauge | Fluke | SN: 4582643 | Cal: 01/26/2024 | Due: 01/31/2025 | Vendor: Fluke | Report #: EVL943251
LP-01782 | Thermo-Hygrometer | Comark | SN: 06247790052 | Cal: 01/24/2024 | Due: 01/31/2025 | Range: 122 °F 95 %RH | Report #: 32568-205513-3646

Instrument Data

Calibration Date:	February 26, 2024	**Reference:**	ASME B40.100
Recommended Due Date:	February 26, 2025	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Red Lion	**Temperature:**	66 °F
Type:	Pressure Transducer	**Humidity:**	38% RH
Model Number:	Unknown	**Cal Factor:**	None
Serial #:	Unknown	**Asset #:**	203C
Capacity:	5 In H2O	**Service Location:**	Service Address
Tolerance:	± 1.00% of Span	**As Found:**	Pass
Gauge Class:	A	**As Left:**	Pass

Instrument Range: 5.00 **Range Resolution:** 0.01 **Mode Verified:** Pressure

UUT Reading In H2O	Standard As Found In H2O	Standard Verification Reading #1 In H2O	Error In H2O	Standard Verification Reading #2 In H2O	Error In H2O	Tolerance In H2O	Expanded Uncertainty ± In H2O
0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.005
0.50	0.50	0.50	0.00	0.49	-0.01	0.05	0.038
1.25	1.25	1.25	0.00	1.22	-0.03	0.05	0.067
2.50	2.48	2.48	-0.02	2.47	-0.03	0.05	0.021
3.75	3.72	3.72	-0.03	3.71	-0.04	0.05	0.043
5.00	5.00	5.00	0.00	4.99	-0.01	0.05	0.045
3.75	3.72	3.72	-0.03	3.71	-0.04	0.05	0.034
2.50	2.49	2.49	-0.01	2.47	-0.03	0.05	0.05
1.25	1.23	1.23	-0.02	1.23	-0.02	0.05	0.008
0.50	0.50	0.50	0.00	0.49	-0.01	0.05	0.018
0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.005

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Manufacturer: Red Lion **Type:** Pressure Transducer **Serial #:** Unknown

Remarks:

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All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

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Service Engineer: Steven White **Date:** February 26, 2024

Technical Manager: Marshall Doyle **Signature:**

Report #: 33086-203320-4525

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503-654-9620

Anaheim Laboratory
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Anaheim Hills, CA 92808
888-700-4100
714-686-5300

www.Cal-Cert.com

Report #:	30452-28785-3646	**Customer PO#:** 1100	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212, Suite 305		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	John Steinert		
Service Address:	5777 SE International Way Milwaukie, OR 97222		

Calibration Standards

LP-00051 | Electrical Meter | Fluke | SN: 9663004 | Cal: 01/10/2023 | Due: 01/10/2024 | Vendor: Fluke | Report #: EVL861119
LP-01333 | Electrical Meter | IET Labs, Inc. | SN: E3-1842499 | Cal: 01/19/2023 | Due: 01/31/2024 | Vendor: Transcat Calibration Lab | Report #: 5-G584Z-20-1
LP-01347 | Thermo-Hygrometer | Comark | SN: 06210350163 | Cal: 04/18/2023 | Due: 04/30/2024 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 28945-67214-3646

Instrument Data

Calibration Date:	August 9, 2023	**Reference:**	Manufactures Tolerances
Recommended Due Date:	August 9, 2024	**Cal-Cert Procedure:**	CP-080
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Delmhorst	**Temperature:**	74 °F
Type:	Resistivity Meter	**Humidity:**	36% RH
Model Number:	MCS-1	**Asset #:**	#094
Serial #:	#094	**Service Location:**	Cal-Cert Lab
Capacity:	120 Megaohms	**As Found:**	Pass
Tolerance:	3.00 % of indication	**As Left:**	Pass

Instrument Range: 120 Megaohms **Resolution:** 0.001 **Mode Verified:** Resistance

Standard Reading	UUT As Found	UUT Reading #1	Error	UUT Reading #2	Error
0.000	0.000	0.000	0.000	0.000	0.000
1.100	1.095	1.095	-0.005	1.095	-0.005
54.545	54.719	54.719	0.173	54.719	0.173
0.000	0.000	0.000	0.000	0.000	0.000

Expanded Uncertainty± **2.50 Megaohms**

Remarks:

100Mohm std Parallel with 120Mohm UUT= 54.545Mohms

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Service Engineer:	Brent Enbysk	**Date:**	August 9, 2023
Technical Manager:	Marshall Doyle	**Signature:**	

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ACCREDITED A2LA CERT #4986.01

Report #:	33086-206391-4525	**Customer PO#:** 1109	
Customer Name:	PFS TECO		
Customer Address:	1507 Matt Pass		
City:	Cottage Grove	**State:** WI	**Zip:** 53527
Contact:	Ethan Frederick		
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015	

Calibration Standards

13-01811 | Thermocouple Meter/Calibrator | Tegam | SN: 2454186 | Cal: 10/04/2023 | Due: 02/28/2024 | Range: 2400 °F | Report #: 31363-217443-3646
LP-01782 | Thermo-Hygrometer | Comark | SN: 06247790052 | Cal: 01/24/2024 | Due: 01/31/2025 | Range: 122 °F 95 %RH | Report #: 32568-205513-3646

Instrument Data

Calibration Date:	February 26, 2024	**Reference:**	Navair 17-20ST-95
Recommended Due Date:	February 26, 2025	**Cal-Cert Procedure:**	CP-013
Calibration Frequency:	12 Months	**Indicating System:**	Computer
Manufacturer:	National Instruments	**Temperature:**	64 °F
Type:	Data Logger	**Humidity:**	39% RH
Model Number:	NI 9213	**Asset #:**	215 Booth 1
Serial #:	1B182FB	**Service Location:**	Service Address
Resolution:	0.1 °F	**As Found:**	Pass
Capacity:	2,500 °F	**As Left:**	Pass
Tolerance:	± 3.0 °F		
Thermocouple Type:	K		

