Fireplace Products International, Ltd.

Project # 22-843
Model: F3500B-1
Type: Catalytic Wood Fired Heater
May 10, 2023

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: May 10, 2023 – Original Issue

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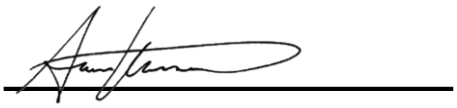
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Affidavit

PFS-TECO was contracted by Fireplace Products International (FPI) to provide testing services for the F3500B-1 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 4/17/2023 and ending on 4/21/2023. 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

FPI contracted with PFS-TECO to perform EPA certification testing on the F3500B-1 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. One test run in each of the 4 specified burn rate categories, as well as a fan confirmation test performed at a category 2 burn rate. All runs have been found to be appropriate, no anomalies occurred. See the Run Narrative section for further detail on each run.

Wood Heater Identification and Testing

- Appliance Tested: ***F3500B-1***
- Serial Number: ***PFS Tracking Number 126***
- Manufacturer***: FPI***
- Catalyst: ***Yes***
- Heat exchange blower: ***Optional***
- Type: ***Wood Stove***
- Style: ***Free-Standing***
- Date Received: ***Thursday, April 13, 2023***
- Testing Period – Start: ***Monday, April 17, 2023***
  Finish: ***Friday, April 21, 2023***
- Test Location: ***PFS TECO***
  11785 SE Hwy 212
  Clackamas, OR 97015
- Elevation: ***~131 Feet above sea level***
- Test Technician(s): ***Aaron Kravitz***
- Observers: ***Radu Costei of FPI***

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
CC121798	Gas Analyzer Calibration Span Gas
CC139173	Gas Analyzer Calibration Mid Gas

Results

A total of 5 test runs where performed on the F3500B-1. 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 **1.1 g/hr** with a Higher Heating Value efficiency of **76%.** The average CO emission rate for the 4 tests was **1.8 g/min.** The FPI F3500B-1 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. 2 ≤1.00 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	4/17/2023	4/19/2023	4/20/2023	4/18/2023	4/21/2023
Run Number	1	3	4	2	5
Emission Rate (g/hr)	0.50	0.49	1.34	2.76	0.65
Burn Rate (kg/hr)	0.91	0.97	1.59	2.31	0.99
Heat Output (Btu/hr)	13,650	13,973	22,090	30,659	14,499
Overall Efficiency (% HHV)	80%	77%	74%	71%	78%
CO Emissions (g/MJ Output)	3.15	5.60	3.96	6.82	3.81
CO Emissions (g/kg Dry Fuel)	49.81	85.26	58.34	95.95	58.81
CO Emissions (g/min)	0.76	1.38	1.54	3.68	0.97
Emissions – 1st hr (g/hr)	2.08	3.00	5.50	9.48	2.22
Weighted particulate emission average of 4 test runs: 1.1 grams per hour.					
Weighted average HHV efficiency of 4 test runs: 76%.					
Average CO Emissions Rate: 1.8 g/min					

*Fan Confirmation test not included in weighted average calculations.

Test Run Narrative

Run 1

Run 1 was performed on 4/17/2023 as a category 2 test, per EPA Method 28R. The total test time was 531 minutes. The particulate emissions rate for the test was 0.50 g/hr, the burn rate was 0.91 kg/hr with an HHV efficiency of 79.7%. All test results were appropriate and valid. There were no anomalies and all test criteria were met. This test meets the burn rate requirements described in EPA Method 28 Section 8.1.1.3.2 as a category 2 test with a burn rate of 1.00 kg/hr or less for wood stoves that cannot be operated at burn rates less than 0.8 kg/hr. This test was performed with the air control set to its lowest setting, it is not possible to operate the stove at a lower air setting. Therefore, this test will be used in lieu of a category 1 test.

Run 2

Run 1 was performed on 4/18/2023 as a category 4 test, per EPA Method 28R. The total test time was 205 minutes. The particulate emissions rate for the test was 2.76 g/hr, the burn rate was 2.31 kg/hr with an HHV efficiency of 71.0%. All test results were appropriate and valid. There were no anomalies and all test criteria were met.

Run 3

Run 3 was performed on 4/19/2023 as a category 2 test, per EPA Method 28R. The total test time was 506 minutes. The particulate emissions rate for the test was 0.49 g/hr, the burn rate was 0.97 kg/hr with an HHV efficiency of 76.8%. All test results were appropriate and valid. There were no anomalies and all test criteria were met.

Run 4

Run 4 was performed on 4/20/2023 as a category 3 test, per EPA Method 28R. The total test time was 295 minutes. The particulate emissions rate for the test was 1.34 g/hr, the burn rate was 1.59 kg/hr with an HHV efficiency of 74.5%. All test results were appropriate and valid. There were no anomalies and all test criteria were met.

Run 5

Run 5 was performed on 4/21/2023 as a category 2 fan confirmation test, per EPA Method 28R. The total test time was 480 minutes. The particulate emissions rate for the test was 0.65 g/hr with a burn rate of 0.99 kg/hr. 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 3, 0.49 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 is 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	64	62.7	43.3	49.6	29.63	21.08	21.36	20.4	531
2	66	67	27.1	35.3	29.91	18.99	20.96	21.1	205
3	65	63.5	42.1	35.4	30.01	20.23	21.57	19.9	506
4	65	64.3	33.3	30.1	30.27	20.22	20.70	21.0	295
5	66	65.4	26.8	33.1	30.20	19.7	21.17	21.3	480

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 open 1.240”*	Air control open 1.240”*, fan on low
Run 2	Air control open 2.462”**	Air control open 2.462”**, fan on high
Run 3	Air control open 1.405”*	Air control open 1.405”*, fan on low
Run 4	Air control open 1.878”*	Air control open 1.878”*, fan on high
Run 5	Air control open 1.405”*	Air control open 1.405”*, fan off (fan confirmation)

*All measurements referenced are from a fully closed position on the air control slide. As noted above, Run 1 was performed with the air control open 1.240” open from the fully closed off position. Testing was performed on a prototype appliance that is capable of being closed to a fully closed position. Production stoves will be produced with a stop that prevents the air from being closed further than this position, therefore the test setting used for Run 1 represents the minimum air setting available to consumers. See Air Control Settings drawing in Appendix D for further detail.

**Run 2 was performed with the air control open 2.462” from the fully closed position. The tested prototype appliance’s air control is capable is being opened further, but production stoves will feature a fixed stop at this position. Therefore the run 2 air setting represents the maximum air setting available to consumers. See Air Control Settings drawing in Appendix D for further detail.

Appliance Description

Model(s): F3500B-1

Appliance Type: Freestanding Catalytic Wood-Fired Room Heater

Additional Models: None

Usable Firebox Volume: 3.024 ft^3

Air Introduction System: Primary combustion air enters the appliance through the air control opening located on the bottom front of the stove. Air is routed up the sides of the firebox, then down into the combustion chamber in front of the door glass. Secondary air brought in through a fixed opening on the bottom rear of the appliance and is routed up the back of the firebox and feed into a secondary air tube. Dimensions on all these features can be found in Appendix D.

Baffles: Combustion air is routed to the front of the stove with a steel baffle that sits on top of the secondary air tubes, then back and through the catalytic combustor.

Catalytic Combustor: A 14" x 3.5", 3" thick ceramic catalyst is located in the flue gas path just prior to the flue collar. A bypass door located in the baffle is actuated via a handle located on the left side of the appliance. When the handle is pulled forward, the bypass plate opens allowing flue gasses to exit the firebox directly into the flue. When pushed back, all flue gasses are routed through the catalyst.

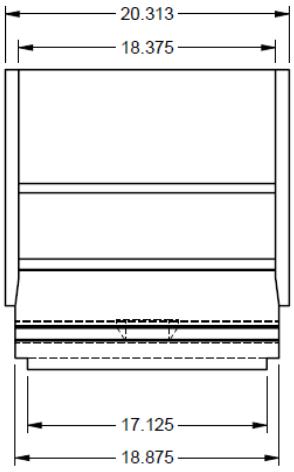
Refractory Insulation: The firebox is lined with 1.25" thick high-density firebrick.

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

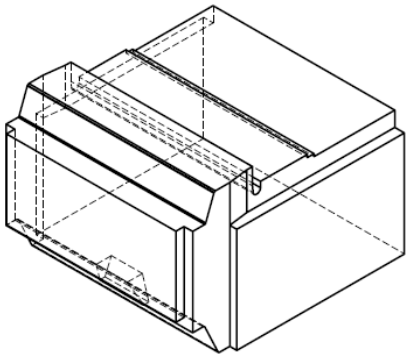
Fan: An optional variable speed convection fan is mounted to the rear of the appliance.

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

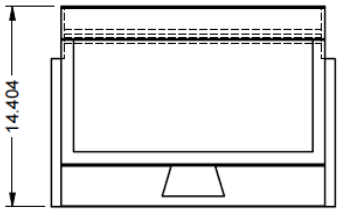
Firebox Volume Dimension

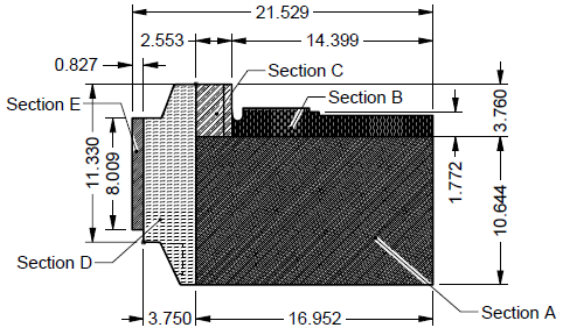


F3500-1 Firebox Volume



Section A: 10.644 x 16.952 x 20.313 = 3,665.2
Section B: 1.772 x 14.399 x 18.375 = 468.8
Section C: 3.760 x 2.553 x 18.375 = 176.4
Section D: 11.330 * 3.75 * 18.875 = 801.9
Section E: 8.009 x 0.827 x 17.125 = 113.4
Total Volume = A + B + C + D + E
Total Volume = 3,665.2 + 468.8 + 176.4 + 801.9 + 113.4 = 5,225.7in^3
Total Volume = 5,225.7In^3 = 3.024ft^3





Appliance Front



Appliance Left



Appliance Right



Appliance Rear



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:

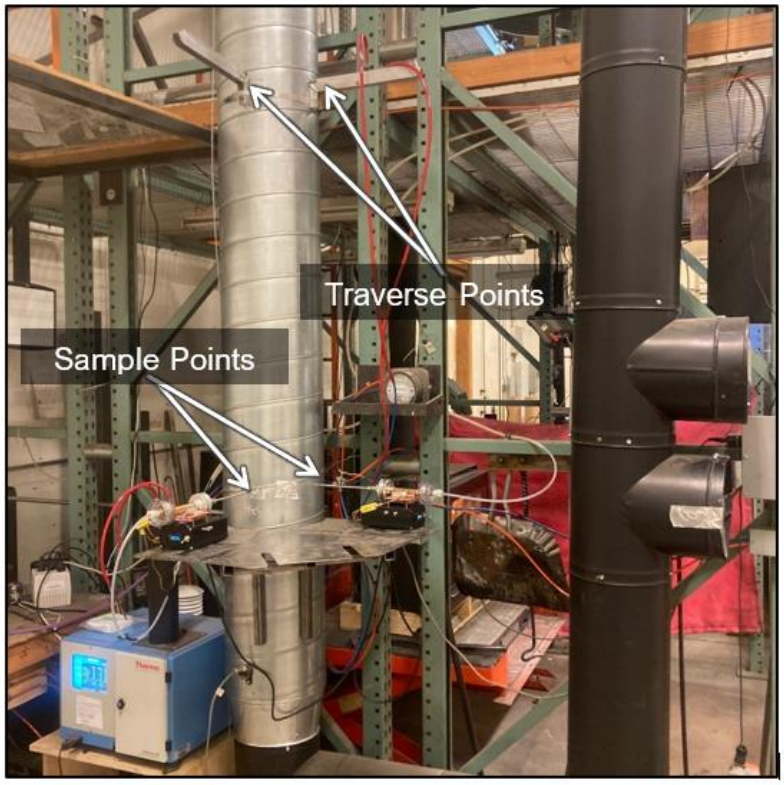
Typical Fuel Load

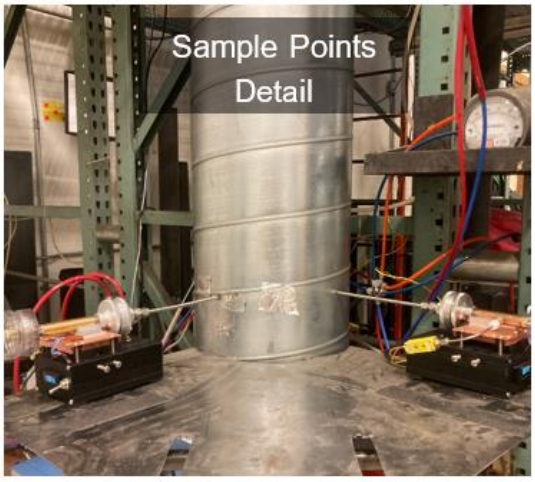




Sampling Locations and Descriptions

Sample ports are located 16.5 feet downstream from any disturbances and 3.5 feet upstream from any disturbances. Flow rate traverse data was collected 8 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 12 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 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: 6988 Venture St, Delta, BC V4G 1H4, Canada, 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 – Test Run Data, Technician Notes, and Sample Analysis

Appendix B – Labels and Manuals

Appendix C –Equipment Calibration Records

Appendix D – Design Drawings (CBI Report Only)

Appendix E – Manufacturer QAP (CBI Report Only)

EPA Method 28R Weighted Average Emissions

Client: FPI
Stove Model: F3500B-1
Test Dates: 4/17/23 - 4/21/23
Job Number: 23-141

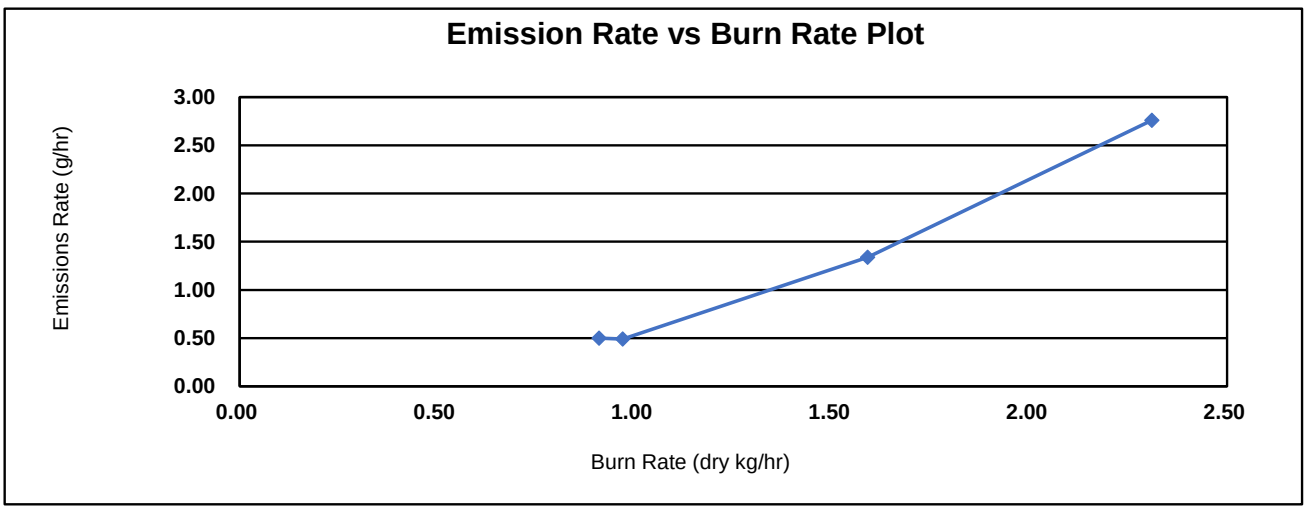
Signature/Date: 5/10/23

Weighted Average Particulate Emissions (g/hr):	**1.1**
Weighted Average HHV Efficiency (%):	**75.9%**
Weighted Average LHV Efficiency (%):	**82.0%**
Average CO Emissions (g/min):	**1.8**

Individual Run Summaries

Run Number:	1	Run Number:	3
Burn Rate (dry kg/hr):	0.91	Burn Rate (dry kg/hr):	0.97
Emissions Rate (g/hr):	0.50	Emissions Rate (g/hr):	0.49
HHV Efficiency (%):	79.7%	HHV Efficiency (%):	76.8%
LHV Efficiency (%):	86.2%	LHV Efficiency (%):	83.0%
Weighting Percentage (%):	21.26%	Weighting Percentage (%):	29.88%

Run Number:	4	Run Number:	2
Burn Rate (dry kg/hr):	1.59	Burn Rate (dry kg/hr):	2.31
Emissions Rate (g/hr):	1.34	Emissions Rate (g/hr):	2.76
HHV Efficiency (%):	74.5%	HHV Efficiency (%):	71.0%
LHV Efficiency (%):	80.5%	LHV Efficiency (%):	76.7%
Weighting Percentage (%):	36.41%	Weighting Percentage (%):	12.45%



WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 1 Data Summary

Client:	FPI
Model:	F3500-1
Job #:	23-131
Tracking #:	126
Test Date:	4/17/2023

Technician Signature

5/8/2023
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Burn Rate (kg/hr):	0.91

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	111.764	84.500	77.483	12.318
Average Gas Velocity in Dilution Tunnel (ft/sec)	6.6			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	17731.8			
Average Gas Meter Temperature (°F)	63.9	91.6	90.6	74.6
Total Sample Volume (dscf)	114.185	81.357	74.015	11.913
Average Tunnel Temperature (°F)	75.6			
Total Time of Test (min)	531			
Total Particulate Catch (mg)	0.0	2.2	2.2	1.4
Particulate Concentration, dry-standard (g/dscf)	0.0000000	0.0000270	0.0000297	0.0001175
Total PM Emissions (g)	0.00	4.24	4.66	2.08
Particulate Emission Rate (g/hr)	0.00	0.48	0.53	2.08
Emissions Factor (g/kg)	-	0.52	0.58	-
Difference from Average Total Particulate Emissions (g)	-	0.21	0.21	-
Difference from Average Total Particulate Emissions (%)	-	4.7%	4.7%	
Difference from Average Emissions Factor (g/kg)	-	0.03	0.03	-

Final Average Results	
Total Particulate Emissions (g)	4.45
Particulate Emission Rate (g/hr)	0.50
Emissions Factor (g/kg)	0.55
HHV Efficiency (%)	79.7%
LHV Efficiency (%)	86.2%
CO Emissions (g/min)	0.76

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	71.9	OK
Face Velocity	< 30 ft/min	11.1	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:62.7/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	47.1	OK

B415.1 Efficiency Results

Manufacturer:	FPI
Model:	F3500-1
Date:	04/17/23
Run:	1
Control #:	23-131
Test Duration:	531
Output Category:	2

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	79.7%	86.2%
Combustion Efficiency	96.5%	96.5%
Heat Transfer Efficiency	82.6%	89.3%

Output Rate (kJ/h)	14,390	13,650	**(Btu/h)**
Burn Rate (kg/h)	0.91	2.01	**(lb/h)**
Input (kJ/h)	18,045	17,118	**(Btu/h)**

Test Load Weight (dry kg)	8.06	17.77	**dry lb**
MC wet (%)	16.93		
MC dry (%)	20.39		
Particulate (g)	4.45		
CO (g)	402		
Test Duration (h)	8.85		

Emissions	**Particulate**	**CO**
g/MJ Output	0.03	3.15
g/kg Dry Fuel	0.55	49.81
g/h	0.50	45.37
g/min	0.01	0.76
lb/MM Btu Output	0.08	7.33

Air/Fuel Ratio (A/F)	11.84

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

WOODSTOVE FUEL DATA - ASTM E2780

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.25	22.3	2x4	17.25	19.5
2x4	17.25	19.0	2x4	17.25	20.7
2x4	17.25	18.7	2x4	17.25	18.5
2x4	17.25	20.1	2x4	17.25	23.7
2x4	17.25	19.1			
2x4	17.25	21.6			
2x4	17.25	23.4			
2x4	17.25	20.1			
Total Fuel Weight (lbs):		21.08	Average Moisture (%DB):		20.6

Firebox Volume (ft^3): 3.02
Total 2x4 Crib Weight, with spacers (lbs): 0.00
Total 4x4 Crib Weight, with spacers (lbs): 21.36
Total Wet Fuel Weight, with spacers (lbs): 21.36

Coal Bed Range (20-25%):
Min (lbs): 4.27
Max (lbs): 5.34

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	17.25	3.94	19.9	20.2	20.4	3.28
4x4	17.25	3.65	19.0	21.0	19.2	3.05
4x4	17.25	4.15	21.2	20.7	20.0	3.44
4x4	17.25	3.65	20.0	19.7	19.3	3.05
4x4	17.25	4.29	23.0	20.8	21.4	3.52
				Total Dry Weight, no spacers (lbs):		16.34
				Total Dry Weight, with spacers (lbs):		17.82

Spacer Moisture Readings (%DB)

12.6	14.4						
9.0	12.2						
17.1	10.9						
15.4	11.8						
14.1	16.7						
12.8	11.4						
12.8	13.6						
14.0	14.1						

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	26.7	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	7.06	OK
2x4 Fuel Mix	35 - 65 % of total weight	N/A	N/A

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	FPI	Job #:	23-131
Model:	F3500-1	Tracking #:	126
Run #:	1	Technician:	AK
Test Start Time:	12:36	Date:	4/17/2023

Total Sampling Time (min):	531		
Recording Interval (min):	1		
Meter Box γ Factor:	1.010	(A)	
Meter Box γ Factor:	1.001	(B)	
Meter Box γ Factor:	0.985	(C)	
Meter Box γ Factor:	1.024	(Ambient)	
Induced Draft Check (in. H_2O):	0		
Smoke Capture Check (%):	100%		
Date Flue Pipe Last Cleaned:	4/10/2023		

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	29.68	29.58	29.63
Relative Humidity (%)	43.3	49.6	
Room Air Velocity (ft/min)	<50	<50	
Scale Audit (lbs)	10.0	10.0	
Ambient Sample Volume:		111.764	ft^3

Sample Train Post-Test Leak Checks

(A)	0.000	cfm @	-5	in. Hg
(B)	0.000	cfm @	-5	in. Hg
(C)	0.000	cfm @	-5	in. Hg
(Ambient)	0.000	cfm @	-12	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

Point	dP (in H_2O)	Temp (°F)
1	0.006	100
2	0.010	100
3	0.010	100
4	0.012	100
5	0.012	100
6	0.006	100
7	0.008	100
8	0.010	100
9	0.012	100
10	0.012	100
11	0.008	100
12	0.006	100
Center	0.013	100

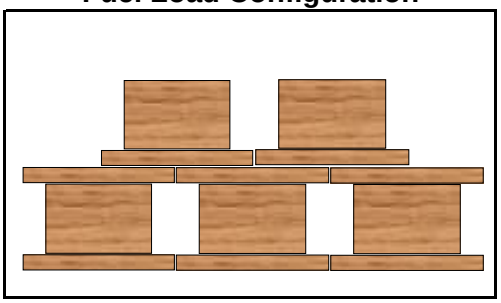
Static Pressure: -0.060 in. H_2O

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	12	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:	0.7854	ft^2
V_{strav}:	6.56	ft/sec
V_{scent}:	7.81	ft/sec
F_p:	0.840	[ratio]
Initial Tunnel Flow:	283.3	scf/min

TEST FUEL PROPERTIES

Fuel Load Configuration

Firebox Left



Firebox Right

Firebox Front 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)	20.4

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Recording Interval (min): 1
Run Time (min): 66

			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	7.10	-0.065	446	512	423	718	297	479.2	477	65
1	7.01	-0.062	444	512	435	710	297	479.8	420	65
2	6.95	-0.059	442	510	434	704	298	477.7	388	65
3	6.88	-0.059	441	508	436	699	299	476.6	366	65
4	6.83	-0.058	440	506	434	692	300	474.4	351	65
5	6.77	-0.056	439	504	434	685	301	472.3	339	65
6	6.73	-0.057	436	501	438	678	302	470.9	331	65
7	6.68	-0.054	434	498	437	669	303	467.9	324	65
8	6.64	-0.051	431	495	437	662	303	465.7	319	65
9	6.59	-0.052	430	492	436	652	304	462.8	314	65
10	6.55	-0.051	427	489	435	644	305	459.8	308	65
11	6.51	-0.051	427	485	434	636	305	457.5	305	65
12	6.48	-0.050	423	482	435	626	306	454.4	302	65
13	6.45	-0.048	423	478	432	620	306	452.0	299	65
14	6.42	-0.049	419	474	432	611	307	448.6	296	65
15	6.39	-0.049	419	471	431	603	307	446.2	293	65
16	6.36	-0.047	415	468	433	596	308	443.8	290	65
17	6.33	-0.046	413	464	429	587	308	440.2	286	65
18	6.32	-0.046	410	460	427	580	308	436.9	283	65
19	6.30	-0.046	408	457	426	573	308	434.2	280	65
20	6.28	-0.046	407	453	426	567	308	432.4	277	65
21	6.26	-0.044	403	449	423	559	309	428.7	276	65
22	6.23	-0.043	401	446	420	553	309	425.7	273	65
23	6.21	-0.045	400	443	420	547	309	423.5	270	65
24	6.18	-0.045	397	439	419	540	309	420.6	268	65
25	6.16	-0.044	395	436	418	532	309	418.1	265	65
26	6.14	-0.041	393	433	417	526	309	415.6	263	65
27	6.12	-0.044	391	430	417	519	309	413.1	260	65
28	6.11	-0.042	391	426	416	513	309	411.0	258	65
29	6.08	-0.042	387	423	414	509	309	408.4	256	65
30	6.07	-0.043	385	421	410	502	309	405.4	254	65
31	6.05	-0.041	385	418	410	497	309	403.5	251	65
32	6.03	-0.039	382	415	406	492	309	400.9	249	65
33	6.01	-0.039	381	413	405	486	309	398.7	246	65
34	5.99	-0.040	379	411	405	481	309	396.8	245	65
35	5.98	-0.039	377	408	403	477	309	395.0	244	65
36	5.97	-0.039	376	407	401	472	309	393.0	241	65
37	5.95	-0.039	372	405	400	467	309	390.7	239	65
38	5.93	-0.039	371	403	397	462	309	388.5	237	65
39	5.91	-0.040	369	401	395	458	309	386.4	236	65
40	5.90	-0.038	368	399	394	453	309	384.8	234	64
41	5.89	-0.038	367	398	391	449	309	382.9	233	64
42	5.88	-0.038	365	396	391	444	309	380.9	231	64
43	5.86	-0.036	364	394	387	441	309	379.2	229	64
44	5.85	-0.037	362	393	386	436	309	377.3	228	64

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Recording Interval (min): 1
Run Time (min): 66

			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	5.84	-0.036	359	391	383	432	310	374.9	226	64
46	5.82	-0.036	357	389	382	429	310	373.2	225	64
47	5.81	-0.036	355	387	382	424	310	371.7	223	64
48	5.80	-0.034	356	386	379	421	310	370.1	222	64
49	5.79	-0.034	352	384	377	417	310	367.8	220	64
50	5.77	-0.034	352	382	378	414	310	367.0	218	64
51	4.69	-0.051	353	381	373	410	310	365.3	360	65
52	4.67	-0.040	353	379	371	407	310	363.7	300	64
53	4.65	-0.042	351	378	370	402	310	362.0	268	64
54	4.64	-0.036	347	376	367	398	310	359.6	249	64
55	4.62	-0.037	348	375	363	394	310	357.8	236	64
56	4.60	-0.036	344	374	363	388	310	355.8	228	64
57	4.59	-0.036	343	373	360	385	310	354.2	221	64
58	4.57	-0.034	342	372	358	381	310	352.4	217	64
59	4.55	-0.037	339	370	356	378	310	350.7	214	64
60	4.54	-0.033	337	369	353	375	311	348.8	211	64
61	4.52	-0.032	336	367	353	372	311	347.8	210	64
62	4.51	-0.036	334	366	350	369	311	346.1	207	64
63	4.50	-0.033	332	365	348	367	311	344.5	206	64
64	4.49	-0.030	330	363	348	365	311	343.3	204	64
65	4.47	-0.032	327	362	343	363	311	341.2	204	64
66	4.46	-0.032	326	361	342	361	311	340.2	203	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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		0.014	1.31	71	0.7		21.39		89	307	69	64
1	0.133	0.133	0.013	2.01	70	0.8	-	21.39	0.00	104	359	71	65
2	0.280	0.147	0.013	2.05	70	0.8	-	21.34	-0.05	89	334	71	64
3	0.420	0.140	0.013	2.06	70	0.8	-	21.27	-0.07	85	317	71	64
4	0.562	0.142	0.013	2.08	70	0.8	-	21.17	-0.10	85	312	71	64
5	0.707	0.145	0.013	2.11	70	0.8	-	21.03	-0.14	85	319	71	64
6	0.852	0.145	0.013	2.12	70	0.8	-	20.95	-0.08	82	289	71	64
7	0.999	0.147	0.014	2.14	71	0.8	-	20.90	-0.05	82	269	71	64
8	1.142	0.143	0.014	2.17	71	0.8	-	20.84	-0.06	81	257	71	64
9	1.290	0.148	0.014	2.18	71	0.9	-	20.80	-0.04	80	250	71	64
10	1.434	0.144	0.013	2.17	71	0.8	95	20.75	-0.05	81	248	71	64
11	1.585	0.151	0.014	2.20	71	0.8	-	20.69	-0.06	80	247	71	64
12	1.729	0.144	0.013	2.21	71	0.9	-	20.62	-0.07	80	248	71	64
13	1.881	0.152	0.014	2.22	71	0.9	-	20.56	-0.06	80	249	71	64
14	2.027	0.146	0.013	2.25	72	0.8	-	20.49	-0.07	80	250	71	64
15	2.178	0.151	0.014	2.25	72	0.9	-	20.43	-0.06	80	251	71	64
16	2.325	0.147	0.013	2.26	72	0.9	-	20.37	-0.06	80	252	71	64
17	2.476	0.151	0.013	2.26	72	0.9	-	20.30	-0.07	80	254	71	64
18	2.623	0.147	0.013	2.26	73	0.9	-	20.24	-0.06	80	255	71	64
19	2.775	0.152	0.013	2.27	73	0.8	-	20.18	-0.06	80	255	71	64
20	2.923	0.148	0.013	2.27	73	0.8	99	20.10	-0.08	79	256	71	64
21	3.075	0.152	0.014	2.28	73	0.8	-	20.04	-0.06	78	257	71	64
22	3.223	0.148	0.014	2.28	74	0.9	-	19.96	-0.08	78	258	71	64
23	3.376	0.153	0.013	2.29	74	0.9	-	19.88	-0.08	78	260	71	64
24	3.524	0.148	0.013	2.29	74	0.9	-	19.79	-0.09	78	260	71	64
25	3.677	0.153	0.014	2.30	74	0.9	-	19.71	-0.08	78	260	71	64
26	3.825	0.148	0.014	2.31	75	0.9	-	19.63	-0.08	78	260	71	64
27	3.979	0.154	0.014	2.31	75	0.9	-	19.55	-0.08	78	260	71	64
28	4.127	0.148	0.014	2.30	75	0.9	-	19.46	-0.09	78	262	71	64
29	4.282	0.155	0.014	2.32	76	0.9	-	19.37	-0.09	78	263	71	64
30	4.431	0.149	0.013	2.31	76	0.9	100	19.29	-0.08	78	264	71	64
31	4.586	0.155	0.014	2.32	76	0.9	-	19.21	-0.08	78	264	71	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	4.735	0.149	0.013	2.33	77	0.9	-	19.13	-0.08	78	266	71	64
33	4.891	0.156	0.014	2.33	77	0.9	-	19.05	-0.08	78	266	71	64
34	5.041	0.150	0.014	2.34	77	0.9	-	18.97	-0.08	78	267	71	64
35	5.197	0.156	0.014	2.33	78	0.9	-	18.89	-0.08	77	268	71	64
36	5.348	0.151	0.014	2.35	78	1.0	-	18.81	-0.08	78	270	71	64
37	5.502	0.154	0.013	2.35	78	0.9	-	18.72	-0.09	78	269	71	64
38	5.654	0.152	0.014	2.35	79	0.9	-	18.65	-0.07	78	267	71	64
39	5.807	0.153	0.014	2.34	79	0.9	-	18.58	-0.07	78	265	71	64
40	5.961	0.154	0.014	2.36	79	0.9	99	18.51	-0.07	78	262	71	64
41	6.115	0.154	0.013	2.36	79	0.9	-	18.44	-0.07	77	260	71	64
42	6.271	0.156	0.013	2.36	80	0.9	-	18.37	-0.07	77	259	71	64
43	6.423	0.152	0.013	2.36	80	0.9	-	18.30	-0.07	77	258	71	64
44	6.578	0.155	0.014	2.36	80	0.9	-	18.22	-0.08	77	258	71	64
45	6.729	0.151	0.014	2.37	81	0.9	-	18.14	-0.08	77	259	71	64
46	6.887	0.158	0.013	2.37	81	0.9	-	18.06	-0.08	77	259	71	64
47	7.039	0.152	0.013	2.38	81	0.9	-	17.98	-0.08	78	259	71	64
48	7.197	0.158	0.013	2.38	81	0.9	-	17.90	-0.08	77	259	71	64
49	7.349	0.152	0.014	2.38	82	0.9	-	17.83	-0.07	77	259	71	64
50	7.505	0.156	0.013	2.39	82	0.9	99	17.75	-0.08	77	259	71	64
51	7.659	0.154	0.013	2.38	82	0.9	-	17.67	-0.08	77	260	71	64
52	7.815	0.156	0.014	2.39	82	0.9	-	17.59	-0.08	77	260	71	64
53	7.972	0.157	0.013	2.39	83	0.9	-	17.52	-0.07	77	262	71	64
54	8.124	0.152	0.013	2.39	83	0.9	-	17.43	-0.09	78	265	71	64
55	8.282	0.158	0.014	2.39	83	0.9	-	17.34	-0.09	78	267	71	64
56	8.435	0.153	0.013	2.40	83	1.0	-	17.25	-0.09	78	269	71	64
57	8.594	0.159	0.013	2.40	84	0.9	-	17.16	-0.09	78	272	71	64
58	8.747	0.153	0.013	2.41	84	0.9	-	17.07	-0.09	78	274	71	64
59	8.904	0.157	0.013	2.40	84	1.0	-	16.99	-0.08	78	276	71	64
60	9.059	0.155	0.013	2.41	84	1.0	101	16.91	-0.08	78	278	71	64
61	9.216	0.157	0.014	2.41	85	0.9	-	16.81	-0.10	78	279	71	64
62	9.374	0.158	0.013	2.42	85	0.9	-	16.72	-0.09	78	281	71	64
63	9.526	0.152	0.013	2.42	85	0.9	-	16.64	-0.08	78	282	71	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	9.686	0.160	0.013	2.41	85	0.9	-	16.55	-0.09	78	283	71	64
65	9.840	0.154	0.013	2.41	85	0.9	-	16.46	-0.09	78	284	71	64
66	9.999	0.159	0.013	2.42	86	1.0	-	16.36	-0.10	78	286	71	64
67	10.153	0.154	0.013	2.42	86	0.9	-	16.26	-0.10	78	288	71	64
68	10.311	0.158	0.013	2.41	86	0.9	-	16.18	-0.08	78	290	71	64
69	10.470	0.159	0.013	2.41	86	1.0	-	16.08	-0.10	78	292	71	64
70	10.623	0.153	0.013	2.42	86	0.9	102	15.99	-0.09	79	293	71	64
71	10.782	0.159	0.013	2.42	87	0.9	-	15.89	-0.10	79	294	71	64
72	10.938	0.156	0.013	2.43	87	1.0	-	15.80	-0.09	78	295	71	64
73	11.097	0.159	0.013	2.43	87	0.9	-	15.70	-0.10	78	295	71	64
74	11.252	0.155	0.013	2.42	87	0.9	-	15.61	-0.09	79	297	71	64
75	11.410	0.158	0.013	2.42	87	0.9	-	15.52	-0.09	79	298	71	64
76	11.569	0.159	0.013	2.44	87	0.9	-	15.42	-0.10	79	299	71	64
77	11.723	0.154	0.013	2.43	88	1.0	-	15.33	-0.09	79	300	71	64
78	11.883	0.160	0.013	2.43	88	0.9	-	15.23	-0.10	79	300	71	64
79	12.038	0.155	0.013	2.44	88	1.0	-	15.13	-0.10	79	301	71	64
80	12.198	0.160	0.014	2.44	88	0.9	100	15.04	-0.09	79	302	71	64
81	12.354	0.156	0.013	2.44	88	0.9	-	14.93	-0.11	79	304	71	64
82	12.512	0.158	0.013	2.44	88	0.9	-	14.82	-0.11	79	305	71	64
83	12.672	0.160	0.013	2.45	88	1.0	-	14.71	-0.11	79	306	71	64
84	12.825	0.153	0.014	2.44	89	0.9	-	14.59	-0.12	79	309	71	64
85	12.987	0.162	0.013	2.44	89	0.9	-	14.47	-0.12	79	311	71	64
86	13.143	0.156	0.013	2.44	89	0.9	-	14.35	-0.12	79	311	71	64
87	13.301	0.158	0.014	2.44	89	1.0	-	14.24	-0.11	80	313	71	64
88	13.459	0.158	0.013	2.44	89	0.9	-	14.11	-0.13	80	315	71	64
89	13.616	0.157	0.013	2.45	89	0.9	-	13.99	-0.12	80	316	71	64
90	13.776	0.160	0.014	2.45	89	0.9	98	13.86	-0.13	80	318	71	64
91	13.931	0.155	0.013	2.44	90	1.0	-	13.73	-0.13	80	318	71	64
92	14.092	0.161	0.013	2.45	90	1.0	-	13.60	-0.13	80	319	71	64
93	14.247	0.155	0.014	2.44	90	0.9	-	13.47	-0.13	80	319	71	64
94	14.406	0.159	0.014	2.44	90	0.9	-	13.35	-0.12	80	319	71	64
95	14.566	0.160	0.014	2.45	90	0.9	-	13.22	-0.13	80	318	71	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	14.721	0.155	0.013	2.45	90	1.0	-	13.10	-0.12	80	318	71	64
97	14.883	0.162	0.013	2.45	90	1.0	-	12.97	-0.13	80	318	71	64
98	15.039	0.156	0.014	2.44	90	1.0	-	12.86	-0.11	80	316	71	64
99	15.198	0.159	0.013	2.45	90	1.0	-	12.73	-0.13	80	316	71	64
100	15.356	0.158	0.013	2.45	90	0.9	100	12.61	-0.12	80	315	71	64
101	15.514	0.158	0.014	2.46	90	1.0	-	12.49	-0.12	80	314	71	64
102	15.674	0.160	0.014	2.45	91	1.0	-	12.37	-0.12	80	314	71	64
103	15.829	0.155	0.013	2.45	91	1.0	-	12.25	-0.12	80	314	71	64
104	15.991	0.162	0.013	2.45	91	0.9	-	12.13	-0.12	80	313	71	64
105	16.146	0.155	0.013	2.46	91	0.9	-	12.01	-0.12	80	314	71	64
106	16.306	0.160	0.013	2.45	91	1.0	-	11.90	-0.11	80	314	71	64
107	16.466	0.160	0.014	2.46	91	0.9	-	11.78	-0.12	80	314	71	64
108	16.621	0.155	0.013	2.45	91	0.9	-	11.67	-0.11	80	314	71	64
109	16.783	0.162	0.013	2.44	91	1.0	-	11.54	-0.13	80	314	71	64
110	16.940	0.157	0.013	2.46	91	0.9	102	11.42	-0.12	80	314	71	64
111	17.099	0.159	0.014	2.46	91	1.0	-	11.31	-0.11	80	313	71	64
112	17.258	0.159	0.014	2.45	91	0.9	-	11.20	-0.11	80	313	71	64
113	17.415	0.157	0.014	2.47	91	0.9	-	11.09	-0.11	80	312	71	64
114	17.576	0.161	0.013	2.46	91	1.0	-	10.97	-0.12	80	312	71	64
115	17.733	0.157	0.013	2.47	91	1.0	-	10.86	-0.11	80	311	71	64
116	17.893	0.160	0.014	2.47	92	0.9	-	10.76	-0.10	80	311	71	64
117	18.050	0.157	0.014	2.45	92	1.0	-	10.65	-0.11	80	309	71	64
118	18.210	0.160	0.014	2.47	92	0.9	-	10.55	-0.10	80	309	71	64
119	18.370	0.160	0.013	2.46	92	1.0	-	10.45	-0.10	80	309	71	64
120	18.526	0.156	0.013	2.46	92	0.9	102	10.34	-0.11	80	307	71	64
121	18.689	0.163	0.013	2.46	92	0.9	-	10.24	-0.10	80	307	71	64
122	18.845	0.156	0.013	2.47	92	0.9	-	10.15	-0.09	80	306	71	64
123	19.005	0.160	0.013	2.45	92	0.9	-	10.05	-0.10	80	305	71	64
124	19.166	0.161	0.013	2.47	92	0.9	-	9.95	-0.10	80	306	71	64
125	19.321	0.155	0.014	2.46	92	0.9	-	9.86	-0.09	80	304	71	64
126	19.484	0.163	0.013	2.47	92	0.9	-	9.77	-0.09	80	302	71	64
127	19.640	0.156	0.014	2.46	92	0.9	-	9.69	-0.08	80	300	71	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	19.800	0.160	0.014	2.46	92	1.0	-	9.61	-0.08	80	299	71	64
129	19.961	0.161	0.013	2.47	92	0.9	-	9.53	-0.08	80	297	71	64
130	20.117	0.156	0.013	2.47	92	1.0	102	9.46	-0.07	80	297	71	64
131	20.280	0.163	0.013	2.46	92	0.9	-	9.38	-0.08	80	298	71	64
132	20.437	0.157	0.013	2.47	92	0.9	-	9.30	-0.08	80	296	71	64
133	20.597	0.160	0.013	2.46	92	0.9	-	9.23	-0.07	80	296	71	64
134	20.757	0.160	0.013	2.46	92	0.9	-	9.15	-0.08	79	295	71	64
135	20.914	0.157	0.013	2.47	93	0.9	-	9.08	-0.07	79	295	71	64
136	21.076	0.162	0.014	2.46	93	1.0	-	9.01	-0.07	80	294	71	64
137	21.233	0.157	0.013	2.47	93	1.0	-	8.94	-0.07	80	293	71	64
138	21.394	0.161	0.014	2.47	93	0.9	-	8.87	-0.07	79	292	71	64
139	21.554	0.160	0.013	2.46	93	0.9	-	8.80	-0.07	79	290	71	64
140	21.712	0.158	0.014	2.47	93	0.9	101	8.73	-0.07	79	289	71	64
141	21.873	0.161	0.014	2.45	93	1.0	-	8.66	-0.07	79	288	71	64
142	22.031	0.158	0.013	2.47	93	0.9	-	8.60	-0.06	79	288	71	64
143	22.191	0.160	0.014	2.47	93	0.9	-	8.53	-0.07	79	287	71	64
144	22.350	0.159	0.013	2.47	93	0.9	-	8.46	-0.07	80	286	71	64
145	22.510	0.160	0.014	2.47	93	0.9	-	8.40	-0.06	80	285	71	64
146	22.671	0.161	0.014	2.47	93	1.0	-	8.33	-0.07	79	284	71	64
147	22.828	0.157	0.013	2.48	93	0.9	-	8.27	-0.06	79	285	71	64
148	22.990	0.162	0.013	2.48	93	1.0	-	8.20	-0.07	79	285	71	64
149	23.147	0.157	0.013	2.47	93	0.9	-	8.13	-0.07	79	284	71	64
150	23.308	0.161	0.013	2.47	93	0.9	101	8.06	-0.07	80	284	71	64
151	23.469	0.161	0.013	2.47	93	0.9	-	8.00	-0.06	79	284	71	64
152	23.626	0.157	0.014	2.47	93	1.0	-	7.93	-0.07	80	284	71	64
153	23.788	0.162	0.013	2.48	93	1.0	-	7.86	-0.07	79	284	71	64
154	23.946	0.158	0.014	2.47	93	1.0	-	7.79	-0.07	79	285	71	64
155	24.106	0.160	0.013	2.47	93	1.0	-	7.71	-0.08	79	284	71	64
156	24.267	0.161	0.013	2.48	93	1.0	-	7.64	-0.07	80	285	71	64
157	24.425	0.158	0.014	2.47	93	1.0	-	7.57	-0.07	79	285	71	64
158	24.587	0.162	0.013	2.47	93	1.0	-	7.50	-0.07	80	286	71	64
159	24.745	0.158	0.014	2.47	93	1.0	-	7.42	-0.08	79	287	71	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	24.905	0.160	0.014	2.47	93	0.9	101	7.35	-0.07	80	287	71	64
161	25.066	0.161	0.013	2.47	94	0.9	-	7.28	-0.07	80	287	71	64
162	25.223	0.157	0.013	2.48	94	1.0	-	7.20	-0.08	80	287	71	64
163	25.387	0.164	0.013	2.48	94	0.9	-	7.13	-0.07	80	287	71	64
164	25.544	0.157	0.013	2.47	94	1.0	-	7.06	-0.07	80	287	71	65
165	25.704	0.160	0.014	2.47	94	1.0	-	6.99	-0.07	80	286	71	65
166	25.865	0.161	0.014	2.47	94	0.9	-	6.92	-0.07	80	286	71	65
167	26.023	0.158	0.013	2.47	94	0.9	-	6.85	-0.07	80	286	72	64
168	26.186	0.163	0.013	2.48	94	0.9	-	6.78	-0.07	80	284	71	65
169	26.343	0.157	0.013	2.47	94	1.0	-	6.71	-0.07	80	285	72	64
170	26.504	0.161	0.013	2.48	94	1.0	101	6.64	-0.07	80	284	72	65
171	26.665	0.161	0.013	2.48	94	0.9	-	6.56	-0.08	80	284	72	65
172	26.823	0.158	0.013	2.48	94	0.9	-	6.50	-0.06	80	284	72	65
173	26.986	0.163	0.013	2.47	94	1.0	-	6.43	-0.07	80	285	71	65
174	27.143	0.157	0.014	2.47	94	0.9	-	6.36	-0.07	80	285	71	65
175	27.304	0.161	0.013	2.47	94	0.9	-	6.30	-0.06	80	285	72	65
176	27.465	0.161	0.013	2.49	94	1.0	-	6.23	-0.07	80	285	72	65
177	27.623	0.158	0.013	2.47	94	0.9	-	6.17	-0.06	80	283	71	65
178	27.786	0.163	0.013	2.49	94	0.9	-	6.10	-0.07	80	282	71	65
179	27.944	0.158	0.013	2.47	94	0.9	-	6.05	-0.05	80	281	72	65
180	28.104	0.160	0.013	2.48	94	1.0	103	5.98	-0.07	80	282	71	65
181	28.266	0.162	0.013	2.48	94	1.0	-	5.92	-0.06	80	280	71	64
182	28.424	0.158	0.013	2.48	94	0.9	-	5.86	-0.06	80	280	72	65
183	28.586	0.162	0.013	2.48	94	0.9	-	5.80	-0.06	80	280	71	65
184	28.744	0.158	0.013	2.47	94	1.0	-	5.74	-0.06	80	280	71	65
185	28.905	0.161	0.013	2.48	94	0.9	-	5.69	-0.05	79	280	71	65
186	29.066	0.161	0.014	2.48	94	0.9	-	5.63	-0.06	79	280	71	65
187	29.224	0.158	0.013	2.48	94	0.9	-	5.57	-0.06	80	280	71	65
188	29.386	0.162	0.013	2.48	94	0.9	-	5.51	-0.06	80	279	72	65
189	29.545	0.159	0.013	2.48	94	0.9	-	5.45	-0.06	80	278	72	65
190	29.705	0.160	0.013	2.48	94	1.0	103	5.39	-0.06	80	279	72	65
191	29.867	0.162	0.014	2.48	94	0.9	-	5.34	-0.05	80	278	72	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	30.025	0.158	0.013	2.49	94	0.9	-	5.27	-0.07	80	278	72	65
193	30.186	0.161	0.013	2.48	94	0.9	-	5.22	-0.05	80	278	72	65
194	30.394	0.208	0.013	2.48	94	1.0	-	5.16	-0.06	80	277	72	65
195	30.554	0.160	0.013	2.49	94	0.9	-	5.10	-0.06	80	277	72	65
196	30.715	0.161	0.014	2.48	94	0.9	-	5.04	-0.06	80	277	72	65
197	30.874	0.159	0.013	2.48	94	0.9	-	4.99	-0.05	80	277	72	65
198	31.035	0.161	0.013	2.49	94	1.0	-	4.93	-0.06	80	278	72	65
199	31.196	0.161	0.014	2.47	94	1.0	-	4.88	-0.05	80	277	72	65
200	31.354	0.158	0.013	2.49	94	1.0	106	4.83	-0.05	80	277	72	65
201	31.517	0.163	0.013	2.48	95	0.9	-	4.78	-0.05	80	275	72	65
202	31.675	0.158	0.013	2.48	95	0.9	-	4.73	-0.05	79	275	72	65
203	31.836	0.161	0.013	2.49	95	0.9	-	4.67	-0.06	79	275	72	65
204	31.998	0.162	0.013	2.48	95	0.9	-	4.64	-0.03	80	274	72	65
205	32.155	0.157	0.013	2.49	95	1.0	-	4.59	-0.05	80	273	72	65
206	32.319	0.164	0.013	2.48	95	0.9	-	4.54	-0.05	80	272	72	65
207	32.477	0.158	0.013	2.49	95	1.0	-	4.50	-0.04	80	270	72	65
208	32.637	0.160	0.013	2.48	95	0.9	-	4.46	-0.04	80	268	72	65
209	32.800	0.163	0.014	2.48	95	1.0	-	4.43	-0.03	79	268	72	65
210	32.957	0.157	0.014	2.49	95	1.0	101	4.40	-0.03	79	266	72	65
211	33.121	0.164	0.013	2.49	95	0.9	-	4.37	-0.03	79	262	72	65
212	33.279	0.158	0.013	2.49	95	0.9	-	4.35	-0.02	79	261	72	65
213	33.439	0.160	0.013	2.47	95	1.0	-	4.31	-0.04	79	261	72	65
214	33.602	0.163	0.013	2.48	95	0.9	-	4.30	-0.01	79	259	72	65
215	33.758	0.156	0.013	2.48	95	0.9	-	4.28	-0.02	79	255	72	65
216	33.923	0.165	0.013	2.49	95	0.9	-	4.25	-0.03	79	254	72	65
217	34.080	0.157	0.014	2.48	95	1.0	-	4.23	-0.02	79	253	72	65
218	34.241	0.161	0.013	2.47	95	0.9	-	4.21	-0.02	79	249	72	65
219	34.404	0.163	0.014	2.49	95	1.0	-	4.19	-0.02	78	247	72	65
220	34.560	0.156	0.013	2.47	95	0.9	101	4.17	-0.02	78	244	72	65
221	34.724	0.164	0.013	2.48	95	0.9	-	4.15	-0.02	78	242	72	65
222	34.882	0.158	0.014	2.48	95	0.9	-	4.13	-0.02	78	239	72	65
223	35.043	0.161	0.014	2.48	95	1.0	-	4.11	-0.02	78	237	72	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	35.205	0.162	0.013	2.48	95	1.0	-	4.09	-0.02	78	235	72	64
225	35.362	0.157	0.014	2.48	95	0.9	-	4.08	-0.01	78	232	72	64
226	35.527	0.165	0.014	2.49	95	0.9	-	4.06	-0.02	78	230	71	65
227	35.684	0.157	0.014	2.49	95	0.9	-	4.04	-0.02	78	229	71	65
228	35.845	0.161	0.013	2.48	95	1.0	-	4.03	-0.01	78	227	72	65
229	36.007	0.162	0.014	2.48	95	1.0	-	4.01	-0.02	78	225	71	65
230	36.165	0.158	0.013	2.48	95	1.0	103	4.00	-0.01	78	223	71	65
231	36.328	0.163	0.014	2.49	95	1.0	-	3.98	-0.02	78	221	71	65
232	36.487	0.159	0.013	2.49	95	0.9	-	3.96	-0.02	78	220	72	65
233	36.648	0.161	0.013	2.49	95	1.0	-	3.95	-0.01	78	218	71	65
234	36.810	0.162	0.014	2.49	95	1.0	-	3.93	-0.02	77	217	71	65
235	36.969	0.159	0.013	2.49	95	0.9	-	3.92	-0.01	77	216	71	65
236	37.130	0.161	0.013	2.50	95	0.9	-	3.90	-0.02	77	215	71	65
237	37.291	0.161	0.013	2.48	95	0.9	-	3.89	-0.01	77	213	71	65
238	37.450	0.159	0.013	2.50	95	0.9	-	3.87	-0.02	77	213	71	65
239	37.613	0.163	0.014	2.47	95	0.9	-	3.86	-0.01	77	210	71	65
240	37.772	0.159	0.014	2.49	95	1.0	101	3.85	-0.01	77	209	71	65
241	37.932	0.160	0.013	2.49	95	0.9	-	3.84	-0.01	77	207	71	65
242	38.095	0.163	0.013	2.49	95	1.0	-	3.82	-0.02	76	206	71	65
243	38.252	0.157	0.013	2.49	95	0.9	-	3.81	-0.01	76	205	71	65
244	38.416	0.164	0.013	2.49	95	0.9	-	3.80	-0.01	76	205	71	65
245	38.574	0.158	0.013	2.49	95	1.0	-	3.78	-0.02	76	204	71	65
246	38.735	0.161	0.014	2.49	95	0.9	-	3.77	-0.01	76	203	71	65
247	38.898	0.163	0.013	2.49	95	1.0	-	3.76	-0.01	76	201	71	65
248	39.055	0.157	0.013	2.49	95	1.0	-	3.74	-0.02	76	201	71	65
249	39.219	0.164	0.013	2.49	95	0.9	-	3.73	-0.01	76	200	71	65
250	39.377	0.158	0.013	2.49	95	1.0	100	3.72	-0.01	76	199	71	65
251	39.538	0.161	0.014	2.49	95	1.0	-	3.71	-0.01	76	199	71	65
252	39.701	0.163	0.014	2.49	95	0.9	-	3.70	-0.01	76	198	71	65
253	39.858	0.157	0.013	2.48	95	0.9	-	3.68	-0.02	76	198	71	65
254	40.023	0.165	0.013	2.49	95	1.0	-	3.66	-0.02	76	197	71	65
255	40.180	0.157	0.014	2.48	95	0.9	-	3.65	-0.01	76	196	71	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	40.342	0.162	0.014	2.49	95	0.9	-	3.64	-0.01	76	194	71	65
257	40.504	0.162	0.014	2.49	95	0.9	-	3.63	-0.01	75	194	71	65
258	40.662	0.158	0.014	2.49	95	1.0	-	3.61	-0.02	75	193	71	64
259	40.825	0.163	0.014	2.50	95	0.9	-	3.60	-0.01	76	194	71	65
260	40.984	0.159	0.014	2.48	95	0.9	101	3.59	-0.01	75	192	71	64
261	41.145	0.161	0.014	2.49	95	1.0	-	3.58	-0.01	75	192	71	64
262	41.307	0.162	0.014	2.49	95	0.9	-	3.56	-0.02	75	192	71	64
263	41.466	0.159	0.014	2.50	95	0.9	-	3.54	-0.02	75	191	71	65
264	41.628	0.162	0.014	2.49	95	0.9	-	3.53	-0.01	75	192	71	64
265	41.789	0.161	0.014	2.49	95	1.0	-	3.52	-0.01	75	191	71	64
266	41.948	0.159	0.014	2.48	95	0.9	-	3.51	-0.01	75	190	71	64
267	42.111	0.163	0.014	2.49	95	0.9	-	3.49	-0.02	75	190	71	64
268	42.270	0.159	0.014	2.50	95	1.0	-	3.48	-0.01	75	190	71	64
269	42.430	0.160	0.014	2.49	95	1.0	-	3.47	-0.01	75	190	71	64
270	42.593	0.163	0.014	2.48	95	0.9	99	3.46	-0.01	75	189	71	64
271	42.751	0.158	0.014	2.50	95	0.9	-	3.44	-0.02	75	189	70	64
272	42.915	0.164	0.014	2.49	95	0.9	-	3.43	-0.01	74	188	70	64
273	43.073	0.158	0.014	2.49	95	1.0	-	3.41	-0.02	74	188	70	64
274	43.235	0.162	0.014	2.48	95	1.0	-	3.40	-0.01	74	188	70	64
275	43.397	0.162	0.014	2.48	95	0.9	-	3.39	-0.01	74	188	70	64
276	43.554	0.157	0.014	2.48	95	1.0	-	3.38	-0.01	74	188	70	64
277	43.719	0.165	0.014	2.49	95	1.0	-	3.37	-0.01	74	188	70	64
278	43.877	0.158	0.014	2.48	95	0.9	-	3.35	-0.02	74	188	70	64
279	44.038	0.161	0.014	2.49	95	0.9	-	3.34	-0.01	74	188	70	64
280	44.200	0.162	0.014	2.49	95	1.0	99	3.33	-0.01	74	188	70	64
281	44.358	0.158	0.014	2.48	95	1.0	-	3.31	-0.02	74	188	70	64
282	44.522	0.164	0.013	2.50	95	0.9	-	3.30	-0.01	74	187	70	64
283	44.681	0.159	0.014	2.48	95	0.9	-	3.29	-0.01	74	188	70	64
284	44.842	0.161	0.014	2.49	95	0.9	-	3.28	-0.01	74	187	70	64
285	45.004	0.162	0.014	2.49	95	1.0	-	3.26	-0.02	74	187	70	64
286	45.163	0.159	0.013	2.49	95	0.9	-	3.26	0.00	74	187	70	64
287	45.324	0.161	0.014	2.49	95	1.0	-	3.24	-0.02	74	186	70	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	45.486	0.162	0.014	2.49	95	1.0	-	3.23	-0.01	74	186	70	64
289	45.645	0.159	0.014	2.50	95	0.9	-	3.21	-0.02	74	186	70	64
290	45.808	0.163	0.014	2.49	95	0.9	99	3.21	0.00	74	186	70	64
291	45.967	0.159	0.014	2.49	95	1.0	-	3.19	-0.02	74	185	70	64
292	46.127	0.160	0.014	2.48	95	1.0	-	3.17	-0.02	74	187	70	64
293	46.290	0.163	0.014	2.49	95	0.9	-	3.16	-0.01	74	186	70	64
294	46.448	0.158	0.014	2.50	95	0.9	-	3.16	0.00	74	186	70	64
295	46.612	0.164	0.014	2.49	95	0.9	-	3.14	-0.02	74	185	70	64
296	46.769	0.157	0.014	2.48	95	0.9	-	3.13	-0.01	74	185	70	64
297	46.931	0.162	0.014	2.47	95	1.0	-	3.11	-0.02	74	185	70	64
298	47.094	0.163	0.014	2.48	95	1.0	-	3.10	-0.01	74	186	70	64
299	47.250	0.156	0.014	2.48	95	0.9	-	3.09	-0.01	74	186	70	64
300	47.415	0.165	0.013	2.49	95	1.0	100	3.08	-0.01	74	185	70	64
301	47.573	0.158	0.014	2.50	95	1.0	-	3.06	-0.02	74	184	70	64
302	47.735	0.162	0.014	2.49	95	0.9	-	3.05	-0.01	73	184	70	64
303	47.896	0.161	0.014	2.48	95	1.0	-	3.03	-0.02	73	185	70	64
304	48.054	0.158	0.014	2.49	95	1.0	-	3.02	-0.01	73	184	70	64
305	48.218	0.164	0.014	2.49	95	1.0	-	3.01	-0.01	73	184	70	64
306	48.376	0.158	0.014	2.48	95	1.0	-	3.00	-0.01	73	184	70	64
307	48.538	0.162	0.014	2.49	95	0.9	-	2.99	-0.01	73	185	70	64
308	48.700	0.162	0.014	2.49	95	0.9	-	2.97	-0.02	73	184	70	64
309	48.858	0.158	0.014	2.49	95	0.9	-	2.96	-0.01	73	184	70	64
310	49.020	0.162	0.014	2.49	95	0.9	100	2.95	-0.01	73	184	70	64
311	49.181	0.161	0.014	2.49	95	0.9	-	2.93	-0.02	73	184	70	64
312	49.341	0.160	0.013	2.50	95	0.9	-	2.91	-0.02	73	183	70	64
313	49.503	0.162	0.014	2.49	95	0.9	-	2.91	0.00	73	184	70	64
314	49.662	0.159	0.014	2.49	95	0.9	-	2.89	-0.02	73	184	70	64
315	49.824	0.162	0.014	2.48	95	0.9	-	2.87	-0.02	73	184	70	64
316	49.986	0.162	0.014	2.49	95	0.9	-	2.87	0.00	73	183	70	64
317	50.143	0.157	0.014	2.49	95	1.0	-	2.85	-0.02	73	183	70	64
318	50.308	0.165	0.014	2.48	95	1.0	-	2.84	-0.01	73	183	70	64
319	50.466	0.158	0.014	2.50	95	0.9	-	2.83	-0.01	73	184	70	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	50.627	0.161	0.014	2.49	95	1.0	98	2.81	-0.02	73	183	70	64
321	50.790	0.163	0.014	2.50	95	0.9	-	2.79	-0.02	73	184	70	64
322	50.947	0.157	0.014	2.49	95	1.0	-	2.79	0.00	73	184	70	64
323	51.111	0.164	0.014	2.49	95	0.9	-	2.77	-0.02	73	183	70	64
324	51.270	0.159	0.014	2.49	95	1.0	-	2.76	-0.01	73	184	70	64
325	51.431	0.161	0.014	2.49	95	1.0	-	2.75	-0.01	73	183	69	64
326	51.593	0.162	0.014	2.49	95	1.0	-	2.73	-0.02	73	183	70	64
327	51.751	0.158	0.014	2.50	95	0.9	-	2.72	-0.01	73	183	70	64
328	51.915	0.164	0.014	2.50	95	1.0	-	2.70	-0.02	73	183	70	64
329	52.073	0.158	0.014	2.49	95	0.9	-	2.68	-0.02	73	184	70	64
330	52.235	0.162	0.014	2.48	95	1.0	99	2.67	-0.01	73	184	69	64
331	52.397	0.162	0.014	2.51	95	0.9	-	2.66	-0.01	73	185	69	64
332	52.556	0.159	0.014	2.50	95	0.9	-	2.65	-0.01	73	184	69	64
333	52.718	0.162	0.013	2.49	95	1.0	-	2.63	-0.02	73	184	69	64
334	52.879	0.161	0.013	2.49	95	0.9	-	2.62	-0.01	73	185	69	64
335	53.038	0.159	0.014	2.50	95	0.9	-	2.61	-0.01	73	185	69	64
336	53.201	0.163	0.014	2.48	95	1.0	-	2.59	-0.02	73	185	69	64
337	53.360	0.159	0.014	2.49	95	1.0	-	2.57	-0.02	73	185	69	64
338	53.521	0.161	0.014	2.49	95	1.0	-	2.56	-0.01	73	185	69	64
339	53.684	0.163	0.014	2.49	95	1.0	-	2.55	-0.01	73	184	69	64
340	53.841	0.157	0.014	2.50	95	0.9	98	2.54	-0.01	73	185	69	64
341	54.005	0.164	0.014	2.48	95	1.0	-	2.52	-0.02	73	185	69	64
342	54.164	0.159	0.014	2.50	95	1.0	-	2.51	-0.01	73	185	69	64
343	54.325	0.161	0.013	2.49	95	1.0	-	2.49	-0.02	73	185	69	64
344	54.488	0.163	0.014	2.49	95	0.9	-	2.48	-0.01	73	185	69	64
345	54.644	0.156	0.014	2.49	95	0.9	-	2.46	-0.02	73	186	69	64
346	54.809	0.165	0.014	2.48	95	0.9	-	2.45	-0.01	73	186	69	64
347	54.968	0.159	0.014	2.49	95	0.9	-	2.43	-0.02	73	185	69	64
348	55.129	0.161	0.014	2.49	95	0.9	-	2.42	-0.01	73	186	69	64
349	55.291	0.162	0.014	2.49	95	1.0	-	2.40	-0.02	73	185	69	64
350	55.449	0.158	0.014	2.48	95	1.0	99	2.39	-0.01	73	185	69	64
351	55.613	0.164	0.014	2.49	95	1.0	-	2.38	-0.01	73	185	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	55.771	0.158	0.014	2.48	95	0.9	-	2.36	-0.02	73	186	69	64
353	55.932	0.161	0.014	2.48	95	0.9	-	2.35	-0.01	73	186	69	64
354	56.095	0.163	0.014	2.49	95	0.9	-	2.33	-0.02	73	185	69	64
355	56.253	0.158	0.014	2.49	95	0.9	-	2.32	-0.01	73	185	69	64
356	56.415	0.162	0.014	2.49	95	0.9	-	2.30	-0.02	73	185	69	64
357	56.576	0.161	0.014	2.48	95	0.9	-	2.29	-0.01	73	185	69	64
358	56.736	0.160	0.014	2.49	95	0.9	-	2.27	-0.02	73	185	69	64
359	56.898	0.162	0.014	2.48	95	0.9	-	2.26	-0.01	73	184	69	64
360	57.057	0.159	0.013	2.50	95	0.9	100	2.25	-0.01	73	184	69	64
361	57.219	0.162	0.014	2.49	95	1.0	-	2.23	-0.02	72	184	69	64
362	57.381	0.162	0.014	2.49	95	0.9	-	2.22	-0.01	72	184	69	64
363	57.538	0.157	0.014	2.49	95	1.0	-	2.21	-0.01	72	185	69	64
364	57.703	0.165	0.013	2.49	95	0.9	-	2.20	-0.01	72	184	69	64
365	57.861	0.158	0.013	2.50	95	1.0	-	2.19	-0.01	72	184	69	64
366	58.022	0.161	0.014	2.49	95	1.0	-	2.17	-0.02	72	184	69	64
367	58.186	0.164	0.014	2.49	95	0.9	-	2.16	-0.01	72	184	69	64
368	58.342	0.156	0.014	2.48	95	1.0	-	2.14	-0.02	72	184	69	64
369	58.507	0.165	0.014	2.49	95	0.9	-	2.13	-0.01	72	184	69	64
370	58.665	0.158	0.014	2.50	95	0.9	100	2.12	-0.01	72	184	69	64
371	58.827	0.162	0.014	2.49	95	0.9	-	2.10	-0.02	72	183	69	64
372	58.989	0.162	0.014	2.48	95	1.0	-	2.09	-0.01	72	183	69	64
373	59.147	0.158	0.014	2.48	95	1.0	-	2.08	-0.01	72	183	69	64
374	59.311	0.164	0.013	2.49	95	0.9	-	2.06	-0.02	72	184	69	64
375	59.468	0.157	0.013	2.47	95	0.9	-	2.06	0.00	72	184	69	64
376	59.630	0.162	0.014	2.49	95	0.9	-	2.03	-0.03	72	183	69	64
377	59.792	0.162	0.013	2.49	95	1.0	-	2.02	-0.01	72	183	69	64
378	59.951	0.159	0.014	2.49	95	0.9	-	2.01	-0.01	72	184	69	64
379	60.113	0.162	0.014	2.48	95	0.9	-	2.00	-0.01	72	184	69	64
380	60.273	0.160	0.014	2.48	95	0.9	98	1.99	-0.01	72	183	69	64
381	60.433	0.160	0.013	2.50	95	1.0	-	1.97	-0.02	72	184	69	64
382	60.595	0.162	0.014	2.48	95	0.9	-	1.96	-0.01	72	184	69	64
383	60.754	0.159	0.014	2.47	95	0.9	-	1.94	-0.02	72	184	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	60.916	0.162	0.014	2.49	95	1.0	-	1.93	-0.01	73	183	69	64
385	61.078	0.162	0.014	2.49	95	0.9	-	1.91	-0.02	73	183	69	64
386	61.235	0.157	0.014	2.49	95	1.0	-	1.90	-0.01	72	185	69	64
387	61.400	0.165	0.013	2.48	95	1.0	-	1.89	-0.01	72	184	69	64
388	61.558	0.158	0.014	2.49	95	0.9	-	1.87	-0.02	72	184	69	64
389	61.719	0.161	0.013	2.49	95	0.9	-	1.86	-0.01	72	184	69	63
390	61.882	0.163	0.014	2.49	95	0.9	99	1.85	-0.01	72	184	69	63
391	62.039	0.157	0.014	2.48	95	0.9	-	1.84	-0.01	72	184	69	63
392	62.203	0.164	0.013	2.50	95	0.9	-	1.82	-0.02	72	184	69	64
393	62.361	0.158	0.014	2.49	95	1.0	-	1.81	-0.01	72	184	69	64
394	62.523	0.162	0.013	2.48	95	0.9	-	1.79	-0.02	72	185	69	63
395	62.685	0.162	0.013	2.50	95	0.9	-	1.78	-0.01	72	184	69	63
396	62.842	0.157	0.013	2.48	95	0.9	-	1.76	-0.02	72	184	69	64
397	63.007	0.165	0.013	2.49	95	0.9	-	1.75	-0.01	72	184	69	63
398	63.165	0.158	0.013	2.49	95	0.9	-	1.74	-0.01	72	184	69	64
399	63.326	0.161	0.014	2.49	95	1.0	-	1.73	-0.01	72	184	69	64
400	63.488	0.162	0.013	2.49	95	1.0	100	1.71	-0.02	72	184	69	63
401	63.646	0.158	0.014	2.49	95	1.0	-	1.70	-0.01	72	184	69	63
402	63.809	0.163	0.014	2.50	95	0.9	-	1.68	-0.02	72	185	69	63
403	63.969	0.160	0.013	2.49	95	0.9	-	1.67	-0.01	72	185	69	64
404	64.130	0.161	0.013	2.50	95	1.0	-	1.66	-0.01	72	184	69	64
405	64.291	0.161	0.013	2.48	95	1.0	-	1.64	-0.02	72	184	69	63
406	64.450	0.159	0.014	2.47	95	1.0	-	1.62	-0.02	72	184	69	63
407	64.612	0.162	0.014	2.49	95	0.9	-	1.61	-0.01	72	185	69	63
408	64.774	0.162	0.013	2.48	95	0.9	-	1.59	-0.02	72	185	69	64
409	64.931	0.157	0.013	2.49	95	0.9	-	1.57	-0.02	72	184	68	63
410	65.095	0.164	0.014	2.49	95	0.9	100	1.57	0.00	72	184	68	63
411	65.254	0.159	0.014	2.48	95	1.0	-	1.54	-0.03	72	184	68	63
412	65.414	0.160	0.014	2.49	95	0.9	-	1.53	-0.01	72	185	68	63
413	65.577	0.163	0.014	2.48	95	0.9	-	1.52	-0.01	72	184	68	64
414	65.734	0.157	0.014	2.49	95	1.0	-	1.51	-0.01	72	183	68	64
415	65.899	0.165	0.014	2.48	95	0.9	-	1.49	-0.02	72	183	68	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	66.056	0.157	0.013	2.49	95	0.9	-	1.48	-0.01	72	183	68	64
417	66.218	0.162	0.013	2.49	95	1.0	-	1.46	-0.02	72	182	68	64
418	66.381	0.163	0.013	2.49	95	1.0	-	1.45	-0.01	72	182	68	64
419	66.537	0.156	0.014	2.49	95	0.9	-	1.43	-0.02	72	183	68	64
420	66.701	0.164	0.013	2.48	94	0.9	100	1.41	-0.02	72	183	68	63
421	66.860	0.159	0.014	2.49	94	1.0	-	1.40	-0.01	72	183	68	63
422	67.021	0.161	0.013	2.49	94	0.9	-	1.39	-0.01	72	182	68	63
423	67.183	0.162	0.014	2.49	94	1.0	-	1.38	-0.01	72	181	68	63
424	67.341	0.158	0.013	2.48	94	1.0	-	1.36	-0.02	72	181	68	63
425	67.505	0.164	0.013	2.49	94	1.0	-	1.35	-0.01	72	182	68	63
426	67.663	0.158	0.014	2.48	94	0.9	-	1.33	-0.02	72	181	68	63
427	67.824	0.161	0.014	2.50	94	1.0	-	1.32	-0.01	72	181	68	63
428	67.986	0.162	0.013	2.49	94	0.9	-	1.30	-0.02	72	181	68	63
429	68.145	0.159	0.014	2.49	94	1.0	-	1.29	-0.01	72	181	68	63
430	68.307	0.162	0.013	2.48	94	0.9	102	1.28	-0.01	72	181	68	63
431	68.467	0.160	0.013	2.48	94	1.0	-	1.26	-0.02	72	181	68	63
432	68.627	0.160	0.013	2.49	94	0.9	-	1.25	-0.01	72	181	68	63
433	68.789	0.162	0.014	2.48	94	0.9	-	1.23	-0.02	72	182	68	64
434	68.948	0.159	0.013	2.48	94	0.9	-	1.22	-0.01	72	181	68	64
435	69.109	0.161	0.014	2.49	94	0.9	-	1.20	-0.02	72	181	68	63
436	69.271	0.162	0.013	2.49	94	0.9	-	1.19	-0.01	72	181	68	63
437	69.429	0.158	0.013	2.48	94	0.9	-	1.18	-0.01	72	181	68	63
438	69.593	0.164	0.014	2.48	94	1.0	-	1.16	-0.02	72	180	68	63
439	69.751	0.158	0.013	2.49	94	1.0	-	1.15	-0.01	72	181	68	63
440	69.911	0.160	0.013	2.48	94	1.0	102	1.14	-0.01	72	182	68	63
441	70.074	0.163	0.013	2.50	94	0.9	-	1.12	-0.02	72	182	68	63
442	70.231	0.157	0.013	2.49	94	0.9	-	1.11	-0.01	72	181	68	63
443	70.395	0.164	0.014	2.49	94	1.0	-	1.10	-0.01	72	180	68	63
444	70.553	0.158	0.014	2.49	94	1.0	-	1.08	-0.02	72	181	68	63
445	70.714	0.161	0.013	2.47	94	1.0	-	1.07	-0.01	72	180	68	63
446	70.877	0.163	0.013	2.49	94	0.9	-	1.05	-0.02	71	181	68	63
447	71.033	0.156	0.014	2.49	94	0.9	-	1.04	-0.01	72	180	68	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	71.198	0.165	0.014	2.48	94	0.9	-	1.03	-0.01	72	180	68	63
449	71.356	0.158	0.013	2.48	94	0.9	-	1.02	-0.01	72	180	68	63
450	71.517	0.161	0.014	2.49	94	0.9	100	1.00	-0.02	72	180	68	63
451	71.679	0.162	0.014	2.49	94	0.9	-	0.99	-0.01	72	180	68	63
452	71.836	0.157	0.014	2.48	94	0.9	-	0.97	-0.02	72	181	68	63
453	72.000	0.164	0.014	2.49	94	1.0	-	0.96	-0.01	72	180	68	63
454	72.158	0.158	0.014	2.49	94	0.9	-	0.95	-0.01	72	180	68	63
455	72.319	0.161	0.013	2.49	94	1.0	-	0.94	-0.01	72	179	68	63
456	72.481	0.162	0.013	2.49	94	0.9	-	0.92	-0.02	72	179	68	63
457	72.639	0.158	0.013	2.48	94	0.9	-	0.91	-0.01	71	179	68	63
458	72.802	0.163	0.014	2.49	94	1.0	-	0.90	-0.01	72	179	68	63
459	72.961	0.159	0.014	2.48	94	0.9	-	0.89	-0.01	71	180	68	63
460	73.122	0.161	0.014	2.50	94	0.9	98	0.88	-0.01	71	179	68	63
461	73.284	0.162	0.014	2.49	94	0.9	-	0.86	-0.02	71	179	68	63
462	73.442	0.158	0.013	2.49	94	1.0	-	0.85	-0.01	72	179	68	63
463	73.603	0.161	0.013	2.49	94	1.0	-	0.83	-0.02	72	179	68	63
464	73.764	0.161	0.014	2.49	94	0.9	-	0.82	-0.01	71	179	68	63
465	73.924	0.160	0.014	2.50	94	0.9	-	0.80	-0.02	71	178	68	63
466	74.085	0.161	0.014	2.48	94	0.9	-	0.79	-0.01	71	177	68	63
467	74.244	0.159	0.013	2.48	94	0.9	-	0.77	-0.02	71	177	68	63
468	74.405	0.161	0.014	2.49	94	0.9	-	0.76	-0.01	71	178	68	63
469	74.567	0.162	0.014	2.49	94	0.9	-	0.75	-0.01	71	177	68	63
470	74.724	0.157	0.014	2.49	94	0.9	98	0.73	-0.02	71	177	68	63
471	74.887	0.163	0.013	2.48	94	0.9	-	0.72	-0.01	71	176	68	63
472	75.046	0.159	0.013	2.49	94	0.9	-	0.70	-0.02	71	176	68	63
473	75.206	0.160	0.014	2.49	94	1.0	-	0.70	0.00	71	177	68	63
474	75.368	0.162	0.013	2.48	94	0.9	-	0.68	-0.02	71	177	68	63
475	75.525	0.157	0.013	2.49	94	0.9	-	0.67	-0.01	71	176	68	63
476	75.689	0.164	0.014	2.48	94	0.9	-	0.66	-0.01	71	177	68	63
477	75.847	0.158	0.014	2.49	94	0.9	-	0.64	-0.02	71	176	68	63
478	76.007	0.160	0.014	2.48	94	1.0	-	0.63	-0.01	71	176	68	63
479	76.170	0.163	0.014	2.47	94	0.9	-	0.62	-0.01	71	175	68	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	76.327	0.157	0.014	2.49	94	1.0	98	0.61	-0.01	71	175	68	63
481	76.490	0.163	0.014	2.48	94	1.0	-	0.59	-0.02	71	176	68	63
482	76.648	0.158	0.013	2.50	94	1.0	-	0.59	0.00	71	176	68	63
483	76.808	0.160	0.014	2.48	94	0.9	-	0.57	-0.02	71	175	68	63
484	76.971	0.163	0.014	2.49	94	0.9	-	0.56	-0.01	71	175	68	63
485	77.127	0.156	0.014	2.48	94	0.9	-	0.55	-0.01	71	175	68	63
486	77.291	0.164	0.013	2.48	94	1.0	-	0.54	-0.01	71	175	68	63
487	77.448	0.157	0.014	2.49	94	0.9	-	0.52	-0.02	71	175	68	63
488	77.610	0.162	0.014	2.48	94	0.9	-	0.52	0.00	71	175	68	63
489	77.772	0.162	0.014	2.49	94	0.9	-	0.51	-0.01	71	174	68	63
490	77.928	0.156	0.014	2.49	94	0.9	98	0.49	-0.02	71	174	68	63
491	78.092	0.164	0.013	2.48	94	0.9	-	0.48	-0.01	71	174	68	63
492	78.250	0.158	0.013	2.48	94	1.0	-	0.47	-0.01	71	173	68	63
493	78.411	0.161	0.014	2.48	94	0.9	-	0.45	-0.02	71	173	68	63
494	78.573	0.162	0.013	2.49	94	0.9	-	0.44	-0.01	71	173	68	63
495	78.729	0.156	0.014	2.48	94	0.9	-	0.44	0.00	71	174	68	63
496	78.893	0.164	0.014	2.48	94	1.0	-	0.42	-0.02	71	173	68	63
497	79.051	0.158	0.014	2.49	94	1.0	-	0.41	-0.01	71	173	68	63
498	79.212	0.161	0.014	2.48	94	1.0	-	0.40	-0.01	71	174	68	63
499	79.374	0.162	0.014	2.49	94	1.0	-	0.38	-0.02	71	174	68	63
500	79.530	0.156	0.013	2.48	94	0.9	100	0.37	-0.01	71	173	68	63
501	79.695	0.165	0.014	2.49	94	0.9	-	0.36	-0.01	71	173	68	63
502	79.852	0.157	0.013	2.48	94	0.9	-	0.35	-0.01	71	173	68	63
503	80.013	0.161	0.014	2.50	94	0.9	-	0.34	-0.01	71	173	68	63
504	80.175	0.162	0.014	2.49	94	1.0	-	0.33	-0.01	71	173	68	63
505	80.332	0.157	0.014	2.48	94	0.9	-	0.32	-0.01	71	173	68	63
506	80.496	0.164	0.013	2.49	94	0.9	-	0.30	-0.02	71	173	68	63
507	80.653	0.157	0.013	2.48	94	1.0	-	0.29	-0.01	71	173	68	63
508	80.814	0.161	0.014	2.48	94	1.0	-	0.28	-0.01	71	173	68	63
509	80.976	0.162	0.013	2.48	94	0.9	-	0.27	-0.01	71	173	68	63
510	81.134	0.158	0.014	2.47	94	0.9	100	0.26	-0.01	71	173	68	63
511	81.297	0.163	0.013	2.49	94	1.0	-	0.24	-0.02	71	173	68	63