Thermocouple METER FUNCTION

Channel	Calibration Standard	UUT As Found	UUT As Left Reading 1	UUT As Left Reading 2	As Left Error	Expanded Uncertainty±
Tunnel	0.00	1.10	1.10	1.10	1.10	
	500.00	501.10	501.10	501.10	1.10	
	1000.00	1001.10	1001.10	1001.10	1.10	
	1500.00	1501.20	1501.20	1501.20	1.20	0.346
	2000.00	2001.30	2001.30	2001.30	1.30	
	2400.00	2401.40	2401.40	2401.40	1.40	
	0.00	1.20	1.20	1.20	1.20	

Thermocouple LOGGING FUNCTION

Channel	Calibration Standard	UUT As Found	UUT As Left Reading 1	UUT As Left Reading 2	As Left Error	Expanded Uncertainty±
Flue	0.00	0.80	0.80	0.80	0.80	
	500.00	500.80	500.80	500.80	0.80	
	1000.00	1000.80	1000.80	1000.80	0.80	
	1500.00	1500.90	1500.90	1500.90	0.90	0.346
	2000.00	2001.00	2001.00	2001.00	1.00	
	2400.00	2401.10	2401.10	2401.10	1.10	
	0.00	0.80	0.80	0.80	0.80	

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	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Filter A	0.00	0.60	0.60	0.60	0.60	
	500.00	500.60	500.60	500.60	0.60	
	1000.00	1000.70	1000.70	1000.70	0.70	
	1500.00	1500.70	1500.70	1500.70	0.70	0.346
	2000.00	2000.80	2000.80	2000.80	0.80	
	2400.00	2400.00	2400.00	2400.00	0.00	
	0.00	0.60	0.60	0.60	0.60	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Back	0.00	0.40	0.40	0.40	0.40	
	500.00	500.40	500.40	500.40	0.40	
	1000.00	1000.50	1000.50	1000.50	0.50	
	1500.00	1500.50	1500.50	1500.50	0.50	0.346
	2000.00	2000.60	2000.60	2000.60	0.60	
	2400.00	2400.70	2400.70	2400.70	0.70	
	0.00	0.50	0.50	0.50	0.50	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Catalyst	0.00	0.30	0.30	0.30	0.30	
	500.00	500.20	500.20	500.20	0.20	
	1000.00	1000.30	1000.30	1000.30	0.30	
	1500.00	1500.40	1500.40	1500.40	0.40	0.346
	2000.00	2000.40	2000.40	2000.40	0.40	
	2400.00	2400.40	2400.40	2400.40	0.40	
	0.00	0.20	0.20	0.20	0.20	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Meter A	0.00	0.10	0.10	0.10	0.10	
	500.00	500.10	500.10	500.10	0.10	
	1000.00	1000.20	1000.20	1000.20	0.20	
	1500.00	1500.20	1500.20	1500.20	0.20	0.346
	2000.00	2000.30	2000.30	2000.30	0.30	
	2400.00	2400.30	2400.30	2400.30	0.30	
	0.00	0.10	0.10	0.10	0.10	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Left	0.00	0.10	0.10	0.10	0.10	
	500.00	500.10	500.10	500.10	0.10	
	1000.00	1000.20	1000.20	1000.20	0.20	
	1500.00	1500.20	1500.20	1500.20	0.20	0.346
	2000.00	2000.20	2000.20	2000.20	0.20	
	2400.00	2400.20	2400.20	2400.20	0.20	
	0.00	0.10	0.10	0.10	0.10	

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Manufacturer: National Instruments **Type:** Data Logger **Serial #:** 1B182FB

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Right	0.00	0.00	0.00	0.00	0.00	
	500.00	500.00	500.00	500.00	0.00	
	1000.00	1000.10	1000.10	1000.10	0.10	
	1500.00	1500.10	1500.10	1500.10	0.10	0.346
	2000.00	2000.20	2000.20	2000.20	0.20	
	2400.00	2400.20	2400.20	2400.20	0.20	
	0.00	0.00	0.00	0.00	0.00	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Filter B	0.00	0.00	0.00	0.00	0.00	
	500.00	501.30	501.30	501.30	1.30	
	1000.00	1001.00	1001.00	1001.00	1.00	
	1500.00	1500.70	1500.70	1500.70	0.70	0.346
	2000.00	2000.40	2000.40	2000.40	0.40	
	2400.00	2400.00	2400.00	2400.00	0.00	
	0.00	0.00	0.00	0.00	0.00	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Top	0.00	-0.10	-0.10	-0.10	0.10	
	500.00	499.90	499.90	499.90	-0.10	
	1000.00	1000.10	1000.10	1000.10	0.10	
	1500.00	1500.10	1500.10	1500.10	0.10	0.346
	2000.00	2000.10	2000.10	2000.10	0.10	
	2400.00	2400.10	2400.10	2400.10	0.10	
	0.00	-0.10	-0.10	-0.10	0.10	

Remarks:

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
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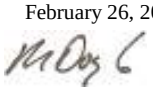
Service Engineer: Steven White **Date:** February 26, 2024

Technical Manager: Marshall Doyle **Signature:** 

Report #: 33086-206391-4525

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CERT #4986.01

Report #:	33086-206391-4525-B	**Customer PO#:**	1109		
Customer Name:	PFS TECO				
Customer Address:	1507 Matt Pass				
City:	Cottage Grove	**State:**	WI	**Zip:**	53527
Contact:	Ethan Frederick				
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015			

Calibration Standards

13-01811 | Thermocouple Meter/Calibrator | Tegam | SN: 2454186 | Cal: 10/04/2023 | Due: 02/28/2024 | Range: 2400 °F | Report #: 31363-217443-3646
LP-01782 | Thermo-Hygrometer | Comark | SN: 06247790052 | Cal: 01/24/2024 | Due: 01/31/2025 | Range: 122 °F 95 %RH | Report #: 32568-205513-3646