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	81.455	0.158	0.013	2.47	94	1.0	-	0.23	-0.01	71	173	68	63
513	81.616	0.161	0.014	2.49	94	1.0	-	0.22	-0.01	71	174	68	63
514	81.777	0.161	0.013	2.49	94	0.9	-	0.21	-0.01	71	173	68	63
515	81.935	0.158	0.014	2.49	94	0.9	-	0.19	-0.02	71	173	68	63
516	82.097	0.162	0.013	2.48	94	1.0	-	0.18	-0.01	71	174	68	63
517	82.257	0.160	0.014	2.49	94	0.9	-	0.17	-0.01	71	173	68	63
518	82.417	0.160	0.014	2.49	94	0.9	-	0.16	-0.01	71	173	68	63
519	82.578	0.161	0.014	2.49	94	1.0	-	0.15	-0.01	71	174	68	63
520	82.737	0.159	0.014	2.48	94	0.9	98	0.13	-0.02	71	174	67	63
521	82.898	0.161	0.014	2.49	94	0.9	-	0.12	-0.01	71	174	68	63
522	83.059	0.161	0.013	2.48	94	0.9	-	0.11	-0.01	71	173	68	63
523	83.218	0.159	0.014	2.50	94	0.9	-	0.10	-0.01	70	174	67	63
524	83.380	0.162	0.014	2.48	94	0.9	-	0.09	-0.01	70	174	67	63
525	83.538	0.158	0.014	2.48	94	0.9	-	0.08	-0.01	70	174	67	63
526	83.699	0.161	0.013	2.49	94	0.9	-	0.07	-0.01	71	174	67	63
527	83.861	0.162	0.014	2.48	94	0.9	-	0.05	-0.02	71	174	67	63
528	84.018	0.157	0.014	2.49	94	0.9	-	0.05	0.00	71	174	67	63
529	84.181	0.163	0.014	2.49	94	0.9	-	0.03	-0.02	70	173	67	63
530	84.340	0.159	0.014	2.49	93	1.0	98	0.02	-0.01	70	172	67	63
531	84.500	0.160	0.014	2.48	94	0.9	98	0.00	-0.02	70	172	67	63
Avg/Tot	84.500	0.159	0.014	2.46	91.6	0.9	100			75.6	226.6	69.9	63.9

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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		1.42	70	1.4		70	-0.047	2.79	0.101
1	0.134	0.134	1.99	70	1.7	-	71	-0.053	2.66	0.093
2	0.276	0.142	2.00	70	1.9	-	72	-0.051	3.34	0.039
3	0.414	0.138	1.99	70	1.9	-	72	-0.051	4.58	0.020
4	0.552	0.138	2.00	70	1.5	-	72	-0.053	6.38	0.019
5	0.694	0.142	2.00	70	1.6	-	72	-0.054	10.01	0.029
6	0.830	0.136	2.00	70	1.6	-	72	-0.045	10.88	0.032
7	0.972	0.142	2.00	70	1.8	-	72	-0.044	7.56	0.023
8	1.110	0.138	2.01	70	1.9	-	72	-0.044	6.74	0.015
9	1.248	0.138	2.01	70	1.7	-	72	-0.042	6.18	0.017
10	1.391	0.143	2.02	70	1.5	100	72	-0.044	6.27	0.019
11	1.527	0.136	2.01	70	1.5	-	72	-0.043	7.09	0.019
12	1.670	0.143	2.02	71	1.5	-	71	-0.045	7.52	0.023
13	1.810	0.140	2.02	71	1.9	-	72	-0.044	8.02	0.021
14	1.948	0.138	2.02	71	2.0	-	72	-0.044	9.13	0.024
15	2.091	0.143	2.03	71	2.0	-	72	-0.045	8.49	0.016
16	2.229	0.138	2.03	71	1.4	-	72	-0.045	8.26	0.017
17	2.371	0.142	2.02	72	2.0	-	72	-0.042	8.13	0.017
18	2.511	0.140	2.03	72	1.8	-	72	-0.046	8.09	0.019
19	2.653	0.142	2.03	72	2.0	-	72	-0.046	8.03	0.019
20	2.792	0.139	2.03	72	2.0	102	72	-0.046	7.83	0.022
21	2.932	0.140	2.03	73	2.0	-	71	-0.046	8.05	0.013
22	3.076	0.144	2.04	73	1.8	-	71	-0.046	9.09	0.018
23	3.213	0.137	2.02	73	1.9	-	71	-0.047	9.75	0.019
24	3.357	0.144	2.04	74	1.9	-	71	-0.045	9.98	0.018
25	3.498	0.141	2.03	74	1.8	-	71	-0.045	10.17	0.015
26	3.638	0.140	2.04	74	1.9	-	71	-0.047	10.29	0.020
27	3.781	0.143	2.04	75	1.5	-	71	-0.045	10.38	0.016
28	3.921	0.140	2.04	75	1.8	-	71	-0.045	11.06	0.018
29	4.065	0.144	2.05	75	1.9	-	71	-0.048	11.73	0.031
30	4.203	0.138	2.04	76	1.5	102	71	-0.046	11.31	0.023
31	4.348	0.145	2.05	76	1.5	-	71	-0.049	10.84	0.023

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	4.489	0.141	2.05	76	1.7	-	71	-0.047	10.50	0.022
33	4.631	0.142	2.05	77	1.4	-	71	-0.047	10.30	0.023
34	4.774	0.143	2.05	77	1.4	-	71	-0.047	10.06	0.020
35	4.915	0.141	2.05	77	2.0	-	71	-0.048	10.52	0.020
36	5.059	0.144	2.06	77	2.0	-	71	-0.046	11.19	0.018
37	5.199	0.140	2.06	78	1.7	-	71	-0.047	11.04	0.015
38	5.344	0.145	2.05	78	2.0	-	71	-0.047	10.37	0.013
39	5.485	0.141	2.06	78	1.8	-	71	-0.045	9.43	0.014
40	5.629	0.144	2.06	79	1.5	101	71	-0.046	9.25	0.017
41	5.771	0.142	2.06	79	1.5	-	71	-0.045	9.26	0.015
42	5.913	0.142	2.06	79	1.7	-	71	-0.042	9.18	0.015
43	6.058	0.145	2.07	80	2.0	-	71	-0.045	9.32	0.014
44	6.199	0.141	2.07	80	2.0	-	71	-0.045	9.73	0.015
45	6.345	0.146	2.07	80	2.0	-	71	-0.046	10.63	0.013
46	6.485	0.140	2.06	80	1.5	-	71	-0.047	10.74	0.015
47	6.631	0.146	2.07	81	1.8	-	71	-0.047	10.60	0.013
48	6.773	0.142	2.07	81	1.4	-	71	-0.049	10.60	0.015
49	6.918	0.145	2.07	81	1.6	-	71	-0.047	10.29	0.016
50	7.061	0.143	2.07	82	1.7	100	71	-0.046	10.15	0.016
51	7.203	0.142	2.07	82	1.9	-	71	-0.045	10.08	0.019
52	7.348	0.145	2.07	82	1.5	-	71	-0.048	10.19	0.021
53	7.491	0.143	2.08	82	2.0	-	71	-0.046	10.65	0.018
54	7.637	0.146	2.08	83	1.5	-	71	-0.046	11.08	0.019
55	7.779	0.142	2.08	83	2.0	-	71	-0.046	11.53	0.018
56	7.924	0.145	2.07	83	1.7	-	71	-0.049	11.93	0.023
57	8.067	0.143	2.08	83	1.7	-	71	-0.048	11.99	0.017
58	8.213	0.146	2.08	84	1.5	-	71	-0.047	11.79	0.019
59	8.356	0.143	2.08	84	2.0	-	71	-0.047	11.86	0.018
60	8.501	0.145	2.08	84	1.6	102	71	-0.051	11.79	0.013
61	8.644	0.143	2.08	84	2.0	-	71	-0.051	11.84	0.019
62	8.788	0.144	2.08	84	2.0	-	71	-0.051	11.82	0.023
63	8.934	0.146	2.09	85	1.8	-	71	-0.050	12.04	0.020

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	9.077	0.143	2.09	85	1.6	-	71	-0.050	12.17	0.019
65	9.223	0.146	2.09	85	1.5	-	71	-0.050	12.37	0.020
66	9.365	0.142	2.08	85	1.7	-	71	-0.050	12.53	0.019
67	9.511	0.146	2.08	86	1.8	-	71	-0.052	12.32	0.021
68	9.654	0.143	2.09	86	2.0	-	71	-0.052	12.85	0.024
69	9.800	0.146	2.09	86	1.6	-	71	-0.052	12.84	0.022
70	9.944	0.144	2.09	86	1.7	102	71	-0.052	12.98	0.021
71	10.089	0.145	2.09	86	1.8	-	71	-0.050	12.85	0.024
72	10.233	0.144	2.09	87	1.7	-	71	-0.053	13.03	0.027
73	10.376	0.143	2.08	87	1.5	-	71	-0.053	12.97	0.025
74	10.523	0.147	2.09	87	1.9	-	71	-0.053	13.19	0.028
75	10.666	0.143	2.09	87	1.8	-	71	-0.054	13.09	0.040
76	10.814	0.148	2.10	87	1.7	-	71	-0.052	13.29	0.046
77	10.956	0.142	2.09	87	1.8	-	71	-0.053	13.22	0.081
78	11.103	0.147	2.09	87	1.5	-	71	-0.053	13.67	0.112
79	11.245	0.142	2.10	88	1.7	-	71	-0.054	13.71	0.203
80	11.392	0.147	2.09	88	1.8	100	71	-0.052	13.91	0.385
81	11.535	0.143	2.09	88	1.5	-	71	-0.054	13.92	0.625
82	11.683	0.148	2.10	88	1.6	-	71	-0.056	14.07	0.857
83	11.827	0.144	2.10	88	1.6	-	71	-0.054	13.99	1.125
84	11.973	0.146	2.09	88	2.0	-	71	-0.055	13.98	1.404
85	12.117	0.144	2.09	88	1.9	-	71	-0.057	14.02	1.647
86	12.261	0.144	2.09	89	1.9	-	71	-0.057	13.97	1.873
87	12.408	0.147	2.09	89	1.8	-	71	-0.056	13.75	2.038
88	12.551	0.143	2.10	89	1.8	-	71	-0.056	13.90	2.244
89	12.699	0.148	2.10	89	1.5	-	71	-0.055	13.79	2.555
90	12.843	0.144	2.10	89	1.6	99	71	-0.057	13.69	2.793
91	12.990	0.147	2.10	89	1.5	-	71	-0.054	13.65	3.111
92	13.133	0.143	2.10	89	1.8	-	71	-0.055	13.63	3.227
93	13.280	0.147	2.10	89	1.5	-	71	-0.058	13.63	3.168
94	13.423	0.143	2.10	89	1.6	-	71	-0.059	13.58	3.151
95	13.571	0.148	2.10	89	1.7	-	71	-0.058	13.55	2.870

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	13.715	0.144	2.10	90	2.0	-	71	-0.053	13.65	2.822
97	13.863	0.148	2.10	90	1.9	-	71	-0.058	13.80	2.655
98	14.007	0.144	2.10	90	1.8	-	71	-0.055	13.80	2.576
99	14.153	0.146	2.10	90	1.6	-	71	-0.054	13.80	2.544
100	14.298	0.145	2.10	90	1.5	100	71	-0.057	13.80	2.531
101	14.442	0.144	2.10	90	1.7	-	71	-0.053	13.89	2.482
102	14.589	0.147	2.10	90	2.0	-	71	-0.057	13.82	2.471
103	14.733	0.144	2.11	90	1.6	-	71	-0.055	13.91	2.516
104	14.881	0.148	2.11	90	1.6	-	71	-0.056	13.84	2.663
105	15.026	0.145	2.11	90	1.8	-	71	-0.055	13.70	2.682
106	15.173	0.147	2.10	90	1.7	-	71	-0.054	13.82	2.761
107	15.316	0.143	2.10	90	1.9	-	71	-0.059	13.80	2.962
108	15.464	0.148	2.11	90	2.0	-	71	-0.053	13.78	2.907
109	15.607	0.143	2.11	90	1.6	-	71	-0.057	13.78	2.841
110	15.755	0.148	2.10	91	1.9	102	71	-0.056	13.77	2.891
111	15.900	0.145	2.11	91	1.4	-	71	-0.053	13.75	2.812
112	16.047	0.147	2.10	91	1.7	-	71	-0.058	13.93	2.639
113	16.192	0.145	2.11	91	1.4	-	71	-0.055	13.93	2.498
114	16.339	0.147	2.11	91	1.8	-	71	-0.057	14.03	2.356
115	16.484	0.145	2.10	91	1.4	-	71	-0.054	14.04	2.296
116	16.630	0.146	2.11	91	1.4	-	71	-0.053	14.19	2.128
117	16.776	0.146	2.11	91	1.6	-	71	-0.055	14.18	1.989
118	16.921	0.145	2.10	91	1.5	-	71	-0.053	14.04	1.870
119	17.068	0.147	2.11	91	2.0	-	71	-0.054	14.19	1.846
120	17.213	0.145	2.11	91	1.8	102	71	-0.054	14.13	1.716
121	17.360	0.147	2.11	91	1.8	-	71	-0.053	14.24	1.692
122	17.505	0.145	2.11	91	1.9	-	71	-0.055	14.28	1.575
123	17.654	0.149	2.11	91	1.4	-	71	-0.052	14.37	1.493
124	17.797	0.143	2.10	91	1.5	-	71	-0.052	14.34	0.934
125	17.946	0.149	2.10	91	1.9	-	71	-0.055	14.38	1.134
126	18.089	0.143	2.10	91	1.8	-	71	-0.050	14.41	0.835
127	18.237	0.148	2.11	91	1.7	-	71	-0.051	14.29	0.584

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	18.381	0.144	2.10	91	1.6	-	71	-0.051	14.31	0.428
129	18.529	0.148	2.11	91	1.5	-	71	-0.051	14.18	0.427
130	18.674	0.145	2.11	91	1.8	102	71	-0.050	13.79	0.372
131	18.822	0.148	2.11	92	1.9	-	71	-0.052	13.79	0.425
132	18.967	0.145	2.11	92	1.5	-	71	-0.051	13.66	0.465
133	19.114	0.147	2.11	92	2.0	-	71	-0.051	13.51	0.494
134	19.260	0.146	2.11	92	1.5	-	71	-0.053	13.50	0.466
135	19.406	0.146	2.11	92	1.9	-	71	-0.052	13.30	0.535
136	19.552	0.146	2.10	92	1.5	-	71	-0.052	13.31	0.495
137	19.697	0.145	2.11	92	1.6	-	71	-0.053	13.09	0.501
138	19.844	0.147	2.11	92	1.7	-	71	-0.048	13.29	0.456
139	19.990	0.146	2.11	92	1.5	-	71	-0.050	13.24	0.490
140	20.137	0.147	2.11	92	1.9	101	71	-0.050	13.13	0.511
141	20.282	0.145	2.11	92	1.7	-	71	-0.050	13.16	0.495
142	20.431	0.149	2.11	92	1.5	-	71	-0.050	13.29	0.468
143	20.575	0.144	2.11	92	1.4	-	71	-0.047	13.39	0.429
144	20.723	0.148	2.11	92	2.0	-	71	-0.050	13.34	0.379
145	20.867	0.144	2.11	92	2.0	-	71	-0.047	13.53	0.390
146	21.016	0.149	2.11	92	1.7	-	71	-0.048	13.56	0.389
147	21.159	0.143	2.11	92	1.4	-	71	-0.050	13.54	0.358
148	21.307	0.148	2.11	92	1.6	-	71	-0.046	13.64	0.370
149	21.452	0.145	2.11	92	1.8	-	71	-0.048	13.77	0.372
150	21.600	0.148	2.11	92	2.0	101	71	-0.050	13.82	0.415
151	21.745	0.145	2.11	92	1.6	-	71	-0.050	13.83	0.475
152	21.894	0.149	2.12	92	1.5	-	71	-0.048	13.65	0.473
153	22.039	0.145	2.11	92	1.8	-	71	-0.050	13.90	0.503
154	22.186	0.147	2.10	92	1.8	-	71	-0.048	14.19	0.399
155	22.332	0.146	2.11	92	1.8	-	71	-0.050	14.26	0.412
156	22.478	0.146	2.11	92	2.0	-	72	-0.051	14.43	0.399
157	22.625	0.147	2.11	92	1.4	-	71	-0.049	14.29	0.371
158	22.769	0.144	2.10	92	1.4	-	72	-0.048	14.38	0.471
159	22.917	0.148	2.11	92	1.7	-	72	-0.051	14.26	0.581

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	23.062	0.145	2.11	92	1.6	100	72	-0.053	14.20	0.666
161	23.210	0.148	2.11	92	1.5	-	72	-0.050	14.19	0.809
162	23.355	0.145	2.11	92	1.6	-	72	-0.048	13.84	0.809
163	23.504	0.149	2.11	92	1.7	-	72	-0.049	14.07	0.767
164	23.648	0.144	2.11	92	1.5	-	72	-0.053	13.84	0.808
165	23.796	0.148	2.11	92	1.8	-	72	-0.047	13.93	0.742
166	23.941	0.145	2.11	92	1.9	-	72	-0.050	13.84	0.719
167	24.089	0.148	2.11	92	1.9	-	72	-0.049	14.06	0.665
168	24.233	0.144	2.11	92	1.6	-	72	-0.048	14.14	0.691
169	24.381	0.148	2.10	93	1.6	-	72	-0.050	13.95	0.673
170	24.526	0.145	2.11	93	1.5	101	72	-0.049	13.93	0.623
171	24.674	0.148	2.12	93	1.9	-	72	-0.048	13.93	0.693
172	24.819	0.145	2.11	93	1.5	-	72	-0.049	13.94	0.739
173	24.968	0.149	2.11	93	1.9	-	72	-0.049	13.95	0.789
174	25.113	0.145	2.11	93	1.5	-	72	-0.050	13.98	0.881
175	25.260	0.147	2.11	93	1.7	-	72	-0.052	13.86	0.808
176	25.406	0.146	2.11	93	1.7	-	72	-0.047	13.94	0.709
177	25.553	0.147	2.11	93	1.6	-	72	-0.049	13.79	0.633
178	25.699	0.146	2.11	93	2.0	-	72	-0.052	13.83	0.492
179	25.845	0.146	2.11	93	1.8	-	72	-0.049	13.48	0.435
180	25.992	0.147	2.11	93	1.5	103	72	-0.045	13.75	0.414
181	26.137	0.145	2.11	93	1.8	-	72	-0.051	13.66	0.414
182	26.286	0.149	2.11	93	1.7	-	72	-0.049	13.55	0.412
183	26.430	0.144	2.11	93	2.0	-	72	-0.049	13.45	0.415
184	26.579	0.149	2.12	93	1.9	-	72	-0.048	13.62	0.386
185	26.724	0.145	2.11	93	1.7	-	72	-0.048	13.41	0.356
186	26.873	0.149	2.12	93	1.5	-	72	-0.048	13.52	0.370
187	27.017	0.144	2.11	93	2.0	-	72	-0.048	13.56	0.343
188	27.166	0.149	2.11	93	1.6	-	72	-0.046	13.63	0.310
189	27.310	0.144	2.11	93	1.6	-	72	-0.050	13.51	0.332
190	27.459	0.149	2.11	93	1.5	103	72	-0.047	13.52	0.350
191	27.603	0.144	2.11	93	1.5	-	72	-0.048	13.68	0.294

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	27.751	0.148	2.11	93	1.6	-	72	-0.048	13.71	0.320
193	27.896	0.145	2.11	93	1.9	-	72	-0.049	13.66	0.312
194	28.030	0.134	2.12	93	2.0	-	72	-0.046	13.73	0.381
195	28.174	0.144	2.11	93	1.7	-	72	-0.047	13.62	0.383
196	28.323	0.149	2.12	93	1.9	-	72	-0.046	13.61	0.371
197	28.469	0.146	2.11	93	1.7	-	72	-0.047	13.61	0.447
198	28.616	0.147	2.11	93	1.7	-	72	-0.047	13.57	0.419
199	28.762	0.146	2.10	93	1.6	-	72	-0.048	13.59	0.343
200	28.909	0.147	2.11	93	1.6	101	72	-0.047	13.48	0.277
201	29.055	0.146	2.11	93	1.6	-	72	-0.046	13.50	0.289
202	29.202	0.147	2.12	93	2.0	-	72	-0.044	13.32	0.250
203	29.348	0.146	2.11	93	1.5	-	72	-0.048	13.07	0.289
204	29.494	0.146	2.11	93	1.4	-	72	-0.045	12.94	0.213
205	29.642	0.148	2.11	93	1.5	-	72	-0.047	12.82	0.135
206	29.787	0.145	2.12	93	1.4	-	72	-0.048	12.81	0.081
207	29.936	0.149	2.11	93	1.7	-	72	-0.046	12.56	0.058
208	30.081	0.145	2.12	93	1.9	-	72	-0.043	12.45	0.033
209	30.230	0.149	2.11	93	1.7	-	72	-0.046	12.04	0.027
210	30.375	0.145	2.12	93	1.5	100	72	-0.043	11.78	0.025
211	30.523	0.148	2.11	93	1.9	-	72	-0.041	11.28	0.024
212	30.668	0.145	2.12	93	1.4	-	72	-0.045	10.92	0.022
213	30.817	0.149	2.11	93	1.6	-	72	-0.044	10.61	0.016
214	30.961	0.144	2.11	93	1.7	-	72	-0.044	10.09	0.015
215	31.109	0.148	2.11	93	1.4	-	72	-0.043	9.84	0.015
216	31.254	0.145	2.10	93	1.9	-	72	-0.043	9.72	0.012
217	31.403	0.149	2.11	93	1.9	-	72	-0.043	9.38	0.018
218	31.548	0.145	2.11	93	2.0	-	72	-0.041	9.42	0.014
219	31.696	0.148	2.11	93	1.7	-	72	-0.040	9.44	0.015
220	31.841	0.145	2.12	93	1.5	100	72	-0.039	9.18	0.016
221	31.990	0.149	2.12	93	1.6	-	72	-0.036	9.24	0.011
222	32.136	0.146	2.12	93	1.5	-	72	-0.039	9.06	0.010
223	32.283	0.147	2.11	93	1.9	-	72	-0.038	9.15	0.013

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	32.429	0.146	2.11	93	1.6	-	72	-0.037	9.24	0.014
225	32.576	0.147	2.11	93	1.9	-	72	-0.039	9.00	0.013
226	32.722	0.146	2.11	94	1.5	-	72	-0.036	9.00	0.012
227	32.868	0.146	2.11	93	1.6	-	72	-0.038	9.08	0.013
228	33.015	0.147	2.11	94	1.9	-	72	-0.037	9.07	0.012
229	33.161	0.146	2.11	94	1.7	-	72	-0.038	9.13	0.013
230	33.310	0.149	2.11	94	1.4	102	72	-0.036	9.07	0.012
231	33.455	0.145	2.11	94	1.9	-	72	-0.036	9.05	0.014
232	33.603	0.148	2.11	94	2.0	-	72	-0.037	8.76	0.012
233	33.749	0.146	2.12	94	1.4	-	72	-0.034	8.50	0.016
234	33.898	0.149	2.11	94	1.7	-	72	-0.035	8.69	0.014
235	34.042	0.144	2.12	94	1.9	-	72	-0.036	8.62	0.013
236	34.191	0.149	2.11	94	1.7	-	72	-0.035	8.63	0.011
237	34.336	0.145	2.11	94	2.0	-	72	-0.036	8.56	0.014
238	34.485	0.149	2.11	94	1.6	-	72	-0.035	8.70	0.012
239	34.629	0.144	2.11	94	1.5	-	72	-0.037	8.54	0.015
240	34.778	0.149	2.12	94	1.4	100	72	-0.034	8.52	0.013
241	34.922	0.144	2.11	94	2.0	-	72	-0.035	8.62	0.011
242	35.071	0.149	2.11	94	1.5	-	71	-0.033	8.62	0.013
243	35.216	0.145	2.11	94	1.8	-	71	-0.033	8.70	0.012
244	35.365	0.149	2.12	94	1.5	-	71	-0.032	8.68	0.013
245	35.510	0.145	2.11	94	1.4	-	71	-0.034	8.74	0.011
246	35.659	0.149	2.12	94	1.4	-	71	-0.034	8.50	0.014
247	35.805	0.146	2.11	94	1.8	-	71	-0.034	8.47	0.014
248	35.952	0.147	2.11	94	2.0	-	71	-0.033	8.76	0.013
249	36.098	0.146	2.12	94	1.8	-	71	-0.032	8.67	0.019
250	36.246	0.148	2.11	94	1.6	100	71	-0.031	8.66	0.009
251	36.392	0.146	2.11	94	1.6	-	71	-0.036	8.63	0.012
252	36.539	0.147	2.11	94	1.8	-	71	-0.033	8.78	0.014
253	36.685	0.146	2.11	94	1.4	-	71	-0.030	8.60	0.014
254	36.831	0.146	2.10	94	1.5	-	71	-0.032	8.70	0.015
255	36.979	0.148	2.11	94	1.5	-	71	-0.031	8.82	0.017

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	37.125	0.146	2.11	94	1.8	-	71	-0.030	8.83	0.017
257	37.273	0.148	2.12	94	1.6	-	71	-0.031	8.79	0.014
258	37.418	0.145	2.11	94	1.7	-	71	-0.028	8.59	0.014
259	37.568	0.150	2.12	94	1.4	-	71	-0.031	8.55	0.012
260	37.713	0.145	2.11	94	1.6	100	71	-0.030	8.70	0.016
261	37.862	0.149	2.12	94	1.8	-	71	-0.030	8.72	0.015
262	38.006	0.144	2.11	94	1.4	-	71	-0.030	8.74	0.016
263	38.155	0.149	2.11	94	1.4	-	71	-0.031	8.75	0.016
264	38.300	0.145	2.12	94	1.4	-	71	-0.029	8.54	0.017
265	38.449	0.149	2.12	94	2.0	-	71	-0.030	8.69	0.016
266	38.593	0.144	2.12	94	1.4	-	71	-0.030	8.80	0.019
267	38.742	0.149	2.11	94	1.9	-	71	-0.033	8.62	0.017
268	38.887	0.145	2.11	94	2.0	-	71	-0.030	8.84	0.019
269	39.036	0.149	2.12	94	2.0	-	71	-0.031	8.73	0.017
270	39.182	0.146	2.12	94	1.7	98	71	-0.029	8.82	0.014
271	39.330	0.148	2.11	94	1.4	-	71	-0.029	8.68	0.018
272	39.475	0.145	2.12	94	1.5	-	71	-0.031	8.83	0.015
273	39.624	0.149	2.12	94	1.9	-	71	-0.032	8.63	0.015
274	39.770	0.146	2.11	94	1.4	-	71	-0.030	8.75	0.017
275	39.918	0.148	2.11	94	1.5	-	71	-0.030	8.66	0.014
276	40.064	0.146	2.11	94	1.9	-	71	-0.029	8.66	0.018
277	40.211	0.147	2.12	94	1.9	-	71	-0.031	8.59	0.016
278	40.358	0.147	2.11	94	1.6	-	71	-0.030	8.67	0.019
279	40.504	0.146	2.11	94	1.9	-	71	-0.031	8.51	0.017
280	40.651	0.147	2.12	94	2.0	98	71	-0.029	8.63	0.018
281	40.797	0.146	2.11	94	2.0	-	71	-0.031	8.54	0.017
282	40.945	0.148	2.11	94	1.4	-	71	-0.031	8.56	0.017
283	41.091	0.146	2.12	94	1.7	-	71	-0.030	8.63	0.016
284	41.239	0.148	2.12	94	2.0	-	70	-0.031	8.53	0.018
285	41.384	0.145	2.11	94	1.6	-	70	-0.029	8.50	0.013
286	41.533	0.149	2.12	94	1.9	-	70	-0.029	8.56	0.021
287	41.679	0.146	2.12	94	1.5	-	70	-0.026	8.51	0.018

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	41.828	0.149	2.12	94	1.6	-	70	-0.028	8.64	0.019
289	41.972	0.144	2.11	94	1.6	-	70	-0.026	8.60	0.021
290	42.121	0.149	2.11	94	2.0	98	70	-0.032	8.61	0.018
291	42.265	0.144	2.12	94	1.4	-	70	-0.028	8.57	0.015
292	42.414	0.149	2.11	94	2.0	-	70	-0.028	8.84	0.014
293	42.558	0.144	2.11	94	1.5	-	70	-0.031	8.65	0.015
294	42.707	0.149	2.11	94	1.4	-	70	-0.027	8.75	0.018
295	42.852	0.145	2.11	94	1.7	-	70	-0.031	8.66	0.017
296	43.001	0.149	2.12	94	1.4	-	70	-0.028	8.73	0.020
297	43.146	0.145	2.11	94	2.0	-	70	-0.029	8.66	0.016
298	43.294	0.148	2.11	94	1.4	-	70	-0.029	8.84	0.017
299	43.440	0.146	2.12	94	1.8	-	70	-0.028	8.57	0.016
300	43.589	0.149	2.11	94	1.5	100	70	-0.029	8.85	0.016
301	43.734	0.145	2.12	94	2.0	-	70	-0.031	8.56	0.019
302	43.882	0.148	2.11	94	2.0	-	70	-0.027	8.76	0.018
303	44.028	0.146	2.11	94	1.5	-	70	-0.029	8.86	0.015
304	44.175	0.147	2.11	94	2.0	-	70	-0.028	8.63	0.018
305	44.322	0.147	2.11	94	2.0	-	70	-0.028	8.73	0.020
306	44.467	0.145	2.11	94	1.8	-	70	-0.028	8.84	0.019
307	44.615	0.148	2.11	94	1.9	-	70	-0.027	8.92	0.017
308	44.760	0.145	2.11	94	1.9	-	70	-0.028	8.88	0.018
309	44.909	0.149	2.12	94	1.4	-	70	-0.028	8.83	0.016
310	45.054	0.145	2.12	94	1.9	100	70	-0.028	8.89	0.022
311	45.203	0.149	2.11	94	1.9	-	70	-0.028	8.67	0.014
312	45.348	0.145	2.12	94	2.0	-	70	-0.029	8.65	0.015
313	45.497	0.149	2.12	94	1.9	-	70	-0.030	8.83	0.017
314	45.642	0.145	2.12	94	1.4	-	70	-0.027	8.91	0.013
315	45.791	0.149	2.11	94	2.0	-	70	-0.025	8.79	0.016
316	45.935	0.144	2.11	94	1.7	-	70	-0.030	8.85	0.019
317	46.084	0.149	2.12	94	2.0	-	70	-0.027	8.86	0.018
318	46.229	0.145	2.11	94	2.0	-	70	-0.029	8.72	0.018
319	46.377	0.148	2.12	94	2.0	-	70	-0.025	8.89	0.019

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	46.522	0.145	2.11	94	2.0	98	70	-0.028	8.87	0.018
321	46.671	0.149	2.11	94	2.0	-	70	-0.026	8.74	0.018
322	46.816	0.145	2.12	94	1.6	-	70	-0.031	8.83	0.022
323	46.965	0.149	2.12	94	1.4	-	70	-0.028	8.89	0.021
324	47.110	0.145	2.12	94	1.4	-	70	-0.030	8.96	0.020
325	47.259	0.149	2.12	94	1.6	-	70	-0.029	9.06	0.018
326	47.405	0.146	2.11	94	1.4	-	70	-0.028	8.95	0.018
327	47.552	0.147	2.12	94	2.0	-	70	-0.029	8.93	0.016
328	47.698	0.146	2.11	94	1.4	-	70	-0.029	8.95	0.021
329	47.845	0.147	2.11	94	1.6	-	70	-0.030	9.05	0.017
330	47.992	0.147	2.12	94	2.0	98	70	-0.030	8.91	0.020
331	48.138	0.146	2.11	94	1.7	-	70	-0.029	8.99	0.019
332	48.285	0.147	2.12	94	1.8	-	70	-0.031	8.90	0.022
333	48.431	0.146	2.11	94	2.0	-	70	-0.029	8.81	0.020
334	48.579	0.148	2.11	94	2.0	-	70	-0.029	8.99	0.022
335	48.725	0.146	2.12	94	1.8	-	70	-0.028	8.87	0.020
336	48.873	0.148	2.12	94	1.5	-	70	-0.030	9.01	0.023
337	49.018	0.145	2.12	93	1.6	-	69	-0.029	9.00	0.020
338	49.167	0.149	2.12	94	1.4	-	70	-0.027	8.96	0.017
339	49.313	0.146	2.12	94	1.8	-	69	-0.031	8.91	0.020
340	49.462	0.149	2.12	94	1.9	98	69	-0.030	8.95	0.018
341	49.606	0.144	2.11	94	1.5	-	69	-0.028	9.08	0.017
342	49.755	0.149	2.11	94	1.4	-	69	-0.028	8.88	0.015
343	49.900	0.145	2.11	94	1.4	-	69	-0.029	8.80	0.019
344	50.048	0.148	2.12	94	1.4	-	69	-0.028	9.09	0.018
345	50.193	0.145	2.12	94	1.5	-	69	-0.026	8.80	0.022
346	50.341	0.148	2.12	93	1.4	-	69	-0.027	9.01	0.020
347	50.486	0.145	2.12	93	1.6	-	69	-0.029	9.02	0.020
348	50.635	0.149	2.12	93	1.4	-	69	-0.028	9.01	0.018
349	50.780	0.145	2.12	93	2.0	-	69	-0.027	8.82	0.019
350	50.929	0.149	2.12	93	1.7	98	69	-0.028	8.74	0.019
351	51.074	0.145	2.12	93	1.5	-	69	-0.031	8.70	0.015

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	51.223	0.149	2.12	93	1.9	-	69	-0.030	8.77	0.018
353	51.369	0.146	2.12	94	1.5	-	69	-0.029	8.38	0.018
354	51.516	0.147	2.11	94	2.0	-	69	-0.029	8.61	0.011
355	51.662	0.146	2.12	93	1.9	-	69	-0.031	8.70	0.026
356	51.809	0.147	2.12	94	1.6	-	69	-0.029	8.70	0.016
357	51.956	0.147	2.11	93	1.6	-	69	-0.030	8.58	0.017
358	52.103	0.147	2.12	93	1.9	-	69	-0.030	8.56	0.018
359	52.249	0.146	2.11	93	2.0	-	69	-0.032	8.61	0.016
360	52.395	0.146	2.11	93	1.7	100	69	-0.029	8.62	0.020
361	52.544	0.149	2.12	93	1.6	-	69	-0.028	8.53	0.026
362	52.689	0.145	2.12	93	1.4	-	69	-0.027	8.61	0.019
363	52.837	0.148	2.12	93	1.7	-	69	-0.027	8.50	0.020
364	52.983	0.146	2.12	93	1.5	-	69	-0.027	8.60	0.017
365	53.132	0.149	2.12	93	1.4	-	69	-0.031	8.55	0.020
366	53.277	0.145	2.12	93	2.0	-	69	-0.028	8.66	0.020
367	53.426	0.149	2.12	93	2.0	-	69	-0.029	8.76	0.020
368	53.571	0.145	2.12	93	1.7	-	69	-0.029	8.54	0.015
369	53.720	0.149	2.12	93	1.7	-	69	-0.031	8.61	0.019
370	53.865	0.145	2.12	93	1.9	100	69	-0.027	8.67	0.022
371	54.014	0.149	2.12	93	1.8	-	69	-0.028	8.46	0.017
372	54.158	0.144	2.12	93	2.0	-	69	-0.029	8.51	0.018
373	54.307	0.149	2.12	93	1.9	-	69	-0.029	8.41	0.018
374	54.451	0.144	2.12	93	1.5	-	69	-0.027	8.60	0.014
375	54.601	0.150	2.12	93	1.9	-	69	-0.031	8.62	0.020
376	54.746	0.145	2.12	93	1.7	-	69	-0.030	8.70	0.020
377	54.894	0.148	2.12	93	2.0	-	69	-0.028	8.63	0.016
378	55.040	0.146	2.12	93	1.9	-	69	-0.026	8.53	0.020
379	55.188	0.148	2.12	93	1.6	-	69	-0.031	8.81	0.020
380	55.334	0.146	2.12	93	1.8	98	69	-0.027	8.65	0.022
381	55.481	0.147	2.11	93	1.6	-	69	-0.028	8.60	0.020
382	55.628	0.147	2.12	93	2.0	-	69	-0.030	8.62	0.020
383	55.775	0.147	2.11	93	2.0	-	69	-0.029	8.62	0.022

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	55.921	0.146	2.11	93	1.9	-	69	-0.031	8.65	0.023
385	56.068	0.147	2.12	93	1.7	-	69	-0.029	8.71	0.022
386	56.215	0.147	2.12	93	1.6	-	69	-0.029	8.68	0.022
387	56.360	0.145	2.11	93	1.4	-	69	-0.029	8.70	0.020
388	56.509	0.149	2.12	93	2.0	-	69	-0.031	8.77	0.020
389	56.654	0.145	2.12	93	1.7	-	69	-0.026	8.73	0.020
390	56.803	0.149	2.12	93	1.4	98	69	-0.029	8.75	0.019
391	56.948	0.145	2.12	93	1.4	-	69	-0.027	8.70	0.021
392	57.097	0.149	2.12	93	1.4	-	69	-0.030	8.67	0.019
393	57.243	0.146	2.12	93	1.8	-	69	-0.030	8.79	0.020
394	57.391	0.148	2.12	93	1.9	-	69	-0.028	8.71	0.019
395	57.536	0.145	2.12	93	1.8	-	69	-0.030	8.76	0.016
396	57.685	0.149	2.12	93	1.5	-	69	-0.030	8.84	0.020
397	57.829	0.144	2.12	93	1.5	-	69	-0.029	8.73	0.018
398	57.978	0.149	2.11	93	1.5	-	69	-0.027	8.81	0.017
399	58.122	0.144	2.12	93	1.7	-	69	-0.031	8.83	0.016
400	58.271	0.149	2.11	93	1.4	100	69	-0.029	8.85	0.021
401	58.416	0.145	2.11	93	1.5	-	69	-0.031	8.68	0.015
402	58.565	0.149	2.12	93	1.6	-	69	-0.029	8.62	0.018
403	58.710	0.145	2.11	93	2.0	-	69	-0.033	8.68	0.021
404	58.859	0.149	2.12	93	2.0	-	69	-0.028	8.87	0.019
405	59.005	0.146	2.12	93	1.4	-	69	-0.030	8.82	0.018
406	59.153	0.148	2.12	93	2.0	-	69	-0.028	8.74	0.018
407	59.299	0.146	2.11	93	1.7	-	69	-0.030	8.80	0.017
408	59.446	0.147	2.11	93	1.9	-	69	-0.031	8.75	0.012
409	59.592	0.146	2.11	93	1.6	-	69	-0.029	8.49	0.016
410	59.739	0.147	2.12	93	2.0	100	69	-0.030	8.68	0.012
411	59.886	0.147	2.12	93	1.5	-	69	-0.027	8.74	0.016
412	60.031	0.145	2.11	93	1.8	-	69	-0.030	8.57	0.014
413	60.179	0.148	2.11	93	1.4	-	69	-0.027	8.73	0.015
414	60.325	0.146	2.11	93	1.9	-	69	-0.030	8.70	0.012
415	60.473	0.148	2.12	93	1.6	-	69	-0.032	8.62	0.015

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	60.618	0.145	2.12	93	1.5	-	69	-0.029	8.74	0.017
417	60.767	0.149	2.12	93	1.5	-	69	-0.027	8.74	0.014
418	60.912	0.145	2.12	93	1.6	-	69	-0.031	8.69	0.015
419	61.062	0.150	2.12	93	1.7	-	69	-0.028	8.71	0.017
420	61.206	0.144	2.12	93	2.0	100	69	-0.030	8.70	0.016
421	61.355	0.149	2.12	93	1.7	-	69	-0.031	8.71	0.020
422	61.499	0.144	2.12	93	2.0	-	69	-0.030	8.61	0.017
423	61.648	0.149	2.12	93	1.8	-	69	-0.030	8.58	0.018
424	61.793	0.145	2.12	93	1.7	-	69	-0.030	8.57	0.015
425	61.941	0.148	2.12	93	1.7	-	69	-0.030	8.57	0.015
426	62.085	0.144	2.11	93	1.9	-	69	-0.028	8.59	0.014
427	62.235	0.150	2.11	93	1.7	-	69	-0.028	8.73	0.018
428	62.380	0.145	2.12	93	1.9	-	69	-0.028	8.65	0.016
429	62.528	0.148	2.12	93	1.6	-	68	-0.027	8.52	0.013
430	62.673	0.145	2.12	93	1.8	102	68	-0.029	8.66	0.014
431	62.822	0.149	2.12	93	1.5	-	69	-0.029	8.64	0.018
432	62.968	0.146	2.12	93	1.5	-	69	-0.030	8.68	0.014
433	63.115	0.147	2.11	93	1.7	-	69	-0.029	8.68	0.016
434	63.261	0.146	2.11	93	1.5	-	68	-0.028	8.78	0.015
435	63.408	0.147	2.12	93	1.5	-	68	-0.028	8.68	0.016
436	63.554	0.146	2.11	93	1.8	-	68	-0.030	8.58	0.017
437	63.700	0.146	2.12	93	1.9	-	68	-0.028	8.61	0.016
438	63.847	0.147	2.11	93	2.0	-	68	-0.031	8.59	0.014
439	63.993	0.146	2.12	93	1.7	-	68	-0.030	8.42	0.013
440	64.141	0.148	2.12	93	1.4	102	68	-0.029	8.59	0.015
441	64.286	0.145	2.12	93	2.0	-	68	-0.030	8.54	0.016
442	64.435	0.149	2.12	93	1.9	-	68	-0.029	8.40	0.015
443	64.580	0.145	2.11	93	1.8	-	68	-0.028	8.58	0.015
444	64.730	0.150	2.12	93	1.5	-	68	-0.031	8.54	0.016
445	64.873	0.143	2.11	93	1.4	-	68	-0.029	8.23	0.014
446	65.022	0.149	2.12	93	1.5	-	68	-0.028	8.18	0.016
447	65.167	0.145	2.11	93	2.0	-	68	-0.030	8.09	0.014

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	65.316	0.149	2.12	93	1.8	-	68	-0.025	8.17	0.015
449	65.460	0.144	2.12	93	2.0	-	68	-0.033	8.03	0.016
450	65.608	0.148	2.11	93	1.4	100	68	-0.028	8.24	0.016
451	65.753	0.145	2.11	93	1.9	-	68	-0.029	8.07	0.015
452	65.902	0.149	2.11	93	1.9	-	68	-0.031	8.12	0.015
453	66.047	0.145	2.12	93	1.9	-	68	-0.027	8.00	0.014
454	66.195	0.148	2.12	93	1.8	-	68	-0.030	7.98	0.013
455	66.341	0.146	2.12	93	1.9	-	68	-0.030	8.15	0.011
456	66.490	0.149	2.12	93	1.6	-	68	-0.031	8.08	0.015
457	66.635	0.145	2.12	93	2.0	-	68	-0.029	8.15	0.018
458	66.782	0.147	2.11	93	1.5	-	68	-0.030	8.03	0.012
459	66.929	0.147	2.11	93	1.7	-	68	-0.031	7.72	0.015
460	67.075	0.146	2.12	93	1.5	98	68	-0.024	7.47	0.014
461	67.222	0.147	2.11	93	1.6	-	68	-0.027	7.63	0.016
462	67.367	0.145	2.12	93	2.0	-	68	-0.029	7.89	0.017
463	67.515	0.148	2.11	93	1.4	-	68	-0.028	7.72	0.019
464	67.661	0.146	2.11	93	1.4	-	68	-0.027	7.93	0.014
465	67.809	0.148	2.12	93	2.0	-	68	-0.031	7.87	0.017
466	67.954	0.145	2.12	93	1.7	-	68	-0.027	7.93	0.015
467	68.103	0.149	2.12	93	1.8	-	68	-0.027	7.98	0.012
468	68.248	0.145	2.12	93	1.6	-	68	-0.027	7.96	0.013
469	68.397	0.149	2.12	93	1.5	-	68	-0.028	7.89	0.018
470	68.541	0.144	2.11	93	1.9	98	68	-0.028	7.97	0.015
471	68.690	0.149	2.12	93	1.8	-	68	-0.028	8.00	0.014
472	68.834	0.144	2.11	93	1.6	-	68	-0.028	7.92	0.016
473	68.983	0.149	2.11	93	1.7	-	68	-0.026	7.95	0.014
474	69.127	0.144	2.12	93	1.6	-	68	-0.028	8.00	0.016
475	69.276	0.149	2.11	93	2.0	-	68	-0.028	7.95	0.015
476	69.421	0.145	2.12	93	1.5	-	68	-0.030	8.04	0.018
477	69.570	0.149	2.12	93	1.9	-	68	-0.027	7.92	0.013
478	69.714	0.144	2.11	93	1.4	-	68	-0.030	7.87	0.015
479	69.863	0.149	2.12	93	1.8	-	68	-0.030	7.92	0.013

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	70.009	0.146	2.12	93	1.7	98	68	-0.026	8.00	0.014
481	70.157	0.148	2.12	93	1.7	-	68	-0.028	7.87	0.016
482	70.302	0.145	2.11	93	1.6	-	68	-0.027	7.84	0.014
483	70.449	0.147	2.11	93	1.6	-	68	-0.028	7.67	0.013
484	70.595	0.146	2.11	93	1.7	-	68	-0.028	7.88	0.012
485	70.742	0.147	2.11	93	1.5	-	68	-0.026	7.83	0.015
486	70.888	0.146	2.12	93	2.0	-	68	-0.028	7.82	0.016
487	71.033	0.145	2.11	93	1.5	-	68	-0.028	7.84	0.017
488	71.182	0.149	2.12	93	1.4	-	68	-0.030	7.66	0.017
489	71.327	0.145	2.12	93	1.9	-	68	-0.027	7.73	0.014
490	71.475	0.148	2.12	93	1.6	98	68	-0.029	7.81	0.016
491	71.620	0.145	2.12	93	2.0	-	68	-0.027	7.85	0.014
492	71.769	0.149	2.11	93	1.6	-	68	-0.028	7.75	0.012
493	71.914	0.145	2.12	93	1.5	-	68	-0.027	7.75	0.015
494	72.062	0.148	2.11	93	1.4	-	68	-0.025	7.77	0.016
495	72.207	0.145	2.11	93	1.5	-	68	-0.030	7.63	0.016
496	72.355	0.148	2.11	93	2.0	-	68	-0.027	7.77	0.017
497	72.500	0.145	2.12	93	1.9	-	68	-0.030	7.74	0.017
498	72.648	0.148	2.11	93	1.8	-	68	-0.025	7.67	0.014
499	72.792	0.144	2.11	93	1.7	-	68	-0.027	7.84	0.016
500	72.941	0.149	2.12	93	1.9	100	68	-0.027	7.81	0.015
501	73.085	0.144	2.11	93	1.6	-	68	-0.029	7.86	0.020
502	73.234	0.149	2.12	93	1.8	-	68	-0.029	7.47	0.016
503	73.380	0.146	2.12	93	1.8	-	68	-0.030	7.71	0.016
504	73.528	0.148	2.12	93	2.0	-	68	-0.027	7.86	0.015
505	73.673	0.145	2.11	93	1.6	-	68	-0.025	7.88	0.018
506	73.820	0.147	2.12	93	1.7	-	68	-0.026	7.88	0.016
507	73.966	0.146	2.11	93	1.6	-	68	-0.028	7.98	0.016
508	74.112	0.146	2.11	93	1.7	-	68	-0.029	8.01	0.017
509	74.259	0.147	2.12	93	2.0	-	68	-0.029	7.91	0.015
510	74.404	0.145	2.11	93	1.9	100	68	-0.028	7.92	0.014
511	74.552	0.148	2.11	93	1.5	-	68	-0.027	7.92	0.017

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	74.698	0.146	2.12	93	1.5	-	68	-0.028	7.92	0.014
513	74.846	0.148	2.11	93	1.5	-	68	-0.027	7.88	0.016
514	74.991	0.145	2.12	93	1.7	-	68	-0.026	7.63	0.018
515	75.140	0.149	2.12	92	1.8	-	68	-0.029	7.75	0.015
516	75.284	0.144	2.12	93	2.0	-	68	-0.028	7.74	0.020
517	75.433	0.149	2.11	93	1.9	-	68	-0.027	7.76	0.015
518	75.577	0.144	2.11	93	2.0	-	68	-0.032	7.77	0.021
519	75.726	0.149	2.12	93	1.9	-	68	-0.028	7.80	0.017
520	75.870	0.144	2.12	93	2.0	98	68	-0.025	7.78	0.018
521	76.019	0.149	2.11	93	1.5	-	68	-0.028	7.58	0.018
522	76.163	0.144	2.11	93	1.6	-	68	-0.026	7.64	0.016
523	76.312	0.149	2.12	93	1.5	-	68	-0.026	7.50	0.016
524	76.457	0.145	2.12	93	1.9	-	68	-0.029	7.57	0.016
525	76.605	0.148	2.11	92	1.9	-	67	-0.027	7.53	0.019
526	76.750	0.145	2.12	92	1.5	-	68	-0.029	7.54	0.014
527	76.899	0.149	2.12	92	2.0	-	68	-0.028	7.42	0.014
528	77.044	0.145	2.11	92	2.0	-	68	-0.027	7.61	0.015
529	77.191	0.147	2.12	92	1.8	-	67	-0.024	7.54	0.017
530	77.337	0.146	2.12	92	1.5	98	67	-0.025	7.50	0.015
531	77.483	0.146	2.11	92	1.8	98	67	-0.028	7.59	0.013
Avg/Tot	77.483	0.146	2.10	90.6	1.7	100	70.1	-0.038	10.05	0.279

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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		1.05	70	2.3		67
1	0.199	0.197	1.64	69	2.5	-	67
2	0.397	0.198	1.65	69	2.3	-	67
3	0.597	0.200	1.66	69	2.4	-	67
4	0.796	0.199	1.67	69	2.5	-	68
5	0.995	0.199	1.68	69	2.5	-	68
6	1.195	0.200	1.69	69	2.4	-	68
7	1.395	0.200	1.69	69	2.4	-	68
8	1.596	0.201	1.70	69	2.4	-	68
9	1.797	0.201	1.71	69	2.4	-	68
10	2.000	0.203	1.71	70	2.4	99	68
11	2.202	0.202	1.72	70	2.4	-	68
12	2.405	0.203	1.72	70	2.4	-	68
13	2.608	0.203	1.72	71	2.4	-	68
14	2.811	0.203	1.72	71	2.5	-	68
15	3.014	0.203	1.72	71	2.5	-	68
16	3.216	0.202	1.72	71	2.4	-	68
17	3.419	0.203	1.72	72	2.6	-	68
18	3.622	0.203	1.73	72	2.6	-	68
19	3.825	0.203	1.73	72	2.6	-	68
20	4.029	0.204	1.73	72	2.6	102	68
21	4.232	0.203	1.73	73	2.5	-	68
22	4.436	0.204	1.73	73	2.4	-	68
23	4.640	0.204	1.74	73	2.6	-	68
24	4.844	0.204	1.74	73	2.4	-	68
25	5.049	0.205	1.74	74	2.6	-	68
26	5.253	0.204	1.75	74	2.6	-	68
27	5.458	0.205	1.75	74	2.6	-	68
28	5.662	0.204	1.75	75	2.6	-	68
29	5.867	0.205	1.75	75	2.5	-	68
30	6.073	0.206	1.75	75	2.4	102	68
31	6.279	0.206	1.75	75	2.5	-	68

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

	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	6.485	0.206	1.76	75	2.6	-	68
33	6.692	0.207	1.76	76	2.5	-	68
34	6.898	0.206	1.77	76	2.6	-	68
35	7.105	0.207	1.77	76	2.6	-	68
36	7.312	0.207	1.77	76	2.5	-	68
37	7.519	0.207	1.78	76	2.5	-	68
38	7.725	0.206	1.77	77	2.6	-	68
39	7.933	0.208	1.77	77	2.6	-	68
40	8.141	0.208	1.78	77	2.7	101	68
41	8.349	0.208	1.78	77	2.6	-	68
42	8.557	0.208	1.78	77	2.5	-	68
43	8.765	0.208	1.79	78	2.5	-	68
44	8.971	0.206	1.78	78	2.5	-	68
45	9.180	0.209	1.78	78	2.5	-	68
46	9.389	0.209	1.79	78	2.6	-	68
47	9.598	0.209	1.79	78	2.7	-	68
48	9.807	0.209	1.79	79	2.7	-	68
49	10.014	0.207	1.79	79	2.5	-	68
50	10.224	0.210	1.79	79	2.5	101	68
51	10.433	0.209	1.79	79	2.5	-	68
52	10.643	0.210	1.80	79	2.6	-	68
53	10.852	0.209	1.80	80	2.5	-	68
54	11.061	0.209	1.79	80	2.5	-	68
55	11.271	0.210	1.79	80	2.6	-	68
56	11.481	0.210	1.80	80	2.5	-	68
57	11.690	0.209	1.80	81	2.5	-	68
58	11.899	0.209	1.80	81	2.5	-	68
59	12.110	0.211	1.80	81	2.6	-	68
60	12.320	0.210	1.80	81	2.7	103	68
Avg/Tot	12.318	0.205	1.74	74.6	2.5	101	67.7

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	324	360	320	364	311	335.5	652.4
1	321	357	323	364	311	335.1	642.1
2	318	354	313	364	311	331.7	631.5
3	313	350	309	362	311	329.0	621.5
4	312	346	307	359	311	326.7	613.8
5	309	342	304	357	311	324.7	613.2
6	306	339	300	357	311	322.6	617.4
7	303	336	297	358	311	321.0	619.2
8	300	332	294	361	311	319.5	620.5
9	297	329	290	363	311	317.8	621.3
10	294	325	287	366	311	316.5	621.5
11	291	321	284	369	310	315.0	620.8
12	289	318	280	371	310	313.6	619.2
13	287	314	276	374	310	312.4	618.6
14	284	311	273	377	309	311.0	618.3
15	282	308	272	380	309	310.0	618.6
16	279	305	269	383	308	308.9	619.7
17	278	302	267	386	308	308.1	621.3
18	276	299	264	390	307	307.1	622.9
19	273	296	261	393	306	306.0	624.1
20	272	294	280	393	305	308.9	624.6
21	271	292	279	394	305	307.9	625.6
22	269	290	275	393	304	306.0	626.3
23	267	288	273	394	303	304.9	627.6
24	267	286	271	395	302	304.0	627.9
25	265	285	269	397	301	303.4	628.6
26	264	283	266	399	300	302.5	629.8
27	263	282	266	404	299	302.6	631.3
28	261	281	264	408	298	302.5	633.6
29	260	281	262	411	297	302.2	636.3
30	259	280	261	416	296	302.3	639.9
31	258	279	258	419	295	301.6	644.6
32	256	278	257	422	294	301.5	649.4
33	255	278	257	426	293	301.7	653.0
34	254	277	256	429	292	301.7	656.3
35	253	277	254	432	291	301.3	659.0
36	252	277	255	436	289	301.5	660.0
37	251	276	253	439	288	301.6	658.7
38	249	276	253	445	287	302.0	655.9
39	249	275	251	448	286	301.8	652.7
40	248	274	250	451	285	301.7	649.6
41	248	274	249	454	284	301.6	646.6
42	247	273	247	456	283	301.3	643.8
43	246	272	246	456	283	300.4	641.7
44	246	272	245	457	282	300.1	640.9
45	245	271	245	457	281	299.7	640.5
46	245	270	243	457	280	299.0	640.0
47	245	270	241	458	279	298.7	640.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	246	270	240	458	278	298.5	641.4
49	246	269	241	458	278	298.2	643.7
50	246	269	242	458	277	298.2	646.9
51	247	268	241	456	276	297.6	650.1
52	247	268	241	454	276	297.0	653.6
53	247	268	239	453	275	296.4	657.9
54	247	268	240	452	274	296.2	663.4
55	248	268	240	452	274	296.4	669.5
56	249	268	240	454	273	296.7	676.6
57	249	268	239	454	273	296.6	683.9
58	251	268	238	457	272	297.1	691.1
59	251	268	239	459	272	298.0	697.4
60	251	268	239	461	272	298.0	703.4
61	252	268	240	462	271	298.7	709.1
62	253	269	240	465	271	299.4	714.6
63	254	269	241	467	270	300.4	720.0
64	255	270	243	469	270	301.4	725.6
65	256	270	244	471	270	302.3	731.3
66	257	271	244	473	270	303.1	737.1
67	258	272	246	476	269	304.1	743.3
68	259	273	246	478	269	305.0	749.5
69	261	273	248	481	269	306.3	755.6
70	261	274	247	483	268	306.8	761.3
71	263	275	249	487	268	308.2	766.9
72	263	276	251	490	268	309.4	772.0
73	265	276	251	493	268	310.4	777.0
74	266	277	250	496	268	311.5	781.4
75	268	278	252	499	267	312.7	785.2
76	268	279	251	502	267	313.3	789.6
77	269	279	252	505	267	314.5	793.7
78	270	280	254	509	267	316.0	798.0
79	271	281	254	512	267	317.0	802.6
80	273	282	258	514	267	318.6	807.4
81	274	283	258	518	266	319.7	812.3
82	276	284	259	520	266	320.9	817.8
83	278	285	259	521	266	321.7	823.7
84	279	286	261	522	266	322.8	829.8
85	281	287	262	523	266	323.9	836.1
86	282	289	263	524	266	324.7	842.4
87	286	290	263	525	266	325.9	848.4
88	287	291	264	525	266	326.5	854.2
89	288	293	265	527	266	327.5	860.0
90	291	295	268	530	266	329.7	865.4
91	294	296	270	528	265	330.5	870.3
92	295	298	271	528	265	331.5	874.4
93	297	300	272	529	265	332.6	877.7
94	300	302	274	529	265	334.0	880.7
95	301	304	276	529	265	334.9	883.5

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	304	305	277	530	265	336.3	886.2
97	306	307	279	531	265	337.8	888.7
98	308	309	282	531	265	339.0	891.4
99	310	310	283	531	265	339.9	894.2
100	311	312	284	531	265	340.4	896.8
101	314	313	285	532	265	341.8	899.2
102	316	315	286	531	265	342.3	901.4
103	318	316	291	532	265	344.2	903.5
104	319	317	290	531	265	344.3	905.5
105	321	318	290	532	265	345.1	907.2
106	322	320	292	532	265	346.0	908.7
107	324	321	295	532	265	347.4	909.9
108	327	322	295	532	265	348.4	910.7
109	329	324	299	532	265	349.6	911.7
110	329	325	299	531	265	349.8	912.6
111	334	326	301	531	265	351.4	913.4
112	334	328	303	531	265	351.9	914.4
113	335	329	303	531	265	352.4	915.4
114	337	330	305	531	265	353.6	916.6
115	337	331	308	532	265	354.6	917.7
116	339	332	310	531	265	355.3	918.9
117	340	332	312	531	265	356.2	920.3
118	341	333	312	533	265	356.9	921.9
119	342	334	314	534	265	358.0	923.9
120	344	335	317	533	266	358.9	925.8
121	345	336	319	534	266	360.0	927.6
122	347	337	319	535	266	360.7	929.3
123	347	338	323	535	266	361.9	930.9
124	349	339	322	536	266	362.4	931.9
125	348	340	326	535	266	362.9	931.2
126	349	340	325	535	266	363.0	929.2
127	349	340	326	537	266	363.8	927.2
128	348	341	329	538	266	364.5	926.2
129	349	342	328	537	267	364.3	926.8
130	349	343	329	537	267	364.9	928.5
131	349	343	329	537	267	365.0	929.4
132	350	344	328	539	267	365.7	929.8
133	352	345	330	539	267	366.5	929.7
134	350	346	331	538	267	366.4	929.0
135	350	347	332	539	267	366.8	928.4
136	350	348	332	537	267	366.7	927.6
137	350	349	333	537	267	367.0	925.9
138	350	350	333	535	267	366.9	923.9
139	349	351	335	535	267	367.0	922.2
140	349	351	334	533	266	366.6	920.3
141	348	352	336	532	266	367.0	918.5
142	350	353	337	531	266	367.3	916.2
143	349	354	339	530	266	367.4	913.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	349	354	337	528	266	366.8	911.6
145	349	355	338	528	266	367.1	909.8
146	349	356	339	527	266	367.2	908.4
147	349	357	340	526	265	367.4	907.1
148	348	358	340	523	265	367.1	906.3
149	350	360	340	524	265	367.6	905.7
150	351	361	342	523	265	368.3	905.4
151	349	363	341	522	265	367.8	905.0
152	350	364	342	522	265	368.5	904.7
153	350	365	343	522	265	368.8	904.6
154	350	366	344	521	264	369.1	904.5
155	349	368	346	520	264	369.5	904.0
156	350	369	348	520	264	370.2	903.7
157	349	371	347	519	264	369.9	903.5
158	350	372	347	519	264	370.3	903.4
159	350	374	351	517	264	371.0	902.8
160	349	375	351	517	264	371.2	902.2
161	350	376	350	519	264	371.7	901.7
162	350	377	351	519	264	372.3	901.7
163	349	379	353	519	264	372.7	901.8
164	351	380	352	519	264	373.0	901.8
165	350	381	356	519	264	374.0	901.6
166	351	382	355	518	264	374.2	901.4
167	351	384	358	519	264	375.0	900.9
168	351	384	359	518	264	375.3	900.0
169	352	386	360	519	264	376.3	899.1
170	352	387	360	519	264	376.4	898.7
171	353	388	364	517	264	377.5	898.3
172	353	389	364	518	265	377.8	898.1
173	353	389	364	518	265	377.9	898.4
174	354	390	368	519	265	379.0	898.9
175	354	391	368	518	265	379.3	899.4
176	355	391	371	518	265	380.0	899.3
177	355	392	373	518	265	380.5	898.9
178	355	392	373	519	266	381.0	898.6
179	356	393	377	519	266	382.1	898.2
180	357	393	377	519	266	382.2	897.7
181	358	393	378	519	266	382.6	896.9
182	357	393	380	519	266	383.1	896.1
183	358	394	380	518	267	383.2	895.1
184	357	394	382	519	267	383.5	894.2
185	358	394	383	517	267	383.7	893.1
186	358	395	385	518	267	384.4	891.8
187	358	395	386	517	268	384.6	890.9
188	358	395	386	516	268	384.7	890.1
189	358	396	387	516	268	385.0	889.0
190	359	396	389	515	269	385.5	888.3
191	359	397	390	515	269	385.9	887.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	360	397	391	514	269	386.3	887.3
193	359	398	392	514	270	386.5	886.9
194	361	398	394	513	270	387.3	886.8
195	361	399	395	513	270	387.5	886.7
196	360	400	396	513	271	387.9	886.7
197	362	400	399	512	271	388.7	886.6
198	362	401	399	512	272	389.0	886.3
199	362	402	402	512	272	389.7	885.7
200	363	402	402	513	272	390.3	885.0
201	362	403	404	511	273	390.6	884.4
202	362	403	405	511	273	390.9	883.5
203	362	404	404	511	274	391.0	882.6
204	362	405	404	510	274	390.9	881.3
205	362	405	405	510	274	391.3	879.8
206	361	406	406	508	275	391.2	877.5
207	361	406	406	509	275	391.4	874.8
208	363	406	406	507	276	391.2	871.7
209	361	406	405	505	276	390.4	868.4
210	361	405	405	504	276	390.3	864.5
211	360	405	403	502	277	389.3	860.0
212	358	404	404	499	277	388.5	855.0
213	359	403	404	498	278	388.1	849.3
214	359	402	403	494	278	387.2	842.8
215	358	401	401	491	278	386.0	836.5
216	356	401	401	487	279	384.7	830.2
217	355	400	400	483	279	383.5	823.5
218	355	399	400	478	280	382.6	816.9
219	354	399	399	474	280	381.0	810.1
220	353	398	397	469	280	379.5	803.3
221	352	398	397	463	281	378.1	796.7
222	352	397	396	458	281	376.7	790.3
223	349	397	393	454	282	374.9	784.1
224	348	396	393	449	282	373.6	778.0
225	347	395	392	445	282	372.3	772.0
226	346	394	390	440	283	370.6	766.1
227	345	393	390	435	283	369.2	761.0
228	344	393	389	430	283	367.7	755.8
229	343	392	388	426	284	366.3	750.7
230	342	391	383	422	284	364.5	745.8
231	340	390	386	417	284	363.3	741.1
232	338	389	383	414	285	361.8	736.2
233	338	387	382	410	285	360.5	731.2
234	336	386	379	406	285	358.5	726.3
235	336	384	376	403	285	357.0	721.7
236	334	383	378	399	286	355.8	716.9
237	333	381	378	396	286	354.9	712.7
238	332	380	374	393	286	353.0	708.3
239	331	378	375	390	286	352.0	704.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
240	330	377	372	387	286	350.4	701.0
241	330	375	374	385	287	349.9	697.9
242	329	374	373	382	287	348.8	694.6
243	327	372	370	378	287	346.7	691.2
244	327	371	368	376	287	345.6	688.3
245	326	369	367	373	287	344.4	685.2
246	325	368	365	371	287	343.2	682.4
247	324	366	364	369	287	342.2	679.9
248	323	364	362	366	287	340.6	677.7
249	322	363	365	364	288	340.3	675.4
250	321	362	358	362	288	338.2	672.6
251	320	360	355	361	288	336.8	671.1
252	319	359	357	359	288	336.3	668.8
253	317	357	354	357	288	334.7	666.7
254	318	355	356	356	288	334.6	663.9
255	317	354	353	355	288	333.3	661.3
256	316	353	353	353	288	332.5	658.6
257	315	352	353	352	288	331.9	655.6
258	313	351	350	350	288	330.4	653.1
259	312	349	352	349	288	330.0	650.9
260	312	348	350	348	288	329.2	648.6
261	312	346	349	346	288	328.2	646.3
262	310	345	348	345	289	327.2	645.0
263	309	344	347	343	289	326.1	643.0
264	311	342	347	341	289	325.9	640.6
265	310	342	345	340	289	324.9	639.2
266	309	340	344	339	289	324.0	637.6
267	309	339	345	338	289	323.9	635.6
268	307	338	344	338	289	323.0	633.3
269	306	337	345	337	288	322.8	632.5
270	306	335	342	335	288	321.4	631.6
271	307	335	342	335	288	321.4	630.3
272	305	334	342	334	288	320.6	629.8
273	306	332	342	333	288	320.5	628.3
274	305	331	339	333	288	319.2	627.5
275	303	331	339	332	288	318.5	626.9
276	302	330	337	332	288	317.6	625.9
277	302	329	337	331	288	317.3	624.9
278	302	328	337	330	288	317.1	622.9
279	302	327	337	329	287	316.4	622.2
280	300	327	336	330	287	315.9	621.0
281	301	326	334	329	287	315.5	620.8
282	299	325	336	329	287	315.3	619.9
283	300	325	336	329	287	315.4	618.8
284	299	324	334	328	287	314.3	617.2
285	299	323	336	328	287	314.4	617.3
286	298	322	334	327	286	313.7	616.3
287	298	322	333	327	286	313.1	615.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
288	298	321	332	325	286	312.3	614.8
289	298	321	329	325	286	311.6	613.5
290	296	320	331	325	285	311.6	613.1
291	296	320	331	324	285	311.2	612.4
292	296	319	330	324	285	310.9	611.3
293	295	318	332	324	285	310.8	611.1
294	296	318	329	322	285	309.9	610.2
295	295	317	330	322	284	309.8	609.1
296	294	317	327	322	284	308.9	608.6
297	295	317	327	322	284	308.9	607.4
298	293	317	330	321	284	308.7	607.4
299	293	316	327	321	283	308.1	606.2
300	293	316	329	321	283	308.2	605.8
301	292	316	325	320	283	307.1	605.2
302	292	315	330	320	283	307.7	604.7
303	292	315	327	319	282	307.1	604.1
304	292	314	326	319	282	306.7	604.0
305	291	314	328	319	282	306.6	603.6
306	291	314	327	318	282	306.2	602.8
307	290	313	326	318	282	305.6	601.7
308	290	313	326	318	281	305.6	601.3
309	289	312	327	318	281	305.5	601.2
310	290	312	328	317	281	305.6	600.9
311	289	312	326	317	281	304.9	600.0
312	288	312	327	317	281	304.8	599.2
313	289	311	325	317	281	304.5	599.4
314	289	311	326	317	280	304.5	598.7
315	290	311	325	316	280	304.4	598.6
316	290	311	327	316	280	304.8	598.9
317	291	311	325	316	280	304.5	599.0
318	290	311	325	317	280	304.4	598.4
319	288	310	330	317	280	305.0	597.7
320	289	310	325	316	280	303.9	597.6
321	289	310	326	315	280	303.8	597.6
322	289	310	328	316	279	304.3	597.7
323	289	310	324	315	279	303.4	598.3
324	288	309	324	315	279	303.1	597.9
325	289	309	325	316	279	303.4	598.1
326	288	309	325	315	279	303.2	598.3
327	288	309	326	316	279	303.6	598.5
328	288	308	326	316	279	303.3	598.5
329	288	308	326	315	279	303.2	597.6
330	288	308	328	316	279	303.6	596.8
331	287	308	327	317	279	303.3	597.7
332	288	307	327	315	279	303.1	597.8
333	286	307	326	316	279	302.8	597.8
334	287	307	327	316	279	303.0	597.4
335	286	306	329	316	278	303.3	597.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
336	285	306	330	315	278	302.8	597.5
337	286	306	330	316	278	303.1	596.4
338	285	306	330	316	278	302.9	596.7
339	284	305	331	316	278	302.7	595.9
340	286	305	330	315	278	303.0	595.7
341	286	305	332	316	278	303.3	595.4
342	285	305	332	316	278	303.1	595.4
343	284	305	331	316	278	302.8	595.6
344	285	305	334	316	278	303.5	595.9
345	285	304	335	316	278	303.4	595.6
346	285	304	335	316	278	303.6	595.8
347	285	304	334	316	278	303.2	595.7
348	284	304	336	316	278	303.5	595.3
349	285	304	336	315	278	303.7	595.1
350	284	304	334	315	278	303.0	594.1
351	284	304	337	315	278	303.4	594.3
352	284	303	335	315	278	302.8	594.0
353	284	303	337	316	278	303.3	593.3
354	283	303	337	315	278	302.9	593.2
355	283	303	336	315	277	303.0	591.7
356	283	303	338	314	277	303.0	590.9
357	282	303	337	314	277	302.8	591.1
358	283	303	338	314	277	303.0	590.8
359	283	303	336	314	277	302.7	590.6
360	281	303	337	313	277	302.4	590.3
361	282	303	335	314	277	302.1	589.2
362	280	304	336	314	277	302.0	589.8
363	280	304	339	313	277	302.5	590.0
364	279	304	335	313	277	301.6	590.1
365	279	304	336	313	277	301.7	589.3
366	279	304	340	313	277	302.6	589.8
367	279	304	339	314	277	302.5	588.7
368	279	305	337	313	277	302.1	589.1
369	279	305	334	313	277	301.5	588.3
370	279	305	335	314	277	301.8	587.9
371	278	305	335	313	277	301.7	587.4
372	278	306	334	314	277	301.6	588.0
373	277	306	336	314	277	301.8	588.3
374	277	306	332	314	277	301.0	588.9
375	277	306	336	314	277	301.9	588.8
376	277	306	333	314	277	301.2	588.3
377	276	306	336	313	277	301.7	587.9
378	277	307	335	313	277	301.6	588.4
379	277	307	335	313	277	301.8	589.2
380	277	307	334	313	277	301.2	588.0
381	277	307	336	313	277	302.0	588.3
382	277	307	334	313	277	301.4	587.4
383	277	307	334	313	276	301.2	587.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
384	276	307	332	313	276	301.0	587.9
385	276	307	334	313	276	301.3	587.8
386	275	306	334	314	276	301.1	587.3
387	274	306	334	314	276	301.0	587.2
388	275	306	334	315	276	301.1	588.8
389	275	306	336	314	276	301.5	587.9
390	274	306	335	315	276	301.0	587.7
391	276	306	336	314	276	301.5	588.0
392	275	306	335	315	276	301.4	589.2
393	275	305	337	315	276	301.5	588.3
394	274	305	336	315	276	301.1	588.2
395	274	305	335	315	276	301.1	588.4
396	274	305	335	315	276	300.9	588.1
397	274	304	335	315	276	300.8	588.2
398	275	304	335	315	276	301.1	587.6
399	275	304	336	315	276	301.3	587.2
400	274	304	335	315	276	300.8	587.2
401	274	304	339	315	276	301.7	587.1
402	274	304	337	315	276	301.1	587.4
403	275	304	336	315	276	301.1	586.9
404	275	303	336	315	276	301.0	586.1
405	275	303	334	315	276	300.7	587.0
406	276	303	335	315	276	300.9	587.2
407	274	302	336	315	276	300.8	587.2
408	274	302	334	316	276	300.5	587.1
409	274	302	335	316	276	300.7	587.5
410	274	302	334	316	276	300.5	586.8
411	275	302	335	316	276	300.8	587.3
412	275	301	336	315	277	300.9	586.3
413	276	301	335	315	277	300.8	585.6
414	276	301	334	315	277	300.6	585.6
415	276	301	334	315	277	300.7	584.7
416	276	301	335	314	277	300.8	584.1
417	276	301	334	314	277	300.5	584.3
418	278	301	337	313	277	301.1	583.8
419	278	301	338	313	278	301.3	583.1
420	278	301	335	312	278	300.8	582.8
421	278	301	333	311	278	300.1	582.9
422	278	301	332	310	278	299.8	582.7
423	278	301	332	310	278	299.7	582.6
424	278	300	336	310	279	300.4	581.9
425	279	300	334	309	279	300.1	581.5
426	278	300	335	308	279	299.9	581.5
427	278	300	334	308	279	300.0	581.3
428	278	300	334	308	279	299.9	580.6
429	278	300	334	308	280	300.0	580.5
430	279	299	335	308	280	300.1	580.2
431	280	299	335	307	280	300.3	580.1

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
432	281	299	335	308	281	300.8	580.1
433	280	299	337	308	281	300.9	580.3
434	282	299	338	308	281	301.4	580.3
435	281	298	337	307	281	301.0	579.8
436	281	298	336	307	281	300.8	579.5
437	282	298	335	307	282	300.7	579.0
438	282	298	335	307	282	300.5	578.7
439	282	297	336	307	282	300.6	578.9
440	282	297	335	307	282	300.7	578.5
441	282	297	334	307	283	300.4	579.0
442	282	297	336	306	283	300.8	579.2
443	283	296	334	306	283	300.6	579.1
444	283	296	335	306	283	300.6	578.9
445	283	296	334	307	284	300.7	578.5
446	283	296	338	306	284	301.3	578.4
447	284	295	335	306	284	300.9	577.5
448	284	295	335	306	284	300.9	577.4
449	284	294	334	306	285	300.6	576.5
450	285	294	334	306	285	300.7	576.4
451	285	293	335	306	285	300.7	575.7
452	285	293	335	305	285	300.5	573.8
453	284	293	335	305	285	300.2	573.7
454	284	292	332	305	285	299.6	573.4
455	283	292	332	305	286	299.6	572.4
456	284	292	333	304	286	299.5	572.2
457	283	291	328	304	286	298.3	571.0
458	284	291	329	303	286	298.7	570.5
459	283	290	332	303	287	298.8	569.7
460	282	290	329	302	287	297.9	569.7
461	283	289	329	302	287	298.0	568.2
462	282	289	326	301	287	297.3	567.4
463	282	289	326	301	287	297.0	567.1
464	283	288	327	300	288	297.2	565.7
465	281	288	326	301	288	296.6	564.7
466	282	288	323	300	288	296.2	563.7
467	282	288	323	300	288	296.1	562.6
468	282	287	325	299	288	296.2	561.7
469	282	287	323	299	289	295.8	561.9
470	281	287	323	298	289	295.6	561.0
471	280	287	322	298	289	295.0	560.4
472	280	286	322	297	289	295.0	559.5
473	280	286	320	297	289	294.4	558.8
474	280	286	320	297	290	294.4	558.3
475	280	286	320	296	290	294.4	558.4
476	280	286	320	297	290	294.4	557.6
477	279	286	319	296	290	293.9	556.7
478	278	285	320	295	290	293.8	557.0
479	278	285	317	295	291	293.2	556.7

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
480	278	285	317	295	291	293.1	556.3
481	279	285	317	295	291	293.3	555.7
482	278	285	318	294	291	293.2	555.2
483	278	285	318	294	291	293.3	554.8
484	279	285	318	294	291	293.4	554.9
485	278	285	317	294	292	292.9	553.9
486	278	285	317	293	292	292.8	552.8
487	278	285	318	292	292	292.8	552.2
488	276	285	317	293	292	292.4	550.9
489	276	285	315	292	292	291.8	550.5
490	276	284	316	292	292	292.0	550.1
491	275	284	316	292	292	291.7	549.4
492	275	284	316	291	292	291.7	548.9
493	275	284	314	291	292	291.3	548.2
494	275	284	315	291	292	291.3	547.7
495	275	284	315	290	292	291.2	546.8
496	275	284	314	291	292	291.1	546.5
497	274	283	313	291	292	290.6	545.6
498	273	283	315	290	292	290.7	545.6
499	274	283	315	290	292	290.7	545.3
500	274	283	315	290	292	290.8	544.3
501	274	283	316	289	292	290.8	544.1
502	273	283	314	289	292	290.1	543.8
503	274	283	314	289	293	290.6	544.7
504	273	283	314	289	293	290.1	544.6
505	273	282	314	289	293	290.1	544.8
506	273	282	315	289	293	290.5	544.7
507	273	282	314	289	293	290.1	543.9
508	273	282	313	289	293	289.9	544.3
509	272	282	313	289	293	289.6	544.4
510	273	282	312	289	293	289.8	544.6
511	272	282	313	289	293	289.7	544.9
512	272	282	313	289	293	289.7	545.2
513	271	282	314	289	293	289.6	545.3
514	272	282	314	289	293	289.8	545.2
515	272	282	314	288	292	289.7	545.1
516	272	282	314	289	292	289.8	544.4
517	271	282	316	289	293	290.0	545.1
518	271	282	314	289	293	289.6	545.5
519	273	282	314	289	293	290.0	545.2
520	271	282	315	289	293	290.1	544.4
521	271	282	315	288	293	289.9	544.4
522	271	282	314	289	293	289.7	544.6
523	271	282	314	289	293	289.6	544.9
524	270	282	314	289	293	289.4	544.8
525	272	282	313	289	292	289.6	544.5
526	270	282	313	289	292	289.1	544.6
527	270	282	312	289	292	288.9	544.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

Stove ΔT: 47

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
528	270	282	311	289	292	288.7	544.7
529	270	281	311	288	292	288.5	544.7
530	269	281	310	288	292	288.1	543.8
531	270	281	310	288	292	288.4	543.2
Average	299.4	320.4	325.4	390.5	280.0	323.1	687.9

LAB SAMPLE DATA - ASTM E2515

Client: FPI
Model: F3500-1
Run #: 1

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/17/2023

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00494	241.9	243.7	1.8
	B	G00495	243.3	244.8	1.5
	C - 1st Hour	G00496	243.0	244.0	1.0
	Amb	G00497	243.0	243.0	0.0
Probes	**A**	1A	115626.6	115626.8	0.2
	B	1B	115901.5	115902.1	0.6
	C - 1st Hour	1C	116432.7	116432.7	0.0
O-rings	**A**	1A	3568.1	3568.3	0.2
	B	1B	3556.6	3556.7	0.1
	C - 1st Hour	1C	4168.0	4168.4	0.4

Placed in Dessicator on:	4/18/2023

Filters	**A**	243.8	4/24 12:54	243.7	4/26 10:07				
	B	244.8	4/24 12:54	244.8	4/26 10:07				
	C - 1st Hour	244.0	4/24 12:54	244.0	4/26 10:07				
	Amb	243.0	4/24 12:55	243.0	4/26 10:07				
Probes	**A**	115626.7	4/24 12:55	115626.8	4/26 10:08				
	B	115902.0	4/24 12:55	115902.1	4/26 10:08				
	C - 1st Hour	116432.7	4/24 13:02	116432.7	4/26 10:08				
O-Rings	**A**	3569.1	4/24 12:55	3568.3	4/26 10:08	3568.3	4/26 10:28		
	B	3557.7	4/24 12:55	3556.8	4/26 10:09	3556.7	4/26 10:28		
	C - 1st Hour	4168.8	4/24 12:55	4168.3	4/26 10:09	4168.4	4/26 10:28		

Train A Aggregate, mg:	**2.2**
Train B Aggregate, mg:	**2.2**
Train C Aggregate, mg:	**1.4**
Ambient, mg:	**0.0**

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 1 Test Date: 4/17/23

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Open 1.240"
Targeted Burn Category: I

Preburn Notes

Time	Notes
50:00 66:00	Removed 1.0 lb of coals, raked coalbed End PB

Test Notes

Test Burn Start Time: 12:36 Test Fuel Loaded by: 45 seconds
Door Closed: 65 seconds Air Control Set at: 300 seconds
Other Loading Notes: Fan on low @ 20 min

Time	Notes
	-None-

Test Burn End Time: 21:27

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 17.01 CO (%): 4.306
Mid Gas CO_2 (%): 10.09 CO (%): 2.53

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	10:07	10:08	10:10	4/18 10:42	4/18 10:43	4/18 10:44
CO_2	0.01	17.01	9.97	-0.08	17.07	9.98
CO	0.000	4.310	2.468	-0.001	4.318	4.486

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

Technician Signature:  Date: 5/8/23

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 1 Test Date: 4/17/23



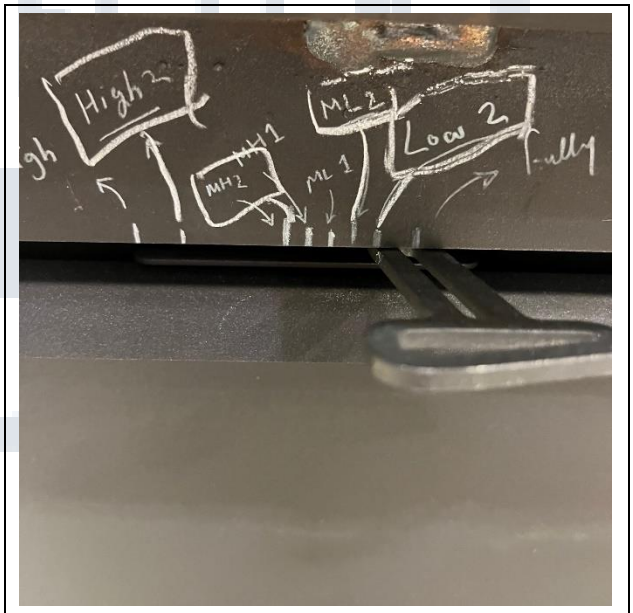
Test Fuel Front/Side View



Test Fuel Iso View



Test Fuel Loaded in Stove



Air Setting

Technician Signature: Date: 5/8/23

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 2 Data Summary

Client:	FPI
Model:	F3500-1
Job #:	23-131
Tracking #:	126
Test Date:	4/18/2023

Techician Signature

5/8/2023
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Burn Rate (kg/hr):	2.31

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	43.225	31.985	29.487	11.755
Average Gas Velocity in Dilution Tunnel (ft/sec)	6.4			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	16826.8			
Average Gas Meter Temperature (°F)	66.6	88.7	88.0	75.8
Total Sample Volume (dscf)	44.341	31.243	28.559	11.445
Average Tunnel Temperature (°F)	95.3			
Total Time of Test (min)	205			
Total Particulate Catch (mg)	0.6	5.4	5.2	6.6
Particulate Concentration, dry-standard (g/dscf)	0.0000135	0.0001728	0.0001821	0.0005767
Total PM Emissions (g)	0.78	9.16	9.69	9.48
Particulate Emission Rate (g/hr)	0.23	2.68	2.84	9.48
Emissions Factor (g/kg)	-	1.16	1.23	-
Difference from Average Total Particulate Emissions (g)	-	0.27	0.27	-
Difference from Average Total Particulate Emissions (%)	-	2.8%	2.8%	
Difference from Average Emissions Factor (g/kg)	-	0.03	0.03	-

Final Average Results	
Total Particulate Emissions (g)	9.42
Particulate Emission Rate (g/hr)	2.76
Emissions Factor (g/kg)	1.19
HHV Efficiency (%)	71.0%
LHV Efficiency (%)	76.7%
CO Emissions (g/min)	3.68

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	80.3	OK
Face Velocity	< 30 ft/min	8.8	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:61.9/Max:68.1	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	23.6	OK

B415.1 Efficiency Results

Manufacturer:	FPI
Model:	F3500-1
Date:	04/18/23
Run:	2
Control #:	23-131
Test Duration:	205
Output Category:	4

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	71.0%	76.7%
Combustion Efficiency	93.0%	93.0%
Heat Transfer Efficiency	76.3%	82.5%