Instrument Data

Calibration Date:	February 26, 2024	**Reference:**	Navair 17-20ST-95
Recommended Due Date:	February 26, 2025	**Cal-Cert Procedure:**	CP-013
Calibration Frequency:	12 Months	**Indicating System:**	Computer
Manufacturer:	National Instruments	**Temperature:**	66 °F
Type:	Data Logger	**Humidity:**	34% RH
Model Number:	NI 9213	**Asset #:**	215 Booth 1
Serial #:	1B182FB	**Service Location:**	Service Address
Resolution:	0.1 °F	**As Found:**	Pass
Capacity:	2,500 °F	**As Left:**	Pass
Tolerance:	± 3.0 °F		
Thermocouple Type:	K		

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Bottom	0.00	-0.10	-0.10	-0.10	0.10	
	500.00	499.90	499.90	499.90	-0.10	
	1000.00	1000.00	1000.00	1000.00	0.00	
	1500.00	1500.10	1500.10	1500.10	0.10	0.346
	2000.00	2000.10	2000.10	2000.10	0.10	
	2400.00	2400.00	2400.00	2400.00	0.00	
	0.00	-0.10	-0.10	-0.10	0.10	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Meter B	0.00	-0.10	-0.10	-0.10	0.10	
	500.00	499.90	499.90	499.90	-0.10	
	1000.00	1000.10	1000.10	1000.10	0.10	
	1500.00	1500.10	1500.10	1500.10	0.10	0.346
	2000.00	2000.20	2000.20	2000.20	0.20	
	2400.00	2400.20	2400.20	2400.20	0.20	
	0.00	0.00	0.00	0.00	0.00	

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Manufacturer: National Instruments **Type:** Data Logger **Serial #:** 1B182FB

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Meter C	0.00	-0.20	-0.20	-0.20	0.20	0.346
	500.00	499.90	499.90	499.90	-0.10	
	1000.00	1000.00	1000.00	1000.00	0.00	
	1500.00	1500.00	1500.00	1500.00	0.00	
	2000.00	2000.10	2000.10	2000.10	0.10	
	2400.00	2400.10	2400.10	2400.10	0.10	
	0.00	-0.10	-0.10	-0.10	0.10	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Filter C	0.00	-0.20	-0.20	-0.20	0.20	0.346
	500.00	499.90	499.90	499.90	-0.10	
	1000.00	1000.00	1000.00	1000.00	0.00	
	1500.00	1500.10	1500.10	1500.10	0.10	
	2000.00	2000.10	2000.10	2000.10	0.10	
	2400.00	2400.10	2400.10	2400.10	0.10	
	0.00	-0.10	-0.10	-0.10	0.10	

	Thermocouple LOGGING FUNCTION					
Channel	**Calibration Standard**	**UUT As Found**	**UUT As Left Reading 1**	**UUT As Left Reading 2**	**As Left Error**	**Expanded Uncertainty±**
Ambient	0.00	0.00	0.00	0.00	0.00	0.346
	20.00	18.70	18.70	18.70	-1.30	
	40.00	38.70	38.70	38.70	-1.30	
	60.00	58.90	58.90	58.90	-1.10	
	80.00	78.80	78.80	78.80	-1.20	
	100.00	98.80	98.80	98.80	-1.20	
	0.00	0.00	0.00	0.00	0.00	

Remarks:

15 Channels Tested, Ambient is Type T tested from 0-100°F per customer request.

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
Cleaning and preventative maintenance were performed as part of this service.

Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
A2LA is recognized under the ILAC mutual recognition agreement (MRA).

This certificate is hereby issued that the above instrument was tested for accuracy with calibrated standards traceable to the National Institute of Standards and Technology (NIST). The information provided on this form complies with the data gathering and reporting requirements of ISO/IEC 17025 and ANSI/NCSL Z540.1, and meets the requirements of all applicable references and Cal-Cert procedures listed above.

Any stated measurement uncertainty includes the uncertainty of the Calibration standards used, combined with the uncertainty of the measurement process using the RSS method with a k=2 for an approximate 95% level of confidence. The calibration process meets or exceeds a ratio of 4:1 unless otherwise stated.

All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

This report shall not be reproduced except in full, without written approval from Cal-Cert.

Service Engineer: Steven White **Date:** February 26, 2024

Technical Manager: Marshall Doyle **Signature:**

Report #: 33086-206391-4525-B

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DICK MUNNS COMPANY
LIQUID & GAS FLOW CALIBRATION

ISO 17025:2017
ACCREDITED LABORATORY
Cert# CL-122

IAS ACCREDITED
Calibration Laboratory

CERTIFICATE OF CALIBRATION

CUSTOMER:	**PFS-TECO :** CLACKAMAS, OR	**CALIBRATION DATE:**	05/23/2023
PO NUMBER:	1097	**CALIBRATION DUE:**	05/23/2024
INST. MANUFACTURER:	DWYER	**PROCEDURE:**	T.O.33K6-4-1769-1
INST. DESCRIPTION:	VELOMETER	**CALIBRATION FLUID:**	AIR @ 14.7 PSIA 70°F
MODEL NUMBER:	471	**RECEIVED CONDITION:**	WITHIN MFG. SPECS.
SERIAL NUMBER:	CP288559 ID# 095	**LEFT CONDITION:**	WITHIN MFG. SPECS.
RATED ACCURACY:	SEE NOTES BELOW.	**AMBIENT CONDITIONS:**	763mm HGA 53% RH 71°F
UNCERTAINTY GIVEN:	± 0.43% RD ; k=2	**CERTIFICATE FILE #:**	490265.2023

NOTES: ± 3.0% FS (0-500 / 0-1500) ** ± 4.0% F.S. (0-5000) **± 5.0% F.S. (0-15000) ** ± 2 °F

Q.MANUAL IM 2.0 REV 2020.2 DATED 7-27-2020

DECISION RULE: SIMPLE ACCEPTANCE. MEASUREMENT UNCERTAINTIES NOT TAKEN INTO CONSIDERATION WHEN DETERMINING PASS/FAIL

UUT INDICATED FT/MIN	DM.STD. ACTUAL FT/MIN	UUT INDICATED DEG. F	DM STD. ACTUAL DEG. F
74	77	0 TO 200°F	0 TO 200°F
118	121	45.0	44.5
253	259	73.9	73.2
491	502	100.3	99.8
515	525		
1028	1049		
1492	1526		
502	514		
3145	3224		
4993	5135		
6892	7061		
14821	15229		

STANDARDS USED:		
A310: TEMP. STANDARD | ± 0.024 F | TRACE# 1649766843	DUE	02/09/2024
A800: FLOW-DYNE SONIC NOZZLE SYSTEM | 0 – 1086 CFM ± 0.46% RD. | TRACE# 144613547, 1424683640, 1583314714	DUE	12/10/2023

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: 5-23-2023

Approved By:

Cal. Technician: DC

Calibrated at: ✓ Lab
___ On-Site (Customer's)

Report and Certificate of Calibration

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Address
5777 SE International Way
Milwaukie, OR 97222

Local
503-[illegible]

ACCREDITED
CERT #4986.01

Report #:	31538-218157-14	**Customer PO#:**		
Customer Name:	PFS TECO			
Customer Address:	11785 SE Highway 212, Suite 305			
City:	Clackamas	**State:** OR	**Zip:** 97015	
Contact:	Aaron Kravitz			
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015		

Calibration Standards

10-00209 | Weight | Rice Lake | SN: 43334 | Cal: 02/02/2022 | Due: 02/28/2024 | Vendor: Oregon Dept of Ag | Report #: 20220092
19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 08/14/2023 | Due: 08/31/2024 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 30530-30694-3646

Instrument Data

Calibration Date:	October 12, 2023	**Reference:**	ASTM E898-20, D4753-15
Calibration Due Date:	April 12, 2024	**Cal-Cert Procedure:**	CP-002
Calibration Frequency:	6 Months	**Indicating System:**	Digital
Manufacturer:	Sartorius	**Temperature:**	73 °F
Model Number:	ENTRIS224	**Humidity:**	52% RH
Type:	Digital Balance	**Asset #:**	107
Serial #:	34307497	**Service Location:**	Service Address
Scale Capacity:	200 grams	**As Found:**	PASS
		As Left:	PASS

Scale Linear Test

Instrument Range: 200.0000 grams **Resolution:** 0.0001 grams

Calibration Standard	As Found UUT	As Found Error	As Left UUT	As Left Error	As Left % of Error	Tolerance (As Left) Allowable Error		
grams	grams	grams	grams	grams		Error	Condition	Expanded Unc. (grams)
0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	PASS	0.00000
20.0000	19.9998	-0.0002	19.9998	-0.0002	0.00	0.0200	PASS	0.00463
40.0000	39.9997	-0.0003	40.0000	0.0000	0.00	0.0400	PASS	0.00924
60.0000	59.9996	-0.0004	60.0001	0.0001	0.00	0.0600	PASS	0.01386
80.0000	79.9995	-0.0005	80.0001	0.0001	0.00	0.0800	PASS	0.01848
100.0000	99.9994	-0.0006	99.9999	-0.0001	0.00	0.1000	PASS	0.02310
120.0000	119.9993	-0.0007	119.9999	-0.0001	0.00	0.1200	PASS	0.02771
140.0000	139.9991	-0.0009	140.0000	0.0000	0.00	0.1400	PASS	0.03233
160.0000	159.9990	-0.0010	160.0001	0.0001	0.00	0.1600	PASS	0.03695
180.0000	179.9990	-0.0010	180.0000	0.0000	0.00	0.1800	PASS	0.03926
200.0000	199.9989	-0.0011	200.0000	0.0000	0.00	0.2000	PASS	0.04619
100.0000	99.9994	-0.0006	99.9999	-0.0001	0.00	0.1000	PASS	0.02310
0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	PASS	0.00000

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A2LA ACCREDITED
CERTIFICATE #1550.01

PFS Teco
11785 SE Hwy 212 STE#305
Clackamas, OR 97015

Report Number: DIRI01C101887027231228

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Mettler	IND570 - 1000lbx0	C101887027	#189	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
lbs	0.02	QC033	12/28/23	12/14/22	12/2024

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: 400 Tol: 0.10	Test Wt: HB44 Tol: HB44	Test Wt: 200 Tol: 0.04	☐ Good ☑ Fair ☐ Poor
As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	Temperature: 18.2°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	999.98	999.98	0.012
600	599.98	599.98	0.011
400	399.96	399.96	0.011
200	200.00	200.00	0.011
100	100.00	100.00	0.011
50	50.00	50.00	0.011

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:

Comments/Information Concerning this Calibration

12/23 RH = 40.5%

Report prepared/reviewed by: R.B. **Date:** 12-28-23 **Technician:** R. Butcher
Signature: R. Butcher

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: DIRI01

Manufacturer: Sartorius **Type:** Digital Balance **Serial #:** 34307497

FUNCTIONAL CHECKS					
ECCENTRIC LOAD TEST:		**HYSTERESIS: Load Increments**		**REPEATABILITY:**	
Loading position	100.0000	Test Weight Applied. % of load	Readings	Test Weight Applied	100.0000
Right	99.9999	0%	0.0000	1st	99.9999
Left	99.9998	(R1) 50%	99.9999	2nd	100.0000
Front	99.9998	100%	200.0000	3rd	99.9999
Back	99.9999	(R2)50%	99.9999	4th	100.0000
Center	99.9999	0%	0.0000	5th	100.0000
As Left	PASS	As Left	PASS	As Left	PASS
Tolerance: The maximum error of the eccentric loading must be less than .1% of center load value.		Tolerance: The Difference of R1 and R2 must be within 0.1%		Tolerance: Deviation of lowest and highest reading within 0.1%	

Remarks:

The scale was adjusted prior to taking the As Left readings.

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
Cleaning and preventative maintenance were performed as part of this service.

Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
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This report shall not be reproduced except in full, without written approval from Cal-Cert.