Output Rate (kJ/h)	32,320	30,659	**(Btu/h)**
Burn Rate (kg/h)	2.30	5.07	**(lb/h)**
Input (kJ/h)	45,537	43,197	**(Btu/h)**

Test Load Weight (dry kg)	7.85	17.31	**dry lb**
MC wet (%)	17.41		
MC dry (%)	21.09		
Particulate (g)	9.42		
CO (g)	754		
Test Duration (h)	3.42		

Emissions	**Particulate**	**CO**
g/MJ Output	0.09	6.82
g/kg Dry Fuel	1.20	95.95
g/h	2.76	220.56
g/min	0.05	3.68
lb/MM Btu Output	0.20	15.86

Air/Fuel Ratio (A/F)	10.62

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

WOODSTOVE FUEL DATA - ASTM E2780

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.25	19.6	2x4	17.25	19.7
2x4	17.25	21.3	2x4	17.25	18.9
2x4	17.25	21.8	2x4	17.25	21.5
2x4	17.25	22.6	2x4	17.25	21.1
2x4	17.25	20.3			
2x4	17.25	21.0			
2x4	17.25	18.8			
2x4	17.25	21.2			
Total Fuel Weight (lbs):		18.99	Average Moisture (%DB):		20.7

Firebox Volume (ft^3):	3.02
Total 2x4 Crib Weight, with spacers (lbs):	0.00
Total 4x4 Crib Weight, with spacers (lbs):	20.96
Total Wet Fuel Weight, with spacers (lbs):	20.96

Coal Bed Range (20-25%):
Min (lbs): 4.19
Max (lbs): 5.24

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	17.25	3.65	21.4	21.2	22.6	3.00
4x4	17.25	3.97	19.6	22.6	24.3	3.25
4x4	17.25	3.53	19.9	19.0	20.3	2.95
4x4	17.25	4.11	20.9	23.3	20.7	3.38
4x4	17.25	3.90	19.3	21.6	19.6	3.25
				Total Dry Weight, no spacers (lbs):		15.82
				Total Dry Weight, with spacers (lbs):		17.42

Spacer Moisture Readings (%DB)

8.3	12.3						
16.4	11.7						
13.7	13.2						
15.7	9.2						
13.0	8.1						
13.4	14.9						
10.0	15.6						
10.6	10.5						

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	25.9	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.93	OK
2x4 Fuel Mix	35 - 65 % of total weight	N/A	N/A

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	FPI	Job #:	23-131
Model:	F3500-1	Tracking #:	126
Run #:	2	Technician:	AK
Test Start Time:	12:42	Date:	4/18/2023

Total Sampling Time (min):	205		
Recording Interval (min):	1		
Meter Box γ Factor:	1.010	(A)	
Meter Box γ Factor:	1.001	(B)	
Meter Box γ Factor:	0.985	(C)	
Meter Box γ Factor:	1.024	(Ambient)	
Induced Draft Check (in. H_2O):	0		
Smoke Capture Check (%):	100%		
Date Flue Pipe Last Cleaned:	4/10/2023		

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	29.87	29.94	29.91
Relative Humidity (%)	27.1	35.3	
Room Air Velocity (ft/min)	<50	<50	
Scale Audit (lbs)	10.0	10.0	
Ambient Sample Volume:		43.225	ft^3

Sample Train Post-Test Leak Checks

(A)	0.000	cfm @	-5	in. Hg
(B)	0.000	cfm @	-5	in. Hg
(C)	0.000	cfm @	-5	in. Hg
(Ambient)	0.000	cfm @	-12	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

Point	dP (in H_2O)	Temp (°F)
1	0.006	100
2	0.010	100
3	0.010	100
4	0.012	100
5	0.012	100
6	0.006	100
7	0.008	100
8	0.010	100
9	0.012	100
10	0.012	100
11	0.008	100
12	0.006	100
Center	0.013	100

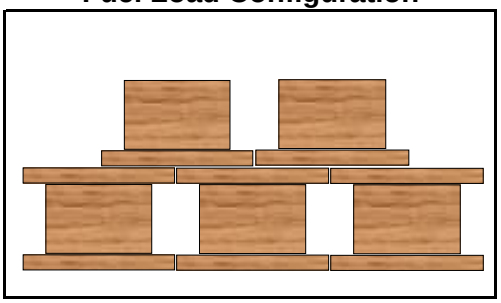
Static Pressure: -0.060 in. H_2O

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	12	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:	0.7854	ft^2
V_{strav}:	6.54	ft/sec
V_{scent}:	7.79	ft/sec
F_p:	0.840	[ratio]
Initial Tunnel Flow:	284.6	scf/min

TEST FUEL PROPERTIES

Fuel Load Configuration

Firebox Left



Firebox Right

Firebox Front 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)	21.1

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Recording Interval (min): 1
Run Time (min): 120

			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	20.61	-0.075	420	460	430	631	252	438.5	553	65
1	20.43	-0.073	418	461	424	611	257	434.1	489	64
2	20.24	-0.073	415	461	414	591	262	428.5	467	64
3	20.04	-0.075	412	460	406	576	266	424.1	467	64
4	19.81	-0.076	408	459	399	566	271	420.6	477	64
5	19.63	-0.076	404	457	395	562	276	418.8	482	65
6	19.46	-0.075	398	454	389	560	280	416.1	480	65
7	19.31	-0.077	392	450	385	558	284	413.8	478	64
8	19.16	-0.075	388	446	377	557	288	411.1	476	64
9	19.02	-0.074	382	442	371	555	291	408.0	472	64
10	18.87	-0.073	378	437	367	549	294	405.0	468	64
11	18.72	-0.075	373	433	361	542	296	401.0	465	64
12	18.55	-0.076	370	429	355	536	299	397.5	464	64
13	18.37	-0.075	365	424	349	533	300	394.3	467	64
14	18.18	-0.077	362	421	349	529	302	392.4	473	64
15	17.97	-0.077	358	417	341	525	303	389.1	480	65
16	17.76	-0.077	355	413	337	527	304	387.3	486	64
17	17.55	-0.077	353	410	336	529	305	386.6	488	64
18	17.36	-0.077	350	407	332	534	306	385.7	488	64
19	17.18	-0.076	349	404	327	539	306	384.9	487	64
20	17.00	-0.079	348	401	325	543	306	384.6	486	64
21	16.80	-0.075	347	398	324	545	307	384.2	486	64
22	16.61	-0.076	345	396	320	548	307	383.0	485	64
23	16.42	-0.077	346	394	317	551	307	382.9	485	64
24	16.21	-0.077	344	392	319	553	306	382.9	487	65
25	15.99	-0.077	343	391	314	557	306	382.2	490	65
26	15.76	-0.076	343	390	313	560	306	382.3	493	65
27	15.52	-0.078	346	389	311	563	305	382.9	499	65
28	15.26	-0.079	345	389	311	568	305	383.6	504	65
29	15.00	-0.077	346	389	311	573	305	384.8	509	65
30	14.72	-0.080	349	390	313	577	304	386.4	512	65
31	14.46	-0.080	350	391	312	579	304	387.2	513	65
32	14.19	-0.080	352	392	310	581	303	387.5	512	65
33	13.92	-0.079	355	393	312	582	303	389.0	512	65
34	13.65	-0.080	356	394	316	587	302	391.1	510	65
35	13.39	-0.078	358	397	315	587	302	391.5	509	65
36	13.15	-0.078	359	399	318	589	301	393.2	505	65
37	12.91	-0.077	363	402	315	591	300	394.0	501	65
38	12.67	-0.076	367	405	316	592	300	395.9	498	65
39	12.44	-0.076	368	409	317	592	300	397.1	497	65
40	12.21	-0.078	370	413	320	592	299	398.6	495	65
41	11.98	-0.078	374	417	321	591	299	400.3	494	65
42	11.75	-0.078	377	421	322	592	298	402.0	493	65
43	11.53	-0.077	382	426	324	592	298	404.3	492	65
44	11.30	-0.078	385	429	327	593	298	406.4	491	65

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Recording Interval (min): 1
Run Time (min): 120

			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	11.08	-0.076	391	434	328	593	297	408.4	490	65
46	10.85	-0.076	394	438	328	594	297	410.3	489	65
47	10.64	-0.076	400	443	331	593	297	412.7	487	65
48	10.43	-0.073	403	447	331	594	297	414.3	485	65
49	10.23	-0.074	407	451	330	593	297	415.7	482	65
50	10.04	-0.074	412	456	331	594	297	417.8	479	65
51	9.86	-0.072	415	459	335	595	297	420.1	477	65
52	9.68	-0.074	418	462	339	597	297	422.7	476	65
53	9.52	-0.075	420	465	340	597	297	423.8	474	65
54	9.38	-0.071	423	467	343	597	298	425.7	469	65
55	9.25	-0.072	423	468	343	599	298	426.0	464	65
56	9.13	-0.073	422	470	346	600	298	427.0	459	65
57	9.02	-0.071	422	471	347	603	298	428.1	455	65
58	8.92	-0.071	424	471	345	600	298	427.8	451	65
59	8.82	-0.069	422	471	348	600	299	428.0	447	65
60	8.72	-0.070	421	471	345	597	299	426.7	445	65
61	8.63	-0.069	421	471	348	593	299	426.6	442	65
62	8.53	-0.068	422	470	346	590	299	425.7	440	65
63	8.44	-0.069	419	470	353	586	300	425.6	438	65
64	8.35	-0.068	419	469	350	581	300	423.9	436	65
65	8.27	-0.068	419	469	348	577	300	422.5	432	65
66	8.18	-0.067	417	468	350	573	300	421.8	430	65
67	8.10	-0.067	417	470	349	567	300	420.6	429	65
68	8.01	-0.068	417	471	347	561	301	419.4	428	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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		0.013	1.36	71	0.7		20.96		103	430	69	66
1	0.137	0.137	0.012	2.02	70	0.8	-	20.89	-0.07	119	457	73	66
2	0.282	0.145	0.013	2.07	70	0.8	-	20.76	-0.13	101	417	73	66
3	0.422	0.140	0.013	2.10	71	0.8	-	20.55	-0.21	99	411	73	66
4	0.569	0.147	0.012	2.12	71	0.9	-	20.34	-0.21	100	424	73	66
5	0.711	0.142	0.012	2.13	71	0.8	-	20.10	-0.24	100	446	74	66
6	0.859	0.148	0.012	2.14	71	0.8	-	19.85	-0.25	102	469	74	66
7	1.002	0.143	0.012	2.17	71	0.8	-	19.60	-0.25	103	485	75	66
8	1.149	0.147	0.012	2.18	71	0.9	-	19.36	-0.24	104	496	75	66
9	1.294	0.145	0.013	2.18	71	0.9	-	19.11	-0.25	104	503	75	66
10	1.441	0.147	0.012	2.20	71	0.8	96	18.84	-0.27	105	508	76	66
11	1.588	0.147	0.012	2.20	71	0.9	-	18.59	-0.25	105	512	76	66
12	1.735	0.147	0.012	2.22	72	0.9	-	18.31	-0.28	106	515	76	66
13	1.885	0.150	0.012	2.24	72	0.9	-	18.05	-0.26	107	517	77	66
14	2.031	0.146	0.012	2.24	72	0.9	-	17.79	-0.26	107	518	77	66
15	2.182	0.151	0.013	2.24	72	0.9	-	17.51	-0.28	105	518	77	66
16	2.328	0.146	0.012	2.26	72	0.9	-	17.25	-0.26	104	515	77	66
17	2.479	0.151	0.013	2.27	73	0.9	-	16.99	-0.26	104	511	77	66
18	2.626	0.147	0.012	2.27	73	0.9	-	16.73	-0.26	104	509	77	66
19	2.778	0.152	0.013	2.28	73	0.9	-	16.47	-0.26	104	506	78	66
20	2.925	0.147	0.012	2.29	74	0.9	101	16.22	-0.25	104	505	78	66
21	3.078	0.153	0.013	2.30	74	0.9	-	15.97	-0.25	104	504	78	66
22	3.225	0.147	0.012	2.30	74	0.9	-	15.73	-0.24	104	502	78	66
23	3.378	0.153	0.012	2.31	75	0.9	-	15.48	-0.25	104	501	78	66
24	3.526	0.148	0.012	2.31	75	0.9	-	15.23	-0.25	104	500	79	66
25	3.679	0.153	0.012	2.31	75	0.9	-	14.99	-0.24	104	499	79	66
26	3.828	0.149	0.012	2.31	75	0.9	-	14.76	-0.23	103	499	79	66
27	3.982	0.154	0.012	2.32	76	1.0	-	14.52	-0.24	103	499	79	66
28	4.131	0.149	0.012	2.33	76	1.0	-	14.29	-0.23	103	499	79	66
29	4.284	0.153	0.012	2.32	76	1.0	-	14.05	-0.24	103	498	79	66
30	4.433	0.149	0.013	2.33	77	0.9	100	13.82	-0.23	103	497	79	66
31	4.586	0.153	0.012	2.33	77	0.9	-	13.59	-0.23	103	497	79	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	4.738	0.152	0.012	2.33	78	1.0	-	13.37	-0.22	103	496	79	66
33	4.890	0.152	0.012	2.33	78	1.0	-	13.14	-0.23	103	495	79	66
34	5.042	0.152	0.012	2.32	78	1.0	-	12.92	-0.22	104	494	80	66
35	5.195	0.153	0.012	2.34	79	1.0	-	12.69	-0.23	104	495	80	66
36	5.349	0.154	0.012	2.34	79	1.0	-	12.48	-0.21	104	494	80	66
37	5.500	0.151	0.012	2.35	79	1.0	-	12.26	-0.22	103	493	80	67
38	5.655	0.155	0.012	2.34	79	0.9	-	12.04	-0.22	103	493	80	67
39	5.805	0.150	0.012	2.35	80	1.0	-	11.83	-0.21	103	492	80	67
40	5.960	0.155	0.013	2.34	80	1.0	99	11.62	-0.21	103	492	80	67
41	6.111	0.151	0.012	2.34	80	1.0	-	11.41	-0.21	103	492	80	67
42	6.266	0.155	0.012	2.35	81	1.0	-	11.20	-0.21	103	491	80	67
43	6.417	0.151	0.012	2.35	81	1.0	-	11.00	-0.20	103	491	80	67
44	6.574	0.157	0.013	2.36	81	1.0	-	10.80	-0.20	102	490	80	67
45	6.725	0.151	0.012	2.35	82	1.0	-	10.60	-0.20	102	490	80	67
46	6.881	0.156	0.012	2.37	82	1.0	-	10.41	-0.19	102	490	80	67
47	7.032	0.151	0.012	2.36	82	1.0	-	10.21	-0.20	102	489	80	66
48	7.187	0.155	0.012	2.36	82	1.0	-	10.02	-0.19	102	489	80	67
49	7.340	0.153	0.012	2.36	83	1.0	-	9.83	-0.19	102	488	80	67
50	7.495	0.155	0.012	2.38	83	1.0	100	9.65	-0.18	102	488	80	67
51	7.651	0.156	0.012	2.37	83	1.0	-	9.46	-0.19	102	486	80	67
52	7.803	0.152	0.012	2.38	84	1.0	-	9.30	-0.16	102	485	80	67
53	7.959	0.156	0.012	2.37	84	1.0	-	9.12	-0.18	102	484	80	67
54	8.111	0.152	0.012	2.38	84	1.0	-	8.95	-0.17	102	484	80	67
55	8.268	0.157	0.012	2.38	84	1.0	-	8.78	-0.17	102	484	80	67
56	8.421	0.153	0.012	2.39	85	1.0	-	8.62	-0.16	102	484	80	67
57	8.579	0.158	0.012	2.38	85	1.0	-	8.45	-0.17	102	482	80	67
58	8.730	0.151	0.012	2.38	85	1.0	-	8.29	-0.16	102	482	80	67
59	8.886	0.156	0.012	2.38	85	1.0	-	8.13	-0.16	102	481	80	67
60	9.041	0.155	0.012	2.38	86	1.0	103	7.96	-0.17	102	480	80	67
61	9.197	0.156	0.013	2.38	86	1.0	-	7.81	-0.15	102	479	80	67
62	9.355	0.158	0.012	2.40	86	1.0	-	7.66	-0.15	101	478	80	67
63	9.506	0.151	0.012	2.39	86	1.0	-	7.51	-0.15	101	477	80	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	9.664	0.158	0.012	2.39	87	1.0	-	7.36	-0.15	101	475	80	67
65	9.817	0.153	0.012	2.40	87	1.0	-	7.22	-0.14	101	472	80	67
66	9.976	0.159	0.012	2.40	87	1.0	-	7.10	-0.12	101	470	80	67
67	10.129	0.153	0.012	2.40	87	1.0	-	6.96	-0.14	100	469	80	67
68	10.286	0.157	0.012	2.40	87	1.0	-	6.83	-0.13	100	466	80	67
69	10.443	0.157	0.012	2.40	88	1.0	-	6.70	-0.13	100	464	80	67
70	10.598	0.155	0.012	2.41	88	1.0	103	6.57	-0.13	100	461	80	67
71	10.756	0.158	0.012	2.41	88	1.0	-	6.44	-0.13	100	461	80	67
72	10.908	0.152	0.012	2.41	88	1.0	-	6.31	-0.13	100	460	80	67
73	11.069	0.161	0.012	2.41	88	1.0	-	6.18	-0.13	100	461	80	67
74	11.223	0.154	0.012	2.41	89	1.0	-	6.04	-0.14	100	461	80	67
75	11.380	0.157	0.012	2.41	89	1.0	-	5.91	-0.13	100	461	80	67
76	11.535	0.155	0.012	2.42	89	1.0	-	5.79	-0.12	100	462	80	67
77	11.692	0.157	0.012	2.41	89	1.1	-	5.65	-0.14	100	462	80	67
78	11.851	0.159	0.012	2.42	89	1.0	-	5.53	-0.12	99	462	80	67
79	12.004	0.153	0.012	2.41	90	1.0	-	5.41	-0.12	100	463	80	67
80	12.163	0.159	0.012	2.41	90	1.1	103	5.29	-0.12	99	462	80	67
81	12.318	0.155	0.012	2.42	90	1.0	-	5.17	-0.12	99	461	80	68
82	12.478	0.160	0.012	2.42	90	1.0	-	5.06	-0.11	99	459	80	67
83	12.632	0.154	0.012	2.42	90	1.0	-	4.95	-0.11	99	458	80	67
84	12.790	0.158	0.012	2.42	90	1.0	-	4.84	-0.11	99	457	80	68
85	12.948	0.158	0.012	2.42	91	1.0	-	4.73	-0.11	99	455	80	68
86	13.102	0.154	0.012	2.42	91	1.0	-	4.64	-0.09	99	452	80	67
87	13.262	0.160	0.012	2.42	91	1.0	-	4.55	-0.09	98	449	80	67
88	13.417	0.155	0.012	2.43	91	1.0	-	4.46	-0.09	98	445	80	67
89	13.577	0.160	0.012	2.42	91	1.1	-	4.38	-0.08	98	442	80	68
90	13.732	0.155	0.012	2.43	91	1.0	103	4.31	-0.07	98	439	80	68
91	13.890	0.158	0.012	2.43	91	1.0	-	4.23	-0.08	97	436	80	68
92	14.049	0.159	0.012	2.43	92	1.0	-	4.16	-0.07	97	434	80	68
93	14.203	0.154	0.013	2.43	92	1.0	-	4.09	-0.07	97	431	80	67
94	14.364	0.161	0.012	2.42	92	1.0	-	4.03	-0.06	97	430	80	68
95	14.519	0.155	0.012	2.43	92	1.0	-	3.96	-0.07	97	428	80	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	14.678	0.159	0.013	2.43	92	1.0	-	3.90	-0.06	97	428	80	68
97	14.834	0.156	0.013	2.44	92	1.0	-	3.84	-0.06	96	425	80	67
98	14.993	0.159	0.013	2.44	92	1.0	-	3.77	-0.07	96	424	80	68
99	15.153	0.160	0.012	2.44	92	1.0	-	3.71	-0.06	96	422	80	67
100	15.306	0.153	0.013	2.44	92	1.0	101	3.64	-0.07	96	421	80	68
101	15.468	0.162	0.013	2.44	93	1.0	-	3.57	-0.07	96	420	80	67
102	15.624	0.156	0.013	2.45	93	1.0	-	3.50	-0.07	96	419	80	68
103	15.782	0.158	0.012	2.42	93	1.0	-	3.43	-0.07	96	418	80	68
104	15.941	0.159	0.013	2.44	93	1.0	-	3.37	-0.06	96	418	80	67
105	16.098	0.157	0.013	2.44	93	1.0	-	3.30	-0.07	96	418	80	68
106	16.257	0.159	0.013	2.44	93	1.0	-	3.24	-0.06	96	418	80	68
107	16.412	0.155	0.012	2.43	93	1.0	-	3.18	-0.06	96	416	80	68
108	16.574	0.162	0.013	2.44	93	1.0	-	3.13	-0.05	96	414	80	68
109	16.729	0.155	0.013	2.45	93	1.0	-	3.07	-0.06	95	413	80	68
110	16.888	0.159	0.013	2.44	94	1.0	99	3.02	-0.05	95	411	80	68
111	17.048	0.160	0.013	2.45	94	1.0	-	2.97	-0.05	95	408	79	68
112	17.203	0.155	0.013	2.45	94	1.0	-	2.92	-0.05	95	406	79	68
113	17.364	0.161	0.013	2.44	94	1.0	-	2.88	-0.04	95	404	79	68
114	17.521	0.157	0.013	2.44	94	1.0	-	2.84	-0.04	95	402	79	68
115	17.680	0.159	0.012	2.44	94	1.0	-	2.79	-0.05	94	399	79	68
116	17.839	0.159	0.012	2.43	94	1.0	-	2.75	-0.04	94	396	79	68
117	17.996	0.157	0.013	2.45	94	1.0	-	2.72	-0.03	94	391	79	68
118	18.156	0.160	0.013	2.44	94	1.0	-	2.68	-0.04	93	387	79	68
119	18.312	0.156	0.012	2.44	94	1.0	-	2.66	-0.02	93	383	79	68
120	18.473	0.161	0.013	2.44	94	1.0	99	2.62	-0.04	93	379	79	68
121	18.629	0.156	0.013	2.45	95	1.0	-	2.59	-0.03	93	376	79	68
122	18.788	0.159	0.013	2.44	95	1.0	-	2.55	-0.04	92	373	79	68
123	18.949	0.161	0.013	2.45	95	1.0	-	2.51	-0.04	92	370	79	67
124	19.103	0.154	0.013	2.45	95	1.0	-	2.47	-0.04	92	368	79	66
125	19.266	0.163	0.013	2.45	95	1.0	-	2.43	-0.04	90	366	79	66
126	19.422	0.156	0.013	2.46	95	1.0	-	2.37	-0.06	89	365	78	65
127	19.581	0.159	0.013	2.44	95	1.0	-	2.32	-0.05	87	363	78	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	19.742	0.161	0.013	2.47	95	1.0	-	2.28	-0.04	86	362	77	63
129	19.897	0.155	0.014	2.46	95	1.0	-	2.24	-0.04	86	361	77	62
130	20.059	0.162	0.013	2.44	95	1.0	98	2.20	-0.04	86	359	77	62
131	20.216	0.157	0.014	2.46	95	1.0	-	2.19	-0.01	86	358	76	63
132	20.376	0.160	0.013	2.46	95	1.0	-	2.16	-0.03	87	356	76	64
133	20.535	0.159	0.013	2.45	95	1.0	-	2.12	-0.04	87	355	76	64
134	20.693	0.158	0.013	2.46	95	1.0	-	2.10	-0.02	88	355	76	64
135	20.853	0.160	0.013	2.46	95	1.0	-	2.05	-0.05	88	354	76	65
136	21.009	0.156	0.013	2.45	95	1.0	-	2.02	-0.03	88	353	76	65
137	21.171	0.162	0.013	2.46	95	1.0	-	1.99	-0.03	88	353	76	65
138	21.327	0.156	0.013	2.45	95	1.0	-	1.95	-0.04	88	353	76	65
139	21.487	0.160	0.013	2.45	95	1.0	-	1.92	-0.03	88	353	76	65
140	21.647	0.160	0.013	2.46	95	1.0	98	1.88	-0.04	88	352	76	65
141	21.802	0.155	0.013	2.45	95	1.0	-	1.85	-0.03	88	352	76	65
142	21.965	0.163	0.013	2.46	95	1.0	-	1.82	-0.03	88	351	76	66
143	22.121	0.156	0.013	2.46	95	1.0	-	1.78	-0.04	88	351	76	66
144	22.281	0.160	0.012	2.46	95	1.0	-	1.75	-0.03	88	351	76	66
145	22.441	0.160	0.013	2.45	95	1.1	-	1.71	-0.04	88	350	76	66
146	22.597	0.156	0.013	2.45	95	1.0	-	1.68	-0.03	88	350	76	66
147	22.760	0.163	0.013	2.45	95	1.0	-	1.65	-0.03	88	350	76	66
148	22.916	0.156	0.013	2.46	95	1.0	-	1.61	-0.04	88	350	76	66
149	23.076	0.160	0.013	2.46	95	1.0	-	1.59	-0.02	88	349	76	66
150	23.235	0.159	0.013	2.46	95	1.0	98	1.55	-0.04	88	349	76	66
151	23.393	0.158	0.013	2.45	95	1.0	-	1.52	-0.03	88	349	76	66
152	23.553	0.160	0.013	2.45	95	1.0	-	1.49	-0.03	88	348	76	66
153	23.710	0.157	0.013	2.46	95	1.0	-	1.45	-0.04	88	348	76	66
154	23.871	0.161	0.013	2.47	95	1.0	-	1.42	-0.03	88	347	76	66
155	24.028	0.157	0.013	2.45	95	1.0	-	1.39	-0.03	88	347	76	66
156	24.188	0.160	0.013	2.45	95	1.0	-	1.35	-0.04	88	347	76	66
157	24.348	0.160	0.013	2.45	95	1.0	-	1.33	-0.02	88	346	76	66
158	24.504	0.156	0.013	2.46	95	1.0	-	1.30	-0.03	88	346	76	66
159	24.667	0.163	0.013	2.45	95	1.0	-	1.26	-0.04	88	346	76	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	24.823	0.156	0.013	2.46	95	1.0	98	1.24	-0.02	88	345	76	66
161	24.983	0.160	0.013	2.45	95	1.0	-	1.22	-0.02	88	344	76	66
162	25.144	0.161	0.013	2.46	95	1.0	-	1.19	-0.03	88	345	76	66
163	25.299	0.155	0.013	2.46	95	1.0	-	1.16	-0.03	88	344	76	66
164	25.462	0.163	0.013	2.45	95	1.0	-	1.13	-0.03	88	344	76	66
165	25.618	0.156	0.013	2.47	95	0.9	-	1.11	-0.02	88	343	76	66
166	25.777	0.159	0.013	2.45	95	1.0	-	1.08	-0.03	88	342	76	66
167	25.938	0.161	0.013	2.45	96	1.0	-	1.06	-0.02	88	342	76	66
168	26.094	0.156	0.012	2.45	96	1.0	-	1.02	-0.04	88	342	76	67
169	26.256	0.162	0.013	2.46	96	1.0	-	1.00	-0.02	88	342	76	67
170	26.413	0.157	0.012	2.45	96	1.0	100	0.97	-0.03	88	341	76	67
171	26.573	0.160	0.013	2.46	96	1.0	-	0.94	-0.03	88	340	76	67
172	26.733	0.160	0.013	2.45	96	1.0	-	0.91	-0.03	88	340	76	67
173	26.890	0.157	0.013	2.45	96	1.0	-	0.88	-0.03	88	339	76	67
174	27.051	0.161	0.013	2.46	96	1.0	-	0.85	-0.03	88	339	76	67
175	27.208	0.157	0.012	2.46	96	1.0	-	0.83	-0.02	88	338	76	67
176	27.369	0.161	0.013	2.46	96	1.0	-	0.81	-0.02	88	339	76	67
177	27.526	0.157	0.012	2.44	96	1.0	-	0.78	-0.03	88	338	76	67
178	27.686	0.160	0.013	2.45	96	1.0	-	0.75	-0.03	88	338	76	67
179	27.846	0.160	0.012	2.46	96	1.0	-	0.72	-0.03	88	337	76	67
180	28.003	0.157	0.012	2.45	96	1.0	102	0.69	-0.03	88	337	76	67
181	28.165	0.162	0.013	2.46	96	1.0	-	0.67	-0.02	88	337	76	67
182	28.321	0.156	0.013	2.46	96	1.0	-	0.64	-0.03	88	337	76	67
183	28.481	0.160	0.012	2.45	96	1.0	-	0.61	-0.03	88	337	76	67
184	28.642	0.161	0.013	2.47	96	1.0	-	0.58	-0.03	88	337	76	67
185	28.797	0.155	0.013	2.45	96	1.0	-	0.55	-0.03	88	337	76	67
186	28.961	0.164	0.013	2.46	96	1.0	-	0.53	-0.02	88	336	76	67
187	29.117	0.156	0.012	2.46	96	1.0	-	0.50	-0.03	88	336	76	67
188	29.277	0.160	0.013	2.45	96	1.0	-	0.47	-0.03	88	336	76	67
189	29.438	0.161	0.013	2.46	96	1.0	-	0.45	-0.02	88	336	76	67
190	29.594	0.156	0.013	2.46	96	1.0	100	0.41	-0.04	88	335	76	67
191	29.756	0.162	0.012	2.45	96	1.0	-	0.38	-0.03	88	335	76	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	29.913	0.157	0.013	2.46	96	1.0	-	0.36	-0.02	88	334	76	67
193	30.073	0.160	0.013	2.46	96	1.0	-	0.33	-0.03	88	335	76	67
194	30.234	0.161	0.013	2.45	96	1.0	-	0.30	-0.03	88	335	76	67
195	30.390	0.156	0.013	2.47	96	1.0	-	0.28	-0.02	88	334	76	67
196	30.552	0.162	0.013	2.46	96	1.0	-	0.25	-0.03	88	334	76	67
197	30.709	0.157	0.013	2.46	96	1.0	-	0.22	-0.03	88	333	76	67
198	30.870	0.161	0.013	2.46	96	1.0	-	0.20	-0.02	88	333	76	67
199	31.029	0.159	0.013	2.46	96	1.0	-	0.17	-0.03	88	332	76	67
200	31.188	0.159	0.013	2.46	96	1.0	98	0.14	-0.03	88	331	76	67
201	31.348	0.160	0.013	2.46	96	1.0	-	0.12	-0.02	88	331	76	67
202	31.506	0.158	0.013	2.47	96	1.0	-	0.09	-0.03	87	331	76	67
203	31.667	0.161	0.012	2.46	96	1.0	-	0.06	-0.03	87	331	76	67
204	31.825	0.158	0.013	2.46	96	1.0	-	0.04	-0.02	88	331	76	67
205	31.985	0.160	0.013	2.46	96	1.0	98	0.00	-0.04	88	331	76	67
Avg/Tot	31.985	0.156	0.013	2.39	88.7	1.0	100			95.3	414.7	77.8	66.6

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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		1.45	70	1.7		71	-0.060	4.21	0.059
1	0.136	0.136	2.01	70	1.7	-	74	-0.064	3.28	0.095
2	0.275	0.139	2.01	70	1.5	-	74	-0.066	7.27	0.022
3	0.416	0.141	2.01	70	1.8	-	74	-0.067	11.83	0.067
4	0.552	0.136	2.01	70	1.5	-	74	-0.068	13.99	1.029
5	0.693	0.141	2.01	70	1.4	-	75	-0.072	13.90	2.213
6	0.831	0.138	2.01	70	1.5	-	75	-0.075	14.05	2.494
7	0.970	0.139	2.01	70	1.6	-	75	-0.076	13.99	2.716
8	1.111	0.141	2.02	70	2.0	-	76	-0.076	14.15	2.330
9	1.248	0.137	2.01	70	1.4	-	76	-0.076	13.93	2.830
10	1.389	0.141	2.02	70	1.5	101	76	-0.076	13.86	3.036
11	1.527	0.138	2.02	71	1.5	-	76	-0.077	13.83	3.071
12	1.666	0.139	2.01	71	1.7	-	77	-0.077	13.76	3.012
13	1.808	0.142	2.02	71	1.7	-	77	-0.078	13.69	3.290
14	1.944	0.136	2.02	71	2.0	-	77	-0.078	13.73	3.431
15	2.087	0.143	2.03	72	1.7	-	77	-0.080	13.74	3.334
16	2.226	0.139	2.02	72	1.7	-	77	-0.079	13.82	3.216
17	2.364	0.138	2.02	72	1.8	-	77	-0.079	13.68	3.315
18	2.507	0.143	2.03	72	2.0	-	77	-0.078	13.64	3.338
19	2.644	0.137	2.02	73	2.0	-	78	-0.078	13.63	3.178
20	2.786	0.142	2.02	73	1.5	103	78	-0.077	13.67	3.032
21	2.925	0.139	2.03	73	1.5	-	78	-0.076	13.60	2.920
22	3.066	0.141	2.03	74	1.8	-	78	-0.077	13.55	2.915
23	3.206	0.140	2.03	74	2.0	-	78	-0.078	13.54	2.863
24	3.346	0.140	2.03	74	2.0	-	78	-0.077	13.49	2.843
25	3.488	0.142	2.03	75	2.0	-	78	-0.077	13.52	2.756
26	3.626	0.138	2.03	75	2.0	-	78	-0.077	13.61	2.584
27	3.769	0.143	2.03	75	1.6	-	78	-0.076	13.77	2.443
28	3.909	0.140	2.03	76	1.7	-	79	-0.076	13.78	2.383
29	4.049	0.140	2.03	76	1.9	-	79	-0.076	14.17	2.383
30	4.192	0.143	2.04	76	2.0	101	79	-0.076	14.15	2.402
31	4.330	0.138	2.04	77	2.0	-	79	-0.078	14.18	2.385

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	4.473	0.143	2.03	77	1.8	-	79	-0.076	14.18	2.405
33	4.614	0.141	2.05	77	2.0	-	79	-0.076	14.18	2.391
34	4.756	0.142	2.04	78	2.0	-	79	-0.075	14.19	2.272
35	4.896	0.140	2.03	78	1.5	-	79	-0.077	14.16	2.213
36	5.037	0.141	2.04	78	1.7	-	79	-0.076	14.18	2.180
37	5.181	0.144	2.04	78	1.6	-	79	-0.076	14.21	2.136
38	5.320	0.139	2.04	79	2.0	-	79	-0.076	14.16	2.158
39	5.464	0.144	2.04	79	2.0	-	79	-0.074	14.11	2.229
40	5.605	0.141	2.04	80	2.1	99	79	-0.076	14.14	2.208
41	5.747	0.142	2.04	80	1.9	-	79	-0.074	14.13	2.153
42	5.888	0.141	2.04	80	2.0	-	79	-0.075	14.15	2.054
43	6.029	0.141	2.04	80	2.0	-	79	-0.075	14.16	1.969
44	6.174	0.145	2.05	81	1.7	-	79	-0.076	14.15	1.890
45	6.313	0.139	2.04	81	2.0	-	79	-0.074	14.21	1.787
46	6.457	0.144	2.04	81	2.0	-	79	-0.075	14.19	1.720
47	6.598	0.141	2.05	82	1.8	-	79	-0.076	14.19	1.595
48	6.742	0.144	2.04	82	1.8	-	79	-0.074	14.11	1.504
49	6.883	0.141	2.05	82	1.5	-	79	-0.075	14.14	1.275
50	7.024	0.141	2.05	83	2.1	101	79	-0.076	14.13	1.111
51	7.169	0.145	2.05	83	1.9	-	79	-0.074	14.07	1.052
52	7.310	0.141	2.04	83	1.6	-	79	-0.074	14.09	0.936
53	7.455	0.145	2.05	83	1.7	-	79	-0.075	14.09	0.907
54	7.594	0.139	2.05	84	1.5	-	79	-0.075	14.09	0.891
55	7.739	0.145	2.05	84	1.5	-	79	-0.076	14.08	0.865
56	7.882	0.143	2.06	84	1.5	-	79	-0.072	14.11	0.827
57	8.025	0.143	2.06	85	1.6	-	79	-0.075	14.03	0.808
58	8.167	0.142	2.05	85	1.6	-	79	-0.073	14.09	0.722
59	8.309	0.142	2.05	85	1.8	-	79	-0.075	14.09	0.665
60	8.456	0.147	2.06	85	2.0	103	80	-0.074	13.94	0.687
61	8.596	0.140	2.06	86	1.5	-	79	-0.074	13.81	0.959
62	8.741	0.145	2.06	86	1.7	-	79	-0.072	13.62	0.954
63	8.882	0.141	2.06	86	1.7	-	80	-0.071	13.58	0.824

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	9.027	0.145	2.07	86	2.0	-	80	-0.072	13.50	0.691
65	9.169	0.142	2.06	86	2.0	-	79	-0.072	13.56	0.589
66	9.313	0.144	2.06	87	1.6	-	79	-0.073	13.56	0.459
67	9.456	0.143	2.06	87	2.0	-	79	-0.070	13.61	0.355
68	9.598	0.142	2.07	87	2.0	-	79	-0.070	13.56	0.262
69	9.745	0.147	2.07	87	1.5	-	79	-0.072	13.44	0.260
70	9.885	0.140	2.07	88	1.5	102	79	-0.070	13.57	0.300
71	10.031	0.146	2.07	88	1.5	-	79	-0.068	13.62	0.597
72	10.172	0.141	2.07	88	1.7	-	79	-0.071	13.60	0.739
73	10.318	0.146	2.07	88	2.1	-	79	-0.071	13.65	0.691
74	10.461	0.143	2.07	88	1.9	-	79	-0.070	13.73	0.732
75	10.605	0.144	2.07	88	2.0	-	79	-0.074	13.78	0.777
76	10.749	0.144	2.07	89	1.7	-	79	-0.070	13.80	0.802
77	10.891	0.142	2.07	89	1.7	-	79	-0.072	13.73	0.875
78	11.036	0.145	2.07	89	1.5	-	79	-0.069	13.70	0.865
79	11.180	0.144	2.07	89	1.9	-	79	-0.072	13.65	0.809
80	11.325	0.145	2.07	89	2.0	103	79	-0.071	13.56	0.644
81	11.467	0.142	2.07	90	1.8	-	79	-0.071	13.29	0.598
82	11.612	0.145	2.07	90	2.0	-	79	-0.071	13.24	0.582
83	11.755	0.143	2.07	90	1.7	-	79	-0.069	13.29	0.519
84	11.901	0.146	2.08	90	1.7	-	79	-0.072	13.21	0.434
85	12.044	0.143	2.07	90	1.8	-	79	-0.068	13.09	0.338
86	12.188	0.144	2.07	90	2.1	-	79	-0.068	11.71	0.288
87	12.332	0.144	2.07	90	1.6	-	79	-0.068	11.55	0.072
88	12.476	0.144	2.08	91	1.7	-	79	-0.067	11.42	0.012
89	12.622	0.146	2.08	91	1.7	-	79	-0.067	11.13	0.016
90	12.765	0.143	2.08	91	1.8	102	79	-0.071	11.01	0.013
91	12.912	0.147	2.08	91	1.7	-	79	-0.068	10.74	0.017
92	13.053	0.141	2.07	91	1.7	-	79	-0.068	10.56	0.017
93	13.199	0.146	2.07	91	1.6	-	79	-0.066	10.10	0.021
94	13.343	0.144	2.08	91	2.0	-	79	-0.068	9.95	0.016
95	13.489	0.146	2.08	92	2.1	-	79	-0.065	9.98	0.016

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	13.633	0.144	2.08	92	1.8	-	79	-0.066	9.96	0.013
97	13.778	0.145	2.09	92	1.7	-	79	-0.066	10.04	0.019
98	13.922	0.144	2.07	92	1.6	-	79	-0.066	10.27	0.015
99	14.065	0.143	2.08	92	2.0	-	79	-0.064	10.41	0.016
100	14.212	0.147	2.08	92	1.9	100	79	-0.066	10.45	0.014
101	14.355	0.143	2.08	92	1.5	-	79	-0.063	10.59	0.011
102	14.503	0.148	2.09	92	1.6	-	79	-0.066	10.68	0.017
103	14.645	0.142	2.08	92	1.8	-	79	-0.066	10.71	0.013
104	14.792	0.147	2.08	92	1.9	-	79	-0.067	10.71	0.012
105	14.934	0.142	2.08	93	1.5	-	79	-0.064	10.67	0.019
106	15.081	0.147	2.08	93	1.7	-	79	-0.065	10.52	0.016
107	15.224	0.143	2.08	93	2.0	-	79	-0.065	10.37	0.015
108	15.371	0.147	2.09	93	1.9	-	79	-0.064	10.15	0.017
109	15.515	0.144	2.08	93	2.1	-	79	-0.065	10.09	0.010
110	15.661	0.146	2.09	93	2.0	98	79	-0.065	9.58	0.017
111	15.806	0.145	2.08	93	1.7	-	79	-0.063	9.53	0.014
112	15.949	0.143	2.08	93	1.9	-	79	-0.065	9.48	0.011
113	16.096	0.147	2.09	93	1.8	-	79	-0.062	9.25	0.009
114	16.239	0.143	2.08	93	1.8	-	79	-0.066	9.21	0.012
115	16.387	0.148	2.09	93	1.6	-	79	-0.061	9.15	0.010
116	16.530	0.143	2.09	94	1.5	-	79	-0.063	8.80	0.010
117	16.678	0.148	2.09	94	1.5	-	79	-0.063	8.77	0.005
118	16.820	0.142	2.08	94	1.8	-	79	-0.063	8.60	0.009
119	16.967	0.147	2.08	94	1.9	-	79	-0.063	8.60	0.008
120	17.111	0.144	2.08	94	2.0	98	79	-0.062	8.54	0.008
121	17.258	0.147	2.09	94	1.6	-	78	-0.057	8.75	0.010
122	17.402	0.144	2.09	94	1.5	-	78	-0.059	8.93	0.009
123	17.549	0.147	2.09	94	2.0	-	78	-0.060	8.97	0.009
124	17.693	0.144	2.09	94	1.6	-	78	-0.059	9.05	0.009
125	17.838	0.145	2.09	94	1.7	-	78	-0.062	8.98	0.007
126	17.983	0.145	2.09	94	2.0	-	78	-0.062	8.98	0.007
127	18.128	0.145	2.09	94	2.0	-	77	-0.063	9.00	0.009

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	18.275	0.147	2.10	95	1.6	-	77	-0.061	9.01	0.010
129	18.419	0.144	2.10	95	1.8	-	76	-0.061	9.03	0.007
130	18.568	0.149	2.10	95	1.8	98	76	-0.062	9.02	0.007
131	18.711	0.143	2.09	95	1.5	-	76	-0.060	9.00	0.010
132	18.859	0.148	2.10	95	1.9	-	76	-0.057	9.09	0.008
133	19.002	0.143	2.09	95	1.9	-	75	-0.053	9.08	0.009
134	19.149	0.147	2.09	95	1.9	-	75	-0.060	9.07	0.010
135	19.292	0.143	2.09	95	2.1	-	75	-0.061	9.02	0.010
136	19.440	0.148	2.10	95	1.6	-	75	-0.058	8.98	0.009
137	19.584	0.144	2.10	94	1.7	-	75	-0.057	8.95	0.007
138	19.732	0.148	2.10	94	2.0	-	75	-0.059	9.02	0.010
139	19.876	0.144	2.09	94	1.7	-	75	-0.059	8.96	0.006
140	20.022	0.146	2.10	94	2.0	97	75	-0.056	8.97	0.007
141	20.167	0.145	2.09	94	1.5	-	75	-0.059	9.01	0.007
142	20.311	0.144	2.09	94	2.0	-	75	-0.058	9.07	0.006
143	20.459	0.148	2.09	94	1.7	-	75	-0.058	9.09	0.008
144	20.603	0.144	2.09	94	1.6	-	75	-0.056	9.11	0.006
145	20.751	0.148	2.10	94	1.5	-	75	-0.058	9.08	0.006
146	20.895	0.144	2.10	94	1.9	-	75	-0.059	8.83	0.007
147	21.042	0.147	2.09	94	1.9	-	75	-0.058	8.78	0.007
148	21.186	0.144	2.10	94	1.9	-	75	-0.057	8.80	0.009
149	21.333	0.147	2.09	94	1.5	-	75	-0.059	8.83	0.008
150	21.476	0.143	2.09	94	1.5	97	75	-0.058	8.79	0.010
151	21.624	0.148	2.10	94	1.8	-	75	-0.058	8.77	0.005
152	21.768	0.144	2.10	94	2.0	-	75	-0.058	8.86	0.010
153	21.916	0.148	2.10	94	1.9	-	75	-0.057	8.85	0.008
154	22.061	0.145	2.10	94	1.8	-	75	-0.056	8.87	0.007
155	22.207	0.146	2.09	94	1.6	-	75	-0.058	8.93	0.008
156	22.352	0.145	2.09	94	1.5	-	75	-0.053	8.89	0.006
157	22.497	0.145	2.09	94	2.0	-	75	-0.057	7.97	0.010
158	22.642	0.145	2.09	94	2.0	-	75	-0.056	7.92	0.007
159	22.787	0.145	2.10	94	1.7	-	75	-0.057	7.87	0.008

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	22.934	0.147	2.10	94	2.0	98	75	-0.057	7.88	0.010
161	23.078	0.144	2.10	94	1.6	-	75	-0.058	7.85	0.008
162	23.227	0.149	2.10	94	1.6	-	75	-0.055	7.91	0.008
163	23.369	0.142	2.09	94	1.7	-	75	-0.056	7.93	0.012
164	23.518	0.149	2.10	95	2.0	-	75	-0.056	7.93	0.011
165	23.661	0.143	2.09	95	1.5	-	76	-0.056	7.79	0.006
166	23.808	0.147	2.09	94	2.0	-	75	-0.055	7.79	0.008
167	23.952	0.144	2.09	95	1.6	-	75	-0.058	7.82	0.007
168	24.099	0.147	2.09	94	2.0	-	75	-0.058	7.95	0.009
169	24.243	0.144	2.10	95	1.5	-	75	-0.054	8.00	0.009
170	24.391	0.148	2.10	95	1.5	100	75	-0.057	8.08	0.009
171	24.535	0.144	2.09	95	1.9	-	75	-0.057	8.16	0.008
172	24.681	0.146	2.09	95	1.6	-	75	-0.056	8.19	0.010
173	24.826	0.145	2.09	95	1.6	-	75	-0.054	8.24	0.010
174	24.970	0.144	2.08	95	1.5	-	75	-0.055	8.10	0.008
175	25.117	0.147	2.09	95	2.0	-	75	-0.054	8.04	0.010
176	25.261	0.144	2.09	95	1.6	-	75	-0.056	8.01	0.005
177	25.409	0.148	2.10	95	1.9	-	75	-0.055	8.07	0.013
178	25.553	0.144	2.09	95	1.6	-	75	-0.057	8.08	0.009
179	25.701	0.148	2.09	95	2.0	-	76	-0.059	8.12	0.011
180	25.844	0.143	2.09	95	1.6	101	75	-0.056	8.15	0.011
181	25.991	0.147	2.10	95	2.0	-	75	-0.056	8.16	0.009
182	26.134	0.143	2.08	95	1.6	-	75	-0.055	8.17	0.008
183	26.283	0.149	2.09	95	1.9	-	76	-0.055	8.03	0.010
184	26.426	0.143	2.09	95	2.0	-	76	-0.056	8.01	0.008
185	26.574	0.148	2.10	95	1.6	-	76	-0.056	8.03	0.010
186	26.719	0.145	2.10	95	1.8	-	76	-0.051	8.04	0.011
187	26.865	0.146	2.10	95	2.0	-	76	-0.054	8.00	0.010
188	27.010	0.145	2.09	95	1.6	-	76	-0.056	8.03	0.010
189	27.155	0.145	2.09	95	1.5	-	76	-0.053	7.94	0.008
190	27.301	0.146	2.09	95	1.9	99	76	-0.054	7.92	0.011
191	27.446	0.145	2.09	95	1.6	-	76	-0.057	7.93	0.011

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	27.593	0.147	2.09	95	1.8	-	76	-0.055	7.93	0.012
193	27.737	0.144	2.10	95	1.6	-	76	-0.054	7.88	0.009
194	27.886	0.149	2.10	95	2.0	-	76	-0.054	7.86	0.004
195	28.029	0.143	2.09	95	1.5	-	76	-0.058	7.83	0.007
196	28.177	0.148	2.10	95	1.7	-	76	-0.054	7.85	0.007
197	28.320	0.143	2.09	95	1.5	-	76	-0.052	7.83	0.009
198	28.467	0.147	2.09	95	1.6	-	76	-0.053	7.79	0.010
199	28.611	0.144	2.09	95	1.6	-	76	-0.053	7.79	0.011
200	28.759	0.148	2.10	95	1.9	98	76	-0.053	7.76	0.011
201	28.903	0.144	2.10	95	1.8	-	76	-0.053	7.74	0.011
202	29.051	0.148	2.10	95	1.6	-	76	-0.053	7.73	0.007
203	29.196	0.145	2.09	95	1.8	-	76	-0.054	7.67	0.009
204	29.342	0.146	2.10	95	1.5	-	76	-0.052	7.67	0.011
205	29.487	0.145	2.09	95	1.8	98	76	-0.054	7.64	0.008
Avg/Tot	29.487	0.144	2.07	88.0	1.8	100	77.3	-0.065	10.81	0.683

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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		1.09	70	2.4		68
1	0.199	0.196	1.65	69	2.4	-	68
2	0.398	0.199	1.67	69	2.5	-	69
3	0.596	0.198	1.67	69	2.6	-	69
4	0.794	0.198	1.68	69	2.5	-	69
5	0.992	0.198	1.68	69	2.4	-	69
6	1.191	0.199	1.69	70	2.5	-	69
7	1.391	0.200	1.70	70	2.6	-	69
8	1.592	0.201	1.70	70	2.5	-	70
9	1.792	0.200	1.71	70	2.6	-	70
10	1.993	0.201	1.71	71	2.6	104	70
11	2.193	0.200	1.71	71	2.6	-	70
12	2.394	0.201	1.71	71	2.6	-	70
13	2.594	0.200	1.70	71	2.4	-	71
14	2.795	0.201	1.70	71	2.4	-	71
15	2.995	0.200	1.71	72	2.6	-	71
16	3.197	0.202	1.71	72	2.6	-	71
17	3.399	0.202	1.71	72	2.5	-	71
18	3.600	0.201	1.71	72	2.5	-	71
19	3.801	0.201	1.71	73	2.7	-	72
20	4.003	0.202	1.71	73	2.6	106	72
21	4.204	0.201	1.71	74	2.5	-	72
22	4.405	0.201	1.71	74	2.7	-	72
23	4.606	0.201	1.71	74	2.5	-	72
24	4.808	0.202	1.71	75	2.7	-	72
25	5.009	0.201	1.71	75	2.6	-	72
26	5.211	0.202	1.71	75	2.7	-	72
27	5.413	0.202	1.71	75	2.7	-	72
28	5.615	0.202	1.71	76	2.7	-	72
29	5.817	0.202	1.72	76	2.7	-	73
30	6.019	0.202	1.71	76	2.7	104	73
31	6.221	0.202	1.71	77	2.6	-	73

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

	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	6.423	0.202	1.70	77	2.6	-	73
33	6.624	0.201	1.69	77	2.7	-	73
34	6.824	0.200	1.68	77	2.7	-	73
35	7.024	0.200	1.67	78	2.7	-	73
36	7.222	0.198	1.65	78	2.6	-	73
37	7.421	0.199	1.65	78	2.7	-	73
38	7.620	0.199	1.64	78	2.7	-	73
39	7.817	0.197	1.62	79	2.9	-	74
40	8.012	0.195	1.60	79	2.8	100	74
41	8.208	0.196	1.59	79	2.7	-	74
42	8.402	0.194	1.57	79	2.8	-	74
43	8.594	0.192	1.55	79	2.8	-	74
44	8.787	0.193	1.55	80	3.0	-	74
45	8.977	0.190	1.52	80	2.8	-	74
46	9.168	0.191	1.52	80	3.1	-	74
47	9.356	0.188	1.50	80	2.9	-	74
48	9.545	0.189	1.48	80	3.0	-	74
49	9.733	0.188	1.48	81	3.0	-	74
50	9.918	0.185	1.46	81	2.9	97	74
51	10.105	0.187	1.46	81	3.0	-	74
52	10.291	0.186	1.45	81	3.2	-	74
53	10.475	0.184	1.44	81	3.2	-	74
54	10.660	0.185	1.43	82	3.0	-	74
55	10.844	0.184	1.43	82	3.1	-	74
56	11.028	0.184	1.42	82	3.0	-	74
57	11.211	0.183	1.42	82	3.2	-	74
58	11.393	0.182	1.40	82	3.2	-	74
59	11.575	0.182	1.40	82	3.0	-	74
60	11.758	0.183	1.39	83	3.2	95	74
Avg/Tot	11.755	0.196	1.61	75.8	2.7	101	72.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Stove ΔT: 24

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	430	478	404	454	326	418.4	861.8
1	430	476	409	458	329	420.2	847.5
2	428	472	403	458	331	418.2	836.0
3	423	467	394	457	333	414.7	831.7
4	420	463	390	457	335	412.8	841.8
5	417	461	387	462	336	412.4	861.2
6	413	457	380	473	337	412.2	882.7
7	412	454	380	486	339	414.0	900.5
8	412	450	373	503	340	415.6	912.9
9	410	447	371	517	341	417.3	922.7
10	411	444	368	533	342	419.3	930.9
11	410	441	364	547	342	421.0	938.8
12	411	439	362	560	343	422.9	946.5
13	413	438	359	573	344	425.1	954.8
14	412	437	358	584	344	426.8	963.0
15	412	437	367	581	344	428.3	970.6
16	412	436	361	580	345	426.7	978.6
17	413	437	354	582	345	426.0	986.8
18	413	437	349	582	345	425.1	994.6
19	415	439	345	582	344	425.0	1001.8
20	415	440	344	583	344	425.2	1008.1
21	415	442	346	585	344	426.2	1013.6
22	417	444	341	584	343	425.6	1018.7
23	417	445	338	585	343	425.7	1022.4
24	418	448	340	587	342	426.9	1025.2
25	417	449	338	587	342	426.7	1027.3
26	419	452	339	590	341	428.1	1029.1
27	423	456	339	591	340	429.7	1031.5
28	422	460	336	590	339	429.5	1034.1
29	422	464	337	593	339	431.0	1036.7
30	424	468	338	595	338	432.5	1039.4
31	425	471	341	595	337	433.8	1042.1
32	428	474	341	595	337	435.0	1044.8
33	431	476	340	596	336	435.8	1046.9
34	432	478	344	597	335	437.2	1049.3
35	432	481	344	596	334	437.6	1052.0
36	434	484	345	597	334	438.7	1054.7
37	436	487	348	598	333	440.6	1057.5
38	435	489	347	598	333	440.5	1060.5
39	437	492	351	599	332	442.0	1063.1
40	440	494	351	598	332	442.9	1065.6
41	441	496	351	599	331	443.4	1067.9
42	442	498	353	601	331	444.8	1070.3
43	444	499	356	601	330	446.2	1072.4
44	446	501	357	601	330	447.0	1074.8
45	447	503	360	602	330	448.3	1077.3
46	451	505	359	603	329	449.3	1079.9
47	453	507	364	602	329	450.9	1082.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Stove ΔT: 24