Service Engineer: Jon Rau **Date:** October 12, 2023

Technical Manager: Marshall Doyle **Signature:**

REPORT#: 31538-218157-14

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Report and Certificate of Calibration

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Milwaukie, OR 97222

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CERT #4986.01

Report #:	31538-218157-14	**Customer PO#:**		
Customer Name:	PFS TECO			
Customer Address:	11785 SE Highway 212, Suite 305			
City:	Clackamas	**State:** OR	**Zip:** 97015	
Contact:	Aaron Kravitz			
Service Address:	11785 SE Highway 212, Suite 305	Clackamas, OR 97015		

Calibration Standards

10-00209 | Weight | Rice Lake | SN: 43334 | Cal: 02/02/2022 | Due: 02/28/2024 | Vendor: Oregon Dept of Ag | Report #: 20220092
19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 08/14/2023 | Due: 08/31/2024 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 30530-30694-3646

Instrument Data

Calibration Date:	October 12, 2023	**Reference:**	ASTM E898-20, D4753-15
Calibration Due Date:	April 12, 2024	**Cal-Cert Procedure:**	CP-002
Calibration Frequency:	6 Months	**Indicating System:**	Digital
Manufacturer:	Sartorius	**Temperature:**	73 °F
Model Number:	ENTRIS224	**Humidity:**	52% RH
Type:	Digital Balance	**Asset #:**	107
Serial #:	34307497	**Service Location:**	Service Address
Scale Capacity:	200 grams	**As Found:**	PASS
		As Left:	PASS

Scale Linear Test

Instrument Range: 200.0000 grams **Resolution:** 0.0001 grams

Calibration Standard	As Found UUT	As Found Error	As Left UUT	As Left Error	As Left % of Error	Tolerance (As Left) Allowable Error		
grams	grams	grams	grams	grams		Error	Condition	Expanded Unc. (grams)
0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	PASS	0.00000
20.0000	19.9998	-0.0002	19.9998	-0.0002	0.00	0.0200	PASS	0.00463
40.0000	39.9997	-0.0003	40.0000	0.0000	0.00	0.0400	PASS	0.00924
60.0000	59.9996	-0.0004	60.0001	0.0001	0.00	0.0600	PASS	0.01386
80.0000	79.9995	-0.0005	80.0001	0.0001	0.00	0.0800	PASS	0.01848
100.0000	99.9994	-0.0006	99.9999	-0.0001	0.00	0.1000	PASS	0.02310
120.0000	119.9993	-0.0007	119.9999	-0.0001	0.00	0.1200	PASS	0.02771
140.0000	139.9991	-0.0009	140.0000	0.0000	0.00	0.1400	PASS	0.03233
160.0000	159.9990	-0.0010	160.0001	0.0001	0.00	0.1600	PASS	0.03695
180.0000	179.9990	-0.0010	180.0000	0.0000	0.00	0.1800	PASS	0.03926
200.0000	199.9989	-0.0011	200.0000	0.0000	0.00	0.2000	PASS	0.04619
100.0000	99.9994	-0.0006	99.9999	-0.0001	0.00	0.1000	PASS	0.02310
0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	PASS	0.00000

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Manufacturer: Sartorius **Type:** Digital Balance **Serial #:** 34307497

FUNCTIONAL CHECKS					
ECCENTRIC LOAD TEST:		**HYSTERESIS: Load Increments**		**REPEATABILITY:**	
Loading position	100.0000	Test Weight Applied. % of load	Readings	Test Weight Applied	100.0000
Right	99.9999	0%	0.0000	1st	99.9999
Left	99.9998	(R1) 50%	99.9999	2nd	100.0000
Front	99.9998	100%	200.0000	3rd	99.9999
Back	99.9999	(R2)50%	99.9999	4th	100.0000
Center	99.9999	0%	0.0000	5th	100.0000
As Left	PASS	As Left	PASS	As Left	PASS
Tolerance: The maximum error of the eccentric loading must be less than .1% of center load value.		Tolerance: The Difference of R1 and R2 must be within 0.1%		Tolerance: Deviation of lowest and highest reading within 0.1%	

Remarks:

The scale was adjusted prior to taking the As Left readings.

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
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Any stated measurement uncertainty includes the uncertainty of the Calibration standards used, combined with the uncertainty of the measurement process using the RSS method with a k=2 for an approximate 95% level of confidence. The calibration process meets or exceeds a ratio of 4:1 unless otherwise stated. All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

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Service Engineer: Jon Rau **Date:** October 12, 2023

Technical Manager: Marshall Doyle **Signature:**

REPORT#: 31538-218157-14

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ACCREDITED
CERTIFICATE #1550.01

Report of Calibration

Firm: PFS-TECO
Address: 11785 SE Hwy 212, Ste 305
City/State/Zip: Clackamas, OR 97015

Test Completed: 05/09/22
Purchase Order: 1067
Traceable Number: 20220682

Test Item: 200 mg and 100 mg Individual Weights
Serial No.: Listed in Table

Manufacturer: Troemner
Customer ID: Listed in Table

Material	Assumed Density	Range	Tolerance Class
Stainless Steel	7.95 g/cm^3	200 mg & 100 mg	ASTM Class 1

Method and Traceability
The procedure used for this calibration is NIST IR 6969 SOP 4 Double Substitution Weighing Design. Standards used for comparison are traceable to the National Institute of Standards and Technology (reports on file) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and traceability within the level of uncertainty reported. The Traceable Number listed above is Traceable to National Standards through an unbroken chain of comparison each having stated uncertainties.

Standards Used:
100 g to 1 mg Working Standards Were Calibrated: 07/02/21 Due: 07/31/22 Standards ID: 723318
Mass Comparators Used: MET-05 **Tested by:** D. Thompson

Conventional Mass: "The conventional value of the result of weighing a body in air is equal to the mass of a standard, of conventionally chosen density, at a conventionally chosen temperature, which balances this body at this reference temperature in air of conventionally chosen density. International Recommendation 33 (OIML IR 33 1973, 1979). "Conventional Value of the Result of Weighing in Air" **(Previously known as "Apparent Mass vs. 8.0 g/cm^3).**

Uncertainty Statement: The uncertainty conforms to the ISO Guide to the Expressions of Uncertainty in Measurement. Uncertainty as reported is based on a coverage factor k=2 for an approximate 95 percent level of uncertainty. Uncertainty components include the standard deviation of the process, the uncertainty of the standard used, an uncertainty component associated with the potential drift of the standard used, and the estimated uncertainty related to measuring and determining the air buoyancy effect.

Conventional Mass Values are listed on page 2 of this report.

Quality Control Services, Inc.
Metrology Laboratory Manager
E-mail dthompson@qc-services.com

Date: 05/09/22

Signature David S. Thompson

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ACCREDITED
CERTIFICATE #1550.01

Report of Calibration

Firm: PFS-TECO
Address: 11785 SE Hwy 212, Ste 305
City/State/Zip: Clackamas, OR 97015

Test Completed: 05/09/22
Purchase Order: 1067
Traceable Number: 20220682

Test Item: 200 mg and 100 mg Individual Weights
Serial No.: Listed in Table

Manufacturer: Troemner
Customer ID: Listed in Table

Laboratory Environment at time of test

Temperature °C	Pressure mmHg	Humidity %RH
21.93 to 21.94	760.7 to 760.8	47.8 to 47.9

Conventional Mass Value

Nominal Value	As Found Value (g)	As Found Correction* (mg)	As Left Value (g)	As Left Correction* (mg)	Uncertainty (mg)	Tolerance (mg)
200 mg, 1000101395, #109-B	0.2000082	0.0082	0.2000082	0.0082	0.0014	0.010
100 mg, 1000126267, #109-A	0.1000065	0.0065	0.1000065	0.0065	0.0014	0.010

*Correction is the difference between the conventional mass value of a weight and its nominal value.

Comments: These weights were received in good condition and were within ASTM Class 1 tolerances As Found.

Recalibration Due: The customer has requested a 5-year calibration cycle. The calibration due date for these weights is 05/09/27. The values listed above were found at the time of calibration. Any number of factors may cause these items to drift out of calibration before the calibration interval has expired.

Accredited by the American Association for Laboratory Accreditation (A2LA) under Calibration Laboratory Code 115953 and Certificate Number 1550.01. This laboratory meets the requirements of ISO/IEC 17025:2017 *General Requirements for the Competence of Testing and Calibration Laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and any additional program requirements in the field of calibration.

Quality Control Services, Inc.
Metrology Laboratory Manager
E-mail dthompson@qc-services.com

Date: 05/09/22

Signature David S. Thompson

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A2LA ACCREDITED
CERTIFICATE #1550.01

PFS Teco
11785 SE Hwy 212 STE#305
Clackamas, OR 97015

Report Number: DIRI01C101887027231228

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Mettler	IND570 - 1000lbx0	C101887027	#189	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
lbs	0.02	QC033	12/28/23	12/14/22	12/2024

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: 400 Tol: 0.10	Test Wt: HB44 Tol: HB44	Test Wt: 200 Tol: 0.04	☐ Good ☑ Fair ☐ Poor
As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	Temperature: 18.2°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	999.98	999.98	0.012
600	599.98	599.98	0.011
400	399.96	399.96	0.011
200	200.00	200.00	0.011
100	100.00	100.00	0.011
50	50.00	50.00	0.011

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:

Comments/Information Concerning this Calibration

12/23 RH = 40.5%

Report prepared/reviewed by: R.B. **Date:** 12-28-23 **Technician:** R. Butcher
Signature: R. Butcher

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: DIRI01

Report and Certificate of Calibration

CAL-CERT
CALIBRATION CERTIFICATION

www.Cal-Cert.com

Toll Free
800-[illegible]

Address
5777 SE International Way
Milwaukie, OR 97222

Local
503-654-9620

A2LA ACCREDITED
CERT #4986.01

Report #:	32102-201251-4686		**Customer PO#:**	1102	
Customer Name:	PFS TECO				
Customer Address:	11785 SE Highway 212, Suite 305				
City:	Clackamas	**State:**	OR	**Zip:**	97015
Contact:	Ethan Frederick				
Service Address:	5777 SE International Way	Milwaukie, OR 97222			

Calibration Standards

10-00954 | Gage Block Set | Shars | SN: 120018 | Cal: 05/26/2023 | Due: 05/26/2025 | Vendor: American Gage | Report #: 109141
LP-00397 | Gage Block Set | Mitutoyo | SN: 509020 | Cal: 12/28/2022 | Due: 12/28/2024 | Vendor: BHD Test and Measurement | Report #: 99826
LP-01757 | Thermo-Hygrometer | Comark | SN: 06257740560 | Cal: 04/28/2023 | Due: 04/28/2024 | Report #: 29096-209333-4201

Instrument Data

Calibration Date:	December 6, 2023	**Reference:**	Manufacturer's Spec
Calibration Due Date:	December 6, 2024	**Cal-Cert Procedure:**	CP-115
Calibration Frequency:	12 Months	**Indicating System:**	Stamped
Manufacturer:	Starrett	**Temperature:**	69 °F
Type:	Tape Measure	**Humidity:**	51% RH
Model Number:	Exact	**Asset #:**	207
Serial #:	138054-2203-00002249	**Service Location:**	Cal-Cert Lab
Capacity:	192.00 Inches	**As Found:**	Pass
		As Left:	Pass

Instrument Range: 192.000 Inches **Range Resolution:** 0.06250 Inches

Calibration Standard	As Found Reading	Verification Reading #1	Verification Reading #2
0.2500	0.2500	0.2500	0.2500
1.0000	1.0000	1.0000	1.0000
6.0000	6.0000	6.0000	6.0000
12.0000	12.0000	12.0000	12.0000
64.0000	64.0000	64.0000	64.0000
128.0000	128.0000	128.0000	128.0000
192.0000	192.0000	192.0000	192.0000

Expanded Uncertainty ± 0.07217 Inches

Remarks:

Metric scale not calibrated.

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
Cleaning and preventative maintenance were performed as part of this service.

Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
A2LA is recognized under the ILAC mutual recognition agreement (MRA).

This certificate is hereby issued that the above instrument was tested for accuracy with calibrated standards traceable to the National Institute of Standards and Technology (NIST). The information provided on this form complies with the data gathering and reporting requirements of ISO/IEC 17025 and ANSI/NCSL Z540.1, and meets the requirements of all applicable references and Cal-Cert procedures listed above. Any stated measurement uncertainty includes the uncertainty of the Calibration standards used, combined with the uncertainty of the measurement process using the RSS method with a k=2 for an approximate 95% level of confidence. The calibration process meets or exceeds a ratio of 4:1 unless otherwise stated.
All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

This report shall not be reproduced except in full, without written approval from Cal-Cert.