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	456	508	368	602	329	452.6	1085.8
49	456	510	367	602	329	452.8	1088.1
50	458	512	371	602	329	454.3	1090.9
51	459	514	376	605	329	456.3	1093.8
52	461	516	379	605	329	457.9	1096.5
53	463	518	381	606	329	459.3	1098.9
54	465	520	385	607	329	461.1	1101.1
55	465	521	385	605	328	460.9	1102.6
56	466	523	387	605	329	461.9	1104.0
57	467	524	391	609	329	463.8	1104.7
58	468	526	389	608	329	463.8	1105.2
59	469	527	396	608	329	465.8	1105.5
60	469	527	391	608	329	464.8	1105.8
61	469	527	396	610	329	466.3	1104.6
62	473	528	402	609	329	468.3	1102.7
63	471	530	404	609	330	468.7	1100.7
64	471	533	405	611	330	469.9	1098.2
65	470	536	404	610	330	469.9	1095.5
66	469	538	405	609	330	470.3	1092.5
67	472	540	404	608	330	470.8	1089.7
68	471	542	408	606	330	471.5	1086.8
69	471	543	410	604	331	471.6	1084.0
70	472	544	409	604	331	471.7	1081.4
71	470	544	410	602	331	471.4	1079.5
72	472	544	408	603	331	471.4	1078.0
73	470	544	412	602	331	471.9	1077.4
74	471	544	416	601	332	472.5	1077.0
75	470	543	416	602	332	472.5	1077.3
76	471	542	417	601	333	472.7	1078.1
77	471	540	421	602	333	473.5	1079.1
78	472	539	423	601	334	473.7	1080.0
79	472	537	422	600	334	473.1	1080.9
80	473	535	428	602	335	474.4	1080.6
81	473	534	426	601	335	473.7	1079.2
82	475	531	434	602	335	475.4	1077.8
83	474	529	432	602	336	474.5	1076.4
84	475	527	435	603	336	475.1	1074.9
85	478	525	437	602	337	475.8	1073.3
86	476	523	441	601	337	475.7	1070.6
87	479	523	440	601	338	475.9	1065.8
88	479	522	438	599	338	475.2	1060.1
89	480	520	435	598	339	474.4	1054.7
90	480	519	440	593	339	474.3	1050.2
91	478	518	436	593	340	472.8	1046.2
92	478	516	439	588	340	472.3	1042.4
93	477	515	439	583	341	470.8	1037.8
94	476	512	436	578	342	468.6	1032.7
95	475	510	442	573	342	468.3	1027.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Stove ΔT: 24

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	472	508	442	568	343	466.6	1022.0
97	470	506	442	564	344	464.9	1016.6
98	469	504	440	558	344	463.1	1011.6
99	468	502	442	553	345	462.0	1007.2
100	467	501	444	547	345	460.8	1003.5
101	467	499	446	543	346	460.2	1000.3
102	465	498	444	538	346	458.1	997.7
103	465	497	452	534	347	458.8	995.4
104	461	495	442	531	347	455.3	993.3
105	462	494	445	528	347	455.3	990.9
106	460	493	453	526	348	455.9	988.3
107	460	493	454	523	348	455.5	985.5
108	460	492	454	521	349	455.2	982.3
109	459	491	454	518	349	454.1	978.5
110	459	491	457	517	349	454.4	974.8
111	455	490	457	513	349	452.7	970.6
112	456	490	455	509	350	451.7	965.7
113	454	489	448	505	350	449.1	960.4
114	453	488	450	502	350	448.6	954.7
115	451	487	458	498	350	448.7	948.2
116	449	487	458	493	350	447.2	941.1
117	446	486	460	490	350	446.4	933.4
118	445	485	456	486	351	444.6	925.9
119	441	485	457	481	351	442.9	918.6
120	440	485	454	478	351	441.6	911.6
121	439	484	452	473	352	439.9	905.4
122	437	484	459	468	352	439.6	899.9
123	436	483	455	464	352	437.8	895.2
124	435	483	454	462	352	437.3	891.2
125	434	483	445	457	353	434.1	887.7
126	433	482	454	452	353	434.6	884.1
127	430	482	454	448	353	433.5	880.6
128	430	482	448	446	354	431.7	877.2
129	429	482	453	442	354	432.0	874.4
130	428	483	459	438	354	432.5	871.9
131	427	484	462	436	355	432.7	869.4
132	427	485	462	434	355	432.4	867.1
133	424	486	466	431	355	432.6	865.0
134	424	487	466	428	356	432.0	862.8
135	423	488	470	425	356	432.3	860.7
136	422	489	469	424	356	432.0	858.9
137	421	490	469	422	357	431.7	857.1
138	421	490	466	419	357	430.7	855.5
139	420	490	465	419	357	430.3	853.9
140	420	491	469	417	358	430.9	852.5
141	419	491	469	416	358	430.5	851.4
142	419	491	467	414	359	430.0	850.3
143	418	491	467	413	359	429.5	849.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Stove ΔT: 24

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	420	491	470	410	360	430.2	848.3
145	418	490	467	410	360	429.0	847.1
146	419	490	471	409	361	430.1	846.1
147	419	490	471	409	361	429.8	844.6
148	418	489	470	407	362	429.3	843.0
149	421	489	464	406	362	428.2	841.5
150	418	489	470	405	363	428.8	840.1
151	416	488	468	405	363	428.0	838.7
152	418	487	462	405	364	427.1	837.2
153	417	487	471	403	364	428.2	835.8
154	417	486	469	402	365	427.9	834.4
155	416	485	464	401	365	426.4	833.0
156	417	484	471	400	365	427.4	831.8
157	416	484	469	400	366	427.0	831.3
158	415	482	464	399	367	425.5	830.3
159	415	481	464	398	367	424.9	829.0
160	415	479	464	397	367	424.6	827.4
161	414	478	464	397	368	424.0	825.6
162	413	476	458	396	368	422.1	823.6
163	413	475	458	394	369	421.6	821.4
164	411	474	458	393	369	421.0	819.3
165	411	472	457	392	369	420.1	817.1
166	410	471	455	391	370	419.1	814.6
167	409	470	451	389	370	417.8	812.3
168	408	468	452	388	371	417.3	810.0
169	408	467	445	388	371	415.7	807.8
170	407	466	444	387	371	415.0	805.9
171	406	465	445	386	372	414.6	804.2
172	405	463	441	385	372	413.2	802.9
173	404	463	442	383	372	412.9	801.6
174	403	462	440	383	373	412.1	800.6
175	403	461	436	382	373	410.9	799.5
176	403	460	435	382	373	410.7	798.2
177	402	459	434	382	374	410.1	796.9
178	401	458	437	381	374	410.1	795.7
179	401	458	429	381	374	408.5	794.6
180	401	457	426	379	374	407.4	793.5
181	399	456	431	379	374	407.7	792.4
182	398	456	428	379	375	407.0	791.8
183	400	455	425	378	375	406.7	791.3
184	399	454	426	378	375	406.4	790.5
185	398	454	422	377	375	405.4	789.6
186	397	453	429	376	375	406.1	788.7
187	396	453	422	376	375	404.5	787.9
188	396	452	426	375	375	404.9	787.2
189	396	452	420	376	375	403.9	786.4
190	396	451	421	375	375	403.8	785.7
191	394	451	422	374	375	403.1	784.7

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

Stove ΔT: 24

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	394	451	416	374	375	402.0	783.8
193	394	450	415	372	375	401.3	782.4
194	392	450	415	372	375	400.8	780.7
195	392	450	415	371	375	400.6	779.0
196	392	451	411	371	375	400.0	777.3
197	391	451	410	369	375	399.3	775.8
198	389	451	410	369	375	399.0	774.6
199	388	451	409	368	375	398.3	773.6
200	388	451	407	368	375	397.9	772.7
201	386	451	407	367	375	397.3	771.8
202	386	451	402	366	375	396.0	770.9
203	387	451	402	366	375	396.0	770.0
204	386	450	407	365	375	396.7	768.9
205	385	450	400	365	375	394.9	767.9
Average	433.4	485.7	417.5	499.7	349.6	437.2	941.3

LAB SAMPLE DATA - ASTM E2515

Client: FPI
Model: F3500-1
Run #: 2

Job #: 23-131
Tracking #: 126
Technician: AK
Date: 4/18/2023

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00500	243.7	248.5	4.8
	B	G00501	243.7	248.4	4.7
	C - 1st Hour	G00502	242.2	248.7	6.5
	Amb	G00503	242.0	242.6	0.6
Probes	**A**	2A	116056.2	116056.7	0.5
	B	2B	116173.2	116173.5	0.3
	C - 1st Hour	2C	116428.8	116428.9	0.1
O-rings	**A**	2A	3553.7	3553.8	0.1
	B	2B	3572.5	3572.7	0.2
	C - 1st Hour	2C	3391.6	3391.6	0.0

Placed in Dessicator on:	4/19/2023

Filters	**A**	248.4	4/24 12:56	248.5	4/26 10:07			
	B	248.4	4/24 12:56	248.4	4/26 10:07			
	C - 1st Hour	248.7	4/24 12:56	248.7	4/26 10:07			
	Amb	242.8	4/24 13:03	242.5	4/26 10:07	242.6	4/26 10:28	
Probes	**A**	116056.6	4/24 12:56	116056.7	4/26 10:08			
	B	116173.3	4/24 12:56	116173.5	4/26 10:08			
	C - 1st Hour	116428.9	4/24 12:56	116428.9	4/26 10:08			
O-Rings	**A**	3554.2	4/24 12:57	3553.8	4/26 10:08	3553.8	4/26 10:28	
	B	3573.1	4/24 12:56	3572.7	4/26 10:09	3572.7	4/26 10:28	
	C - 1st Hour	3392.0	4/24 12:56	3391.6	4/26 10:09	3391.6	4/26 10:28	

Train A Aggregate, mg:	**5.4**
Train B Aggregate, mg:	**5.2**
Train C Aggregate, mg:	**6.6**
Ambient, mg:	**0.6**

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 2 Test Date: 4/18/23

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Open 2.462”
Targeted Burn Category: IV

Preburn Notes

Time	Notes
120:00	End PB

Test Notes

Test Burn Start Time: 12:42 Test Fuel Loaded by: 40 seconds
Door Closed: 50 seconds Air Control Set at: 0 seconds
Other Loading Notes: Fan on high @ 15 min

Time	Notes
	-None-

Test Burn End Time: 16:07

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 17.01 CO (%): 4.306
Mid Gas CO_2 (%): 10.09 CO (%): 2.53

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	4/18 10:42	4/18 10:43	4/18 10:44	4/19 8:13	4/19 8:14	4/19 8:16
CO_2	-0.08	17.07	9.98	-0.06	17.11	10.08
CO	-0.001	4.318	2.486	-0.001	4.317	2.496

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

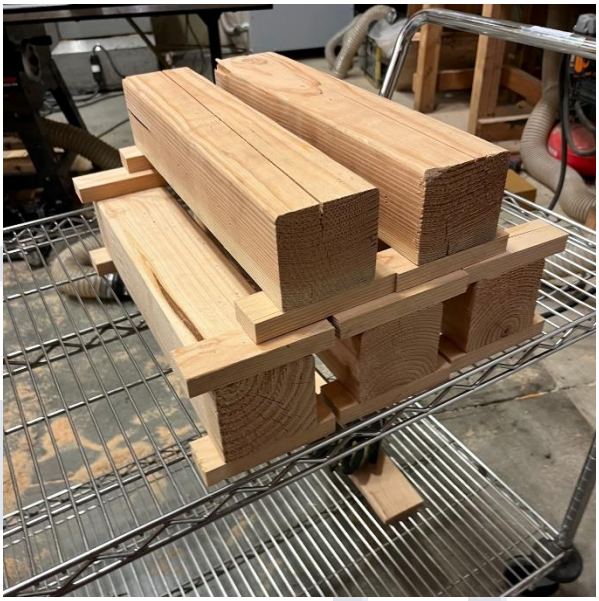
Technician Signature:  Date: 5/8/23

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 2 Test Date: 4/18/23



Test Fuel Front/Side View



Test Fuel Iso View



Test Fuel Loaded in Stove



Air Setting

Technician Signature: Date: 5/8/23

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 3 Data Summary

Client:	FPI
Model:	F3500
Job #:	23-141
Tracking #:	126
Test Date:	4/19/2023

Techician Signature

5/8/2023
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Burn Rate (kg/hr):	0.97

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	106.692	81.242	74.855	12.441
Average Gas Velocity in Dilution Tunnel (ft/sec)	6.7			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	18200.1			
Average Gas Meter Temperature (°F)	64.9	92.2	91.5	76.2
Total Sample Volume (dscf)	110.170	79.143	72.300	12.150
Average Tunnel Temperature (°F)	77.3			
Total Time of Test (min)	506			
Total Particulate Catch (mg)	0.0	2.2	1.9	2.0
Particulate Concentration, dry-standard (g/dscf)	0.0000000	0.0000278	0.0000263	0.0001646
Total PM Emissions (g)	0.00	4.27	4.03	3.00
Particulate Emission Rate (g/hr)	0.00	0.51	0.48	3.00
Emissions Factor (g/kg)	-	0.52	0.49	-
Difference from Average Total Particulate Emissions (g)	-	0.12	0.12	-
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)	4.15
Particulate Emission Rate (g/hr)	0.49
Emissions Factor (g/kg)	0.51
HHV Efficiency (%)	76.8%
LHV Efficiency (%)	83.0%
CO Emissions (g/min)	1.38

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	73.7	OK
Face Velocity	< 30 ft/min	8.9	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:63.4/Max:66.2	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	54.1	OK

B415.1 Efficiency Results

Manufacturer:	FPI
Model:	F3500
Date:	04/19/23
Run:	3
Control #:	23-141
Test Duration:	506
Output Category:	2

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	76.8%	83.0%
Combustion Efficiency	93.9%	93.9%
Heat Transfer Efficiency	81.8%	88.4%

Output Rate (kJ/h)	14,730	13,973	**(Btu/h)**
Burn Rate (kg/h)	0.97	2.13	**(lb/h)**
Input (kJ/h)	19,183	18,197	**(Btu/h)**

Test Load Weight (dry kg)	8.17	18.00	**dry lb**
MC wet (%)	16.60		
MC dry (%)	19.90		
Particulate (g)	4.15		
CO (g)	696		
Test Duration (h)	8.43		

Emissions	**Particulate**	**CO**
g/MJ Output	0.03	5.60
g/kg Dry Fuel	0.51	85.26
g/h	0.49	82.56
g/min	0.01	1.38
lb/MM Btu Output	0.08	13.03

Air/Fuel Ratio (A/F)	11.46

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

WOODSTOVE FUEL DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.25	21.2	2x4	17.25	20.8
2x4	17.25	21.9	2x4	17.25	20.8
2x4	17.25	22.6	2x4	17.25	21.5
2x4	17.25	18.8	2x4	17.25	20.4
2x4	17.25	25.4			
2x4	17.25	21.0			
2x4	17.25	17.7			
2x4	17.25	21.2			
Total Fuel Weight (lbs):		20.23	Average Moisture (%DB):		21.1

Firebox Volume (ft^3):	3.10
Total 2x4 Crib Weight, with spacers (lbs):	0.00
Total 4x4 Crib Weight, with spacers (lbs):	21.57
Total Wet Fuel Weight, with spacers (lbs):	21.57

Coal Bed Range (20-25%):
Min (lbs): 4.31
Max (lbs): 5.39

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	17.25	3.88	19.7	19.1	19.6	3.25
4x4	17.25	3.70	19.2	19.9	20.3	3.09
4x4	17.25	4.25	21.5	21.6	19.1	3.52
4x4	17.25	3.71	19.4	21.6	19.0	3.09
4x4	17.25	4.22	19.3	19.7	19.5	3.53
				Total Dry Weight, no spacers (lbs):		16.48
				Total Dry Weight, with spacers (lbs):		18.08

Spacer Moisture Readings (%DB)

12.8	15.6						
15.6	9.9						
10.8	13.5						
12.4	10.9						
11.6	16.5						
13.9	14.6						
12.1	16.1						
11.6	14.1						

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	27.0	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.96	OK
2x4 Fuel Mix	35 - 65 % of total weight	N/A	N/A

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	FPI	Job #:	23-141
Model:	F3500	Tracking #:	126
Run #:	3	Technician:	AK
Test Start Time:	13:49	Date:	4/19/2023

Total Sampling Time (min):	506
Recording Interval (min):	1

Meter Box γ Factor:	1.010	(A)
Meter Box γ Factor:	1.001	(B)
Meter Box γ Factor:	0.985	(C)
Meter Box γ Factor:	1.024	(Ambient)

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	30.01	30.00	30.01
Relative Humidity (%)	42.1	35.4	
Room Air Velocity (ft/min)	<50	<50	
Scale Audit (lbs)	10.0	10.0	
Ambient Sample Volume:		106.692	ft^3

Induced Draft Check (in. H_2O):	0
Smoke Capture Check (%):	100%
Date Flue Pipe Last Cleaned:	4/10/2023

Sample Train Post-Test Leak Checks

(A)	0.000	cfm @	-5	in. Hg
(B)	0.000	cfm @	-5	in. Hg
(C)	0.000	cfm @	-5	in. Hg
(Ambient)	0.000	cfm @	-12	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

Point	dP (in H_2O)	Temp (°F)
1	0.008	82
2	0.012	82
3	0.014	82
4	0.012	82
5	0.012	82
6	0.008	82
7	0.006	81
8	0.010	81
9	0.012	81
10	0.012	81
11	0.010	81
12	0.006	81
Center	0.013	81

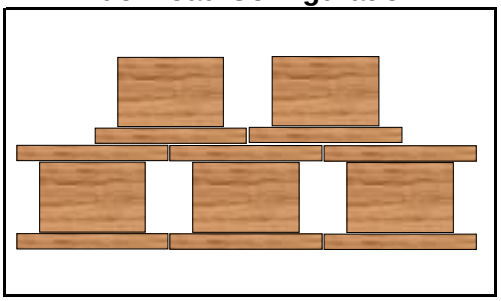
Static Pressure: -0.060 in. H_2O

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	12	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:	0.7854	ft^2
V_{strav}:	6.70	ft/sec
V_{scent}:	7.64	ft/sec
F_p:	0.877	[ratio]
Initial Tunnel Flow:	302.6	scf/min

TEST FUEL PROPERTIES

Fuel Load Configuration

Firebox Left



Firebox Right

Firebox Front 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)	19.9

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Recording Interval (min): 1
Run Time (min): 68

			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	7.37	-0.070	442	484	396	723	310	470.8	507	67
1	7.24	-0.069	443	484	409	722	311	473.7	453	67
2	7.14	-0.065	444	484	405	718	313	472.7	425	67
3	7.05	-0.064	444	483	409	715	314	473.0	407	67
4	6.96	-0.064	443	483	407	712	315	471.9	393	67
5	6.89	-0.061	443	482	410	705	317	471.2	382	67
6	6.83	-0.060	440	481	411	700	318	469.9	373	67
7	6.76	-0.060	439	479	409	694	319	468.0	365	67
8	6.71	-0.059	439	478	413	684	320	466.5	359	67
9	6.64	-0.059	436	476	415	678	321	464.8	354	67
10	6.58	-0.057	435	474	412	669	322	462.2	349	67
11	6.53	-0.054	432	472	414	660	322	460.0	346	67
12	6.46	-0.055	431	470	413	652	322	457.6	344	67
13	6.40	-0.056	430	468	413	644	323	455.7	344	67
14	6.34	-0.055	427	467	413	637	323	453.3	343	67
15	6.28	-0.055	425	466	415	631	323	451.8	340	67
16	6.21	-0.055	424	465	416	625	323	450.6	339	67
17	6.16	-0.053	422	463	415	620	323	448.8	337	67
18	6.10	-0.054	420	462	414	617	323	447.2	336	67
19	6.06	-0.051	419	462	415	612	323	446.1	334	67
20	6.01	-0.050	418	461	415	608	323	445.0	331	67
21	5.97	-0.052	417	460	417	603	323	443.9	329	67
22	5.93	-0.051	414	459	414	599	323	441.9	326	67
23	5.90	-0.052	413	457	416	596	323	441.0	321	67
24	5.87	-0.052	412	456	415	589	323	438.9	320	67
25	5.84	-0.050	410	454	415	584	323	437.1	316	67
26	5.81	-0.048	408	452	415	579	323	435.3	313	67
27	5.78	-0.049	406	451	417	573	323	433.6	311	67
28	5.75	-0.048	404	449	415	566	323	431.4	308	67
29	5.72	-0.049	404	447	415	559	323	429.4	305	67
30	5.69	-0.049	401	445	415	554	323	427.6	302	67
31	5.65	-0.047	401	443	416	547	323	425.9	299	66
32	5.62	-0.048	398	441	415	541	323	423.6	297	65
33	5.59	-0.048	398	439	412	535	323	421.2	294	64
34	5.57	-0.049	396	437	412	528	323	419.0	292	63
35	5.54	-0.048	393	434	414	522	323	417.2	288	62
36	5.50	-0.048	391	432	409	517	323	414.5	285	62
37	5.48	-0.046	391	430	408	509	324	412.2	282	62
38	5.47	-0.045	389	428	407	503	324	409.9	278	62
39	5.46	-0.044	388	426	406	497	324	408.1	274	62
40	5.44	-0.044	386	424	405	491	324	406.0	271	63
41	5.43	-0.042	383	422	403	485	325	403.6	269	64
42	5.42	-0.043	382	420	402	477	325	401.1	266	64
43	5.41	-0.042	381	418	401	470	325	398.9	262	64
44	5.39	-0.043	379	416	399	464	326	396.7	260	64

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Recording Interval (min): 1
Run Time (min): 68

			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	5.37	-0.041	378	414	398	458	326	395.0	258	64
46	4.77	-0.047	379	412	396	454	327	393.6	362	65
47	4.74	-0.046	378	410	395	449	327	391.9	312	65
48	4.72	-0.045	377	408	393	442	328	389.6	287	65
49	4.70	-0.045	377	406	392	437	329	388.0	272	65
50	4.69	-0.042	375	404	391	432	330	386.2	261	65
51	4.68	-0.041	373	402	391	426	330	384.5	255	65
52	4.66	-0.040	373	400	386	422	331	382.2	251	65
53	4.65	-0.040	371	398	386	418	331	380.8	248	65
54	4.63	-0.040	369	396	385	414	332	379.0	246	65
55	4.61	-0.040	367	394	381	411	332	377.0	244	65
56	4.60	-0.041	364	392	380	408	332	375.1	243	65
57	4.59	-0.041	361	390	375	405	333	372.5	241	65
58	4.57	-0.039	361	387	376	402	333	371.7	241	65
59	4.56	-0.038	359	385	374	400	332	370.1	239	65
60	4.55	-0.038	356	384	371	397	332	368.0	238	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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		0.013	0.10	71	0.1		21.58		90	325	69	65
1	0.152	0.152	0.012	2.41	71	0.4	-	21.56	-0.02	105	381	69	66
2	0.299	0.147	0.012	2.11	71	0.8	-	21.49	-0.07	91	348	69	65
3	0.450	0.151	0.012	2.15	71	0.8	-	21.40	-0.09	89	335	70	66
4	0.592	0.142	0.012	2.17	71	0.8	-	21.27	-0.13	88	336	71	65
5	0.739	0.147	0.012	2.18	71	0.8	-	21.12	-0.15	89	346	71	65
6	0.884	0.145	0.012	2.20	71	0.8	-	21.06	-0.06	85	305	71	65
7	1.030	0.146	0.013	2.21	71	0.8	-	21.02	-0.04	84	283	71	65
8	1.179	0.149	0.013	2.23	71	0.8	-	20.97	-0.05	83	271	71	65
9	1.325	0.146	0.012	2.25	71	0.8	-	20.93	-0.04	83	264	71	66
10	1.475	0.150	0.012	2.27	72	0.8	98	20.87	-0.06	83	261	71	65
11	1.622	0.147	0.013	2.29	72	0.8	-	20.81	-0.06	83	259	71	65
12	1.774	0.152	0.013	2.30	72	0.9	-	20.75	-0.06	83	257	71	65
13	1.922	0.148	0.012	2.31	72	0.8	-	20.68	-0.07	82	257	71	65
14	2.073	0.151	0.013	2.33	72	0.8	-	20.62	-0.06	82	257	71	65
15	2.222	0.149	0.012	2.33	73	0.9	-	20.55	-0.07	82	257	71	65
16	2.374	0.152	0.013	2.34	73	0.8	-	20.48	-0.07	82	258	71	65
17	2.523	0.149	0.013	2.34	73	0.8	-	20.41	-0.07	83	258	71	65
18	2.675	0.152	0.012	2.34	73	0.8	-	20.35	-0.06	82	258	71	65
19	2.826	0.151	0.012	2.36	74	0.9	-	20.28	-0.07	82	258	71	65
20	2.978	0.152	0.013	2.35	74	0.8	99	20.23	-0.05	81	258	71	65
21	3.130	0.152	0.013	2.36	74	0.8	-	20.16	-0.07	80	258	71	65
22	3.282	0.152	0.013	2.38	74	0.8	-	20.11	-0.05	80	257	71	66
23	3.436	0.154	0.013	2.38	75	0.9	-	20.04	-0.07	80	255	71	66
24	3.588	0.152	0.013	2.39	75	0.8	-	19.98	-0.06	80	254	71	65
25	3.743	0.155	0.012	2.39	75	0.9	-	19.92	-0.06	80	252	71	66
26	3.894	0.151	0.013	2.40	76	0.8	-	19.87	-0.05	79	251	71	65
27	4.049	0.155	0.012	2.40	76	0.9	-	19.81	-0.06	79	249	71	65
28	4.200	0.151	0.013	2.41	76	0.9	-	19.75	-0.06	79	248	71	66
29	4.357	0.157	0.012	2.40	77	0.8	-	19.68	-0.07	79	245	71	66
30	4.508	0.151	0.012	2.41	77	0.9	100	19.63	-0.05	79	245	71	66
31	4.663	0.155	0.012	2.42	77	0.9	-	19.57	-0.06	79	244	71	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	4.814	0.151	0.013	2.41	78	0.9	-	19.51	-0.06	79	246	71	66
33	4.973	0.159	0.012	2.41	78	0.9	-	19.43	-0.08	79	248	71	66
34	5.126	0.153	0.013	2.43	78	0.9	-	19.36	-0.07	79	249	71	65
35	5.281	0.155	0.013	2.42	78	0.9	-	19.28	-0.08	79	251	71	65
36	5.438	0.157	0.012	2.44	79	0.9	-	19.21	-0.07	79	254	71	66
37	5.591	0.153	0.013	2.44	79	0.9	-	19.13	-0.08	79	257	71	66
38	5.748	0.157	0.013	2.44	79	0.9	-	19.05	-0.08	79	260	72	66
39	5.900	0.152	0.013	2.45	80	0.9	-	18.97	-0.08	79	262	72	66
40	6.060	0.160	0.013	2.46	80	0.9	101	18.89	-0.08	79	265	71	66
41	6.213	0.153	0.013	2.45	80	0.9	-	18.81	-0.08	79	267	71	66
42	6.371	0.158	0.013	2.46	81	0.9	-	18.73	-0.08	79	271	72	66
43	6.525	0.154	0.012	2.46	81	0.9	-	18.65	-0.08	79	273	72	66
44	6.681	0.156	0.013	2.46	81	0.9	-	18.57	-0.08	79	274	72	66
45	6.840	0.159	0.012	2.46	82	0.9	-	18.49	-0.08	80	276	71	66
46	6.993	0.153	0.013	2.47	82	0.9	-	18.41	-0.08	80	277	71	66
47	7.152	0.159	0.012	2.47	82	0.9	-	18.33	-0.08	80	278	71	66
48	7.306	0.154	0.013	2.46	82	0.9	-	18.25	-0.08	79	280	71	66
49	7.466	0.160	0.013	2.47	83	0.9	-	18.17	-0.08	80	279	71	66
50	7.620	0.154	0.013	2.47	83	0.9	99	18.10	-0.07	80	280	72	66
51	7.777	0.157	0.013	2.47	83	0.9	-	18.02	-0.08	80	281	72	66
52	7.937	0.160	0.013	2.48	83	0.9	-	17.94	-0.08	80	281	72	66
53	8.092	0.155	0.013	2.49	84	0.9	-	17.86	-0.08	80	282	72	66
54	8.251	0.159	0.013	2.48	84	0.9	-	17.78	-0.08	80	283	72	66
55	8.406	0.155	0.013	2.50	84	0.9	-	17.71	-0.07	80	284	72	66
56	8.566	0.160	0.013	2.50	84	0.9	-	17.62	-0.09	80	283	72	66
57	8.721	0.155	0.013	2.49	85	0.9	-	17.54	-0.08	80	284	72	66
58	8.879	0.158	0.013	2.49	85	0.9	-	17.46	-0.08	80	286	72	65
59	9.039	0.160	0.013	2.49	85	0.9	-	17.38	-0.08	80	286	72	63
60	9.194	0.155	0.013	2.49	85	0.9	100	17.31	-0.07	80	286	72	65
61	9.354	0.160	0.013	2.49	86	0.9	-	17.22	-0.09	80	287	72	65
62	9.510	0.156	0.013	2.50	86	0.9	-	17.15	-0.07	80	287	72	65
63	9.670	0.160	0.012	2.49	86	0.9	-	17.07	-0.08	80	288	72	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	9.827	0.157	0.013	2.49	86	0.9	-	16.99	-0.08	80	289	72	66
65	9.985	0.158	0.013	2.51	86	0.9	-	16.91	-0.08	80	291	72	66
66	10.145	0.160	0.013	2.50	87	0.9	-	16.82	-0.09	80	292	72	66
67	10.300	0.155	0.012	2.50	87	0.9	-	16.73	-0.09	80	292	72	66
68	10.463	0.163	0.013	2.51	87	0.9	-	16.66	-0.07	80	294	72	66
69	10.618	0.155	0.013	2.50	87	0.9	-	16.57	-0.09	80	294	72	66
70	10.778	0.160	0.013	2.50	87	0.9	100	16.49	-0.08	80	295	72	66
71	10.939	0.161	0.013	2.51	88	0.9	-	16.40	-0.09	80	296	72	66
72	11.094	0.155	0.012	2.52	88	0.9	-	16.32	-0.08	81	297	72	66
73	11.256	0.162	0.013	2.52	88	0.9	-	16.23	-0.09	81	298	72	66
74	11.413	0.157	0.013	2.52	88	0.9	-	16.14	-0.09	80	298	72	66
75	11.572	0.159	0.013	2.53	88	0.9	-	16.06	-0.08	81	299	72	66
76	11.732	0.160	0.013	2.52	88	1.0	-	15.97	-0.09	81	300	72	66
77	11.890	0.158	0.013	2.53	89	0.9	-	15.89	-0.08	81	301	72	66
78	12.051	0.161	0.013	2.51	89	0.9	-	15.80	-0.09	81	301	72	66
79	12.208	0.157	0.013	2.52	89	0.9	-	15.72	-0.08	81	302	72	66
80	12.368	0.160	0.013	2.52	89	0.9	100	15.63	-0.09	81	303	72	66
81	12.527	0.159	0.012	2.53	89	0.9	-	15.54	-0.09	81	305	72	66
82	12.686	0.159	0.013	2.53	89	0.9	-	15.45	-0.09	81	305	72	66
83	12.847	0.161	0.013	2.53	89	0.9	-	15.36	-0.09	81	307	72	66
84	13.004	0.157	0.012	2.53	90	0.9	-	15.28	-0.08	81	309	72	66
85	13.166	0.162	0.012	2.53	90	0.9	-	15.19	-0.09	81	310	72	66
86	13.324	0.158	0.012	2.53	90	0.9	-	15.08	-0.11	81	311	72	66
87	13.484	0.160	0.013	2.53	90	0.9	-	14.99	-0.09	81	314	72	66
88	13.645	0.161	0.013	2.54	90	0.9	-	14.87	-0.12	81	317	72	66
89	13.802	0.157	0.013	2.53	90	0.9	-	14.78	-0.09	81	320	72	66
90	13.965	0.163	0.013	2.55	90	0.9	100	14.67	-0.11	82	322	72	66
91	14.122	0.157	0.013	2.53	90	0.9	-	14.57	-0.10	82	322	72	66
92	14.282	0.160	0.012	2.53	90	0.9	-	14.47	-0.10	81	321	72	66
93	14.443	0.161	0.013	2.54	91	0.9	-	14.38	-0.09	81	320	72	66
94	14.601	0.158	0.013	2.54	91	0.9	-	14.28	-0.10	82	320	72	66
95	14.764	0.163	0.013	2.54	91	0.9	-	14.18	-0.10	82	319	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	14.921	0.157	0.013	2.53	91	0.9	-	14.08	-0.10	81	319	72	66
97	15.082	0.161	0.012	2.55	91	0.9	-	13.99	-0.09	82	321	72	66
98	15.243	0.161	0.013	2.54	91	0.9	-	13.89	-0.10	82	321	72	66
99	15.400	0.157	0.013	2.54	91	0.9	-	13.79	-0.10	82	323	72	66
100	15.564	0.164	0.014	2.55	91	0.9	98	13.70	-0.09	82	323	72	65
101	15.721	0.157	0.014	2.54	91	0.9	-	13.60	-0.10	82	323	72	65
102	15.882	0.161	0.014	2.54	91	0.9	-	13.50	-0.10	82	324	72	65
103	16.044	0.162	0.013	2.55	92	0.9	-	13.39	-0.11	82	325	72	64
104	16.201	0.157	0.013	2.54	92	0.9	-	13.29	-0.10	82	326	72	64
105	16.364	0.163	0.014	2.56	92	0.9	-	13.19	-0.10	82	326	72	64
106	16.523	0.159	0.013	2.54	92	0.9	-	13.08	-0.11	82	327	72	64
107	16.683	0.160	0.013	2.55	92	0.9	-	12.97	-0.11	82	330	72	64
108	16.845	0.162	0.014	2.54	92	0.9	-	12.87	-0.10	82	330	72	64
109	17.003	0.158	0.013	2.55	92	0.9	-	12.76	-0.11	82	331	72	64
110	17.165	0.162	0.013	2.55	92	0.9	98	12.64	-0.12	82	332	71	65
111	17.326	0.161	0.013	2.55	92	0.9	-	12.54	-0.10	82	336	72	65
112	17.485	0.159	0.013	2.56	92	0.9	-	12.42	-0.12	83	337	72	65
113	17.647	0.162	0.013	2.54	92	0.9	-	12.30	-0.12	83	339	72	65
114	17.806	0.159	0.013	2.54	92	0.9	-	12.18	-0.12	83	340	72	65
115	17.967	0.161	0.013	2.55	92	0.9	-	12.06	-0.12	83	342	72	65
116	18.129	0.162	0.013	2.53	92	0.9	-	11.95	-0.11	83	342	72	65
117	18.286	0.157	0.013	2.55	93	0.9	-	11.83	-0.12	83	343	72	65
118	18.450	0.164	0.013	2.55	93	0.9	-	11.71	-0.12	83	342	72	65
119	18.609	0.159	0.013	2.57	93	0.9	-	11.60	-0.11	83	341	72	65
120	18.769	0.160	0.013	2.54	93	0.9	100	11.50	-0.10	83	340	72	65
121	18.931	0.162	0.013	2.55	93	0.9	-	11.38	-0.12	83	341	72	65
122	19.089	0.158	0.013	2.55	93	0.9	-	11.27	-0.11	83	341	72	65
123	19.253	0.164	0.012	2.54	93	0.9	-	11.16	-0.11	83	339	72	65
124	19.411	0.158	0.013	2.54	93	0.9	-	11.06	-0.10	83	338	72	65
125	19.572	0.161	0.013	2.54	93	0.9	-	10.96	-0.10	83	338	72	65
126	19.735	0.163	0.013	2.55	93	0.9	-	10.85	-0.11	83	339	72	65
127	19.891	0.156	0.013	2.54	93	0.9	-	10.74	-0.11	83	338	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	20.056	0.165	0.013	2.54	93	1.0	-	10.64	-0.10	83	338	72	65
129	20.214	0.158	0.013	2.55	93	0.9	-	10.53	-0.11	83	337	72	66
130	20.376	0.162	0.013	2.55	93	0.9	100	10.43	-0.10	83	337	72	66
131	20.538	0.162	0.013	2.54	93	0.9	-	10.32	-0.11	83	337	72	66
132	20.696	0.158	0.013	2.54	93	0.9	-	10.22	-0.10	83	338	72	66
133	20.860	0.164	0.013	2.56	93	0.9	-	10.11	-0.11	83	338	72	66
134	21.019	0.159	0.012	2.54	93	0.9	-	10.01	-0.10	83	337	73	66
135	21.180	0.161	0.013	2.55	93	0.9	-	9.90	-0.11	83	339	73	65
136	21.342	0.162	0.013	2.54	93	0.9	-	9.79	-0.11	83	339	73	66
137	21.501	0.159	0.012	2.55	93	0.9	-	9.68	-0.11	83	339	73	66
138	21.663	0.162	0.013	2.55	94	0.9	-	9.57	-0.11	83	339	73	66
139	21.825	0.162	0.013	2.56	94	0.9	-	9.47	-0.10	83	340	73	66
140	21.984	0.159	0.013	2.56	94	0.9	100	9.36	-0.11	83	340	73	66
141	22.148	0.164	0.013	2.56	94	0.9	-	9.25	-0.11	84	341	73	66
142	22.307	0.159	0.013	2.55	94	0.9	-	9.14	-0.11	84	340	73	66
143	22.468	0.161	0.013	2.55	94	0.9	-	9.03	-0.11	83	340	73	66
144	22.631	0.163	0.013	2.56	94	1.0	-	8.92	-0.11	83	340	73	66
145	22.788	0.157	0.013	2.56	94	0.9	-	8.82	-0.10	84	339	73	66
146	22.953	0.165	0.013	2.55	94	1.0	-	8.71	-0.11	84	339	73	66
147	23.112	0.159	0.013	2.57	94	1.0	-	8.61	-0.10	83	340	73	66
148	23.274	0.162	0.013	2.56	94	0.9	-	8.50	-0.11	83	338	73	66
149	23.436	0.162	0.013	2.56	94	1.0	-	8.40	-0.10	84	338	73	66
150	23.595	0.159	0.013	2.55	94	0.9	100	8.30	-0.10	84	337	73	66
151	23.759	0.164	0.013	2.57	94	0.9	-	8.20	-0.10	84	337	73	66
152	23.919	0.160	0.013	2.56	94	0.9	-	8.09	-0.11	84	337	73	66
153	24.080	0.161	0.013	2.56	94	0.9	-	7.99	-0.10	83	337	73	66
154	24.242	0.162	0.013	2.55	94	0.9	-	7.89	-0.10	83	336	73	66
155	24.402	0.160	0.013	2.56	94	0.9	-	7.78	-0.11	83	335	73	66
156	24.564	0.162	0.013	2.56	94	0.9	-	7.69	-0.09	84	335	73	66
157	24.727	0.163	0.013	2.54	94	0.9	-	7.59	-0.10	84	334	73	66
158	24.885	0.158	0.013	2.56	94	0.9	-	7.50	-0.09	83	333	73	66
159	25.050	0.165	0.013	2.56	94	0.9	-	7.40	-0.10	83	331	73	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	25.208	0.158	0.013	2.56	94	0.9	100	7.31	-0.09	83	331	73	66
161	25.370	0.162	0.013	2.55	94	0.9	-	7.22	-0.09	83	331	73	66
162	25.534	0.164	0.013	2.57	94	0.9	-	7.12	-0.10	83	330	73	66
163	25.691	0.157	0.013	2.56	94	1.0	-	7.03	-0.09	83	330	73	66
164	25.856	0.165	0.013	2.57	94	0.9	-	6.93	-0.10	83	330	73	66
165	26.015	0.159	0.013	2.56	95	0.9	-	6.84	-0.09	83	330	73	66
166	26.178	0.163	0.013	2.57	95	0.9	-	6.75	-0.09	83	328	73	66
167	26.340	0.162	0.013	2.56	95	0.9	-	6.68	-0.07	83	326	73	66
168	26.499	0.159	0.013	2.56	95	0.9	-	6.59	-0.09	83	324	73	66
169	26.662	0.163	0.013	2.56	95	0.9	-	6.52	-0.07	83	322	73	66
170	26.824	0.162	0.013	2.56	95	1.0	101	6.44	-0.08	83	320	73	66
171	26.983	0.159	0.013	2.57	95	0.9	-	6.37	-0.07	83	318	73	66
172	27.148	0.165	0.013	2.57	95	0.9	-	6.30	-0.07	83	317	73	66
173	27.306	0.158	0.013	2.56	95	0.9	-	6.23	-0.07	83	315	73	66
174	27.469	0.163	0.013	2.56	95	1.0	-	6.17	-0.06	83	313	73	66
175	27.632	0.163	0.013	2.57	95	0.9	-	6.10	-0.07	83	311	73	66
176	27.790	0.158	0.013	2.56	95	0.9	-	6.04	-0.06	82	310	73	66
177	27.955	0.165	0.013	2.57	95	1.0	-	5.98	-0.06	82	308	73	66
178	28.114	0.159	0.013	2.56	95	0.9	-	5.92	-0.06	82	307	73	66
179	28.277	0.163	0.013	2.57	95	1.0	-	5.87	-0.05	82	305	73	66
180	28.439	0.162	0.013	2.57	95	0.9	100	5.81	-0.06	82	303	73	66
181	28.600	0.161	0.013	2.57	95	0.9	-	5.75	-0.06	82	302	73	66
182	28.762	0.162	0.013	2.56	95	1.0	-	5.69	-0.06	82	301	73	66
183	28.925	0.163	0.013	2.56	95	0.9	-	5.64	-0.05	82	299	73	66
184	29.083	0.158	0.013	2.57	95	0.9	-	5.59	-0.05	82	298	73	66
185	29.249	0.166	0.013	2.57	95	1.0	-	5.53	-0.06	82	297	73	66
186	29.408	0.159	0.013	2.57	95	0.9	-	5.48	-0.05	82	296	73	66
187	29.571	0.163	0.013	2.57	95	0.9	-	5.42	-0.06	82	294	73	66
188	29.733	0.162	0.013	2.57	95	0.9	-	5.38	-0.04	82	294	73	66
189	29.893	0.160	0.013	2.56	95	0.9	-	5.33	-0.05	82	293	73	66
190	30.056	0.163	0.013	2.57	95	0.9	100	5.28	-0.05	82	291	73	66
191	30.219	0.163	0.013	2.57	95	0.9	-	5.23	-0.05	82	289	73	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	30.378	0.159	0.013	2.58	95	0.9	-	5.18	-0.05	82	287	73	66
193	30.543	0.165	0.013	2.58	95	1.0	-	5.14	-0.04	82	285	73	66
194	30.703	0.160	0.013	2.58	95	0.9	-	5.10	-0.04	82	286	73	66
195	30.866	0.163	0.013	2.57	95	0.9	-	5.06	-0.04	81	284	73	66
196	31.029	0.163	0.013	2.58	95	0.9	-	4.97	-0.09	81	284	73	66
197	31.187	0.158	0.013	2.56	95	1.0	-	4.97	0.00	81	284	73	66
198	31.353	0.166	0.013	2.58	95	0.9	-	4.93	-0.04	81	283	73	66
199	31.513	0.160	0.013	2.57	95	0.9	-	4.89	-0.04	81	282	73	66
200	31.675	0.162	0.013	2.58	95	1.0	100	4.85	-0.04	80	282	73	66
201	31.838	0.163	0.013	2.57	95	0.9	-	4.81	-0.04	80	281	73	66
202	31.999	0.161	0.013	2.58	95	0.9	-	4.76	-0.05	80	280	73	66
203	32.160	0.161	0.013	2.57	95	0.9	-	4.73	-0.03	80	280	72	66
204	32.325	0.165	0.013	2.57	95	1.0	-	4.69	-0.04	80	279	72	66
205	32.483	0.158	0.013	2.57	96	0.9	-	4.65	-0.04	80	277	72	66
206	32.648	0.165	0.013	2.58	95	0.9	-	4.61	-0.04	80	275	72	66
207	32.807	0.159	0.013	2.58	96	1.0	-	4.57	-0.04	80	275	72	66
208	32.970	0.163	0.013	2.56	96	0.9	-	4.53	-0.04	80	273	72	66
209	33.133	0.163	0.013	2.57	96	0.9	-	4.49	-0.04	80	272	72	66
210	33.293	0.160	0.013	2.58	96	0.9	100	4.45	-0.04	80	271	72	66
211	33.456	0.163	0.013	2.58	96	0.9	-	4.41	-0.04	79	269	72	66
212	33.619	0.163	0.013	2.58	96	0.9	-	4.37	-0.04	79	269	72	66
213	33.778	0.159	0.013	2.58	96	0.9	-	4.35	-0.02	79	267	72	66
214	33.943	0.165	0.013	2.58	96	0.9	-	4.31	-0.04	79	266	72	65
215	34.102	0.159	0.013	2.58	96	0.9	-	4.28	-0.03	79	265	72	65
216	34.265	0.163	0.013	2.56	96	0.9	-	4.25	-0.03	79	264	72	65
217	34.428	0.163	0.013	2.58	96	0.9	-	4.21	-0.04	79	262	72	66
218	34.588	0.160	0.013	2.57	96	0.9	-	4.18	-0.03	79	261	72	65
219	34.752	0.164	0.013	2.58	96	0.9	-	4.16	-0.02	79	259	72	66
220	34.913	0.161	0.013	2.58	96	1.0	100	4.14	-0.02	79	258	72	66
221	35.074	0.161	0.013	2.58	96	0.9	-	4.12	-0.02	78	257	72	65
222	35.238	0.164	0.013	2.58	96	0.9	-	4.09	-0.03	78	254	72	66
223	35.398	0.160	0.013	2.59	96	1.0	-	4.07	-0.02	78	252	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	35.560	0.162	0.013	2.57	96	1.0	-	4.04	-0.03	78	250	72	65
225	35.725	0.165	0.013	2.58	96	1.0	-	4.03	-0.01	78	249	72	65
226	35.883	0.158	0.013	2.57	96	1.0	-	4.00	-0.03	78	247	72	65
227	36.049	0.166	0.013	2.58	96	0.9	-	3.98	-0.02	78	245	72	65
228	36.208	0.159	0.013	2.57	96	0.9	-	3.96	-0.02	78	243	72	65
229	36.371	0.163	0.013	2.59	96	0.9	-	3.94	-0.02	78	242	71	65
230	36.534	0.163	0.013	2.57	96	1.0	100	3.92	-0.02	78	241	71	65
231	36.695	0.161	0.014	2.59	96	0.9	-	3.90	-0.02	78	240	71	65
232	36.857	0.162	0.013	2.56	96	0.9	-	3.88	-0.02	78	239	71	65
233	37.021	0.164	0.013	2.59	96	0.9	-	3.86	-0.02	77	236	71	65
234	37.179	0.158	0.013	2.58	96	0.9	-	3.84	-0.02	77	235	71	65
235	37.345	0.166	0.013	2.57	96	0.9	-	3.83	-0.01	77	234	71	65
236	37.505	0.160	0.013	2.58	96	0.9	-	3.81	-0.02	77	233	71	65
237	37.667	0.162	0.013	2.58	96	1.0	-	3.80	-0.01	77	233	71	65
238	37.831	0.164	0.013	2.59	96	0.9	-	3.77	-0.03	77	232	71	65
239	37.991	0.160	0.013	2.58	96	0.9	-	3.76	-0.01	77	230	71	65
240	38.154	0.163	0.013	2.58	96	0.9	100	3.74	-0.02	77	229	71	65
241	38.317	0.163	0.013	2.59	96	0.9	-	3.73	-0.01	77	229	71	65
242	38.476	0.159	0.013	2.59	96	0.9	-	3.71	-0.02	77	227	71	65
243	38.642	0.166	0.013	2.58	96	0.9	-	3.69	-0.02	77	227	71	65
244	38.801	0.159	0.013	2.58	96	0.9	-	3.67	-0.02	77	227	71	65
245	38.964	0.163	0.013	2.59	96	0.9	-	3.65	-0.02	77	225	71	65
246	39.128	0.164	0.013	2.59	96	1.0	-	3.64	-0.01	77	225	71	65
247	39.288	0.160	0.013	2.58	96	0.9	-	3.62	-0.02	77	224	71	65
248	39.451	0.163	0.013	2.58	96	1.0	-	3.61	-0.01	77	224	71	65
249	39.614	0.163	0.013	2.58	96	0.9	-	3.59	-0.02	77	223	71	65
250	39.773	0.159	0.013	2.57	96	0.9	100	3.58	-0.01	77	222	71	65
251	39.939	0.166	0.013	2.58	96	0.9	-	3.55	-0.03	77	221	71	65
252	40.098	0.159	0.013	2.58	96	0.9	-	3.54	-0.01	77	221	71	65
253	40.261	0.163	0.013	2.57	96	0.9	-	3.53	-0.01	77	221	71	65
254	40.425	0.164	0.013	2.58	96	0.9	-	3.51	-0.02	76	220	71	65
255	40.584	0.159	0.013	2.58	96	0.9	-	3.49	-0.02	77	219	71	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	40.748	0.164	0.013	2.58	96	1.0	-	3.48	-0.01	76	219	71	65
257	40.910	0.162	0.013	2.58	96	1.0	-	3.46	-0.02	76	218	71	65
258	41.071	0.161	0.013	2.58	96	0.9	-	3.44	-0.02	76	217	71	65
259	41.236	0.165	0.013	2.58	96	1.0	-	3.42	-0.02	76	217	71	65
260	41.395	0.159	0.013	2.59	96	0.9	100	3.41	-0.01	76	217	71	65
261	41.558	0.163	0.013	2.58	96	0.9	-	3.39	-0.02	76	217	71	65
262	41.722	0.164	0.013	2.59	96	0.9	-	3.37	-0.02	76	216	71	65
263	41.881	0.159	0.013	2.58	96	0.9	-	3.35	-0.02	76	215	71	65
264	42.046	0.165	0.013	2.59	96	0.9	-	3.34	-0.01	76	213	71	65
265	42.207	0.161	0.013	2.58	96	0.9	-	3.32	-0.02	76	214	71	65
266	42.369	0.162	0.013	2.59	96	0.9	-	3.31	-0.01	76	214	71	65
267	42.533	0.164	0.013	2.58	96	0.9	-	3.29	-0.02	76	213	71	65
268	42.693	0.160	0.013	2.59	96	0.9	-	3.28	-0.01	76	212	71	65
269	42.855	0.162	0.013	2.58	96	0.9	-	3.26	-0.02	76	211	70	65
270	43.020	0.165	0.013	2.59	96	1.0	100	3.24	-0.02	76	211	70	65
271	43.178	0.158	0.013	2.58	96	0.9	-	3.23	-0.01	76	209	70	65
272	43.344	0.166	0.013	2.59	96	0.9	-	3.21	-0.02	76	210	70	65
273	43.504	0.160	0.013	2.57	96	0.9	-	3.19	-0.02	76	209	70	65
274	43.666	0.162	0.013	2.58	96	0.9	-	3.17	-0.02	76	210	70	65
275	43.830	0.164	0.013	2.59	96	0.9	-	3.15	-0.02	76	209	70	65
276	43.991	0.161	0.013	2.59	96	0.9	-	3.13	-0.02	76	209	70	65
277	44.152	0.161	0.013	2.57	96	0.9	-	3.12	-0.01	76	208	70	65
278	44.317	0.165	0.013	2.58	96	0.9	-	3.10	-0.02	76	208	70	65
279	44.475	0.158	0.013	2.58	96	0.9	-	3.08	-0.02	75	207	70	65
280	44.641	0.166	0.013	2.58	96	0.9	100	3.07	-0.01	75	206	70	65
281	44.801	0.160	0.013	2.57	96	0.9	-	3.06	-0.01	75	205	70	65
282	44.964	0.163	0.013	2.58	96	0.9	-	3.04	-0.02	75	204	70	65
283	45.127	0.163	0.013	2.58	96	1.0	-	3.03	-0.01	75	204	70	65
284	45.288	0.161	0.013	2.58	96	1.0	-	3.01	-0.02	75	203	70	65
285	45.450	0.162	0.013	2.58	96	0.9	-	2.99	-0.02	75	202	70	65
286	45.614	0.164	0.013	2.58	96	1.0	-	2.98	-0.01	75	202	70	65
287	45.773	0.159	0.013	2.59	96	0.9	-	2.97	-0.01	75	202	70	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	45.939	0.166	0.013	2.58	96	0.9	-	2.95	-0.02	75	201	70	65
289	46.098	0.159	0.013	2.58	96	0.9	-	2.93	-0.02	75	201	70	65
290	46.261	0.163	0.013	2.58	96	0.9	100	2.92	-0.01	75	200	70	65
291	46.425	0.164	0.013	2.58	96	1.0	-	2.90	-0.02	75	200	70	65
292	46.585	0.160	0.013	2.58	96	0.9	-	2.89	-0.01	75	199	70	65
293	46.748	0.163	0.013	2.58	96	0.9	-	2.88	-0.01	75	200	70	65
294	46.912	0.164	0.013	2.58	96	1.0	-	2.86	-0.02	75	200	70	65
295	47.071	0.159	0.013	2.58	96	0.9	-	2.84	-0.02	75	199	70	65
296	47.236	0.165	0.013	2.58	96	1.0	-	2.83	-0.01	75	198	70	65
297	47.396	0.160	0.013	2.58	96	0.9	-	2.82	-0.01	75	198	70	65
298	47.559	0.163	0.013	2.58	96	0.9	-	2.80	-0.02	75	198	70	65
299	47.722	0.163	0.013	2.58	96	0.9	-	2.79	-0.01	75	198	70	65
300	47.882	0.160	0.013	2.58	96	0.9	100	2.77	-0.02	75	198	70	65
301	48.045	0.163	0.013	2.59	96	0.9	-	2.76	-0.01	75	198	70	65
302	48.208	0.163	0.013	2.58	96	0.9	-	2.74	-0.02	75	198	70	65
303	48.367	0.159	0.013	2.59	96	0.9	-	2.73	-0.01	75	199	70	65
304	48.533	0.166	0.013	2.58	96	0.9	-	2.71	-0.02	75	198	70	65
305	48.692	0.159	0.013	2.59	96	0.9	-	2.70	-0.01	75	197	70	65
306	48.855	0.163	0.013	2.59	96	0.9	-	2.68	-0.02	75	197	70	65
307	49.019	0.164	0.013	2.58	96	0.9	-	2.66	-0.02	75	197	70	65
308	49.178	0.159	0.013	2.57	96	0.9	-	2.65	-0.01	75	196	70	65
309	49.342	0.164	0.013	2.58	96	0.9	-	2.64	-0.01	74	196	70	65
310	49.504	0.162	0.013	2.58	96	0.9	100	2.62	-0.02	74	197	70	64
311	49.665	0.161	0.013	2.59	96	0.9	-	2.60	-0.02	74	197	70	65
312	49.830	0.165	0.013	2.58	96	1.0	-	2.59	-0.01	74	197	70	65
313	49.989	0.159	0.013	2.59	96	0.9	-	2.58	-0.01	74	197	70	65
314	50.152	0.163	0.013	2.58	96	0.9	-	2.56	-0.02	74	198	70	65
315	50.316	0.164	0.013	2.58	96	1.0	-	2.55	-0.01	74	197	70	65
316	50.475	0.159	0.013	2.58	96	0.9	-	2.53	-0.02	74	197	70	65
317	50.640	0.165	0.013	2.58	96	1.0	-	2.52	-0.01	74	197	70	65
318	50.801	0.161	0.014	2.58	96	0.9	-	2.50	-0.02	74	198	70	64
319	50.962	0.161	0.013	2.59	95	0.9	-	2.48	-0.02	74	197	70	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	51.126	0.164	0.013	2.58	96	1.0	100	2.48	0.00	74	197	70	65
321	51.287	0.161	0.013	2.58	95	0.9	-	2.46	-0.02	74	198	70	64
322	51.449	0.162	0.013	2.57	96	0.9	-	2.44	-0.02	74	197	70	65
323	51.613	0.164	0.013	2.59	95	0.9	-	2.42	-0.02	74	198	70	65
324	51.771	0.158	0.013	2.58	95	0.9	-	2.41	-0.01	74	199	70	65
325	51.938	0.167	0.013	2.58	95	1.0	-	2.39	-0.02	74	199	70	65
326	52.097	0.159	0.013	2.57	95	1.0	-	2.37	-0.02	74	198	70	65
327	52.260	0.163	0.013	2.59	95	0.9	-	2.36	-0.01	74	198	70	65
328	52.423	0.163	0.013	2.58	95	0.9	-	2.35	-0.01	74	197	70	64
329	52.584	0.161	0.013	2.59	95	0.9	-	2.33	-0.02	74	197	70	65
330	52.746	0.162	0.013	2.58	95	0.9	100	2.31	-0.02	74	197	70	65
331	52.910	0.164	0.013	2.58	95	0.9	-	2.30	-0.01	74	196	70	64
332	53.068	0.158	0.013	2.58	95	0.9	-	2.28	-0.02	74	197	69	64
333	53.234	0.166	0.013	2.58	95	1.0	-	2.26	-0.02	74	196	70	65
334	53.394	0.160	0.013	2.58	95	0.9	-	2.25	-0.01	74	196	70	64
335	53.556	0.162	0.013	2.58	95	0.9	-	2.23	-0.02	74	194	69	64
336	53.720	0.164	0.013	2.58	95	0.9	-	2.22	-0.01	74	194	69	64
337	53.880	0.160	0.013	2.58	95	0.9	-	2.20	-0.02	74	194	69	64
338	54.043	0.163	0.013	2.58	95	0.9	-	2.19	-0.01	74	194	69	64
339	54.207	0.164	0.013	2.58	95	1.0	-	2.17	-0.02	74	194	69	64
340	54.366	0.159	0.013	2.59	95	1.0	100	2.16	-0.01	74	193	69	64
341	54.531	0.165	0.013	2.58	95	0.9	-	2.14	-0.02	74	193	69	64
342	54.691	0.160	0.013	2.58	95	0.9	-	2.12	-0.02	74	193	69	64
343	54.853	0.162	0.013	2.59	95	0.9	-	2.11	-0.01	74	193	69	64
344	55.017	0.164	0.013	2.59	95	0.9	-	2.09	-0.02	74	193	69	64
345	55.177	0.160	0.013	2.58	95	0.9	-	2.08	-0.01	74	192	69	64
346	55.340	0.163	0.013	2.58	95	0.9	-	2.06	-0.02	74	192	69	64
347	55.503	0.163	0.013	2.58	95	0.9	-	2.05	-0.01	74	193	69	64
348	55.662	0.159	0.013	2.59	95	0.9	-	2.03	-0.02	74	192	69	64
349	55.828	0.166	0.014	2.58	95	0.9	-	2.01	-0.02	74	192	69	64
350	55.987	0.159	0.013	2.58	95	1.0	100	2.00	-0.01	74	191	69	64
351	56.150	0.163	0.013	2.58	95	0.9	-	1.98	-0.02	74	191	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	56.313	0.163	0.013	2.58	95	0.9	-	1.97	-0.01	74	190	69	64
353	56.473	0.160	0.013	2.58	95	1.0	-	1.95	-0.02	74	191	69	64
354	56.637	0.164	0.013	2.58	95	0.9	-	1.94	-0.01	74	191	69	64
355	56.799	0.162	0.013	2.58	95	0.9	-	1.92	-0.02	74	192	69	64
356	56.959	0.160	0.013	2.59	95	0.9	-	1.91	-0.01	74	191	69	64
357	57.124	0.165	0.013	2.58	95	0.9	-	1.90	-0.01	74	192	69	64
358	57.284	0.160	0.013	2.59	95	0.9	-	1.88	-0.02	74	192	69	64
359	57.447	0.163	0.013	2.58	95	0.9	-	1.86	-0.02	74	192	69	64
360	57.611	0.164	0.013	2.59	95	0.9	100	1.84	-0.02	74	192	69	64
361	57.769	0.158	0.013	2.58	95	0.9	-	1.84	0.00	74	192	69	64
362	57.934	0.165	0.013	2.59	95	0.9	-	1.82	-0.02	74	192	69	64
363	58.094	0.160	0.014	2.57	95	0.9	-	1.81	-0.01	73	191	69	64
364	58.257	0.163	0.013	2.58	95	0.9	-	1.79	-0.02	73	191	69	64
365	58.420	0.163	0.013	2.58	95	0.9	-	1.78	-0.01	73	191	69	64
366	58.581	0.161	0.013	2.58	95	0.9	-	1.77	-0.01	73	190	69	64
367	58.742	0.161	0.013	2.58	95	0.9	-	1.75	-0.02	73	190	69	64
368	58.907	0.165	0.013	2.59	95	0.9	-	1.74	-0.01	73	189	69	64
369	59.065	0.158	0.013	2.58	95	0.9	-	1.72	-0.02	73	189	69	64
370	59.231	0.166	0.013	2.59	95	0.9	100	1.71	-0.01	73	189	69	64
371	59.390	0.159	0.013	2.58	95	0.9	-	1.69	-0.02	73	189	69	64
372	59.553	0.163	0.013	2.58	95	0.9	-	1.68	-0.01	74	188	69	64
373	59.717	0.164	0.013	2.58	95	0.9	-	1.66	-0.02	74	188	69	64
374	59.877	0.160	0.013	2.57	95	0.9	-	1.65	-0.01	73	188	69	64
375	60.040	0.163	0.013	2.58	95	0.9	-	1.64	-0.01	73	187	69	64
376	60.203	0.163	0.013	2.58	95	0.9	-	1.62	-0.02	73	187	69	64
377	60.362	0.159	0.013	2.58	95	0.9	-	1.61	-0.01	73	187	69	64
378	60.528	0.166	0.013	2.58	95	0.9	-	1.59	-0.02	73	187	69	64
379	60.687	0.159	0.013	2.57	95	0.9	-	1.58	-0.01	73	186	69	64
380	60.850	0.163	0.013	2.57	95	0.9	100	1.57	-0.01	73	185	69	64
381	61.013	0.163	0.013	2.58	95	0.9	-	1.55	-0.02	73	185	69	64
382	61.173	0.160	0.013	2.58	95	1.0	-	1.54	-0.01	73	185	69	64
383	61.336	0.163	0.013	2.58	95	0.9	-	1.52	-0.02	73	185	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	61.499	0.163	0.013	2.59	95	0.9	-	1.52	0.00	73	184	69	64
385	61.658	0.159	0.013	2.60	95	0.9	-	1.50	-0.02	73	185	69	64
386	61.824	0.166	0.013	2.59	95	0.9	-	1.49	-0.01	73	184	69	64
387	61.983	0.159	0.013	2.58	95	0.9	-	1.48	-0.01	73	184	69	64
388	62.146	0.163	0.013	2.58	95	0.9	-	1.47	-0.01	73	184	69	64
389	62.309	0.163	0.013	2.58	95	0.9	-	1.45	-0.02	73	184	69	64
390	62.469	0.160	0.013	2.57	95	0.9	100	1.43	-0.02	73	184	69	64
391	62.633	0.164	0.013	2.59	95	0.9	-	1.42	-0.01	73	184	69	64
392	62.795	0.162	0.013	2.58	95	0.9	-	1.41	-0.01	73	184	69	64
393	62.955	0.160	0.013	2.58	95	0.9	-	1.40	-0.01	73	184	69	64
394	63.120	0.165	0.013	2.58	95	0.9	-	1.38	-0.02	73	184	69	64
395	63.280	0.160	0.013	2.60	95	0.9	-	1.37	-0.01	73	184	69	64
396	63.442	0.162	0.013	2.59	95	0.9	-	1.36	-0.01	73	183	69	64
397	63.606	0.164	0.013	2.59	95	0.9	-	1.34	-0.02	73	184	69	64
398	63.764	0.158	0.013	2.59	95	0.9	-	1.32	-0.02	73	184	69	64
399	63.930	0.166	0.013	2.59	95	0.9	-	1.32	0.00	73	183	69	64
400	64.090	0.160	0.013	2.58	95	1.0	100	1.31	-0.01	73	183	69	64
401	64.252	0.162	0.013	2.58	95	0.9	-	1.29	-0.02	73	183	69	64
402	64.415	0.163	0.013	2.59	95	0.9	-	1.27	-0.02	73	184	69	64
403	64.576	0.161	0.013	2.58	95	0.9	-	1.26	-0.01	73	184	69	64
404	64.737	0.161	0.013	2.57	95	0.9	-	1.25	-0.01	73	184	69	64
405	64.902	0.165	0.013	2.59	95	0.9	-	1.24	-0.01	73	183	69	64
406	65.060	0.158	0.013	2.58	95	1.0	-	1.22	-0.02	73	183	69	64
407	65.226	0.166	0.013	2.58	95	0.9	-	1.21	-0.01	73	183	69	64
408	65.385	0.159	0.013	2.58	95	0.9	-	1.20	-0.01	73	183	69	64
409	65.548	0.163	0.013	2.58	95	0.9	-	1.18	-0.02	73	183	69	64
410	65.711	0.163	0.013	2.58	95	0.9	100	1.17	-0.01	73	183	69	64
411	65.871	0.160	0.014	2.59	95	1.0	-	1.16	-0.01	73	183	69	64
412	66.034	0.163	0.013	2.58	95	0.9	-	1.14	-0.02	73	182	69	64
413	66.197	0.163	0.013	2.58	95	0.9	-	1.13	-0.01	73	182	69	64
414	66.356	0.159	0.013	2.58	95	0.9	-	1.12	-0.01	73	182	69	64
415	66.521	0.165	0.013	2.59	95	0.9	-	1.10	-0.02	73	183	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	66.680	0.159	0.013	2.58	95	0.9	-	1.09	-0.01	73	182	69	64
417	66.843	0.163	0.013	2.57	95	0.9	-	1.08	-0.01	73	182	69	64
418	67.006	0.163	0.013	2.58	95	1.0	-	1.07	-0.01	73	181	69	64
419	67.165	0.159	0.013	2.58	95	0.9	-	1.05	-0.02	73	181	69	64
420	67.329	0.164	0.013	2.58	95	0.9	100	1.04	-0.01	73	181	69	64
421	67.491	0.162	0.013	2.57	95	0.9	-	1.03	-0.01	73	181	69	64
422	67.651	0.160	0.013	2.59	95	1.0	-	1.01	-0.02	73	181	69	64
423	67.815	0.164	0.013	2.59	95	0.9	-	1.00	-0.01	73	180	69	64
424	67.975	0.160	0.013	2.58	95	0.9	-	0.98	-0.02	73	180	69	64
425	68.137	0.162	0.013	2.57	95	0.9	-	0.98	0.00	73	179	69	64
426	68.302	0.165	0.013	2.58	95	0.9	-	0.96	-0.02	73	179	69	64
427	68.459	0.157	0.013	2.57	95	0.9	-	0.96	0.00	73	179	69	64
428	68.625	0.166	0.013	2.59	95	0.9	-	0.94	-0.02	73	179	69	64
429	68.784	0.159	0.013	2.58	95	1.0	-	0.92	-0.02	73	179	69	64
430	68.947	0.163	0.013	2.58	95	0.9	100	0.91	-0.01	73	179	69	64
431	69.110	0.163	0.013	2.59	95	0.9	-	0.90	-0.01	73	178	69	64
432	69.270	0.160	0.013	2.58	95	0.9	-	0.88	-0.02	73	179	69	64
433	69.432	0.162	0.013	2.58	95	0.9	-	0.87	-0.01	73	178	69	64
434	69.596	0.164	0.013	2.58	95	0.9	-	0.86	-0.01	73	178	69	64
435	69.755	0.159	0.013	2.58	95	0.9	-	0.85	-0.01	73	178	69	64
436	69.920	0.165	0.013	2.59	95	0.9	-	0.83	-0.02	73	177	69	64
437	70.079	0.159	0.013	2.58	95	0.9	-	0.82	-0.01	73	177	69	64
438	70.242	0.163	0.013	2.59	95	0.9	-	0.81	-0.01	73	178	69	64
439	70.405	0.163	0.013	2.59	95	0.9	-	0.80	-0.01	73	178	69	64
440	70.564	0.159	0.013	2.58	95	0.9	100	0.78	-0.02	73	178	69	64
441	70.728	0.164	0.013	2.59	95	1.0	-	0.78	0.00	73	178	69	64
442	70.890	0.162	0.013	2.58	95	0.9	-	0.76	-0.02	73	178	69	64
443	71.050	0.160	0.013	2.58	95	0.9	-	0.75	-0.01	73	178	69	64
444	71.215	0.165	0.013	2.58	95	0.9	-	0.73	-0.02	73	178	69	64
445	71.374	0.159	0.013	2.59	95	1.0	-	0.72	-0.01	72	179	69	64
446	71.537	0.163	0.013	2.58	95	1.0	-	0.71	-0.01	72	178	69	64
447	71.701	0.164	0.013	2.58	95	0.9	-	0.70	-0.01	72	177	69	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	71.859	0.158	0.013	2.58	95	0.9	-	0.68	-0.02	72	177	69	64
449	72.024	0.165	0.013	2.59	95	0.9	-	0.67	-0.01	73	178	69	64
450	72.184	0.160	0.013	2.58	95	0.9	100	0.67	0.00	73	177	69	64
451	72.346	0.162	0.013	2.59	95	0.9	-	0.65	-0.02	73	176	69	64
452	72.509	0.163	0.013	2.58	94	0.9	-	0.64	-0.01	72	176	69	64
453	72.670	0.161	0.013	2.58	95	0.9	-	0.63	-0.01	72	176	69	64
454	72.832	0.162	0.013	2.58	95	0.9	-	0.61	-0.02	73	176	69	64
455	72.996	0.164	0.013	2.58	95	0.9	-	0.60	-0.01	72	176	69	64
456	73.154	0.158	0.013	2.57	94	0.9	-	0.59	-0.01	72	176	69	64
457	73.320	0.166	0.013	2.58	95	1.0	-	0.58	-0.01	72	177	69	64
458	73.479	0.159	0.013	2.59	95	0.9	-	0.56	-0.02	72	177	69	64
459	73.642	0.163	0.013	2.58	95	1.0	-	0.55	-0.01	72	177	69	64
460	73.805	0.163	0.013	2.58	95	1.0	100	0.54	-0.01	72	177	69	64
461	73.965	0.160	0.013	2.59	94	0.9	-	0.53	-0.01	72	176	69	64
462	74.128	0.163	0.013	2.60	94	0.9	-	0.52	-0.01	72	176	69	64
463	74.290	0.162	0.013	2.58	95	0.9	-	0.51	-0.01	72	176	69	64
464	74.449	0.159	0.013	2.58	94	0.9	-	0.49	-0.02	72	176	69	64
465	74.615	0.166	0.013	2.58	94	0.9	-	0.48	-0.01	72	176	69	64
466	74.773	0.158	0.013	2.58	94	0.9	-	0.47	-0.01	72	176	69	64
467	74.936	0.163	0.013	2.58	94	0.9	-	0.45	-0.02	72	176	69	64
468	75.099	0.163	0.013	2.59	94	0.9	-	0.44	-0.01	72	176	68	64
469	75.258	0.159	0.013	2.57	94	0.9	-	0.43	-0.01	72	176	68	64
470	75.423	0.165	0.013	2.59	94	0.9	100	0.42	-0.01	72	176	68	64
471	75.583	0.160	0.013	2.59	94	0.9	-	0.41	-0.01	72	175	68	64
472	75.744	0.161	0.013	2.59	94	0.9	-	0.40	-0.01	72	175	68	64
473	75.907	0.163	0.013	2.58	94	0.9	-	0.39	-0.01	72	175	68	64
474	76.068	0.161	0.013	2.58	94	0.9	-	0.37	-0.02	72	175	68	64
475	76.229	0.161	0.013	2.58	94	0.9	-	0.36	-0.01	72	175	68	64
476	76.393	0.164	0.013	2.59	94	0.9	-	0.35	-0.01	72	175	68	64
477	76.551	0.158	0.013	2.59	94	0.9	-	0.34	-0.01	72	174	68	64
478	76.717	0.166	0.013	2.58	94	0.9	-	0.32	-0.02	72	174	68	64
479	76.876	0.159	0.013	2.58	94	0.9	-	0.32	0.00	72	175	68	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	77.038	0.162	0.013	2.59	94	0.9	100	0.30	-0.02	72	174	68	64
481	77.201	0.163	0.013	2.59	94	0.9	-	0.29	-0.01	72	175	68	64
482	77.361	0.160	0.013	2.59	94	0.9	-	0.28	-0.01	72	175	68	64
483	77.524	0.163	0.013	2.59	94	0.9	-	0.26	-0.02	72	175	68	64
484	77.686	0.162	0.013	2.57	94	0.9	-	0.26	0.00	72	174	68	64
485	77.845	0.159	0.013	2.58	94	0.9	-	0.24	-0.02	72	174	68	64
486	78.010	0.165	0.013	2.58	94	0.9	-	0.24	0.00	72	174	68	64
487	78.169	0.159	0.013	2.59	94	0.9	-	0.22	-0.02	72	174	68	64
488	78.331	0.162	0.013	2.58	94	0.9	-	0.22	0.00	72	175	68	64
489	78.495	0.164	0.013	2.59	94	0.9	-	0.20	-0.02	72	175	68	63
490	78.653	0.158	0.013	2.58	94	0.9	100	0.19	-0.01	72	175	68	64
491	78.819	0.166	0.013	2.58	94	0.9	-	0.17	-0.02	72	175	68	64
492	78.977	0.158	0.013	2.58	94	0.9	-	0.17	0.00	72	175	68	64
493	79.140	0.163	0.013	2.58	94	0.9	-	0.15	-0.02	72	175	68	64
494	79.303	0.163	0.013	2.59	94	0.9	-	0.14	-0.01	72	175	68	64
495	79.463	0.160	0.013	2.59	94	0.9	-	0.13	-0.01	72	175	68	64
496	79.625	0.162	0.013	2.59	94	0.9	-	0.12	-0.01	72	175	68	64
497	79.789	0.164	0.013	2.58	94	1.0	-	0.11	-0.01	72	176	68	64
498	79.947	0.158	0.013	2.57	94	0.9	-	0.10	-0.01	72	176	68	64
499	80.113	0.166	0.013	2.59	94	0.9	-	0.08	-0.02	72	176	68	64
500	80.272	0.159	0.013	2.59	94	0.9	100	0.07	-0.01	72	176	68	64
501	80.431	0.159	0.013	2.58	94	0.9	-	0.06	-0.01	72	176	68	63
502	80.597	0.166	0.013	2.58	94	0.9	-	0.05	-0.01	72	176	68	64
503	80.756	0.159	0.013	2.58	94	0.9	-	0.04	-0.01	72	176	68	64
504	80.920	0.164	0.013	2.59	94	0.9	-	0.02	-0.02	72	176	68	63
505	81.082	0.162	0.013	2.58	94	0.9	-	0.02	0.00	72	176	68	64
506	81.242	0.160	0.013	2.59	94	0.9	100	0.00	-0.02	72	176	68	64
Avg/Tot	81.242	0.161	0.013	2.54	92.2	0.9	100			77.3	240.9	70.6	64.9