Service Engineer: Scott McGuire **Date:** December 6, 2023

Technical Manager: Marshall Doyle **Signature:** MDoyle

Dimensional Measurement CF-115-01

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Revision 7 **7/25/2017**

Report and Certificate of Calibration

CAL-CERT

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Toll Free | Address | Local

ACCREDITED CERT #4986.01

Report #:	31621-201253-5	**Customer PO#:** 1102	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212, Suite 305		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	Ethan Frederick		
Service Address:	5777 SE International Way Milwaukie, OR 97222		

Calibration Standards

LP-00397 | Gage Block Set | Mitutoyo | SN: 509020 | Cal: 12/28/2022 | Due: 12/28/2024 | Vendor: BHD Test and Measurement | Report #: 99826
LP-01782 | Thermo-Hygrometer | Comark | SN: 06247790052 | Cal: 01/30/2023 | Due: 01/31/2024 | Range: 122 °F 95 %RH | Report #: 27747-205513-4239

Instrument Data

Calibration Date:	October 23, 2023	**Reference:**	ASME B89.1.14 2018
Calibration Due Date:	October 23, 2024	**Cal-Cert Procedure:**	CP-008
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Mitutoyo	**Temperature:**	66 °F
Type:	Digital Caliper	**Humidity:**	51% RH
Model Number:	CD-P6"S	**Asset #:**	208
Serial #:	B22159310	**Service Location:**	Cal-Cert Lab
Capacity:	6 Inches	**As Found:**	PASS
Resolution:	0.0005 Inches	**As Left:**	PASS

Instrument Range: 6.0000 Inches **Range Resolution:** 0.0005 Inches

Outside Jaws / Linearity

Calibration Standard Inches	As Found Inches	As Left Reading 1 Inches	As Left Reading 2 Inches	Tolerance ± Inches
0.0000	0.0000	0.0000	0.0000	0.0000
0.0500	0.0495	0.0495	0.0495	0.0010
0.3000	0.3000	0.3000	0.3000	0.0010
0.6000	0.6000	0.6000	0.6000	0.0010
1.2000	1.1995	1.1995	1.1995	0.0010
2.4000	2.4000	2.4000	2.4000	0.0010
3.5000	3.5000	3.5000	3.5000	0.0010
5.0000	5.0000	5.0000	5.0000	0.0010
6.0000	5.9995	5.9995	5.9995	0.0010

Expanded Uncertainty ± 0.00036 Inches

Scale Shift Verification

	Target	Measured	Tolerance ±
Resolution Check	0.1005	0.10050	N/A
Depth	1.000	1.00000	0.001
Step	1.000	1.00000	0.001
Inside Jaws	1.000	0.99950	0.001

Inspections

Jaws Parallel	Acceptable

Remarks:

We sincerely thank you for your business. Please call us at 503-654-9620 for all your sales and calibration needs.
Cleaning and preventative maintenance were performed as part of this service.

Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
A2LA is recognized under the ILAC mutual recognition agreement (MRA).

This certificate is hereby issued that the above instrument was tested for accuracy with calibrated standards traceable to the National Institute of Standards and Technology (NIST). The information provided on this form complies with the data gathering and reporting requirements of ISO/IEC 17025 and ANSI/NCSL Z540.1, and meets the requirements of all applicable references and Cal-Cert procedures listed above.
Any stated measurement uncertainty includes the uncertainty of the Calibration standards used, combined with the uncertainty of the measurement process using the RSS method with a k=2 for an approximate 95% level of confidence. The calibration process meets or exceeds a ratio of 4:1 unless otherwise stated.
All tolerances were derived from the applicable standards and pass/fail determination is based on those tolerances. The customer determined any recommended due dates indicated on the certificate.

This report shall not be reproduced except in full, without written approval from Cal-Cert.

Service Engineer: Cameron Walling **Date:** October 23, 2023

Technical Manager: Marshall Doyle **Signature:**

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DocNumber: 271687

Praxair Distribution, Inc.
5700 S. Alameda Street
Los Angeles CA 90058
Tel: 323-585-2154
Fax: 714-542-6689
PGVP ID: F22019

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

PXPNG TUALATIN OR H
10480 SW TUALATIN SHERWOOD ROAD
TUALATIN OR 97062-9547

Certificate Issuance Date: 10/16/2019
Praxair Order Number: 71120745
Part Number: NI CD10CC03E-AS
Customer PO Number: 70106732

Fill Date: 10/08/2019
Lot Number: 7008928102
Cylinder Style & Outlet: AS — CGA 590
Cylinder Pressure and Volume: 2000 psig — 140 ft3

Certified Concentration

Expiration Date:	10/16/2027	NIST Traceable
Cylinder Number:	CC139173	Expanded Uncertainty
10.09 %	Carbon dioxide	± 0.4 %
2.53 %	Carbon monoxide	± 0.6 %
10.48 %	Oxygen	± 0.4 %
Balance	Nitrogen	

ProSpec EZ Cert

Certification Information:

Certification Date: 10/16/2019 Term: 96 Months Expiration Date: 10/16/2027

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document EPA-600/R-12/531, using Procedure G1.
Do Not Use this Standard if Pressure is less than 100 PSIG.
CO2 responses have been corrected for Oxygen IR Broadening effect. O2 responses have been corrected for CO2 interference.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Carbon dioxide

Requested Concentration: 10 %
Certified Concentration: 10.09 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 09/18/2019

First Analysis Data:						Date	10/16/2019
Z:	0	R:	14	C:	10.09	Conc:	10.09
R:	14	Z:	0	C:	10.1	Conc:	10.1
Z:	0	C:	10.1	R:	14.01	Conc:	10.1
UOM:	%			Mean Test Assay:			10.09 %

Reference Standard: Type / Cylinder #: GMIS / CC164230
Concentration / Uncertainty: 14.00 % ±0.269%
Expiration Date: 04/18/2027
Traceable to: SRM # / Sample # / Cylinder #: SRM 1678b / 6-F-51 / CAL014539
SRM Concentration / Uncertainty: 13.983% / ±0.034%
SRM Expiration Date: 05/16/2022

Second Analysis Data:						Date	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	%			Mean Test Assay:			%

2. Component: Carbon monoxide

Requested Concentration: 2.5 %
Certified Concentration: 2.53 %
Instrument Used: Horiba VIA-510 S/N U99UCSYX
Analytical Method: NDIR
Last Multipoint Calibration: 09/19/2019

First Analysis Data:						Date	10/16/2019
Z:	0	R:	5	C:	2.53	Conc:	2.53
R:	5	Z:	0	C:	2.53	Conc:	2.53
Z:	0	C:	2.54	R:	5.01	Conc:	2.54
UOM:	%			Mean Test Assay:			2.53 %

Reference Standard: Type / Cylinder #: GMIS / CC242633
Concentration / Uncertainty: 5.00 % ±0.540%
Expiration Date: 04/09/2025
Traceable to: SRM # / Sample # / Cylinder #: SRM 2642a / 51-0-23 / FF23106
SRM Concentration / Uncertainty: 7.059% / ±0.039%
SRM Expiration Date: 07/15/2019

Second Analysis Data:						Date	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	%			Mean Test Assay:			%

3. Component: Oxygen

Requested Concentration: 10.5 %
Certified Concentration: 10.48 %
Instrument Used: OXYMAT 5E
Analytical Method: Paramagnetic
Last Multipoint Calibration: 09/18/2019

First Analysis Data:						Date	10/16/2019
Z:	0	R:	9.88	C:	10.49	Conc:	10.48
R:	9.88	Z:	0	C:	10.49	Conc:	10.48
Z:	0	C:	10.5	R:	9.89	Conc:	10.49
UOM:	%			Mean Test Assay:			10.48 %

Reference Standard: Type / Cylinder #: NTRM / DT0010384
Concentration / Uncertainty: 9.875 % ±0.4%
Expiration Date: 11/19/2022
Traceable to: SRM # / Sample # / Cylinder #: NTRM / 170701 / NTRM DT0010384
SRM Concentration / Uncertainty: 9.875% / ±0.040%
SRM Expiration Date: 11/19/2022

Second Analysis Data:						Date	
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	%			Mean Test Assay:			%

Analyzed By: Jose Vasquez

Certified By: Jenny Lockman

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, 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 Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

Airgas
an Air Liquide company

Airgas Specialty Gases
Airgas USA LLC
11711 S. Alameda Street
Los Angeles, CA 90059
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: EPA PROTOCOL STANDARD

Part Number:	E04NI61E15A0574	Reference Number:	48-402546580-1
Cylinder Number:	CC121798	Cylinder Volume:	143.7 CF
Laboratory:	124 - Los Angeles (SAP) - CA	Cylinder Pressure:	2016 PSIG
PGVP Number:	B32022	Valve Outlet:	590
Gas Code:	CO,CO2,O2,BALN	Certification Date:	Sep 23, 2022

Expiration Date: Sep 23, 2030

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.
Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	4.250 %	4.306 %	G1	+/- 0.6% NIST Traceable	09/23/2022
CARBON DIOXIDE	17.00 %	17.01 %	G1	+/- 0.6% NIST Traceable	09/23/2022
OXYGEN	17.00 %	17.11 %	G1	+/- 0.7% NIST Traceable	09/23/2022
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12061520	CC354777	19.87 % CARBON DIOXIDE/NITROGEN	+/- 0.6%	Jan 11, 2024
NTRM	98051002	SG9150866BAL	12.05 % OXYGEN/NITROGEN	+/- 0.7%	Dec 14, 2023
NTRM	08061402	CC267714	1.959 %W CARBON MONOXIDE/NITROGEN	+/- 0.6%	Jul 02, 2024

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
SIEMENS 6E CO2	NDIR	Sep 16, 2022
SIEMENS 6E CO HIGH	NDIR	Sep 08, 2022
SIEMENS OXYMAT 6	PARAMAGNETIC	Sep 12, 2022

Triad Data Available Upon Request

Approved for Release

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DocNumber: 539508

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 97062-8647

Certificate Issuance Date: 05/08/2023
Linde Order Number: 72422800
Buy Number: NI CD17CO8E-AS
Customer PO Number: 80430665

Fill Date: 05/02/2023
Lot Number: 70086312207
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure and Volume: 1290 psig 99 ft3

Certified Concentration

ProSpec EZ Cert

Expiration Date: 05/08/2031		NIST Traceable
Cylinder Number: CC505834		Expanded Uncertainty
16.98 %	Carbon dioxide	± 0.13 %
4.30 %	Carbon monoxide	± 0.03 %
17.16 %	Oxygen	± 0.05 %
Balance	Nitrogen	

Certification Information: Certification Date: 05/08/2023 Term: 96 Months Expiration Date: 05/08/2031

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. O2 responses have been corrected for CO2 interference.

Analytical Data: (R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Carbon dioxide

Requested Concentration: 17 %
Certified Concentration: 16.98 %
Instrument Used: Horiba VIA-510 S/N 20CT94WK
Analytical Method: NDIR
Last Multipoint Calibration: 04/25/2023

Reference Standard: Type / Cylinder #: NTRM / CC729981
Concentration / Uncertainty: 19.34 % ±0.03 %
Expiration Date: 01/12/2027
Traceable to: SRM # / Sample # / Cylinder #: NTRM / 190701 / CC725973
SRM Concentration / Uncertainty: 19.34% (±0.031%
SRM Expiration Date: 01/12/2027

First Analysis Data:						Date	05/08/2023
Z: 0	R: 19.34	C: 16.98	Conc: 16.97				
R: 19.36	Z: 0	C: 16.99	Conc: 16.98				
Z: 0	C: 17	R: 19.35	Conc: 16.99				
UOM: %			Mean Test Assay: 16.98 %				

Second Analysis Data:						Date	
Z: 0	R: 0	C: 0	Conc: 0				
R: 0	Z: 0	C: 0	Conc: 0				
Z: 0	C: 0	R: 0	Conc: 0				
UOM: %			Mean Test Assay:				

2. Component: Carbon monoxide