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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		0.10	71	0.9		70	-0.049	2.79	0.099
1	0.134	0.134	2.08	71	1.8	-	72	-0.054	2.06	0.121
2	0.278	0.144	2.09	71	1.6	-	72	-0.055	4.52	0.031
3	0.418	0.140	2.08	71	1.6	-	72	-0.055	5.96	0.027
4	0.561	0.143	2.09	71	1.5	-	72	-0.056	9.13	0.030
5	0.700	0.139	2.08	71	1.8	-	72	-0.053	10.69	0.036
6	0.844	0.144	2.09	71	1.7	-	72	-0.051	9.75	0.026
7	0.984	0.140	2.10	71	1.6	-	72	-0.048	5.47	0.021
8	1.125	0.141	2.09	71	1.5	-	72	-0.048	5.12	0.021
9	1.269	0.144	2.10	71	1.4	-	72	-0.046	5.41	0.021
10	1.408	0.139	2.11	71	2.0	102	72	-0.046	6.35	0.022
11	1.551	0.143	2.10	71	1.6	-	72	-0.045	7.10	0.021
12	1.691	0.140	2.10	72	1.8	-	72	-0.046	7.49	0.024
13	1.835	0.144	2.11	72	2.0	-	72	-0.047	7.92	0.021
14	1.977	0.142	2.11	72	1.4	-	73	-0.045	8.21	0.021
15	2.118	0.141	2.11	72	1.8	-	73	-0.045	8.37	0.023
16	2.262	0.144	2.11	73	2.0	-	73	-0.049	8.60	0.024
17	2.403	0.141	2.11	73	2.0	-	73	-0.044	8.61	0.023
18	2.548	0.145	2.11	73	1.9	-	73	-0.045	7.83	0.021
19	2.687	0.139	2.11	73	2.0	-	73	-0.047	7.36	0.025
20	2.832	0.145	2.12	74	1.5	102	73	-0.046	7.32	0.023
21	2.974	0.142	2.12	74	2.0	-	73	-0.047	7.42	0.024
22	3.117	0.143	2.12	74	1.5	-	72	-0.045	7.68	0.023
23	3.260	0.143	2.12	75	1.8	-	72	-0.045	7.82	0.023
24	3.402	0.142	2.13	75	1.7	-	72	-0.044	7.92	0.024
25	3.549	0.147	2.14	75	2.0	-	72	-0.044	7.77	0.022
26	3.690	0.141	2.14	76	1.7	-	72	-0.044	7.69	0.025
27	3.836	0.146	2.14	76	1.9	-	72	-0.043	7.50	0.022
28	3.976	0.140	2.14	76	1.6	-	72	-0.043	7.60	0.022
29	4.122	0.146	2.13	77	1.5	-	72	-0.041	7.58	0.021
30	4.265	0.143	2.14	77	1.9	102	72	-0.042	7.72	0.020
31	4.407	0.142	2.14	77	1.7	-	72	-0.044	8.10	0.025

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	4.550	0.143	2.13	77	1.5	-	72	-0.043	8.78	0.026
33	4.696	0.146	2.14	78	1.9	-	72	-0.043	9.41	0.026
34	4.841	0.145	2.14	78	1.7	-	72	-0.045	9.81	0.028
35	4.985	0.144	2.15	78	1.9	-	72	-0.045	9.89	0.027
36	5.131	0.146	2.14	79	1.5	-	72	-0.045	10.28	0.031
37	5.273	0.142	2.15	79	1.7	-	72	-0.046	10.52	0.031
38	5.419	0.146	2.14	79	1.6	-	72	-0.044	10.67	0.029
39	5.562	0.143	2.15	80	1.8	-	72	-0.047	10.98	0.031
40	5.709	0.147	2.15	80	1.6	102	72	-0.047	10.99	0.031
41	5.853	0.144	2.15	80	1.9	-	72	-0.050	10.82	0.033
42	5.999	0.146	2.16	81	1.6	-	72	-0.047	10.78	0.030
43	6.143	0.144	2.16	81	1.8	-	72	-0.048	10.73	0.032
44	6.288	0.145	2.16	81	2.0	-	72	-0.047	10.66	0.034
45	6.433	0.145	2.15	82	1.9	-	72	-0.048	10.60	0.030
46	6.578	0.145	2.16	82	1.5	-	72	-0.048	10.68	0.034
47	6.724	0.146	2.16	82	1.5	-	72	-0.048	10.54	0.033
48	6.869	0.145	2.16	82	1.5	-	72	-0.046	10.50	0.033
49	7.016	0.147	2.16	83	1.9	-	72	-0.046	10.44	0.030
50	7.160	0.144	2.17	83	1.9	100	72	-0.046	10.50	0.032
51	7.307	0.147	2.16	83	1.9	-	72	-0.050	10.52	0.030
52	7.450	0.143	2.17	83	1.7	-	72	-0.049	10.56	0.028
53	7.598	0.148	2.16	84	1.8	-	72	-0.050	10.68	0.031
54	7.743	0.145	2.17	84	1.5	-	72	-0.048	10.69	0.031
55	7.890	0.147	2.17	84	1.5	-	72	-0.048	10.82	0.028
56	8.035	0.145	2.18	84	1.9	-	72	-0.049	10.90	0.033
57	8.183	0.148	2.17	85	1.6	-	72	-0.048	10.97	0.032
58	8.328	0.145	2.17	85	1.5	-	72	-0.049	10.98	0.032
59	8.475	0.147	2.17	85	1.5	-	72	-0.050	11.02	0.036
60	8.621	0.146	2.17	86	1.9	100	72	-0.049	11.05	0.029
61	8.767	0.146	2.17	86	1.7	-	72	-0.048	11.23	0.031
62	8.913	0.146	2.17	86	1.8	-	72	-0.051	11.29	0.032
63	9.058	0.145	2.17	86	1.6	-	72	-0.052	11.34	0.037

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	9.206	0.148	2.17	86	1.5	-	72	-0.051	11.38	0.034
65	9.351	0.145	2.17	87	1.6	-	72	-0.050	11.59	0.032
66	9.499	0.148	2.18	87	1.9	-	72	-0.051	11.65	0.037
67	9.645	0.146	2.18	87	1.8	-	72	-0.050	11.78	0.031
68	9.794	0.149	2.19	87	1.6	-	72	-0.053	11.93	0.039
69	9.938	0.144	2.18	87	1.5	-	72	-0.052	11.96	0.037
70	10.087	0.149	2.19	87	2.0	100	72	-0.052	12.07	0.035
71	10.231	0.144	2.18	88	1.5	-	72	-0.052	12.11	0.038
72	10.380	0.149	2.18	88	1.6	-	72	-0.051	12.14	0.038
73	10.524	0.144	2.19	88	1.8	-	72	-0.052	12.16	0.034
74	10.673	0.149	2.18	88	1.6	-	72	-0.051	12.34	0.040
75	10.818	0.145	2.18	88	1.7	-	72	-0.050	12.42	0.037
76	10.967	0.149	2.18	88	2.0	-	72	-0.052	12.48	0.041
77	11.112	0.145	2.18	89	1.9	-	72	-0.052	12.52	0.041
78	11.261	0.149	2.18	89	1.7	-	72	-0.051	12.59	0.042
79	11.406	0.145	2.18	89	1.9	-	72	-0.051	12.70	0.039
80	11.555	0.149	2.19	89	1.5	100	72	-0.049	12.81	0.036
81	11.702	0.147	2.19	89	1.7	-	72	-0.052	12.80	0.042
82	11.850	0.148	2.19	89	1.8	-	72	-0.051	12.93	0.041
83	11.996	0.146	2.18	89	1.5	-	73	-0.051	13.08	0.038
84	12.143	0.147	2.19	90	1.7	-	73	-0.052	13.23	0.038
85	12.290	0.147	2.19	90	1.4	-	73	-0.053	13.54	0.042
86	12.438	0.148	2.19	90	1.5	-	73	-0.057	13.74	0.063
87	12.585	0.147	2.19	90	1.5	-	73	-0.057	14.01	0.201
88	12.732	0.147	2.19	90	1.8	-	73	-0.056	14.14	0.451
89	12.879	0.147	2.19	90	1.8	-	73	-0.055	14.35	0.837
90	13.026	0.147	2.18	90	1.5	100	73	-0.057	14.15	1.630
91	13.174	0.148	2.19	90	1.5	-	73	-0.056	14.33	0.979
92	13.321	0.147	2.18	90	1.5	-	73	-0.054	14.29	0.598
93	13.470	0.149	2.18	91	1.5	-	73	-0.054	14.20	0.498
94	13.616	0.146	2.19	91	1.6	-	73	-0.053	14.18	0.453
95	13.765	0.149	2.20	91	1.9	-	73	-0.055	14.18	0.531

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	13.910	0.145	2.18	91	1.6	-	73	-0.056	14.14	0.575
97	14.060	0.150	2.20	91	1.5	-	73	-0.053	14.09	0.643
98	14.206	0.146	2.20	91	1.8	-	73	-0.052	14.12	0.726
99	14.356	0.150	2.19	91	1.6	-	73	-0.055	14.16	0.797
100	14.502	0.146	2.19	91	1.5	98	73	-0.055	14.11	0.909
101	14.652	0.150	2.19	92	1.5	-	73	-0.055	14.17	0.963
102	14.798	0.146	2.20	92	1.5	-	73	-0.054	14.16	1.031
103	14.947	0.149	2.19	92	2.0	-	73	-0.057	14.20	1.137
104	15.093	0.146	2.19	92	1.5	-	73	-0.058	14.22	1.254
105	15.243	0.150	2.19	92	1.5	-	73	-0.057	14.22	1.419
106	15.388	0.145	2.19	92	1.5	-	73	-0.056	14.23	1.562
107	15.539	0.151	2.19	92	1.9	-	73	-0.059	14.22	1.761
108	15.684	0.145	2.19	92	1.5	-	73	-0.057	14.13	2.004
109	15.834	0.150	2.20	93	1.8	-	73	-0.054	14.08	2.242
110	15.980	0.146	2.19	93	1.8	98	73	-0.058	13.95	2.510
111	16.130	0.150	2.19	93	1.9	-	73	-0.060	13.85	2.847
112	16.276	0.146	2.19	93	1.9	-	73	-0.056	13.75	3.137
113	16.426	0.150	2.20	92	1.5	-	73	-0.061	13.65	3.395
114	16.571	0.145	2.20	92	1.6	-	73	-0.056	13.54	3.658
115	16.721	0.150	2.19	92	1.7	-	73	-0.062	13.41	3.948
116	16.867	0.146	2.19	92	1.8	-	73	-0.057	13.43	3.845
117	17.017	0.150	2.19	92	1.6	-	73	-0.061	13.39	3.785
118	17.163	0.146	2.19	92	1.6	-	73	-0.059	13.31	3.750
119	17.313	0.150	2.19	92	1.8	-	73	-0.060	13.38	3.544
120	17.459	0.146	2.19	92	1.6	100	73	-0.058	13.48	3.356
121	17.609	0.150	2.19	93	2.0	-	73	-0.061	13.50	3.307
122	17.755	0.146	2.20	93	1.8	-	73	-0.057	13.49	3.173
123	17.905	0.150	2.20	93	1.7	-	73	-0.060	13.57	3.020
124	18.051	0.146	2.20	93	1.7	-	73	-0.062	13.52	2.960
125	18.201	0.150	2.19	93	1.9	-	73	-0.059	13.57	2.916
126	18.347	0.146	2.19	93	1.8	-	73	-0.056	13.56	2.924
127	18.497	0.150	2.20	93	1.7	-	73	-0.060	13.60	2.887

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	18.644	0.147	2.20	93	1.9	-	73	-0.056	13.56	3.001
129	18.793	0.149	2.20	93	1.6	-	73	-0.059	13.51	3.053
130	18.940	0.147	2.20	93	1.5	100	73	-0.059	13.53	3.095
131	19.090	0.150	2.20	93	1.9	-	73	-0.060	13.48	3.160
132	19.237	0.147	2.20	93	1.6	-	73	-0.058	13.45	3.283
133	19.387	0.150	2.20	93	2.0	-	73	-0.057	13.45	3.305
134	19.534	0.147	2.20	93	1.5	-	73	-0.061	13.47	3.341
135	19.683	0.149	2.20	93	1.5	-	73	-0.059	13.43	3.436
136	19.830	0.147	2.20	93	1.7	-	73	-0.058	13.42	3.532
137	19.979	0.149	2.20	93	1.9	-	73	-0.059	13.40	3.537
138	20.126	0.147	2.20	93	1.6	-	73	-0.060	13.38	3.631
139	20.275	0.149	2.19	93	1.9	-	73	-0.058	13.38	3.616
140	20.423	0.148	2.19	93	1.5	100	73	-0.060	13.31	3.705
141	20.571	0.148	2.20	93	1.7	-	73	-0.060	13.32	3.789
142	20.719	0.148	2.19	93	2.0	-	73	-0.060	13.30	3.800
143	20.868	0.149	2.20	93	1.5	-	73	-0.059	13.31	3.870
144	21.015	0.147	2.20	93	1.8	-	73	-0.059	13.31	3.827
145	21.164	0.149	2.20	93	1.8	-	73	-0.058	13.31	3.822
146	21.312	0.148	2.20	93	1.4	-	73	-0.057	13.39	3.761
147	21.461	0.149	2.20	94	1.5	-	74	-0.059	13.36	3.724
148	21.609	0.148	2.20	93	1.6	-	74	-0.056	13.33	3.729
149	21.757	0.148	2.20	93	1.5	-	74	-0.056	13.35	3.742
150	21.905	0.148	2.20	94	1.7	100	74	-0.058	13.31	3.832
151	22.053	0.148	2.20	94	1.7	-	74	-0.060	13.29	3.865
152	22.202	0.149	2.19	94	1.5	-	74	-0.059	13.30	3.833
153	22.350	0.148	2.19	94	1.9	-	74	-0.059	13.21	4.136
154	22.499	0.149	2.19	94	1.8	-	74	-0.056	13.17	4.069
155	22.646	0.147	2.19	94	1.5	-	74	-0.057	13.18	3.930
156	22.795	0.149	2.20	94	1.7	-	74	-0.059	13.10	3.943
157	22.943	0.148	2.20	94	1.5	-	74	-0.058	13.18	3.768
158	23.092	0.149	2.20	94	1.5	-	74	-0.055	13.32	3.386
159	23.239	0.147	2.20	94	1.5	-	74	-0.058	13.32	3.325

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	23.388	0.149	2.20	94	2.0	100	74	-0.057	13.33	3.271
161	23.535	0.147	2.20	94	1.5	-	74	-0.061	13.36	3.249
162	23.685	0.150	2.20	94	2.0	-	74	-0.059	13.36	3.253
163	23.832	0.147	2.19	94	2.0	-	74	-0.056	13.36	3.281
164	23.981	0.149	2.19	94	1.6	-	74	-0.057	13.33	3.388
165	24.129	0.148	2.19	94	2.0	-	74	-0.057	13.37	3.273
166	24.278	0.149	2.19	94	1.6	-	74	-0.057	13.37	3.080
167	24.426	0.148	2.20	94	1.5	-	74	-0.053	13.33	2.820
168	24.575	0.149	2.20	94	1.7	-	74	-0.054	13.40	2.564
169	24.723	0.148	2.20	94	1.5	-	74	-0.057	13.46	2.275
170	24.872	0.149	2.20	94	1.5	100	74	-0.055	13.53	2.039
171	25.019	0.147	2.20	94	1.5	-	74	-0.052	13.53	1.964
172	25.169	0.150	2.20	94	2.0	-	74	-0.056	13.45	1.882
173	25.317	0.148	2.20	94	2.0	-	74	-0.049	13.39	1.777
174	25.466	0.149	2.20	94	1.6	-	74	-0.053	13.24	1.669
175	25.613	0.147	2.20	94	1.5	-	74	-0.053	13.25	1.627
176	25.763	0.150	2.20	94	1.5	-	74	-0.051	13.19	1.496
177	25.910	0.147	2.19	94	1.9	-	74	-0.053	13.10	1.378
178	26.060	0.150	2.20	94	1.8	-	74	-0.054	12.96	1.322
179	26.207	0.147	2.20	94	1.5	-	74	-0.050	12.92	1.289
180	26.357	0.150	2.20	94	1.5	100	74	-0.052	12.79	1.224
181	26.504	0.147	2.20	94	1.6	-	74	-0.051	12.85	1.205
182	26.654	0.150	2.20	94	2.0	-	74	-0.052	12.79	1.222
183	26.801	0.147	2.20	94	1.5	-	74	-0.053	12.80	1.186
184	26.951	0.150	2.20	94	1.4	-	74	-0.052	12.76	1.174
185	27.098	0.147	2.21	94	1.6	-	74	-0.049	12.79	1.131
186	27.249	0.151	2.20	94	1.9	-	74	-0.049	12.80	1.158
187	27.395	0.146	2.20	94	1.9	-	74	-0.051	12.73	1.173
188	27.546	0.151	2.21	94	1.8	-	74	-0.051	12.79	1.190
189	27.693	0.147	2.21	94	1.8	-	74	-0.047	12.83	1.127
190	27.843	0.150	2.22	94	1.8	100	74	-0.048	12.61	0.990
191	27.990	0.147	2.21	94	2.0	-	74	-0.049	12.60	0.983

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	28.140	0.150	2.21	95	1.9	-	74	-0.048	12.70	0.471
193	28.287	0.147	2.21	95	1.4	-	74	-0.048	12.72	0.407
194	28.437	0.150	2.21	95	1.6	-	74	-0.045	12.75	0.386
195	28.584	0.147	2.21	95	1.4	-	73	-0.047	12.76	0.423
196	28.735	0.151	2.21	94	1.6	-	73	-0.054	12.65	0.389
197	28.882	0.147	2.21	95	1.5	-	73	-0.049	12.66	0.078
198	29.032	0.150	2.21	95	1.4	-	73	-0.047	12.38	0.029
199	29.179	0.147	2.20	95	1.8	-	73	-0.049	12.14	0.029
200	29.329	0.150	2.21	95	1.6	100	73	-0.048	11.95	0.023
201	29.476	0.147	2.21	95	2.0	-	73	-0.048	11.89	0.025
202	29.627	0.151	2.21	95	1.8	-	73	-0.046	11.80	0.023
203	29.774	0.147	2.21	95	1.9	-	73	-0.048	11.78	0.025
204	29.924	0.150	2.21	95	1.8	-	73	-0.047	11.72	0.015
205	30.071	0.147	2.21	95	1.4	-	73	-0.048	11.72	0.024
206	30.222	0.151	2.21	95	1.6	-	73	-0.048	11.71	0.019
207	30.369	0.147	2.21	95	1.8	-	73	-0.048	11.74	0.022
208	30.519	0.150	2.21	95	1.4	-	73	-0.048	11.67	0.019
209	30.666	0.147	2.21	95	1.5	-	73	-0.044	11.79	0.024
210	30.817	0.151	2.21	95	1.5	100	73	-0.045	11.88	0.023
211	30.964	0.147	2.20	95	1.8	-	73	-0.044	11.88	0.023
212	31.114	0.150	2.21	95	1.7	-	73	-0.041	11.84	0.026
213	31.261	0.147	2.20	95	1.5	-	73	-0.044	11.79	0.022
214	31.412	0.151	2.21	95	1.8	-	73	-0.046	11.40	0.025
215	31.559	0.147	2.21	95	1.7	-	73	-0.045	11.16	0.019
216	31.709	0.150	2.21	95	1.5	-	73	-0.046	11.18	0.023
217	31.856	0.147	2.21	95	1.5	-	73	-0.041	10.95	0.021
218	32.006	0.150	2.20	95	1.5	-	73	-0.045	10.66	0.022
219	32.153	0.147	2.21	95	1.8	-	73	-0.042	10.45	0.025
220	32.304	0.151	2.21	95	1.8	100	73	-0.042	10.29	0.019
221	32.451	0.147	2.21	95	1.7	-	73	-0.042	10.10	0.021
222	32.602	0.151	2.21	95	1.4	-	73	-0.039	10.00	0.022
223	32.749	0.147	2.21	95	1.5	-	73	-0.043	10.00	0.023

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	32.899	0.150	2.21	95	1.9	-	72	-0.041	9.91	0.025
225	33.047	0.148	2.21	95	1.5	-	73	-0.040	9.97	0.023
226	33.197	0.150	2.21	95	1.4	-	72	-0.042	9.88	0.018
227	33.345	0.148	2.21	95	1.7	-	72	-0.041	9.83	0.022
228	33.495	0.150	2.21	95	1.5	-	72	-0.038	9.80	0.022
229	33.642	0.147	2.21	95	1.9	-	72	-0.039	9.74	0.023
230	33.793	0.151	2.21	95	1.6	100	72	-0.039	9.67	0.022
231	33.940	0.147	2.21	95	1.9	-	72	-0.040	9.75	0.022
232	34.090	0.150	2.21	95	1.8	-	72	-0.041	9.63	0.025
233	34.238	0.148	2.21	95	1.9	-	72	-0.040	9.64	0.025
234	34.388	0.150	2.21	95	1.4	-	72	-0.038	9.61	0.029
235	34.535	0.147	2.21	95	2.0	-	72	-0.038	9.47	0.021
236	34.685	0.150	2.21	95	2.0	-	72	-0.037	9.49	0.017
237	34.833	0.148	2.21	95	1.4	-	72	-0.039	9.47	0.024
238	34.983	0.150	2.21	95	1.5	-	72	-0.037	9.44	0.021
239	35.131	0.148	2.21	95	1.8	-	72	-0.036	9.23	0.025
240	35.281	0.150	2.21	95	1.4	100	72	-0.038	9.36	0.021
241	35.428	0.147	2.21	95	1.9	-	72	-0.036	9.36	0.025
242	35.578	0.150	2.21	95	2.0	-	72	-0.037	9.35	0.025
243	35.726	0.148	2.21	95	1.6	-	72	-0.034	9.41	0.026
244	35.876	0.150	2.21	95	1.5	-	72	-0.038	9.37	0.029
245	36.024	0.148	2.21	95	1.4	-	72	-0.033	9.40	0.029
246	36.174	0.150	2.21	95	1.8	-	72	-0.036	9.35	0.025
247	36.321	0.147	2.21	95	1.6	-	72	-0.036	9.34	0.026
248	36.471	0.150	2.21	95	1.8	-	72	-0.034	9.33	0.023
249	36.619	0.148	2.20	95	1.5	-	72	-0.035	9.35	0.028
250	36.769	0.150	2.21	95	1.5	100	72	-0.034	9.34	0.035
251	36.917	0.148	2.21	95	1.4	-	72	-0.037	9.31	0.033
252	37.067	0.150	2.21	95	1.8	-	72	-0.036	9.33	0.030
253	37.215	0.148	2.20	95	1.4	-	72	-0.034	9.33	0.028
254	37.365	0.150	2.21	95	1.5	-	72	-0.036	9.28	0.032
255	37.513	0.148	2.21	95	1.6	-	72	-0.035	9.30	0.028

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	37.663	0.150	2.21	95	1.8	-	72	-0.034	9.31	0.026
257	37.811	0.148	2.20	95	1.7	-	72	-0.036	9.22	0.030
258	37.961	0.150	2.21	95	1.6	-	71	-0.035	9.51	0.024
259	38.109	0.148	2.21	95	1.6	-	71	-0.036	9.75	0.028
260	38.258	0.149	2.21	95	1.4	100	71	-0.036	9.70	0.021
261	38.407	0.149	2.21	95	1.4	-	71	-0.033	9.70	0.022
262	38.556	0.149	2.22	95	1.5	-	71	-0.035	9.59	0.023
263	38.705	0.149	2.22	95	1.4	-	71	-0.034	9.48	0.022
264	38.855	0.150	2.22	95	1.4	-	71	-0.033	9.50	0.022
265	39.003	0.148	2.21	95	1.7	-	71	-0.033	9.56	0.023
266	39.153	0.150	2.21	95	1.9	-	71	-0.031	9.52	0.023
267	39.301	0.148	2.21	95	1.4	-	71	-0.031	9.52	0.023
268	39.451	0.150	2.21	95	2.0	-	71	-0.033	9.41	0.024
269	39.599	0.148	2.21	95	1.5	-	71	-0.036	9.48	0.021
270	39.748	0.149	2.21	95	1.5	100	71	-0.031	9.46	0.022
271	39.897	0.149	2.21	95	2.0	-	71	-0.031	9.47	0.019
272	40.046	0.149	2.21	95	1.5	-	71	-0.031	9.49	0.022
273	40.195	0.149	2.21	95	1.4	-	71	-0.032	9.48	0.025
274	40.344	0.149	2.21	95	1.8	-	71	-0.033	9.68	0.020
275	40.492	0.148	2.21	95	1.9	-	71	-0.031	9.45	0.018
276	40.642	0.150	2.21	95	1.7	-	71	-0.034	9.26	0.017
277	40.790	0.148	2.21	95	1.5	-	71	-0.031	9.18	0.015
278	40.939	0.149	2.21	95	1.8	-	71	-0.033	9.02	0.020
279	41.088	0.149	2.21	95	2.0	-	71	-0.032	9.07	0.020
280	41.237	0.149	2.21	95	1.4	100	71	-0.031	9.12	0.017
281	41.386	0.149	2.21	95	1.7	-	71	-0.032	8.88	0.020
282	41.535	0.149	2.21	95	1.7	-	71	-0.033	9.06	0.016
283	41.684	0.149	2.21	95	1.4	-	71	-0.033	9.06	0.018
284	41.833	0.149	2.21	95	1.9	-	71	-0.033	9.06	0.020
285	41.982	0.149	2.21	95	1.6	-	71	-0.033	9.13	0.019
286	42.131	0.149	2.21	95	1.9	-	71	-0.031	9.23	0.017
287	42.279	0.148	2.21	95	1.5	-	71	-0.030	9.22	0.021

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	42.428	0.149	2.21	95	1.5	-	71	-0.030	9.24	0.024
289	42.577	0.149	2.21	95	1.6	-	71	-0.031	9.25	0.023
290	42.726	0.149	2.21	95	1.5	100	71	-0.032	9.20	0.021
291	42.875	0.149	2.21	95	1.9	-	71	-0.034	9.26	0.024
292	43.024	0.149	2.21	95	1.5	-	71	-0.030	9.19	0.025
293	43.173	0.149	2.22	95	1.8	-	71	-0.031	9.36	0.021
294	43.321	0.148	2.21	95	1.6	-	71	-0.032	9.38	0.021
295	43.471	0.150	2.21	95	1.7	-	71	-0.032	9.32	0.028
296	43.619	0.148	2.22	95	1.7	-	71	-0.029	9.39	0.025
297	43.768	0.149	2.21	95	1.5	-	71	-0.032	9.37	0.025
298	43.917	0.149	2.21	95	2.0	-	71	-0.030	9.51	0.027
299	44.066	0.149	2.21	95	1.7	-	71	-0.030	9.54	0.030
300	44.215	0.149	2.21	95	1.7	100	71	-0.031	9.49	0.027
301	44.364	0.149	2.21	95	1.7	-	71	-0.029	9.50	0.026
302	44.512	0.148	2.21	95	1.6	-	71	-0.031	9.46	0.028
303	44.662	0.150	2.21	95	2.0	-	71	-0.031	9.52	0.024
304	44.810	0.148	2.21	95	1.5	-	71	-0.033	9.53	0.027
305	44.959	0.149	2.21	95	1.5	-	71	-0.033	9.47	0.025
306	45.108	0.149	2.20	95	2.0	-	71	-0.032	9.51	0.024
307	45.257	0.149	2.21	95	1.5	-	71	-0.028	9.48	0.027
308	45.406	0.149	2.21	95	1.9	-	70	-0.030	9.54	0.026
309	45.555	0.149	2.21	95	1.9	-	70	-0.030	9.54	0.025
310	45.703	0.148	2.21	94	2.0	100	70	-0.030	9.54	0.025
311	45.853	0.150	2.21	95	2.0	-	70	-0.032	9.57	0.028
312	46.001	0.148	2.21	95	1.8	-	70	-0.031	9.63	0.029
313	46.151	0.150	2.21	95	1.9	-	70	-0.030	9.58	0.029
314	46.299	0.148	2.22	95	1.8	-	70	-0.029	9.61	0.027
315	46.449	0.150	2.22	94	1.6	-	70	-0.032	9.61	0.028
316	46.597	0.148	2.22	94	1.4	-	70	-0.029	9.63	0.029
317	46.747	0.150	2.22	94	1.9	-	70	-0.034	9.64	0.025
318	46.895	0.148	2.22	94	1.6	-	70	-0.032	9.62	0.029
319	47.045	0.150	2.21	94	1.6	-	70	-0.031	9.42	0.026

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	47.193	0.148	2.21	94	1.9	100	70	-0.031	9.07	0.021
321	47.343	0.150	2.21	94	1.8	-	70	-0.031	9.08	0.020
322	47.490	0.147	2.21	94	1.9	-	70	-0.031	8.99	0.020
323	47.640	0.150	2.21	94	1.6	-	70	-0.030	9.09	0.020
324	47.788	0.148	2.21	94	1.8	-	70	-0.030	9.04	0.022
325	47.938	0.150	2.21	94	1.6	-	70	-0.030	9.05	0.024
326	48.086	0.148	2.21	94	1.8	-	70	-0.030	9.02	0.023
327	48.236	0.150	2.21	94	1.8	-	70	-0.029	9.09	0.024
328	48.383	0.147	2.22	94	1.5	-	70	-0.028	9.14	0.022
329	48.533	0.150	2.22	94	1.4	-	70	-0.032	9.16	0.021
330	48.681	0.148	2.22	94	1.4	100	70	-0.032	9.12	0.024
331	48.831	0.150	2.21	94	1.5	-	70	-0.030	8.97	0.021
332	48.979	0.148	2.21	94	1.5	-	70	-0.033	9.05	0.021
333	49.129	0.150	2.22	94	2.0	-	70	-0.030	9.04	0.021
334	49.276	0.147	2.22	94	1.4	-	70	-0.031	9.05	0.025
335	49.426	0.150	2.22	94	1.5	-	70	-0.029	8.95	0.026
336	49.574	0.148	2.22	94	2.0	-	70	-0.033	9.11	0.022
337	49.724	0.150	2.22	94	2.0	-	70	-0.027	9.07	0.023
338	49.871	0.147	2.21	94	1.8	-	70	-0.029	8.99	0.024
339	50.021	0.150	2.21	94	1.5	-	70	-0.029	9.11	0.019
340	50.169	0.148	2.21	94	1.8	100	70	-0.029	9.08	0.021
341	50.319	0.150	2.22	94	1.5	-	70	-0.029	9.15	0.024
342	50.466	0.147	2.22	94	1.7	-	70	-0.030	9.13	0.023
343	50.617	0.151	2.22	94	1.7	-	70	-0.028	9.03	0.024
344	50.764	0.147	2.22	94	1.9	-	70	-0.028	9.20	0.021
345	50.914	0.150	2.22	94	1.7	-	70	-0.029	9.23	0.022
346	51.061	0.147	2.22	94	1.6	-	70	-0.029	9.16	0.024
347	51.212	0.151	2.22	94	1.7	-	70	-0.030	9.25	0.024
348	51.359	0.147	2.22	94	1.8	-	70	-0.032	9.16	0.024
349	51.509	0.150	2.22	94	2.0	-	70	-0.029	9.21	0.021
350	51.657	0.148	2.22	94	1.5	100	70	-0.028	9.23	0.022
351	51.807	0.150	2.22	94	1.6	-	70	-0.030	9.31	0.021

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	51.954	0.147	2.21	94	1.8	-	70	-0.028	9.19	0.028
353	52.104	0.150	2.22	94	2.0	-	70	-0.029	9.33	0.023
354	52.252	0.148	2.22	94	1.9	-	70	-0.031	9.29	0.023
355	52.402	0.150	2.21	94	1.5	-	70	-0.032	9.24	0.021
356	52.549	0.147	2.21	94	1.6	-	70	-0.029	9.26	0.024
357	52.699	0.150	2.22	94	1.7	-	70	-0.028	9.29	0.023
358	52.847	0.148	2.21	94	1.9	-	70	-0.027	9.27	0.025
359	52.997	0.150	2.21	94	1.7	-	70	-0.028	9.28	0.021
360	53.144	0.147	2.21	94	1.7	99	70	-0.030	8.63	0.021
361	53.295	0.151	2.21	94	1.4	-	70	-0.030	8.54	0.017
362	53.442	0.147	2.21	94	1.5	-	70	-0.032	8.49	0.022
363	53.592	0.150	2.21	94	1.6	-	70	-0.028	8.41	0.023
364	53.739	0.147	2.21	94	1.5	-	70	-0.029	8.46	0.020
365	53.889	0.150	2.21	94	1.7	-	70	-0.032	8.54	0.023
366	54.037	0.148	2.21	94	1.8	-	70	-0.033	8.47	0.019
367	54.187	0.150	2.21	94	1.7	-	70	-0.030	8.59	0.019
368	54.334	0.147	2.21	94	1.8	-	70	-0.029	8.56	0.022
369	54.485	0.151	2.21	94	1.5	-	70	-0.032	8.61	0.022
370	54.632	0.147	2.22	94	1.6	100	70	-0.026	8.64	0.020
371	54.782	0.150	2.21	94	1.4	-	70	-0.030	8.60	0.022
372	54.929	0.147	2.21	94	2.0	-	70	-0.029	8.52	0.022
373	55.080	0.151	2.22	94	2.0	-	70	-0.029	8.58	0.015
374	55.227	0.147	2.22	94	1.7	-	70	-0.029	8.60	0.024
375	55.377	0.150	2.21	94	1.8	-	70	-0.028	8.63	0.024
376	55.525	0.148	2.22	94	2.0	-	70	-0.031	8.61	0.021
377	55.675	0.150	2.21	94	1.6	-	70	-0.029	8.59	0.019
378	55.822	0.147	2.21	94	1.7	-	70	-0.030	8.61	0.022
379	55.973	0.151	2.22	94	1.5	-	70	-0.027	8.58	0.026
380	56.120	0.147	2.21	94	1.7	100	70	-0.030	8.58	0.024
381	56.270	0.150	2.21	94	1.7	-	70	-0.032	8.65	0.022
382	56.417	0.147	2.21	94	1.9	-	70	-0.029	8.60	0.026
383	56.568	0.151	2.22	94	1.9	-	70	-0.027	8.57	0.020

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	56.715	0.147	2.22	94	1.4	-	70	-0.028	8.68	0.020
385	56.865	0.150	2.21	94	1.9	-	70	-0.029	8.62	0.022
386	57.012	0.147	2.22	94	1.9	-	70	-0.028	8.67	0.025
387	57.163	0.151	2.22	94	2.0	-	70	-0.028	8.72	0.024
388	57.310	0.147	2.22	94	1.8	-	70	-0.029	8.69	0.023
389	57.461	0.151	2.22	94	1.4	-	70	-0.031	8.64	0.023
390	57.608	0.147	2.22	94	2.0	100	69	-0.029	8.71	0.024
391	57.758	0.150	2.22	94	1.5	-	69	-0.026	8.73	0.021
392	57.905	0.147	2.22	94	2.0	-	69	-0.028	8.68	0.022
393	58.056	0.151	2.22	94	1.6	-	69	-0.028	8.67	0.023
394	58.203	0.147	2.22	94	1.8	-	69	-0.029	8.65	0.025
395	58.353	0.150	2.22	94	1.8	-	69	-0.029	8.72	0.024
396	58.500	0.147	2.22	94	1.4	-	69	-0.027	8.63	0.024
397	58.651	0.151	2.22	94	1.4	-	69	-0.025	8.67	0.024
398	58.798	0.147	2.22	94	1.5	-	69	-0.028	8.60	0.023
399	58.948	0.150	2.22	94	1.5	-	69	-0.028	8.67	0.022
400	59.095	0.147	2.22	94	2.0	99	69	-0.029	8.68	0.026
401	59.246	0.151	2.22	94	1.8	-	69	-0.028	8.70	0.026
402	59.393	0.147	2.22	94	1.4	-	69	-0.028	8.72	0.023
403	59.543	0.150	2.22	94	2.0	-	69	-0.026	8.64	0.024
404	59.690	0.147	2.22	94	1.6	-	69	-0.030	8.70	0.024
405	59.841	0.151	2.22	94	1.6	-	69	-0.027	8.57	0.026
406	59.988	0.147	2.22	94	1.9	-	69	-0.028	8.68	0.025
407	60.138	0.150	2.22	94	2.0	-	69	-0.030	8.63	0.026
408	60.285	0.147	2.22	94	2.0	-	69	-0.032	8.42	0.023
409	60.436	0.151	2.22	94	1.6	-	69	-0.028	8.37	0.021
410	60.583	0.147	2.22	94	1.7	100	69	-0.028	8.42	0.021
411	60.733	0.150	2.22	94	2.0	-	69	-0.025	8.41	0.024
412	60.880	0.147	2.22	94	1.9	-	69	-0.029	8.36	0.022
413	61.031	0.151	2.22	94	1.4	-	69	-0.029	8.40	0.022
414	61.178	0.147	2.22	94	2.0	-	69	-0.030	8.32	0.022
415	61.328	0.150	2.22	94	1.4	-	69	-0.030	8.37	0.021

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	61.475	0.147	2.22	94	1.8	-	69	-0.027	8.35	0.021
417	61.626	0.151	2.22	94	1.9	-	69	-0.028	8.37	0.020
418	61.773	0.147	2.22	94	1.8	-	69	-0.027	8.42	0.024
419	61.923	0.150	2.22	94	2.0	-	69	-0.027	8.37	0.022
420	62.070	0.147	2.22	94	1.4	100	69	-0.026	8.38	0.022
421	62.221	0.151	2.22	94	1.5	-	69	-0.028	8.44	0.026
422	62.367	0.146	2.22	94	1.7	-	69	-0.027	8.46	0.022
423	62.518	0.151	2.22	94	1.8	-	69	-0.029	8.43	0.024
424	62.665	0.147	2.22	94	1.5	-	69	-0.030	8.41	0.017
425	62.815	0.150	2.22	94	1.5	-	69	-0.028	8.45	0.024
426	62.962	0.147	2.22	94	1.5	-	69	-0.030	8.47	0.020
427	63.113	0.151	2.22	94	1.7	-	69	-0.029	8.46	0.025
428	63.260	0.147	2.22	94	1.7	-	69	-0.028	8.52	0.025
429	63.410	0.150	2.22	94	1.7	-	69	-0.030	8.46	0.023
430	63.557	0.147	2.22	94	1.6	100	69	-0.028	8.47	0.025
431	63.707	0.150	2.22	94	1.5	-	69	-0.028	8.40	0.023
432	63.854	0.147	2.22	94	1.5	-	69	-0.028	8.43	0.023
433	64.005	0.151	2.22	94	1.5	-	69	-0.029	8.44	0.026
434	64.152	0.147	2.21	94	1.5	-	69	-0.029	8.43	0.023
435	64.302	0.150	2.22	94	1.5	-	69	-0.026	8.45	0.022
436	64.449	0.147	2.22	94	1.5	-	69	-0.029	8.40	0.022
437	64.599	0.150	2.22	94	2.0	-	69	-0.024	8.39	0.025
438	64.746	0.147	2.22	94	1.4	-	69	-0.029	8.32	0.026
439	64.897	0.151	2.22	94	1.9	-	69	-0.029	8.19	0.024
440	65.044	0.147	2.22	94	1.7	100	69	-0.028	8.22	0.026
441	65.194	0.150	2.22	94	1.4	-	69	-0.026	8.35	0.024
442	65.341	0.147	2.22	94	2.0	-	69	-0.029	8.39	0.025
443	65.492	0.151	2.22	94	1.8	-	69	-0.026	8.37	0.027
444	65.638	0.146	2.22	93	1.9	-	69	-0.028	8.33	0.030
445	65.789	0.151	2.22	93	1.5	-	69	-0.029	8.24	0.022
446	65.936	0.147	2.22	94	2.0	-	69	-0.030	8.31	0.025
447	66.086	0.150	2.23	94	1.6	-	69	-0.026	8.26	0.027

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	66.233	0.147	2.22	94	1.7	-	69	-0.028	8.33	0.025
449	66.384	0.151	2.22	93	1.4	-	69	-0.030	8.32	0.024
450	66.531	0.147	2.22	93	1.7	100	69	-0.029	8.36	0.029
451	66.681	0.150	2.22	93	1.8	-	69	-0.027	8.29	0.026
452	66.828	0.147	2.22	93	2.0	-	69	-0.028	8.37	0.025
453	66.979	0.151	2.22	93	1.5	-	69	-0.027	8.30	0.026
454	67.126	0.147	2.22	94	1.5	-	69	-0.027	8.28	0.026
455	67.276	0.150	2.22	94	1.4	-	69	-0.028	8.24	0.024
456	67.423	0.147	2.22	93	1.4	-	69	-0.028	8.27	0.027
457	67.574	0.151	2.23	94	2.0	-	69	-0.026	8.28	0.022
458	67.721	0.147	2.22	94	1.6	-	69	-0.025	8.21	0.027
459	67.871	0.150	2.22	94	2.0	-	69	-0.029	8.26	0.025
460	68.018	0.147	2.22	94	1.4	100	69	-0.025	8.22	0.022
461	68.169	0.151	2.22	94	1.6	-	69	-0.028	8.32	0.029
462	68.316	0.147	2.22	94	1.5	-	69	-0.029	8.18	0.022
463	68.466	0.150	2.22	94	1.7	-	69	-0.025	8.23	0.026
464	68.613	0.147	2.22	93	1.5	-	69	-0.026	8.26	0.024
465	68.763	0.150	2.22	93	1.5	-	69	-0.027	8.35	0.024
466	68.910	0.147	2.22	93	1.6	-	69	-0.028	8.26	0.026
467	69.061	0.151	2.22	93	1.7	-	69	-0.028	7.98	0.024
468	69.207	0.146	2.22	93	1.6	-	69	-0.028	7.86	0.024
469	69.358	0.151	2.22	93	2.0	-	69	-0.026	7.87	0.022
470	69.505	0.147	2.22	93	1.8	100	69	-0.026	7.83	0.021
471	69.655	0.150	2.22	93	2.0	-	69	-0.030	7.84	0.023
472	69.802	0.147	2.22	93	1.8	-	69	-0.026	7.87	0.026
473	69.952	0.150	2.22	93	1.7	-	69	-0.029	7.90	0.025
474	70.099	0.147	2.22	93	2.0	-	69	-0.026	7.84	0.025
475	70.250	0.151	2.22	93	1.8	-	69	-0.029	7.88	0.025
476	70.396	0.146	2.22	93	1.6	-	68	-0.028	7.84	0.028
477	70.547	0.151	2.22	93	1.9	-	68	-0.026	7.91	0.029
478	70.694	0.147	2.22	93	2.0	-	68	-0.028	7.84	0.024
479	70.844	0.150	2.22	93	1.9	-	68	-0.030	7.91	0.023

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	70.991	0.147	2.22	93	1.5	99	68	-0.028	7.86	0.027
481	71.141	0.150	2.22	93	1.5	-	68	-0.027	7.82	0.027
482	71.288	0.147	2.21	93	2.0	-	68	-0.029	7.83	0.025
483	71.438	0.150	2.22	93	1.5	-	68	-0.027	7.84	0.030
484	71.585	0.147	2.22	93	1.7	-	68	-0.025	7.79	0.030
485	71.735	0.150	2.21	93	1.5	-	68	-0.029	7.78	0.026
486	71.882	0.147	2.21	93	1.9	-	68	-0.026	7.71	0.025
487	72.032	0.150	2.21	93	1.9	-	68	-0.030	7.53	0.028
488	72.179	0.147	2.21	93	2.0	-	68	-0.028	7.65	0.028
489	72.330	0.151	2.22	93	1.4	-	68	-0.028	7.67	0.029
490	72.477	0.147	2.22	93	1.4	99	68	-0.027	7.61	0.030
491	72.627	0.150	2.22	93	1.4	-	68	-0.026	7.62	0.030
492	72.774	0.147	2.21	93	1.5	-	68	-0.025	7.66	0.028
493	72.924	0.150	2.21	93	1.5	-	68	-0.028	7.59	0.021
494	73.071	0.147	2.22	93	1.9	-	68	-0.029	7.62	0.029
495	73.222	0.151	2.22	93	1.4	-	68	-0.027	7.61	0.027
496	73.369	0.147	2.22	93	1.5	-	68	-0.029	7.66	0.030
497	73.519	0.150	2.22	93	1.5	-	68	-0.028	7.50	0.032
498	73.666	0.147	2.22	93	1.6	-	68	-0.026	7.57	0.032
499	73.816	0.150	2.22	93	1.7	-	68	-0.027	7.62	0.035
500	73.963	0.147	2.22	93	1.9	99	68	-0.027	7.51	0.033
501	74.112	0.149	2.22	93	1.7	-	68	-0.031	7.56	0.033
502	74.261	0.149	2.21	93	1.4	-	68	-0.028	7.47	0.033
503	74.411	0.150	2.22	93	1.8	-	68	-0.029	7.41	0.032
504	74.558	0.147	2.22	93	1.4	-	68	-0.028	7.52	0.029
505	74.708	0.150	2.22	93	1.5	-	68	-0.028	7.52	0.031
506	74.855	0.147	2.22	93	1.5	99	68	-0.029	7.46	0.030
Avg/Tot	74.855	0.148	2.20	91.5	1.7	100	71.2	-0.040	10.12	0.535

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	0.000		0.08	71	0.5		68
1	0.196	0.196	1.70	70	2.4	-	68
2	0.395	0.199	1.70	70	2.4	-	68
3	0.598	0.203	1.71	70	2.4	-	68
4	0.798	0.200	1.72	70	2.4	-	68
5	1.000	0.202	1.73	70	2.6	-	68
6	1.202	0.202	1.74	70	2.6	-	68
7	1.403	0.201	1.75	71	2.5	-	69
8	1.606	0.203	1.76	71	2.6	-	69
9	1.809	0.203	1.76	71	2.6	-	69
10	2.013	0.204	1.77	71	2.4	101	69
11	2.216	0.203	1.77	71	2.5	-	69
12	2.420	0.204	1.77	72	2.5	-	69
13	2.624	0.204	1.77	72	2.5	-	69
14	2.828	0.204	1.78	72	2.6	-	69
15	3.033	0.205	1.78	73	2.5	-	69
16	3.237	0.204	1.78	73	2.5	-	69
17	3.442	0.205	1.78	73	2.6	-	69
18	3.646	0.204	1.78	73	2.5	-	69
19	3.850	0.204	1.78	74	2.5	-	69
20	4.055	0.205	1.78	74	2.6	101	69
21	4.261	0.206	1.78	74	2.4	-	69
22	4.467	0.206	1.78	75	2.6	-	69
23	4.673	0.206	1.79	75	2.6	-	69
24	4.879	0.206	1.79	75	2.5	-	69
25	5.086	0.207	1.80	75	2.5	-	69
26	5.292	0.206	1.80	76	2.6	-	69
27	5.499	0.207	1.81	76	2.6	-	69
28	5.706	0.207	1.82	76	2.7	-	69
29	5.913	0.207	1.81	76	2.6	-	69
30	6.121	0.208	1.81	77	2.5	102	70
31	6.326	0.205	1.82	77	2.5	-	70

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

	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	6.534	0.208	1.83	77	2.5	-	70
33	6.747	0.213	1.83	77	2.4	-	70
34	6.954	0.207	1.83	77	2.6	-	70
35	7.164	0.210	1.83	78	2.5	-	70
36	7.373	0.209	1.84	78	2.7	-	70
37	7.583	0.210	1.84	78	2.6	-	70
38	7.792	0.209	1.84	78	2.7	-	70
39	8.002	0.210	1.84	79	2.6	-	70
40	8.212	0.210	1.84	79	2.5	103	70
41	8.423	0.211	1.85	79	2.5	-	70
42	8.632	0.209	1.85	79	2.5	-	70
43	8.842	0.210	1.84	79	2.6	-	70
44	9.054	0.212	1.85	80	2.5	-	70
45	9.265	0.211	1.86	80	2.5	-	70
46	9.474	0.209	1.85	80	2.6	-	70
47	9.686	0.212	1.85	80	2.7	-	70
48	9.898	0.212	1.86	80	2.6	-	70
49	10.108	0.210	1.86	80	2.5	-	70
50	10.320	0.212	1.85	81	2.7	101	70
51	10.532	0.212	1.86	81	2.6	-	70
52	10.743	0.211	1.86	81	2.5	-	70
53	10.955	0.212	1.86	81	2.5	-	70
54	11.168	0.213	1.86	81	2.5	-	70
55	11.379	0.211	1.87	82	2.6	-	70
56	11.591	0.212	1.86	82	2.6	-	70
57	11.804	0.213	1.86	82	2.5	-	70
58	12.016	0.212	1.87	82	2.5	-	70
59	12.228	0.212	1.86	82	2.7	-	70
60	12.441	0.213	1.87	83	2.7	101	70
Avg/Tot	12.441	0.207	1.78	76.2	2.5	101	69.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	338	366	339	380	329	350.3	672.7
1	335	363	333	381	328	348.1	661.6
2	333	360	324	381	328	345.4	651.1
3	331	356	320	378	328	342.6	641.3
4	328	352	317	375	328	340.0	637.0
5	326	349	314	374	328	337.9	644.3
6	325	346	311	375	327	336.6	652.4
7	322	342	307	378	327	335.2	654.8
8	319	339	304	380	327	333.5	655.3
9	317	335	300	382	326	331.8	654.2
10	313	331	296	384	326	329.9	651.2
11	312	327	293	386	325	328.5	646.9
12	308	323	289	387	324	326.3	642.2
13	306	320	286	388	324	324.6	637.5
14	303	316	282	388	323	322.5	634.1
15	301	313	280	389	322	321.2	631.5
16	298	310	276	389	321	318.8	630.3
17	297	308	274	389	321	317.7	630.5
18	295	306	272	391	320	316.6	632.0
19	294	303	269	392	319	315.2	633.8
20	291	301	285	390	318	316.8	635.4
21	288	298	283	387	317	314.6	636.4
22	286	296	280	386	316	312.8	636.1
23	284	293	278	384	315	310.8	634.8
24	283	291	276	382	314	309.2	632.7
25	282	289	273	380	312	307.2	630.4
26	280	287	270	379	311	305.3	627.5
27	280	285	270	376	310	304.3	624.9
28	279	283	265	374	309	301.9	622.1
29	278	281	266	374	307	301.1	619.4
30	275	279	265	371	306	299.3	617.6
31	274	278	263	370	305	298.0	616.4
32	273	276	261	368	303	296.5	616.4
33	274	275	260	367	302	295.5	618.5
34	271	274	259	368	301	294.2	622.2
35	271	273	258	367	299	293.5	625.9
36	270	272	257	367	298	292.8	631.4
37	269	271	254	369	297	292.2	638.1
38	268	270	255	372	295	292.0	645.8
39	268	270	252	373	294	291.5	653.8
40	268	269	253	376	293	291.9	661.8
41	269	269	251	379	292	291.9	669.6
42	267	268	252	383	290	292.1	677.0
43	267	268	252	387	289	292.5	683.8
44	267	267	251	390	288	292.8	690.1
45	267	267	251	394	287	293.2	695.1
46	268	267	250	396	286	293.2	699.9
47	266	266	250	400	285	293.3	703.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	268	266	249	404	283	294.1	707.2
49	267	266	249	406	282	294.0	710.0
50	268	265	249	407	281	294.1	712.4
51	267	265	250	410	280	294.3	714.5
52	268	265	250	412	279	294.8	716.7
53	267	265	250	413	278	294.7	718.6
54	267	265	250	415	277	294.8	720.2
55	268	265	250	416	276	294.9	722.4
56	267	265	250	418	275	295.0	724.3
57	268	265	252	420	275	295.8	726.2
58	268	264	250	422	274	295.6	728.6
59	268	264	251	425	273	296.3	730.6
60	268	264	254	427	272	297.0	732.4
61	268	265	251	428	271	296.7	734.0
62	268	265	254	431	271	297.5	735.4
63	268	265	254	433	270	297.7	737.2
64	269	265	254	435	269	298.2	739.3
65	269	265	253	437	268	298.5	741.7
66	269	265	254	439	268	299.1	744.4
67	270	265	254	441	267	299.4	747.0
68	270	265	255	443	266	300.1	749.8
69	271	266	255	445	266	300.6	752.7
70	271	266	256	449	265	301.4	755.9
71	272	266	258	451	265	302.2	758.9
72	272	266	257	453	264	302.5	762.0
73	273	267	256	457	264	303.4	765.0
74	274	267	258	459	263	304.2	767.9
75	274	268	259	463	263	305.2	771.0
76	275	268	261	466	262	306.3	774.2
77	275	269	259	468	262	306.4	777.6
78	276	269	260	471	261	307.4	781.0
79	276	270	261	474	261	308.4	784.7
80	277	271	263	477	260	309.5	788.4
81	278	271	261	479	260	309.9	792.4
82	279	272	264	483	260	311.5	796.3
83	279	273	264	486	259	312.2	800.9
84	280	274	263	490	259	313.0	805.7
85	281	275	266	492	258	314.4	811.3
86	283	276	266	495	258	315.5	817.9
87	284	277	269	497	258	316.8	825.1
88	285	278	269	502	257	318.2	833.2
89	287	280	270	504	257	319.6	841.4
90	288	281	271	509	257	321.0	848.8
91	288	282	273	511	256	322.1	850.3
92	290	283	275	516	256	323.9	850.7
93	291	284	275	521	256	325.2	851.7
94	290	285	275	526	255	326.2	853.6
95	290	285	276	530	255	327.0	856.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	290	286	277	537	255	328.9	858.5
97	290	287	278	541	255	330.1	861.3
98	291	287	278	544	254	330.9	864.0
99	292	288	280	549	254	332.4	866.8
100	292	289	283	553	254	334.0	869.6
101	292	290	282	557	253	334.8	872.4
102	292	291	283	560	253	335.7	875.2
103	294	292	284	564	253	337.2	878.1
104	294	293	285	566	253	337.9	881.0
105	295	294	285	570	252	339.2	884.0
106	295	295	287	572	252	340.3	887.1
107	296	295	287	574	252	340.8	890.2
108	297	297	289	577	252	342.4	893.2
109	298	298	289	578	252	342.9	896.2
110	298	299	290	580	252	343.7	899.0
111	300	300	292	583	251	345.1	901.8
112	300	301	291	583	251	345.3	904.4
113	301	302	295	584	251	346.6	907.0
114	301	303	296	586	251	347.3	909.4
115	302	304	296	587	251	348.0	911.6
116	303	305	298	587	251	348.9	913.5
117	305	306	298	588	251	349.5	915.0
118	307	308	300	592	250	351.3	916.5
119	308	308	303	591	250	352.1	917.8
120	308	309	301	591	250	352.0	919.1
121	309	310	305	592	250	353.3	920.5
122	311	311	307	592	250	354.3	921.7
123	311	312	307	592	250	354.5	922.7
124	314	313	310	592	250	355.7	923.8
125	314	314	311	593	250	356.5	924.8
126	315	315	312	592	251	356.9	925.9
127	317	316	314	594	251	358.2	927.0
128	318	317	314	594	251	358.7	928.2
129	318	318	316	595	251	359.6	929.2
130	318	319	318	594	251	360.1	930.3
131	320	320	319	594	251	360.9	931.4
132	322	321	322	595	251	362.1	932.5
133	323	322	323	593	251	362.5	933.6
134	325	323	324	595	251	363.6	934.6
135	325	324	326	596	251	364.3	935.5
136	325	325	328	595	251	364.8	936.4
137	327	326	329	595	251	365.6	937.3
138	328	327	331	594	251	366.3	938.1
139	329	328	333	596	251	367.5	938.7
140	330	329	335	596	252	368.4	939.3
141	330	330	338	595	252	369.0	939.9
142	332	331	340	596	252	370.3	940.2
143	332	332	343	596	252	370.9	940.5

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	333	333	344	596	252	371.5	940.8
145	335	334	346	595	252	372.3	941.1
146	336	335	350	595	253	373.5	941.3
147	337	335	352	596	253	374.5	941.4
148	338	336	354	595	253	375.2	941.6
149	338	337	356	596	253	376.0	941.7
150	339	338	359	593	253	376.4	941.8
151	340	339	361	594	253	377.3	942.1
152	341	340	364	593	254	378.5	942.3
153	342	341	367	593	254	379.2	942.6
154	342	342	370	593	254	380.1	942.7
155	344	343	373	592	254	381.2	942.6
156	344	344	375	592	254	381.9	942.3
157	345	345	378	591	254	382.8	941.9
158	346	346	380	590	255	383.5	941.1
159	347	347	384	590	255	384.6	940.6
160	348	348	386	589	255	385.1	940.0
161	350	349	388	589	255	386.2	939.3
162	349	350	391	588	256	386.9	939.0
163	350	351	394	588	256	387.7	938.9
164	352	352	397	588	256	389.0	938.8
165	353	353	398	587	256	389.5	938.6
166	353	354	401	586	256	390.1	937.7
167	354	355	403	586	257	390.9	936.9
168	354	356	405	586	257	391.5	936.1
169	356	356	407	585	257	392.4	935.0
170	356	358	408	585	258	392.8	934.2
171	357	359	412	585	258	394.0	933.3
172	357	359	413	584	258	394.3	932.5
173	358	360	415	583	258	395.0	931.6
174	360	362	416	582	259	395.7	930.5
175	361	362	418	583	259	396.6	929.4
176	362	363	420	581	259	397.1	928.2
177	361	364	420	582	260	397.2	926.6
178	361	365	422	580	260	397.6	925.0
179	364	366	423	579	260	398.2	923.2
180	362	367	424	579	260	398.5	921.0
181	364	368	424	577	261	398.7	919.1
182	365	369	425	575	261	398.9	916.8
183	365	369	428	575	261	399.8	914.7
184	364	370	430	572	262	399.4	912.5
185	366	371	430	571	262	400.1	910.3
186	365	371	429	568	262	399.2	908.4
187	367	372	432	566	263	400.0	906.4
188	367	373	430	563	263	399.3	904.5
189	366	373	434	562	264	399.6	902.4
190	366	374	434	561	264	399.8	900.2
191	366	374	435	558	264	399.5	898.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	367	374	434	557	265	399.3	895.3
193	367	375	431	555	265	398.6	893.0
194	368	375	431	552	266	398.5	890.3
195	368	375	433	550	266	398.4	887.8
196	367	376	436	549	266	398.8	885.3
197	366	376	438	548	267	398.9	883.2
198	366	378	439	545	267	398.8	884.1
199	367	379	439	543	268	399.2	884.9
200	367	381	443	540	268	399.6	884.2
201	367	383	445	535	269	399.5	881.7
202	368	385	450	530	269	400.4	878.4
203	369	387	451	526	270	400.3	874.3
204	367	389	454	522	270	400.4	870.0
205	369	391	454	515	270	400.0	865.8
206	369	392	457	511	271	399.8	861.6
207	369	393	462	507	271	400.4	857.4
208	368	395	464	502	272	400.1	853.5
209	368	396	466	497	273	399.8	849.9
210	368	397	466	493	273	399.4	846.3
211	368	398	470	490	274	399.9	842.7
212	369	399	475	487	274	400.7	839.2
213	368	399	475	483	275	400.0	835.7
214	369	400	476	481	276	400.3	832.1
215	368	401	476	478	276	399.6	828.5
216	367	401	475	476	276	399.2	824.5
217	367	401	474	473	277	398.4	820.2
218	365	402	472	469	278	397.1	815.7
219	364	402	472	467	278	396.7	811.0
220	363	403	470	465	279	395.9	806.0
221	362	403	467	463	279	395.0	800.9
222	361	404	466	459	280	393.7	795.8
223	361	404	464	456	280	393.1	790.8
224	358	404	461	453	281	391.6	785.8
225	357	404	460	449	281	390.2	780.9
226	356	404	458	446	282	389.1	776.0
227	354	404	453	443	283	387.4	771.5
228	354	403	456	440	283	387.3	767.1
229	352	403	453	437	284	385.7	762.7
230	352	402	450	433	284	384.4	758.4
231	350	402	450	431	285	383.6	753.9
232	350	401	448	427	286	382.4	749.9
233	348	401	448	424	286	381.3	745.9
234	347	400	447	421	287	380.3	741.9
235	346	400	445	419	288	379.4	738.0
236	346	399	445	416	288	378.8	734.5
237	344	398	444	414	289	377.7	731.0
238	342	398	443	411	289	376.4	727.7
239	341	397	443	410	290	376.1	724.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
240	338	397	439	407	290	374.2	720.9
241	338	396	436	404	291	373.1	717.9
242	338	395	437	402	291	372.7	715.1
243	336	395	434	400	292	371.2	712.1
244	334	394	434	398	292	370.5	709.4
245	334	393	433	396	293	369.8	706.5
246	332	392	434	394	293	369.2	704.0
247	332	391	432	393	294	368.3	701.6
248	330	391	428	391	294	366.8	698.8
249	330	390	429	390	295	366.6	696.7
250	329	389	427	388	295	365.5	694.6
251	328	388	428	387	295	365.1	692.4
252	327	387	430	385	296	364.9	690.7
253	326	386	426	384	296	363.6	688.6
254	326	386	425	383	296	363.0	686.6
255	325	385	425	382	297	362.6	684.8
256	324	384	424	380	297	361.6	682.9
257	323	383	422	380	297	361.0	681.1
258	323	382	422	378	297	360.4	679.6
259	322	381	421	377	297	359.8	678.0
260	322	380	418	376	298	358.8	676.6
261	322	379	420	375	298	358.6	675.1
262	321	378	418	374	298	357.6	673.4
263	320	377	415	372	298	356.4	671.8
264	320	376	414	371	299	355.9	669.8
265	319	375	414	370	299	355.3	668.0
266	319	374	413	368	299	354.6	666.5
267	319	373	415	367	299	354.5	664.7
268	319	372	416	364	299	354.1	662.9
269	318	371	413	364	300	353.3	661.2
270	318	371	409	363	300	351.8	660.0
271	318	370	410	361	300	351.7	658.4
272	317	369	410	361	300	351.5	657.2
273	316	368	408	359	300	350.3	656.4
274	317	367	407	358	301	349.9	655.6
275	316	366	404	357	301	348.8	655.0
276	316	365	403	356	301	348.3	653.8
277	317	364	402	355	301	347.7	652.9
278	317	363	400	353	302	346.9	651.1
279	316	362	398	352	302	346.1	649.2
280	316	361	397	352	302	345.6	647.2
281	316	360	394	350	303	344.7	645.5
282	316	359	394	349	303	344.1	643.6
283	317	358	391	348	303	343.6	641.6
284	315	357	390	347	303	342.7	639.7
285	316	356	391	346	304	342.4	638.3
286	315	356	388	345	304	341.5	636.8
287	316	355	388	343	304	341.0	635.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
288	315	354	386	341	305	340.2	634.4
289	314	353	386	341	305	339.9	633.4
290	314	352	384	340	305	339.0	632.5
291	314	352	383	339	305	338.7	631.3
292	314	351	380	339	306	337.8	630.5
293	313	350	379	338	306	337.1	629.8
294	313	349	378	337	306	336.8	629.5
295	313	349	383	337	307	337.4	628.8
296	312	348	378	336	307	336.2	628.4
297	312	347	378	337	307	336.2	627.9
298	311	347	376	336	307	335.5	627.5
299	311	346	378	335	308	335.6	627.3
300	310	346	377	334	308	334.8	626.9
301	310	345	374	335	308	334.4	626.4
302	310	345	376	335	308	334.6	626.8
303	309	345	376	334	308	334.4	626.4
304	310	344	376	334	308	334.3	626.2
305	310	344	375	334	308	334.1	625.9
306	308	343	374	334	309	333.6	626.0
307	308	343	375	334	309	333.5	625.8
308	307	342	374	334	309	333.0	625.4
309	307	342	375	334	309	333.4	625.8
310	306	341	371	334	309	332.3	625.3
311	307	341	374	334	309	333.1	624.8
312	306	341	372	334	309	332.4	625.2
313	305	341	375	334	309	332.6	624.9
314	305	340	374	334	309	332.6	624.4
315	305	340	372	334	309	332.2	624.4
316	305	340	375	334	310	332.5	624.5
317	305	340	371	334	310	331.8	624.4
318	304	339	373	334	310	332.0	624.1
319	304	339	371	334	310	331.6	624.4
320	303	339	372	334	310	331.4	624.5
321	302	338	373	334	310	331.4	624.2
322	304	338	372	334	310	331.5	623.2
323	302	337	369	334	310	330.6	622.4
324	302	337	368	334	310	330.0	621.3
325	301	336	368	333	311	329.8	619.9
326	300	336	369	333	311	329.7	618.7
327	299	335	368	333	311	329.3	617.9
328	299	335	366	332	311	328.5	616.8
329	299	335	368	331	311	328.6	615.7
330	298	334	368	330	311	328.2	614.8
331	298	334	368	329	311	327.9	613.6
332	297	333	364	329	312	326.9	612.9
333	296	333	366	329	312	327.1	612.1
334	296	332	364	328	312	326.4	610.8
335	295	331	366	327	312	326.3	610.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
336	295	331	367	326	313	326.2	609.4
337	294	331	365	326	313	325.6	608.8
338	293	330	366	326	313	325.5	608.0
339	293	330	363	325	313	325.0	607.1
340	292	330	364	324	314	324.8	606.6
341	292	330	362	324	314	324.3	606.0
342	291	330	363	324	314	324.3	605.6
343	290	330	361	324	315	323.9	605.2
344	290	330	362	323	315	323.8	604.5
345	291	329	364	323	315	324.4	603.6
346	290	329	364	322	316	324.2	602.8
347	289	329	361	321	316	323.3	602.7
348	289	329	360	322	316	323.1	601.9
349	290	329	362	321	317	323.7	601.4
350	289	329	362	321	317	323.6	601.4
351	288	329	362	320	317	323.4	600.5
352	288	329	363	320	318	323.6	600.5
353	288	329	365	320	318	324.1	600.2
354	288	329	362	320	318	323.6	599.5
355	288	329	363	320	319	323.6	599.4
356	287	329	364	320	319	324.0	599.5
357	287	329	361	319	319	323.1	599.5
358	287	330	361	319	320	323.2	598.9
359	287	330	361	319	320	323.3	599.2
360	286	329	362	319	320	323.4	598.0
361	285	329	359	319	321	322.5	598.0
362	286	329	358	318	321	322.4	597.0
363	285	328	359	318	321	322.4	596.3
364	284	328	356	318	322	321.4	595.4
365	284	327	356	318	322	321.3	594.2
366	284	327	356	317	322	321.0	592.8
367	283	326	354	317	323	320.6	590.8
368	283	326	353	315	323	320.2	590.6
369	282	326	352	316	324	319.8	589.4
370	282	326	350	314	324	319.0	588.0
371	282	325	350	314	324	319.2	586.6
372	282	325	349	313	325	318.8	585.0
373	281	325	349	313	325	318.6	584.0
374	282	325	347	312	326	318.3	583.5
375	281	325	347	311	327	317.8	582.5
376	281	324	346	311	327	317.7	581.8
377	281	324	345	310	328	317.5	581.1
378	280	324	344	309	328	316.8	579.6
379	280	324	343	308	329	316.6	579.4
380	279	323	342	309	329	316.5	578.7
381	281	323	343	308	330	317.0	577.8
382	278	323	344	307	330	316.5	577.5
383	278	323	342	307	331	316.1	576.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
384	278	322	342	306	331	315.9	576.5
385	277	322	340	306	332	315.5	575.8
386	277	322	340	306	332	315.6	575.6
387	277	322	340	306	333	315.4	574.9
388	277	322	341	305	333	315.5	574.8
389	276	322	340	305	334	315.2	574.2
390	277	322	339	305	334	315.2	573.6
391	276	322	340	305	334	315.3	573.7
392	276	321	339	304	335	315.0	572.8
393	276	321	340	304	335	315.2	572.7
394	275	321	340	304	335	315.0	571.6
395	274	321	339	304	336	314.7	571.6
396	275	321	339	303	336	315.0	570.8
397	276	321	340	303	336	315.0	570.1
398	276	321	337	303	337	314.6	570.5
399	275	321	338	303	337	314.8	569.8
400	276	321	339	303	337	315.2	569.6
401	275	321	338	302	338	314.7	569.3
402	275	321	338	302	338	314.6	568.7
403	275	320	338	302	338	314.6	568.2
404	275	320	337	302	338	314.5	568.6
405	275	320	336	302	339	314.4	567.9
406	274	320	337	302	339	314.2	567.5
407	274	320	336	301	339	314.1	566.3
408	275	320	338	301	339	314.5	567.0
409	274	319	335	301	339	313.4	566.7
410	272	319	337	300	339	313.6	565.5
411	272	318	335	301	339	312.9	564.9
412	271	318	337	300	340	313.0	564.1
413	271	318	335	300	340	312.7	563.8
414	271	317	337	300	340	313.0	564.1
415	271	317	336	300	340	312.7	562.7
416	272	317	336	299	340	312.7	561.8
417	270	316	334	298	340	311.8	560.7
418	269	316	333	298	340	311.3	560.1
419	268	315	334	298	341	311.2	559.7
420	268	315	332	298	341	310.9	558.6
421	269	315	333	297	341	311.1	558.6
422	269	315	332	297	341	310.6	557.8
423	268	314	331	296	342	310.2	557.1
424	269	314	332	296	342	310.6	556.0
425	268	314	330	296	342	309.8	556.1
426	267	314	333	296	342	310.4	555.5
427	267	313	330	295	342	309.6	554.9
428	266	313	330	295	342	309.4	554.6
429	267	313	329	295	343	309.3	553.9
430	268	313	330	294	343	309.5	553.4
431	268	313	330	294	343	309.5	552.9

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
432	267	313	329	294	343	309.0	552.9
433	267	313	329	293	343	309.0	552.6
434	266	313	330	293	344	309.1	552.9
435	265	312	328	293	344	308.4	552.5
436	266	312	329	293	344	308.6	550.9
437	264	312	327	293	344	308.1	550.7
438	264	312	326	292	344	307.7	549.9
439	264	312	327	292	344	307.8	549.5
440	264	312	328	292	344	308.1	548.8
441	263	312	328	292	345	307.9	548.4
442	263	312	328	291	345	307.8	548.8
443	263	312	330	292	345	308.1	548.2
444	263	312	329	291	345	307.8	547.8
445	264	312	325	291	345	307.2	546.7
446	262	312	326	291	345	307.2	546.4
447	264	312	324	290	345	306.9	546.4
448	263	312	326	290	345	307.2	546.2
449	264	312	325	289	345	307.0	546.9
450	262	312	325	290	345	306.8	545.6
451	263	312	325	289	346	306.7	544.4
452	262	311	324	289	346	306.2	545.1
453	262	311	323	289	346	306.2	545.8
454	262	311	322	288	346	305.9	545.2
455	262	311	323	289	346	306.3	544.6
456	262	311	322	288	347	306.0	544.3
457	263	311	319	288	347	305.5	544.4
458	262	311	322	288	347	306.2	544.2
459	263	311	321	288	347	306.0	543.8
460	263	311	322	288	348	306.3	544.3
461	262	310	321	287	348	305.6	543.9
462	263	310	320	287	348	305.5	544.5
463	263	310	319	287	348	305.3	543.7
464	264	310	318	287	349	305.3	543.4
465	263	310	318	287	349	305.2	543.1
466	262	310	316	286	349	304.5	543.0
467	263	309	316	286	349	304.6	543.7
468	262	309	317	286	349	304.7	542.8
469	262	309	316	286	350	304.6	542.2
470	262	309	315	285	350	304.2	541.6
471	261	309	316	285	350	304.2	540.8
472	262	308	316	285	350	304.2	541.3
473	261	308	316	285	350	303.9	540.2
474	261	308	315	285	350	303.7	539.4
475	261	307	315	284	351	303.6	539.2
476	261	307	313	285	351	303.3	538.9
477	261	307	314	285	351	303.4	538.9
478	261	307	314	284	351	303.5	537.8
479	260	306	313	284	352	303.0	537.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

Stove ΔT: 54

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
480	260	306	313	284	352	303.1	537.1
481	260	306	313	284	352	302.9	536.3
482	260	305	313	284	352	302.8	535.7
483	260	305	314	284	353	303.0	535.5
484	259	305	313	284	353	302.6	534.9
485	259	304	312	284	353	302.3	534.9
486	259	304	313	283	353	302.6	534.4
487	260	303	312	283	354	302.2	534.4
488	258	303	313	283	354	301.9	533.9
489	259	302	312	283	354	301.7	533.9
490	258	302	312	282	354	301.4	533.1
491	258	301	312	282	354	301.2	532.7
492	258	301	310	282	354	300.9	532.2
493	258	300	309	282	354	300.5	532.1
494	258	300	311	282	354	300.8	532.7
495	258	299	308	282	353	300.0	532.1
496	258	299	307	282	353	299.8	531.9
497	257	298	304	283	353	299.1	531.2
498	257	298	302	282	353	298.4	531.0
499	257	297	297	282	353	297.1	531.2
500	256	297	298	283	352	297.0	531.0
501	257	297	302	282	352	297.9	529.7
502	256	296	298	282	352	296.6	529.7
503	255	296	294	283	351	295.6	529.5
504	256	295	291	283	351	295.2	528.9
505	256	295	297	283	351	296.2	528.6
506	255	295	299	283	351	296.3	528.9
Average	301.4	328.7	347.4	403.1	300.5	336.2	698.5

LAB SAMPLE DATA - ASTM E2515

Client: FPI
Model: F3500
Run #: 3

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/19/2023

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00504	244.3	245.9	1.6
	B	G00505	241.0	242.5	1.5
	C - 1st Hour	G00506	243.0	244.7	1.7
	Amb	G00507	242.9	242.9	0.0
Probes	**A**	3A	115879.6	115880.2	0.6
	B	3B	116119.7	116119.9	0.2
	C - 1st Hour	3C	116617.4	116617.4	0.0
O-rings	**A**	3A	3580.5	3580.5	0.0
	B	3B	3569.1	3569.3	0.2
	C - 1st Hour	3C	3622.9	3623.2	0.3

Placed in Dessicator on:	4/20/2023

Filters	**A**	245.7	4/24 12:56	245.9	4/26 10:07				
	B	242.5	4/24 12:56	242.5	4/26 10:07				
	C - 1st Hour	244.6	4/24 12:56	244.7	4/26 10:07				
	Amb	242.9	4/24 13:03	242.9	4/26 10:07				
Probes	**A**	115880.1	4/24 12:56	115880.2	4/26 10:08				
	B	116119.9	4/24 12:56	116119.9	4/26 10:08				
	C - 1st Hour	116617.3	4/24 12:56	116617.4	4/26 10:08				
O-Rings	**A**	3580.7	4/24 12:57	3580.5	4/26 10:08				
	B	3569.4	4/24 12:56	3569.3	4/26 10:09				
	C - 1st Hour	3623.3	4/24 12:56	3623.2	4/26 10:09				

Train A Aggregate, mg:	**2.2**
Train B Aggregate, mg:	**1.9**
Train C Aggregate, mg:	**2.0**
Ambient, mg:	**0.0**

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 3 Test Date: 4/19/23

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Open 1.405”
Targeted Burn Category: II

Preburn Notes

Time	Notes
45:00	Removed 0.6 lb from firebox, raked coal bed
68:00	End PB

Test Notes

Test Burn Start Time: 13:49 Test Fuel Loaded by: 45 seconds
Door Closed: 50 seconds Air Control Set at: 300 seconds
Other Loading Notes: Fan on low @ 20 min

Time	Notes
	-None-

Test Burn End Time: 22:15

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 17.01 CO (%): 4.306
Mid Gas CO_2 (%): 10.09 CO (%): 2.53

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	4/19 8:13	4/19 8:14	4/19 8:16	4/20 11:16	4/20 11:18	4/20 11:19
CO_2	-0.06	17.11	10.08	0.02	17.13	10.12
CO	-0.001	4.317	2.496	0.002	4.322	2.487

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

Technician Signature: Date: 5/8/23

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 3 Test Date: 4/19/23



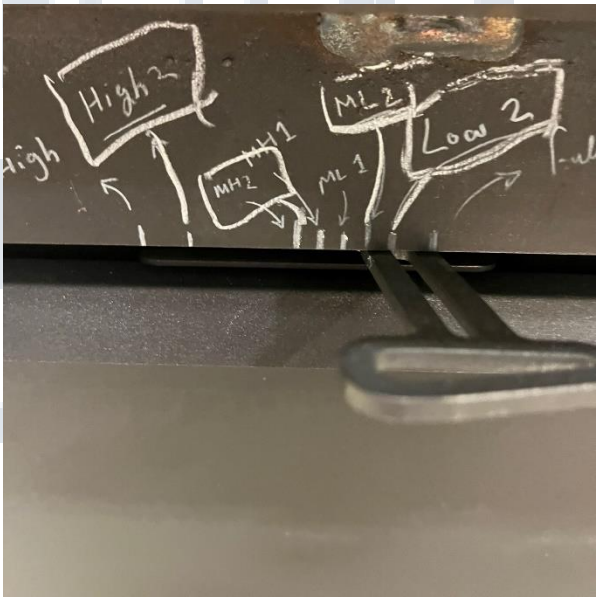
Test Fuel Front/Side View



Test Fuel Iso View



Test Fuel Loaded in Stove



Air Setting

Technician Signature: Date: 5/8/23

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515

Run 4 Data Summary

Client:	FPI
Model:	F3500
Job #:	23-141
Tracking #:	126
Test Date:	4/20/2023

Techician Signature — Date: 5/8/2023

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

Burn Rate (kg/hr):	1.59

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	62.201	46.240	42.797	12.407
Average Gas Velocity in Dilution Tunnel (ft/sec)	6.5			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	17568.8			
Average Gas Meter Temperature (°F)	64.7	89.7	89.1	75.7
Total Sample Volume (dscf)	64.806	45.629	41.868	12.231
Average Tunnel Temperature (°F)	83.8			
Total Time of Test (min)	295			
Total Particulate Catch (mg)	0.4	4.0	3.2	3.9
Particulate Concentration, dry-standard (g/dscf)	0.0000057	0.0000877	0.0000764	0.0003188
Total PM Emissions (g)	0.49	7.08	6.11	5.50
Particulate Emission Rate (g/hr)	0.10	1.44	1.24	5.50
Emissions Factor (g/kg)	-	0.91	0.78	-
Difference from Average Total Particulate Emissions (g)	-	0.49	0.49	-
Difference from Average Total Particulate Emissions (%)	-	7.4%	7.4%	
Difference from Average Emissions Factor (g/kg)	-	0.06	0.06	-

Final Average Results	
Total Particulate Emissions (g)	6.59
Particulate Emission Rate (g/hr)	1.34
Emissions Factor (g/kg)	0.84
HHV Efficiency (%)	74.5%
LHV Efficiency (%)	80.5%
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	74.7	OK
Face Velocity	< 30 ft/min	8.9	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:64.2/Max:65.3	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	29.5	OK

B415.1 Efficiency Results

Manufacturer:	FPI
Model:	F3500
Date:	04/20/23
Run:	4
Control #:	23-141
Test Duration:	295
Output Category:	3

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	74.5%	80.5%
Combustion Efficiency	95.9%	95.9%
Heat Transfer Efficiency	77.6%	83.9%

Output Rate (kJ/h)	23,287	22,090	**(Btu/h)**
Burn Rate (kg/h)	1.58	3.48	**(lb/h)**
Input (kJ/h)	31,276	29,669	**(Btu/h)**

Test Load Weight (dry kg)	7.76	17.11	**dry lb**
MC wet (%)	17.35		
MC dry (%)	20.99		
Particulate (g)	6.59		
CO (g)	453		
Test Duration (h)	4.92		

Emissions	Particulate	CO
g/MJ Output	0.06	3.96
g/kg Dry Fuel	0.85	58.34
g/h	1.34	92.11
g/min	0.02	1.54
lb/MM Btu Output	0.13	9.19

Air/Fuel Ratio (A/F)	13.12

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

WOODSTOVE FUEL DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.25	23.6	2x4	17.25	19.3
2x4	17.25	21.4	2x4	17.25	19.9
2x4	17.25	22.4	2x4	17.25	21.0
2x4	17.25	21.1	2x4	17.25	18.7
2x4	17.25	20.8			
2x4	17.25	18.4			
2x4	17.25	23.2			
2x4	17.25	21.6			
Total Fuel Weight (lbs):		20.22	Average Moisture (%DB):		21.0

Firebox Volume (ft^3):	3.10
Total 2x4 Crib Weight, with spacers (lbs):	0.00
Total 4x4 Crib Weight, with spacers (lbs):	20.70
Total Wet Fuel Weight, with spacers (lbs):	20.70

Coal Bed Range (20-25%):
Min (lbs): 4.14
Max (lbs): 5.18

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	17.25	3.71	24.5	19.5	19.0	3.07
4x4	17.25	4.09	19.0	20.1	19.5	3.42
4x4	17.25	4.15	22.0	22.4	21.4	3.40
4x4	17.25	3.58	19.1	22.7	23.4	2.94
4x4	17.25	3.37	20.2	22.6	19.5	2.79
					Total Dry Weight, no spacers (lbs):	15.62
					Total Dry Weight, with spacers (lbs):	17.21

Spacer Moisture Readings (%DB)

11.3	13.9						
16.1	16.6						
16.1	15.6						
12.1	12.8						
8.8	11.9						
12.7	11.1						
17.0	12.7						
8.0	15.2						

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	25.6	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.68	OK
2x4 Fuel Mix	35 - 65 % of total weight	N/A	N/A

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	FPI	Job #:	23-141
Model:	F3500	Tracking #:	126
Run #:	4	Technician:	AK
Test Start Time:	13:59	Date:	4/20/2023

Total Sampling Time (min):	295
Recording Interval (min):	1

Meter Box γ Factor:	1.010	(A)
Meter Box γ Factor:	1.001	(B)
Meter Box γ Factor:	0.985	(C)
Meter Box γ Factor:	1.024	(Ambient)

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	30.21	30.32	30.27
Relative Humidity (%)	33.3	30.1	
Room Air Velocity (ft/min)	<50	<50	
Scale Audit (lbs)	10.0	10.0	
Ambient Sample Volume:		62.201	ft^3

Induced Draft Check (in. H_2O):	0
Smoke Capture Check (%):	100%
Date Flue Pipe Last Cleaned:	4/10/2023

Sample Train Post-Test Leak Checks

(A)	0.000	cfm @	-5	in. Hg
(B)	0.000	cfm @	-5	in. Hg
(C)	0.000	cfm @	-5	in. Hg
(Ambient)	0.000	cfm @	-12	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

Point	dP (in H_2O)	Temp (°F)
1	0.008	82
2	0.012	82
3	0.014	82
4	0.012	82
5	0.012	82
6	0.008	82
7	0.006	81
8	0.010	81
9	0.012	81
10	0.012	81
11	0.010	81
12	0.006	81
Center	0.013	81

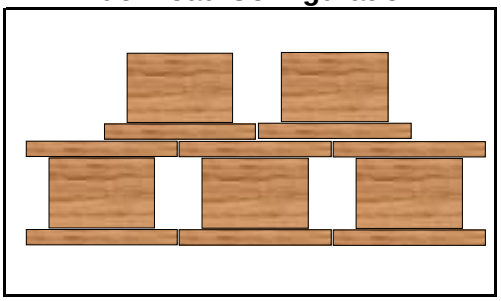
Static Pressure: -0.060 in. H_2O

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	12	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:	0.7854	ft^2
V_{strav}:	6.68	ft/sec
V_{scent}:	7.61	ft/sec
F_p:	0.877	[ratio]
Initial Tunnel Flow:	303.9	scf/min

TEST FUEL PROPERTIES

Fuel Load Configuration

Firebox Left



Firebox Right

Firebox Front 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)	21.0

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

Recording Interval (min): 1
Run Time (min): 92

			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	10.71	-0.078	393	478	380	697	302	449.9	532	65
1	10.51	-0.076	395	480	390	681	302	449.7	503	65
2	10.34	-0.075	396	482	383	671	302	446.9	482	65
3	10.18	-0.075	398	484	381	665	302	445.9	467	65
4	10.03	-0.074	399	485	377	659	302	444.5	457	65
5	9.87	-0.072	400	487	374	655	302	443.3	448	65
6	9.73	-0.072	401	489	376	649	302	443.3	441	65
7	9.60	-0.069	402	490	374	645	303	442.8	435	65
8	9.46	-0.070	401	492	375	641	303	442.4	431	65
9	9.33	-0.070	402	495	371	635	303	441.2	426	65
10	9.19	-0.067	402	497	369	631	304	440.6	422	65
11	9.07	-0.067	402	500	373	626	304	440.8	418	65
12	8.95	-0.069	402	502	367	624	304	439.9	415	65
13	8.82	-0.067	403	505	372	620	304	440.6	413	65
14	8.70	-0.067	403	507	369	615	304	439.6	410	65
15	8.59	-0.067	401	509	365	612	305	438.2	407	65
16	8.47	-0.065	402	510	365	608	305	437.9	406	65
17	8.35	-0.066	402	512	365	606	305	437.9	405	65
18	8.23	-0.065	400	514	365	603	305	437.3	403	65
19	8.12	-0.065	401	515	358	600	305	435.9	404	65
20	7.99	-0.066	400	516	363	599	305	436.7	404	65
21	7.87	-0.066	396	518	366	596	305	436.2	404	65
22	7.75	-0.066	398	519	365	595	305	436.3	404	65
23	7.63	-0.066	396	519	365	592	305	435.4	402	65
24	7.51	-0.065	395	520	364	590	305	434.8	401	65
25	7.40	-0.064	395	520	365	590	306	434.9	399	65
26	7.29	-0.063	393	520	360	587	306	433.2	397	65
27	7.19	-0.065	393	521	365	586	306	434.0	395	65
28	7.09	-0.063	392	522	362	585	306	433.5	392	65
29	6.99	-0.065	394	523	362	584	306	433.8	390	65
30	6.90	-0.062	391	525	363	583	306	433.7	387	65
31	6.80	-0.062	392	527	363	582	306	433.8	386	65
32	6.71	-0.062	391	530	359	582	306	433.5	387	65
33	6.61	-0.061	391	532	362	578	306	433.8	387	65
34	6.50	-0.061	391	533	363	578	306	434.1	387	65
35	6.41	-0.062	393	532	362	578	306	434.3	387	65
36	6.32	-0.063	394	531	361	578	306	433.8	386	65
37	6.24	-0.062	396	528	362	577	306	434.0	384	65
38	6.16	-0.060	397	525	364	577	306	433.7	383	65
39	6.08	-0.062	398	522	366	575	306	433.6	380	65
40	6.02	-0.060	401	519	363	575	306	432.7	379	65
41	5.95	-0.060	401	516	366	575	307	433.0	378	65
42	5.89	-0.060	403	514	368	573	307	432.9	377	65
43	5.83	-0.061	404	512	368	570	308	432.3	376	65
44	5.77	-0.059	406	510	372	567	308	432.7	374	65

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

Recording Interval (min): 1
Run Time (min): 92

			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	5.72	-0.061	407	508	368	565	309	431.3	372	65
46	5.66	-0.058	409	507	374	561	310	432.2	369	65
47	5.62	-0.058	411	505	375	556	311	431.4	367	65
48	5.57	-0.058	411	503	371	551	312	429.6	364	65
49	5.52	-0.058	414	502	372	547	313	429.5	363	65
50	5.48	-0.058	415	500	373	541	314	428.6	360	65
51	5.44	-0.057	416	499	371	533	315	426.9	355	65
52	5.40	-0.056	416	498	377	529	317	427.4	352	65
53	5.35	-0.054	417	497	379	523	318	426.7	349	65
54	5.32	-0.055	417	496	377	517	320	425.4	346	65
55	5.29	-0.054	419	496	380	510	321	425.0	343	65
56	5.24	-0.053	419	495	377	504	323	423.6	340	65
57	5.21	-0.055	421	495	378	499	324	423.3	338	65
58	5.18	-0.055	419	495	385	492	326	423.3	335	65
59	5.15	-0.049	419	495	378	486	327	420.9	333	65
60	5.11	-0.054	419	494	381	481	329	420.8	330	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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		0.012	0.73	70	0.5		20.70		95	374	68	65
1	0.138	0.138	0.011	2.04	70	0.8	-	20.67	-0.03	108	413	70	65
2	0.277	0.139	0.012	2.08	70	0.8	-	20.56	-0.11	93	378	71	65
3	0.419	0.142	0.012	2.09	70	0.9	-	20.40	-0.16	92	372	71	65
4	0.566	0.147	0.012	2.12	70	0.8	-	20.21	-0.19	92	385	71	65
5	0.706	0.140	0.012	2.14	70	0.9	-	19.80	-0.41	93	411	71	65
6	0.851	0.145	0.012	2.16	70	0.9	-	19.85	0.05	91	404	71	65
7	0.994	0.143	0.012	2.17	70	0.8	-	19.70	-0.15	91	403	71	65
8	1.144	0.150	0.012	2.20	70	0.9	-	19.56	-0.14	91	408	71	65
9	1.285	0.141	0.012	2.20	71	0.9	-	19.39	-0.17	92	417	72	65
10	1.432	0.147	0.012	2.21	71	0.9	96	19.24	-0.15	92	424	72	65
11	1.580	0.148	0.013	2.23	71	0.9	-	19.07	-0.17	92	427	72	65
12	1.727	0.147	0.012	2.23	71	0.9	-	18.89	-0.18	93	431	72	65
13	1.874	0.147	0.012	2.25	71	0.9	-	18.71	-0.18	93	437	72	65
14	2.022	0.148	0.012	2.26	72	0.9	-	18.51	-0.20	94	442	72	65
15	2.169	0.147	0.012	2.27	72	0.9	-	18.32	-0.19	94	447	73	65
16	2.316	0.147	0.012	2.27	72	0.9	-	18.12	-0.20	92	445	73	65
17	2.468	0.152	0.012	2.28	72	0.9	-	17.93	-0.19	91	441	73	65
18	2.615	0.147	0.013	2.29	72	0.9	-	17.74	-0.19	90	436	73	65
19	2.766	0.151	0.012	2.30	73	0.9	-	17.55	-0.19	90	432	73	65
20	2.910	0.144	0.013	2.29	73	0.9	97	17.38	-0.17	90	428	73	65
21	3.062	0.152	0.012	2.30	73	0.9	-	17.19	-0.19	90	424	73	65
22	3.212	0.150	0.012	2.30	74	0.9	-	17.01	-0.18	90	421	73	65
23	3.364	0.152	0.012	2.31	74	0.9	-	16.84	-0.17	90	420	73	65
24	3.509	0.145	0.012	2.31	74	1.0	-	16.66	-0.18	90	418	73	65
25	3.664	0.155	0.012	2.32	75	0.9	-	16.49	-0.17	90	416	73	65
26	3.809	0.145	0.012	2.32	75	0.9	-	16.33	-0.16	90	415	73	65
27	3.965	0.156	0.012	2.33	75	1.0	-	16.17	-0.16	90	415	73	65
28	4.113	0.148	0.012	2.33	76	0.9	-	16.00	-0.17	90	416	73	65
29	4.263	0.150	0.012	2.34	76	1.0	-	15.84	-0.16	90	415	73	65
30	4.412	0.149	0.012	2.34	76	1.0	98	15.68	-0.16	90	414	73	65
31	4.565	0.153	0.012	2.34	76	0.9	-	15.53	-0.15	90	414	73	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	4.716	0.151	0.012	2.34	77	0.9	-	15.36	-0.17	90	414	73	65
33	4.869	0.153	0.012	2.35	77	0.9	-	15.20	-0.16	90	415	73	65
34	5.020	0.151	0.012	2.34	77	0.9	-	15.05	-0.15	90	414	73	65
35	5.170	0.150	0.012	2.34	78	1.0	-	14.89	-0.16	90	415	73	65
36	5.323	0.153	0.012	2.34	78	1.0	-	14.72	-0.17	90	416	73	65
37	5.473	0.150	0.012	2.35	78	0.9	-	14.56	-0.16	90	416	73	65
38	5.629	0.156	0.012	2.36	79	0.9	-	14.39	-0.17	90	417	73	65
39	5.778	0.149	0.012	2.36	79	0.9	-	14.22	-0.17	90	418	73	65
40	5.932	0.154	0.011	2.37	79	0.9	102	14.06	-0.16	90	418	73	65
41	6.086	0.154	0.012	2.37	80	1.0	-	13.89	-0.17	90	418	73	65
42	6.241	0.155	0.012	2.38	80	1.0	-	13.72	-0.17	90	418	73	65
43	6.390	0.149	0.012	2.37	80	0.9	-	13.56	-0.16	90	417	73	65
44	6.546	0.156	0.012	2.38	81	1.0	-	13.41	-0.15	90	417	73	65
45	6.695	0.149	0.012	2.37	81	1.0	-	13.24	-0.17	90	418	73	65
46	6.849	0.154	0.012	2.37	81	1.0	-	13.08	-0.16	90	417	73	65
47	7.004	0.155	0.012	2.38	81	1.0	-	12.92	-0.16	90	418	73	65
48	7.160	0.156	0.012	2.38	82	0.9	-	12.75	-0.17	90	417	73	65
49	7.311	0.151	0.012	2.39	82	1.0	-	12.59	-0.16	90	418	73	65
50	7.466	0.155	0.012	2.39	82	1.0	103	12.43	-0.16	90	418	73	65
51	7.619	0.153	0.012	2.38	82	0.9	-	12.26	-0.17	90	419	73	65
52	7.773	0.154	0.012	2.39	83	1.0	-	12.10	-0.16	90	419	73	65
53	7.925	0.152	0.012	2.40	83	0.9	-	11.94	-0.16	90	419	73	65
54	8.082	0.157	0.012	2.40	83	1.0	-	11.77	-0.17	90	418	73	65
55	8.236	0.154	0.012	2.41	83	1.0	-	11.61	-0.16	90	419	73	65
56	8.389	0.153	0.012	2.41	84	1.0	-	11.46	-0.15	90	419	73	65
57	8.546	0.157	0.012	2.40	84	1.0	-	11.29	-0.17	90	419	73	65
58	8.695	0.149	0.012	2.40	84	1.0	-	11.13	-0.16	90	420	74	65
59	8.854	0.159	0.012	2.41	85	1.0	-	10.97	-0.16	90	420	74	65
60	9.009	0.155	0.012	2.41	85	1.0	101	10.81	-0.16	91	421	74	65
61	9.164	0.155	0.012	2.41	85	1.0	-	10.65	-0.16	90	421	74	65
62	9.318	0.154	0.012	2.41	85	1.0	-	10.49	-0.16	91	421	74	65
63	9.474	0.156	0.012	2.41	85	1.0	-	10.34	-0.15	90	419	74	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	9.631	0.157	0.012	2.41	86	1.0	-	10.19	-0.15	90	417	74	65
65	9.782	0.151	0.012	2.42	86	1.0	-	10.05	-0.14	90	416	74	65
66	9.941	0.159	0.012	2.42	86	1.0	-	9.91	-0.14	90	415	73	65
67	10.093	0.152	0.012	2.42	86	1.0	-	9.78	-0.13	90	413	74	65
68	10.252	0.159	0.012	2.42	86	1.0	-	9.66	-0.12	90	412	74	65
69	10.403	0.151	0.012	2.44	87	0.9	-	9.53	-0.13	90	411	74	65
70	10.561	0.158	0.012	2.44	87	1.0	101	9.40	-0.13	90	411	74	65
71	10.717	0.156	0.012	2.43	87	1.0	-	9.28	-0.12	90	410	74	65
72	10.870	0.153	0.012	2.42	87	1.0	-	9.15	-0.13	90	410	74	65
73	11.028	0.158	0.012	2.43	87	1.0	-	9.02	-0.13	90	410	74	65
74	11.185	0.157	0.012	2.44	87	1.0	-	8.90	-0.12	89	410	73	65
75	11.343	0.158	0.012	2.44	88	1.0	-	8.76	-0.14	89	410	73	65
76	11.492	0.149	0.012	2.42	88	1.0	-	8.64	-0.12	90	409	74	65
77	11.655	0.163	0.012	2.43	88	1.0	-	8.51	-0.13	90	408	74	65
78	11.807	0.152	0.012	2.44	88	1.0	-	8.39	-0.12	89	407	74	65
79	11.966	0.159	0.012	2.44	88	1.0	-	8.27	-0.12	89	407	74	65
80	12.122	0.156	0.012	2.44	88	1.0	101	8.15	-0.12	89	406	74	65
81	12.278	0.156	0.012	2.44	89	1.0	-	8.04	-0.11	89	403	74	65
82	12.437	0.159	0.012	2.45	89	1.0	-	7.92	-0.12	89	401	74	65
83	12.587	0.150	0.012	2.43	89	1.0	-	7.81	-0.11	89	400	74	65
84	12.750	0.163	0.012	2.43	89	1.0	-	7.70	-0.11	89	399	74	65
85	12.904	0.154	0.012	2.44	89	0.9	-	7.59	-0.11	89	398	74	65
86	13.062	0.158	0.012	2.45	89	1.0	-	7.49	-0.10	89	395	74	65
87	13.217	0.155	0.012	2.44	89	1.0	-	7.38	-0.11	89	394	74	65
88	13.375	0.158	0.012	2.45	89	1.0	-	7.28	-0.10	89	392	73	65
89	13.530	0.155	0.012	2.45	90	1.0	-	7.19	-0.09	88	392	73	65
90	13.684	0.154	0.012	2.44	90	1.0	101	7.09	-0.10	88	390	73	65
91	13.843	0.159	0.012	2.45	90	1.0	-	6.99	-0.10	88	389	73	65
92	14.001	0.158	0.012	2.45	90	1.0	-	6.90	-0.09	88	388	73	65
93	14.160	0.159	0.012	2.46	90	1.0	-	6.81	-0.09	88	388	73	65
94	14.315	0.155	0.012	2.45	90	1.0	-	6.72	-0.09	88	387	73	65
95	14.473	0.158	0.012	2.45	90	1.0	-	6.64	-0.08	88	387	73	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	14.632	0.159	0.012	2.46	90	1.0	-	6.55	-0.09	88	386	73	65
97	14.786	0.154	0.012	2.46	90	1.0	-	6.46	-0.09	88	385	73	65
98	14.943	0.157	0.012	2.45	91	1.0	-	6.38	-0.08	88	385	73	65
99	15.101	0.158	0.012	2.46	91	1.0	-	6.29	-0.09	88	384	73	65
100	15.260	0.159	0.012	2.47	91	1.0	101	6.21	-0.08	88	384	73	65
101	15.415	0.155	0.012	2.46	91	1.0	-	6.12	-0.09	88	384	73	65
102	15.574	0.159	0.012	2.46	91	1.0	-	6.04	-0.08	87	383	73	65
103	15.733	0.159	0.012	2.46	91	1.0	-	5.95	-0.09	87	381	73	65
104	15.884	0.151	0.012	2.46	91	1.0	-	5.87	-0.08	87	381	73	65
105	16.045	0.161	0.012	2.46	91	1.0	-	5.79	-0.08	88	381	73	65
106	16.203	0.158	0.012	2.46	91	1.0	-	5.70	-0.09	87	381	73	65
107	16.359	0.156	0.012	2.47	91	1.0	-	5.62	-0.08	87	381	73	65
108	16.515	0.156	0.012	2.46	91	1.0	-	5.53	-0.09	87	380	73	65
109	16.674	0.159	0.012	2.47	92	1.0	-	5.45	-0.08	87	379	73	65
110	16.833	0.159	0.012	2.46	92	1.0	101	5.37	-0.08	87	379	73	65
111	16.987	0.154	0.012	2.45	92	1.0	-	5.30	-0.07	87	379	73	65
112	17.148	0.161	0.012	2.46	92	1.0	-	5.23	-0.07	87	378	73	65
113	17.306	0.158	0.012	2.46	92	1.0	-	5.16	-0.07	87	378	73	65
114	17.464	0.158	0.012	2.46	92	1.0	-	5.09	-0.07	87	378	73	65
115	17.624	0.160	0.012	2.47	92	1.0	-	5.02	-0.07	87	376	73	65
116	17.780	0.156	0.012	2.47	92	1.0	-	4.95	-0.07	87	375	73	65
117	17.939	0.159	0.012	2.46	92	1.0	-	4.89	-0.06	87	375	73	65
118	18.095	0.156	0.012	2.47	92	1.0	-	4.82	-0.07	87	373	73	65
119	18.253	0.158	0.012	2.47	92	1.0	-	4.77	-0.05	87	372	73	65
120	18.408	0.155	0.012	2.47	92	1.0	101	4.71	-0.06	86	371	73	65
121	18.570	0.162	0.012	2.46	92	0.9	-	4.65	-0.06	86	369	73	65
122	18.730	0.160	0.012	2.48	92	1.0	-	4.60	-0.05	87	367	73	65
123	18.882	0.152	0.012	2.47	93	1.0	-	4.55	-0.05	86	366	73	65
124	19.043	0.161	0.012	2.47	93	1.0	-	4.50	-0.05	86	363	73	65
125	19.199	0.156	0.012	2.48	93	1.0	-	4.46	-0.04	86	360	73	65
126	19.358	0.159	0.012	2.47	93	1.0	-	4.42	-0.04	86	357	73	65
127	19.516	0.158	0.012	2.47	93	0.9	-	4.38	-0.04	86	355	73	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	19.677	0.161	0.012	2.47	93	1.0	-	4.33	-0.05	86	353	73	65
129	19.834	0.157	0.012	2.47	93	1.0	-	4.30	-0.03	85	350	73	65
130	19.989	0.155	0.012	2.48	93	0.9	101	4.26	-0.04	85	347	73	65
131	20.154	0.165	0.012	2.48	93	1.0	-	4.23	-0.03	85	344	73	65
132	20.310	0.156	0.012	2.48	93	1.0	-	4.19	-0.04	85	341	73	65
133	20.469	0.159	0.012	2.46	93	1.0	-	4.15	-0.04	85	339	73	65
134	20.629	0.160	0.012	2.47	93	1.0	-	4.12	-0.03	85	336	73	65
135	20.781	0.152	0.012	2.47	93	1.0	-	4.08	-0.04	84	333	73	65
136	20.945	0.164	0.012	2.46	93	1.0	-	4.04	-0.04	84	331	73	65
137	21.102	0.157	0.012	2.49	93	1.0	-	4.00	-0.04	84	328	73	65
138	21.260	0.158	0.012	2.48	93	1.0	-	3.96	-0.04	84	327	73	65
139	21.420	0.160	0.012	2.47	93	1.0	-	3.93	-0.03	84	325	73	65
140	21.577	0.157	0.012	2.48	93	1.0	101	3.89	-0.04	84	323	72	65
141	21.737	0.160	0.012	2.48	93	1.0	-	3.85	-0.04	84	321	72	65
142	21.894	0.157	0.012	2.48	93	0.9	-	3.81	-0.04	83	320	72	65
143	22.054	0.160	0.012	2.49	93	1.0	-	3.77	-0.04	83	319	72	65
144	22.208	0.154	0.012	2.48	93	1.0	-	3.74	-0.03	83	318	72	65
145	22.367	0.159	0.012	2.48	94	1.0	-	3.70	-0.04	83	318	72	65
146	22.530	0.163	0.012	2.48	94	1.0	-	3.66	-0.04	83	317	72	65
147	22.683	0.153	0.012	2.48	94	0.9	-	3.62	-0.04	83	316	72	65
148	22.848	0.165	0.012	2.48	94	1.0	-	3.59	-0.03	83	315	72	65
149	23.003	0.155	0.012	2.48	94	1.0	-	3.56	-0.03	83	315	72	65
150	23.162	0.159	0.012	2.47	94	1.0	101	3.52	-0.04	83	315	72	65
151	23.323	0.161	0.012	2.48	94	1.0	-	3.49	-0.03	83	315	72	65
152	23.477	0.154	0.012	2.49	94	1.0	-	3.46	-0.03	83	314	72	65
153	23.637	0.160	0.012	2.49	94	1.0	-	3.43	-0.03	82	313	72	65
154	23.797	0.160	0.012	2.48	94	1.0	-	3.40	-0.03	83	313	72	65
155	23.957	0.160	0.012	2.48	94	1.0	-	3.36	-0.04	82	311	72	65
156	24.112	0.155	0.012	2.47	94	1.0	-	3.33	-0.03	82	311	72	65
157	24.274	0.162	0.012	2.48	94	1.0	-	3.30	-0.03	82	310	72	65
158	24.434	0.160	0.012	2.48	94	1.0	-	3.26	-0.04	82	310	72	65
159	24.587	0.153	0.012	2.47	94	1.0	-	3.23	-0.03	82	310	72	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	24.752	0.165	0.012	2.48	94	1.0	101	3.20	-0.03	82	309	72	65
161	24.908	0.156	0.012	2.49	94	1.0	-	3.16	-0.04	82	308	72	65
162	25.067	0.159	0.012	2.48	94	1.0	-	3.14	-0.02	82	307	72	65
163	25.228	0.161	0.012	2.48	94	0.9	-	3.11	-0.03	82	306	72	65
164	25.380	0.152	0.012	2.48	94	1.0	-	3.08	-0.03	82	305	72	65
165	25.543	0.163	0.013	2.47	94	1.0	-	3.05	-0.03	82	303	72	65
166	25.699	0.156	0.012	2.48	94	1.0	-	3.02	-0.03	82	301	72	65
167	25.858	0.159	0.012	2.48	94	1.0	-	2.99	-0.03	81	299	72	65
168	26.022	0.164	0.012	2.49	94	1.0	-	2.97	-0.02	81	297	72	65
169	26.177	0.155	0.012	2.48	94	0.9	-	2.94	-0.03	81	295	72	65
170	26.336	0.159	0.012	2.48	94	1.0	101	2.93	-0.01	81	293	72	65
171	26.497	0.161	0.012	2.48	94	0.9	-	2.89	-0.04	81	291	72	65
172	26.653	0.156	0.012	2.48	94	1.0	-	2.88	-0.01	81	289	72	65
173	26.812	0.159	0.012	2.48	94	1.0	-	2.84	-0.04	81	287	72	65
174	26.971	0.159	0.012	2.48	94	1.0	-	2.83	-0.01	81	285	72	65
175	27.134	0.163	0.012	2.48	94	0.9	-	2.79	-0.04	81	284	72	65
176	27.291	0.157	0.012	2.49	94	1.0	-	2.77	-0.02	81	283	72	65
177	27.450	0.159	0.012	2.49	94	1.0	-	2.74	-0.03	80	282	71	65
178	27.609	0.159	0.012	2.48	94	1.0	-	2.72	-0.02	80	281	71	65
179	27.766	0.157	0.012	2.49	94	1.0	-	2.70	-0.02	80	280	72	65
180	27.929	0.163	0.012	2.49	94	1.0	101	2.67	-0.03	80	278	71	65
181	28.085	0.156	0.013	2.49	95	1.0	-	2.65	-0.02	80	279	71	65
182	28.248	0.163	0.012	2.49	94	0.9	-	2.62	-0.03	80	278	71	65
183	28.404	0.156	0.012	2.48	94	1.0	-	2.59	-0.03	80	277	71	65
184	28.564	0.160	0.012	2.48	95	0.9	-	2.57	-0.02	80	276	71	65
185	28.722	0.158	0.012	2.49	95	1.0	-	2.55	-0.02	80	275	71	65
186	28.880	0.158	0.012	2.48	95	0.9	-	2.52	-0.03	80	274	71	65
187	29.040	0.160	0.012	2.48	95	1.0	-	2.50	-0.02	80	274	71	65
188	29.197	0.157	0.012	2.49	95	1.0	-	2.48	-0.02	80	273	71	65
189	29.356	0.159	0.013	2.48	95	1.0	-	2.45	-0.03	80	273	71	65
190	29.520	0.164	0.012	2.49	95	1.0	101	2.43	-0.02	79	272	71	65
191	29.676	0.156	0.012	2.49	95	1.0	-	2.41	-0.02	80	272	71	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	29.838	0.162	0.013	2.48	95	1.0	-	2.38	-0.03	79	272	71	65
193	29.995	0.157	0.012	2.49	95	1.0	-	2.35	-0.03	79	271	71	65
194	30.155	0.160	0.012	2.49	95	1.0	-	2.33	-0.02	79	271	71	65
195	30.312	0.157	0.013	2.48	95	1.0	-	2.31	-0.02	79	270	71	65
196	30.470	0.158	0.012	2.49	95	1.0	-	2.29	-0.02	79	269	71	65
197	30.631	0.161	0.013	2.48	95	1.0	-	2.26	-0.03	79	269	71	65
198	30.788	0.157	0.012	2.49	95	1.0	-	2.24	-0.02	79	268	71	65
199	30.949	0.161	0.012	2.49	95	1.0	-	2.21	-0.03	79	267	71	65
200	31.107	0.158	0.013	2.48	95	1.0	98	2.19	-0.02	79	267	71	65
201	31.266	0.159	0.013	2.49	95	1.0	-	2.16	-0.03	79	266	71	65
202	31.427	0.161	0.012	2.49	95	1.0	-	2.14	-0.02	79	266	71	65
203	31.583	0.156	0.012	2.48	95	1.0	-	2.12	-0.02	79	266	71	65
204	31.748	0.165	0.012	2.48	95	1.0	-	2.09	-0.03	79	267	71	65
205	31.905	0.157	0.012	2.48	95	1.0	-	2.06	-0.03	79	266	71	65
206	32.065	0.160	0.012	2.49	95	1.0	-	2.05	-0.01	79	266	71	65
207	32.225	0.160	0.012	2.49	95	1.0	-	2.02	-0.03	78	265	71	65
208	32.382	0.157	0.013	2.49	95	1.0	-	1.99	-0.03	78	266	71	64
209	32.542	0.160	0.012	2.48	95	1.0	-	1.97	-0.02	78	265	71	65
210	32.701	0.159	0.012	2.48	95	1.0	99	1.95	-0.02	78	265	71	64
211	32.861	0.160	0.012	2.49	95	1.0	-	1.92	-0.03	79	266	71	65
212	33.020	0.159	0.013	2.48	95	1.0	-	1.90	-0.02	78	266	71	64
213	33.175	0.155	0.012	2.49	95	1.0	-	1.87	-0.03	78	266	71	64
214	33.338	0.163	0.013	2.49	95	1.0	-	1.85	-0.02	78	266	71	64
215	33.494	0.156	0.012	2.49	95	1.0	-	1.83	-0.02	78	266	71	64
216	33.657	0.163	0.012	2.49	95	1.0	-	1.80	-0.03	78	266	71	65
217	33.818	0.161	0.012	2.49	95	1.0	-	1.78	-0.02	78	266	71	65
218	33.971	0.153	0.012	2.49	95	1.0	-	1.75	-0.03	78	266	71	65
219	34.134	0.163	0.012	2.48	95	1.0	-	1.73	-0.02	78	266	71	65
220	34.291	0.157	0.012	2.49	95	1.0	100	1.71	-0.02	78	266	71	64
221	34.450	0.159	0.013	2.48	95	1.0	-	1.68	-0.03	78	266	71	64
222	34.614	0.164	0.013	2.48	95	1.0	-	1.66	-0.02	78	265	70	64
223	34.768	0.154	0.013	2.49	95	1.0	-	1.64	-0.02	78	265	70	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	34.932	0.164	0.013	2.49	95	0.9	-	1.61	-0.03	78	266	71	65
225	35.086	0.154	0.012	2.49	95	1.0	-	1.59	-0.02	78	264	70	64
226	35.247	0.161	0.013	2.48	95	1.0	-	1.57	-0.02	78	265	70	64
227	35.406	0.159	0.012	2.48	95	1.0	-	1.54	-0.03	78	265	71	65
228	35.565	0.159	0.013	2.49	95	1.0	-	1.52	-0.02	78	265	70	64
229	35.726	0.161	0.012	2.49	95	1.0	-	1.49	-0.03	78	265	70	65
230	35.882	0.156	0.012	2.48	95	1.0	100	1.47	-0.02	78	265	70	64
231	36.044	0.162	0.013	2.50	95	0.9	-	1.44	-0.03	78	266	70	64
232	36.201	0.157	0.012	2.48	95	0.9	-	1.41	-0.03	78	266	70	64
233	36.364	0.163	0.012	2.48	95	0.9	-	1.39	-0.02	78	265	70	65
234	36.524	0.160	0.012	2.49	95	1.0	-	1.37	-0.02	78	265	70	64
235	36.678	0.154	0.012	2.48	95	1.0	-	1.34	-0.03	78	264	70	64
236	36.843	0.165	0.013	2.49	95	1.0	-	1.32	-0.02	78	264	70	64
237	36.998	0.155	0.013	2.49	95	1.0	-	1.30	-0.02	78	264	70	64
238	37.160	0.162	0.013	2.49	95	1.0	-	1.27	-0.03	78	264	70	64
239	37.319	0.159	0.012	2.50	95	1.0	-	1.26	-0.01	78	263	70	64
240	37.477	0.158	0.012	2.48	95	1.0	101	1.23	-0.03	78	263	70	64
241	37.640	0.163	0.013	2.48	95	1.0	-	1.21	-0.02	78	263	70	64
242	37.794	0.154	0.013	2.48	95	1.0	-	1.19	-0.02	78	263	70	64
243	37.957	0.163	0.012	2.49	95	1.0	-	1.16	-0.03	78	263	70	64
244	38.116	0.159	0.013	2.50	95	0.9	-	1.14	-0.02	78	263	70	64
245	38.273	0.157	0.013	2.48	95	1.0	-	1.12	-0.02	78	262	70	64
246	38.434	0.161	0.013	2.49	95	1.0	-	1.09	-0.03	78	261	70	64
247	38.593	0.159	0.013	2.49	95	1.0	-	1.07	-0.02	78	261	70	64
248	38.754	0.161	0.012	2.49	95	1.0	-	1.05	-0.02	78	262	70	64
249	38.915	0.161	0.012	2.49	95	1.0	-	1.02	-0.03	78	263	70	64
250	39.068	0.153	0.012	2.49	95	1.0	100	1.01	-0.01	78	263	70	64
251	39.231	0.163	0.012	2.48	95	1.0	-	0.99	-0.02	78	263	70	64
252	39.388	0.157	0.012	2.49	95	1.0	-	0.96	-0.03	77	262	70	64
253	39.550	0.162	0.012	2.49	95	1.0	-	0.94	-0.02	77	262	70	64
254	39.711	0.161	0.012	2.48	95	1.0	-	0.91	-0.03	78	262	70	64
255	39.865	0.154	0.012	2.49	95	1.0	-	0.89	-0.02	78	263	70	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	40.030	0.165	0.012	2.48	95	1.0	-	0.87	-0.02	78	263	70	64
257	40.184	0.154	0.013	2.49	95	1.0	-	0.85	-0.02	78	263	70	64
258	40.347	0.163	0.012	2.48	95	1.0	-	0.83	-0.02	78	263	70	64
259	40.508	0.161	0.012	2.48	95	1.0	-	0.80	-0.03	78	263	70	64
260	40.663	0.155	0.012	2.49	95	1.0	101	0.78	-0.02	78	264	70	64
261	40.826	0.163	0.012	2.49	95	0.9	-	0.76	-0.02	78	264	70	64
262	40.981	0.155	0.012	2.49	95	1.0	-	0.74	-0.02	78	264	70	64
263	41.144	0.163	0.012	2.49	95	1.0	-	0.72	-0.02	78	264	70	64
264	41.304	0.160	0.012	2.48	95	1.0	-	0.69	-0.03	78	265	70	64
265	41.462	0.158	0.012	2.49	95	0.9	-	0.67	-0.02	78	265	70	64
266	41.623	0.161	0.012	2.48	95	1.0	-	0.64	-0.03	78	265	70	64
267	41.777	0.154	0.013	2.48	95	1.0	-	0.62	-0.02	78	264	70	64
268	41.941	0.164	0.012	2.49	95	1.0	-	0.60	-0.02	78	264	70	64
269	42.099	0.158	0.012	2.48	95	1.0	-	0.58	-0.02	78	264	70	64
270	42.257	0.158	0.012	2.49	95	0.9	101	0.55	-0.03	78	264	70	64
271	42.420	0.163	0.012	2.49	95	0.9	-	0.53	-0.02	78	264	70	64
272	42.573	0.153	0.012	2.48	95	1.0	-	0.51	-0.02	78	265	70	64
273	42.739	0.166	0.013	2.48	95	1.0	-	0.48	-0.03	78	265	70	64
274	42.895	0.156	0.013	2.49	95	1.0	-	0.46	-0.02	78	264	70	64
275	43.053	0.158	0.013	2.48	95	1.0	-	0.44	-0.02	77	264	70	64
276	43.216	0.163	0.012	2.49	95	1.0	-	0.42	-0.02	77	264	70	64
277	43.369	0.153	0.012	2.47	95	1.0	-	0.40	-0.02	77	264	70	64
278	43.532	0.163	0.012	2.48	95	1.0	-	0.37	-0.03	77	263	70	64
279	43.691	0.159	0.012	2.49	95	0.9	-	0.35	-0.02	77	264	70	64
280	43.848	0.157	0.012	2.49	95	1.0	100	0.33	-0.02	77	264	70	64
281	44.013	0.165	0.012	2.49	95	1.0	-	0.30	-0.03	77	263	70	64
282	44.166	0.153	0.012	2.49	95	1.0	-	0.28	-0.02	78	263	70	64
283	44.331	0.165	0.012	2.48	95	1.0	-	0.26	-0.02	78	263	70	64
284	44.485	0.154	0.012	2.49	95	1.0	-	0.24	-0.02	78	263	70	64
285	44.647	0.162	0.012	2.47	95	1.0	-	0.21	-0.03	78	263	70	64
286	44.805	0.158	0.012	2.49	95	1.0	-	0.19	-0.02	77	264	70	64
287	44.964	0.159	0.012	2.48	95	1.0	-	0.17	-0.02	77	264	70	64

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	45.124	0.160	0.012	2.48	95	1.0	-	0.14	-0.03	77	263	70	64
289	45.284	0.160	0.012	2.48	95	1.0	-	0.13	-0.01	77	263	70	64
290	45.441	0.157	0.012	2.49	95	1.0	101	0.11	-0.02	77	263	70	64
291	45.604	0.163	0.012	2.49	95	1.0	-	0.09	-0.02	77	263	70	64
292	45.759	0.155	0.012	2.49	95	1.0	-	0.06	-0.03	77	262	70	64
293	45.922	0.163	0.012	2.47	95	1.0	-	0.04	-0.02	77	262	70	64
294	46.079	0.157	0.012	2.48	95	1.0	-	0.02	-0.02	77	262	70	64
295	46.240	0.161	0.012	2.49	95	1.0	101	0.00	-0.02	77	262	70	64
Avg/Tot	46.240	0.157	0.012	2.43	89.7	1.0	100			83.8	333.4	71.8	64.7

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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		0.78	70	1.4		70	-0.056	3.09	0.128
1	0.137	0.137	2.05	70	1.7	-	72	-0.059	2.38	0.123
2	0.275	0.138	2.04	70	1.9	-	72	-0.060	5.98	0.032
3	0.414	0.139	2.05	70	1.9	-	72	-0.062	9.89	0.045
4	0.556	0.142	2.05	70	2.0	-	72	-0.067	11.68	0.079
5	0.692	0.136	2.05	70	1.7	-	72	-0.068	12.69	0.740
6	0.832	0.140	2.05	70	1.8	-	72	-0.066	12.28	0.755
7	0.973	0.141	2.05	70	1.9	-	72	-0.066	11.37	0.092
8	1.111	0.138	2.05	70	1.6	-	72	-0.068	11.72	0.138
9	1.251	0.140	2.06	70	1.9	-	73	-0.068	12.08	0.248
10	1.388	0.137	2.06	70	2.0	100	73	-0.069	12.49	0.459
11	1.533	0.145	2.06	71	2.0	-	73	-0.069	12.06	0.635
12	1.672	0.139	2.06	71	1.9	-	73	-0.071	12.60	1.175
13	1.811	0.139	2.06	71	2.0	-	73	-0.071	12.57	1.939
14	1.953	0.142	2.06	71	1.4	-	73	-0.071	12.51	2.126
15	2.089	0.136	2.07	71	1.5	-	74	-0.070	12.30	2.427
16	2.231	0.142	2.06	72	1.6	-	74	-0.073	12.23	2.490
17	2.372	0.141	2.07	72	1.5	-	74	-0.072	12.25	2.171
18	2.514	0.142	2.07	72	1.7	-	74	-0.071	12.10	2.257
19	2.653	0.139	2.06	73	1.8	-	74	-0.069	12.14	2.204
20	2.791	0.138	2.06	73	1.7	99	74	-0.070	12.07	2.124
21	2.934	0.143	2.07	73	1.5	-	74	-0.069	12.02	2.077
22	3.074	0.140	2.06	73	1.9	-	74	-0.069	11.83	1.666
23	3.217	0.143	2.06	74	2.0	-	74	-0.068	11.78	1.518
24	3.355	0.138	2.07	74	1.7	-	74	-0.069	11.74	1.472
25	3.497	0.142	2.07	74	2.0	-	74	-0.070	11.75	1.380
26	3.638	0.141	2.07	75	1.5	-	74	-0.068	11.84	1.222
27	3.779	0.141	2.07	75	1.8	-	74	-0.068	11.88	1.097
28	3.923	0.144	2.07	75	2.0	-	74	-0.069	11.84	1.030
29	4.059	0.136	2.07	76	1.5	-	74	-0.069	11.85	0.923
30	4.203	0.144	2.07	76	1.8	99	74	-0.067	11.82	0.818
31	4.343	0.140	2.08	76	1.9	-	74	-0.067	11.84	0.720

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	4.486	0.143	2.07	77	1.5	-	74	-0.068	11.83	0.650
33	4.629	0.143	2.08	77	1.7	-	74	-0.069	11.83	0.694
34	4.769	0.140	2.07	77	2.0	-	74	-0.069	11.81	0.696
35	4.910	0.141	2.07	78	2.0	-	74	-0.067	11.80	0.844
36	5.053	0.143	2.07	78	1.9	-	74	-0.069	11.76	0.977
37	5.194	0.141	2.08	78	1.7	-	74	-0.069	11.79	1.030
38	5.338	0.144	2.08	79	1.6	-	74	-0.069	11.83	1.156
39	5.476	0.138	2.08	79	1.7	-	74	-0.068	11.81	1.158
40	5.621	0.145	2.09	79	1.9	103	74	-0.067	11.89	1.110
41	5.764	0.143	2.09	79	1.7	-	74	-0.069	11.82	1.287
42	5.908	0.144	2.09	80	2.0	-	74	-0.071	11.83	1.267
43	6.047	0.139	2.08	80	1.9	-	74	-0.071	11.96	1.188
44	6.193	0.146	2.09	80	1.5	-	74	-0.068	11.96	1.236
45	6.335	0.142	2.10	81	1.9	-	74	-0.070	11.99	1.112
46	6.475	0.140	2.09	81	1.9	-	74	-0.068	11.98	1.230
47	6.620	0.145	2.09	81	1.9	-	74	-0.071	12.01	1.196
48	6.762	0.142	2.09	82	1.6	-	74	-0.068	12.00	1.295
49	6.908	0.146	2.10	82	1.5	-	74	-0.069	11.96	1.418
50	7.048	0.140	2.10	82	2.1	103	74	-0.067	11.94	1.517
51	7.194	0.146	2.10	82	1.9	-	74	-0.070	11.89	1.586
52	7.334	0.140	2.09	83	1.9	-	75	-0.068	11.86	1.622
53	7.478	0.144	2.11	83	1.9	-	75	-0.071	12.06	1.448
54	7.622	0.144	2.10	83	1.8	-	74	-0.069	11.99	1.575
55	7.763	0.141	2.10	83	1.9	-	75	-0.068	12.00	1.602
56	7.909	0.146	2.10	84	1.7	-	74	-0.067	12.01	1.546
57	8.052	0.143	2.10	84	2.0	-	75	-0.069	11.98	1.666
58	8.196	0.144	2.10	84	1.7	-	75	-0.069	11.94	1.737
59	8.337	0.141	2.10	84	1.8	-	75	-0.068	11.88	1.909
60	8.485	0.148	2.10	85	2.0	101	75	-0.069	11.89	2.109
61	8.626	0.141	2.10	85	1.6	-	75	-0.071	11.92	2.089
62	8.772	0.146	2.11	85	1.6	-	75	-0.068	11.95	1.950
63	8.914	0.142	2.11	85	2.0	-	75	-0.069	12.12	1.554

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	9.059	0.145	2.11	85	1.9	-	75	-0.069	12.27	1.255
65	9.200	0.141	2.11	86	2.0	-	75	-0.069	12.39	0.927
66	9.345	0.145	2.11	86	1.5	-	75	-0.067	12.47	0.608
67	9.491	0.146	2.11	86	1.6	-	75	-0.068	12.46	0.454
68	9.633	0.142	2.11	86	1.5	-	75	-0.069	12.34	0.401
69	9.777	0.144	2.11	86	2.0	-	75	-0.069	12.15	0.462
70	9.919	0.142	2.11	87	1.6	101	75	-0.068	12.10	0.535
71	10.068	0.149	2.12	87	1.5	-	75	-0.068	12.09	0.597
72	10.208	0.140	2.11	87	2.0	-	75	-0.067	12.08	0.592
73	10.354	0.146	2.12	87	1.5	-	75	-0.067	12.09	0.632
74	10.500	0.146	2.12	87	1.5	-	75	-0.067	12.09	0.643
75	10.645	0.145	2.12	87	1.7	-	75	-0.066	12.11	0.726
76	10.786	0.141	2.12	88	1.6	-	75	-0.068	12.15	0.722
77	10.932	0.146	2.11	88	1.5	-	75	-0.067	12.05	0.732
78	11.075	0.143	2.12	88	1.8	-	75	-0.068	12.04	0.670
79	11.221	0.146	2.12	88	2.0	-	75	-0.065	12.02	0.563
80	11.368	0.147	2.12	88	2.0	101	75	-0.066	12.02	0.456
81	11.510	0.142	2.12	88	1.7	-	75	-0.067	11.99	0.354
82	11.657	0.147	2.12	89	1.5	-	75	-0.065	11.94	0.421
83	11.797	0.140	2.12	89	1.6	-	75	-0.066	11.80	0.429
84	11.946	0.149	2.12	89	2.0	-	75	-0.066	11.66	0.466
85	12.089	0.143	2.12	89	1.5	-	75	-0.067	11.57	0.398
86	12.236	0.147	2.12	89	1.7	-	75	-0.067	11.70	0.294
87	12.380	0.144	2.12	89	1.5	-	75	-0.066	11.54	0.335
88	12.525	0.145	2.13	89	1.9	-	75	-0.063	11.45	0.326
89	12.667	0.142	2.12	89	1.6	-	75	-0.066	11.43	0.286
90	12.811	0.144	2.13	90	1.5	100	75	-0.065	11.35	0.078
91	12.958	0.147	2.12	90	1.9	-	75	-0.066	11.25	0.055
92	13.104	0.146	2.13	90	1.7	-	75	-0.064	11.24	0.047
93	13.252	0.148	2.13	90	1.6	-	75	-0.064	11.12	0.029
94	13.394	0.142	2.12	90	1.5	-	75	-0.064	11.10	0.030
95	13.542	0.148	2.13	90	1.9	-	74	-0.064	11.06	0.032

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	13.684	0.142	2.13	90	1.8	-	74	-0.064	11.03	0.027
97	13.831	0.147	2.12	90	1.6	-	75	-0.062	11.07	0.031
98	13.973	0.142	2.13	90	1.6	-	75	-0.064	11.08	0.030
99	14.122	0.149	2.13	91	1.5	-	74	-0.064	11.06	0.031
100	14.267	0.145	2.13	91	1.6	101	75	-0.062	11.12	0.032
101	14.413	0.146	2.13	91	1.5	-	75	-0.064	11.21	0.042
102	14.558	0.145	2.13	91	1.7	-	74	-0.063	11.19	0.045
103	14.703	0.145	2.13	91	1.7	-	74	-0.065	11.21	0.032
104	14.846	0.143	2.13	91	1.7	-	74	-0.065	11.20	0.048
105	14.990	0.144	2.13	91	1.8	-	74	-0.063	11.23	0.047
106	15.139	0.149	2.13	91	2.0	-	74	-0.063	11.21	0.051
107	15.282	0.143	2.13	91	1.5	-	74	-0.064	11.20	0.067
108	15.429	0.147	2.13	91	1.5	-	74	-0.064	11.03	0.106
109	15.572	0.143	2.13	91	1.6	-	74	-0.062	11.03	0.039
110	15.720	0.148	2.13	91	1.6	101	74	-0.061	10.88	0.028
111	15.862	0.142	2.12	91	1.7	-	74	-0.064	10.66	0.028
112	16.011	0.149	2.13	92	1.6	-	74	-0.064	10.43	0.029
113	16.157	0.146	2.13	92	1.5	-	74	-0.064	10.27	0.027
114	16.304	0.147	2.13	92	1.9	-	74	-0.063	10.09	0.025
115	16.449	0.145	2.13	92	1.7	-	74	-0.062	9.99	0.025
116	16.596	0.147	2.13	92	1.6	-	74	-0.063	9.81	0.026
117	16.740	0.144	2.13	92	2.0	-	74	-0.061	9.82	0.031
118	16.886	0.146	2.14	92	2.0	-	74	-0.060	9.71	0.028
119	17.029	0.143	2.13	92	1.6	-	74	-0.063	9.59	0.028
120	17.174	0.145	2.13	92	2.0	100	74	-0.063	9.42	0.028
121	17.324	0.150	2.14	92	1.7	-	74	-0.060	9.28	0.030
122	17.468	0.144	2.14	92	1.5	-	74	-0.062	8.61	0.033
123	17.614	0.146	2.13	92	1.7	-	74	-0.061	8.22	0.027
124	17.758	0.144	2.13	92	1.5	-	74	-0.060	8.14	0.032
125	17.906	0.148	2.14	92	1.9	-	74	-0.059	8.10	0.024
126	18.049	0.143	2.13	92	1.7	-	74	-0.061	8.05	0.025
127	18.197	0.148	2.14	92	1.6	-	74	-0.059	7.88	0.026

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	18.343	0.146	2.14	92	2.0	-	74	-0.057	7.71	0.025
129	18.489	0.146	2.13	92	1.7	-	74	-0.059	7.60	0.023
130	18.633	0.144	2.14	92	1.5	101	74	-0.057	7.54	0.022
131	18.783	0.150	2.13	92	1.6	-	74	-0.059	7.52	0.025
132	18.928	0.145	2.14	92	2.0	-	74	-0.061	7.53	0.027
133	19.076	0.148	2.14	93	1.6	-	74	-0.057	7.49	0.027
134	19.221	0.145	2.14	93	2.0	-	74	-0.055	7.46	0.024
135	19.364	0.143	2.14	93	2.1	-	74	-0.058	7.47	0.024
136	19.513	0.149	2.14	93	1.5	-	74	-0.056	7.58	0.021
137	19.658	0.145	2.14	93	1.5	-	74	-0.056	7.58	0.026
138	19.804	0.146	2.13	93	1.5	-	74	-0.054	7.65	0.023
139	19.950	0.146	2.14	93	1.5	-	74	-0.056	7.71	0.024
140	20.097	0.147	2.15	93	1.6	101	74	-0.055	7.72	0.024
141	20.242	0.145	2.14	93	2.0	-	74	-0.055	7.77	0.025
142	20.391	0.149	2.14	93	1.5	-	73	-0.054	7.76	0.022
143	20.535	0.144	2.14	93	1.5	-	73	-0.056	7.77	0.026
144	20.681	0.146	2.14	93	1.9	-	73	-0.053	7.80	0.023
145	20.824	0.143	2.13	93	2.0	-	73	-0.056	7.68	0.024
146	20.975	0.151	2.14	93	1.5	-	73	-0.055	7.72	0.022
147	21.116	0.141	2.13	93	1.7	-	73	-0.056	7.64	0.023
148	21.267	0.151	2.14	93	2.1	-	73	-0.054	7.41	0.026
149	21.411	0.144	2.14	93	1.5	-	73	-0.050	7.29	0.023
150	21.559	0.148	2.14	93	1.5	100	73	-0.055	7.40	0.027
151	21.704	0.145	2.14	93	1.5	-	73	-0.053	7.30	0.027
152	21.849	0.145	2.14	93	1.6	-	73	-0.055	7.25	0.024
153	21.995	0.146	2.14	93	1.5	-	73	-0.053	7.27	0.026
154	22.144	0.149	2.14	93	1.9	-	73	-0.053	7.23	0.026
155	22.290	0.146	2.14	93	1.6	-	73	-0.052	7.24	0.023
156	22.432	0.142	2.14	93	2.0	-	73	-0.053	7.29	0.023
157	22.582	0.150	2.14	93	2.0	-	73	-0.053	7.28	0.025
158	22.727	0.145	2.14	93	2.0	-	73	-0.054	7.30	0.028
159	22.872	0.145	2.14	93	1.6	-	73	-0.053	7.30	0.024

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	23.019	0.147	2.14	93	1.7	100	73	-0.052	7.24	0.031
161	23.168	0.149	2.14	93	1.7	-	73	-0.052	7.32	0.028
162	23.313	0.145	2.14	93	1.5	-	73	-0.051	7.23	0.026
163	23.461	0.148	2.14	93	1.8	-	73	-0.050	7.14	0.026
164	23.602	0.141	2.14	93	2.0	-	73	-0.053	7.13	0.023
165	23.751	0.149	2.14	93	1.9	-	73	-0.052	7.10	0.028
166	23.894	0.143	2.14	93	2.0	-	73	-0.053	7.04	0.025
167	24.042	0.148	2.13	93	2.0	-	73	-0.053	7.01	0.023
168	24.189	0.147	2.14	93	1.9	-	73	-0.050	7.05	0.026
169	24.338	0.149	2.14	94	2.0	-	73	-0.050	7.03	0.026
170	24.480	0.142	2.14	94	2.0	100	73	-0.051	7.01	0.024
171	24.630	0.150	2.14	94	1.6	-	73	-0.050	7.01	0.022
172	24.774	0.144	2.14	94	1.5	-	72	-0.049	7.03	0.025
173	24.920	0.146	2.14	94	1.9	-	73	-0.050	7.06	0.021
174	25.066	0.146	2.14	94	1.5	-	72	-0.048	6.92	0.025
175	25.215	0.149	2.14	94	2.0	-	72	-0.048	6.89	0.021
176	25.361	0.146	2.14	94	1.5	-	72	-0.048	6.93	0.023
177	25.504	0.143	2.13	94	1.6	-	72	-0.049	6.95	0.025
178	25.654	0.150	2.14	94	1.5	-	72	-0.048	6.96	0.027
179	25.797	0.143	2.14	94	1.7	-	72	-0.051	6.99	0.024
180	25.947	0.150	2.14	94	1.5	100	72	-0.051	6.94	0.020
181	26.092	0.145	2.14	94	1.6	-	72	-0.046	6.96	0.024
182	26.241	0.149	2.15	94	1.5	-	72	-0.048	6.97	0.026
183	26.386	0.145	2.15	94	1.5	-	72	-0.046	6.99	0.030
184	26.534	0.148	2.15	94	1.6	-	72	-0.049	6.95	0.023
185	26.675	0.141	2.14	94	1.5	-	72	-0.047	6.83	0.022
186	26.827	0.152	2.15	94	1.5	-	72	-0.049	6.85	0.028
187	26.968	0.141	2.15	94	2.0	-	72	-0.046	6.87	0.024
188	27.116	0.148	2.14	94	1.7	-	72	-0.045	6.87	0.024
189	27.261	0.145	2.14	94	1.7	-	72	-0.047	6.92	0.023
190	27.412	0.151	2.14	94	2.0	100	72	-0.048	6.94	0.024
191	27.557	0.145	2.15	94	1.9	-	72	-0.045	6.99	0.022

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	27.704	0.147	2.14	94	1.5	-	72	-0.046	7.00	0.021
193	27.850	0.146	2.15	94	1.7	-	72	-0.047	7.03	0.025
194	27.998	0.148	2.15	94	1.8	-	72	-0.048	7.05	0.019
195	28.141	0.143	2.14	94	1.5	-	72	-0.047	7.06	0.023
196	28.288	0.147	2.14	94	1.5	-	72	-0.046	7.07	0.018
197	28.434	0.146	2.14	94	2.0	-	72	-0.048	7.06	0.023
198	28.579	0.145	2.14	94	1.5	-	72	-0.048	7.09	0.025
199	28.726	0.147	2.14	94	1.5	-	72	-0.046	7.13	0.023
200	28.872	0.146	2.14	94	1.6	98	72	-0.047	7.14	0.023
201	29.020	0.148	2.15	94	2.0	-	72	-0.044	7.15	0.023
202	29.165	0.145	2.14	94	2.0	-	72	-0.050	7.16	0.021
203	29.314	0.149	2.15	94	1.9	-	72	-0.045	7.18	0.025
204	29.461	0.147	2.15	94	1.6	-	72	-0.045	7.21	0.025
205	29.610	0.149	2.14	94	2.0	-	72	-0.048	7.19	0.025
206	29.754	0.144	2.14	94	1.8	-	72	-0.047	7.12	0.022
207	29.902	0.148	2.14	94	1.5	-	71	-0.048	7.15	0.030
208	30.047	0.145	2.15	94	1.5	-	71	-0.046	7.18	0.022
209	30.192	0.145	2.15	94	1.9	-	71	-0.044	7.25	0.025
210	30.339	0.147	2.15	94	1.8	98	71	-0.044	7.24	0.021
211	30.487	0.148	2.14	94	1.7	-	71	-0.047	7.22	0.024
212	30.630	0.143	2.15	94	2.0	-	71	-0.045	7.28	0.023
213	30.778	0.148	2.15	94	1.8	-	71	-0.044	7.28	0.028
214	30.924	0.146	2.14	94	1.9	-	71	-0.046	7.26	0.024
215	31.072	0.148	2.14	94	1.6	-	71	-0.045	7.31	0.025
216	31.220	0.148	2.14	94	2.0	-	71	-0.044	7.29	0.023
217	31.367	0.147	2.14	94	2.0	-	71	-0.046	7.31	0.024
218	31.511	0.144	2.14	94	1.6	-	71	-0.046	7.31	0.023
219	31.656	0.145	2.14	94	1.7	-	71	-0.047	7.32	0.022
220	31.803	0.147	2.15	94	1.6	100	71	-0.044	7.26	0.021
221	31.948	0.145	2.13	94	1.5	-	71	-0.043	7.26	0.022
222	32.098	0.150	2.14	94	1.9	-	71	-0.047	7.25	0.020
223	32.241	0.143	2.15	94	2.0	-	71	-0.045	7.29	0.020

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	32.392	0.151	2.14	94	1.9	-	71	-0.046	7.24	0.022
225	32.534	0.142	2.15	94	2.0	-	71	-0.044	7.31	0.023
226	32.684	0.150	2.15	94	2.0	-	71	-0.041	7.29	0.024
227	32.828	0.144	2.15	94	2.0	-	71	-0.045	7.31	0.022
228	32.976	0.148	2.14	94	1.5	-	71	-0.047	7.34	0.025
229	33.121	0.145	2.14	94	2.0	-	71	-0.044	7.36	0.024
230	33.269	0.148	2.14	94	2.0	100	71	-0.047	7.30	0.025
231	33.414	0.145	2.14	94	1.5	-	71	-0.046	7.25	0.022
232	33.562	0.148	2.14	94	2.0	-	71	-0.046	7.23	0.022
233	33.708	0.146	2.14	94	1.7	-	71	-0.047	7.22	0.019
234	33.857	0.149	2.14	94	2.0	-	71	-0.044	7.24	0.027
235	33.999	0.142	2.15	94	1.6	-	71	-0.044	7.21	0.024
236	34.150	0.151	2.15	94	1.8	-	71	-0.045	7.22	0.023
237	34.294	0.144	2.15	94	1.8	-	71	-0.045	7.26	0.020
238	34.444	0.150	2.15	94	1.7	-	71	-0.047	7.22	0.023
239	34.587	0.143	2.14	94	1.6	-	71	-0.048	7.22	0.023
240	34.737	0.150	2.15	94	1.5	100	71	-0.048	7.24	0.017
241	34.883	0.146	2.14	94	2.0	-	71	-0.046	7.20	0.024
242	35.026	0.143	2.14	94	1.7	-	71	-0.046	7.22	0.022
243	35.176	0.150	2.14	94	1.5	-	71	-0.046	7.26	0.020
244	35.318	0.142	2.14	94	1.9	-	71	-0.044	7.26	0.023
245	35.468	0.150	2.14	94	1.5	-	71	-0.045	7.26	0.024
246	35.612	0.144	2.15	94	2.0	-	71	-0.041	7.28	0.022
247	35.763	0.151	2.15	94	1.6	-	71	-0.047	7.29	0.024
248	35.907	0.144	2.14	94	1.6	-	71	-0.046	7.27	0.021
249	36.056	0.149	2.15	94	1.8	-	71	-0.044	7.27	0.022
250	36.199	0.143	2.15	94	1.6	100	71	-0.043	7.28	0.021
251	36.347	0.148	2.14	94	1.9	-	71	-0.046	7.29	0.023
252	36.492	0.145	2.14	94	1.5	-	71	-0.044	7.29	0.022
253	36.643	0.151	2.14	94	1.6	-	71	-0.045	7.30	0.021
254	36.787	0.144	2.14	94	1.5	-	71	-0.045	7.22	0.025
255	36.933	0.146	2.14	94	2.0	-	71	-0.042	7.25	0.027

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	37.079	0.146	2.14	94	1.5	-	71	-0.046	7.27	0.024
257	37.226	0.147	2.14	94	2.0	-	71	-0.045	7.22	0.024
258	37.373	0.147	2.14	94	1.8	-	71	-0.044	7.26	0.021
259	37.522	0.149	2.15	94	2.0	-	71	-0.046	7.26	0.026
260	37.665	0.143	2.15	94	2.0	100	71	-0.046	7.25	0.025
261	37.815	0.150	2.15	94	1.5	-	71	-0.048	7.24	0.022
262	37.958	0.143	2.14	94	1.5	-	71	-0.046	7.27	0.019
263	38.108	0.150	2.14	94	2.0	-	71	-0.044	7.26	0.023
264	38.254	0.146	2.14	94	1.7	-	71	-0.046	7.26	0.019
265	38.401	0.147	2.14	94	1.6	-	71	-0.048	7.28	0.023
266	38.547	0.146	2.14	94	2.0	-	71	-0.044	7.29	0.023
267	38.690	0.143	2.14	94	1.5	-	71	-0.047	7.31	0.021
268	38.840	0.150	2.14	94	2.0	-	71	-0.046	7.19	0.023
269	38.985	0.145	2.14	94	1.9	-	71	-0.046	7.17	0.024
270	39.131	0.146	2.15	94	2.0	100	71	-0.044	7.15	0.021
271	39.278	0.147	2.14	94	2.1	-	71	-0.047	7.15	0.023
272	39.425	0.147	2.15	94	1.5	-	71	-0.047	7.15	0.021
273	39.572	0.147	2.14	94	1.7	-	71	-0.045	7.14	0.025
274	39.721	0.149	2.14	94	1.5	-	71	-0.046	7.16	0.022
275	39.862	0.141	2.15	94	2.0	-	71	-0.047	7.18	0.024
276	40.014	0.152	2.14	94	1.6	-	71	-0.045	7.22	0.017
277	40.155	0.141	2.14	94	1.5	-	71	-0.048	7.24	0.021
278	40.303	0.148	2.14	94	1.6	-	71	-0.047	7.25	0.023
279	40.450	0.147	2.14	94	1.6	-	71	-0.044	7.28	0.027
280	40.597	0.147	2.14	94	2.0	100	70	-0.046	7.17	0.024
281	40.744	0.147	2.14	94	1.6	-	71	-0.048	7.17	0.022
282	40.889	0.145	2.14	94	1.5	-	71	-0.043	7.18	0.023
283	41.037	0.148	2.14	94	2.0	-	71	-0.045	7.18	0.021
284	41.183	0.146	2.15	94	1.5	-	71	-0.043	7.21	0.022
285	41.331	0.148	2.14	94	1.8	-	71	-0.047	7.21	0.023
286	41.475	0.144	2.14	94	1.5	-	70	-0.048	7.22	0.024
287	41.624	0.149	2.14	94	1.9	-	70	-0.045	7.11	0.020

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	41.767	0.143	2.14	94	1.5	-	70	-0.046	7.14	0.026
289	41.917	0.150	2.14	94	1.8	-	70	-0.045	7.12	0.015
290	42.059	0.142	2.14	94	1.7	100	70	-0.047	7.07	0.022
291	42.209	0.150	2.14	94	1.5	-	70	-0.047	7.07	0.020
292	42.352	0.143	2.14	94	1.6	-	70	-0.046	7.10	0.022
293	42.503	0.151	2.14	94	1.7	-	70	-0.048	7.06	0.025
294	42.648	0.145	2.14	94	1.8	-	70	-0.048	7.09	0.020
295	42.797	0.149	2.15	94	1.6	100	70	-0.044	7.09	0.026
Avg/Tot	42.797	0.145	2.12	89.1	1.7	100	72.7	-0.056	8.98	0.336

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	0.000		0.59	70	2.0		67
1	0.199	0.199	1.74	69	2.3	-	68
2	0.400	0.201	1.74	69	2.4	-	68
3	0.602	0.202	1.74	70	2.4	-	68
4	0.803	0.201	1.75	70	2.4	-	68
5	1.005	0.202	1.76	70	2.5	-	68
6	1.204	0.199	1.77	70	2.5	-	68
7	1.411	0.207	1.78	70	2.5	-	68
8	1.615	0.204	1.78	70	2.4	-	68
9	1.815	0.200	1.78	70	2.5	-	68
10	2.020	0.205	1.79	71	2.4	100	69
11	2.228	0.208	1.79	71	2.5	-	69
12	2.433	0.205	1.80	71	2.5	-	69
13	2.638	0.205	1.79	71	2.4	-	69
14	2.843	0.205	1.79	71	2.5	-	69
15	3.044	0.201	1.79	72	2.5	-	69
16	3.249	0.205	1.79	72	2.4	-	69
17	3.457	0.208	1.79	73	2.4	-	69
18	3.662	0.205	1.79	73	2.4	-	69
19	3.866	0.204	1.80	73	2.4	-	69
20	4.068	0.202	1.80	74	2.6	99	69
21	4.273	0.205	1.80	74	2.6	-	70
22	4.480	0.207	1.79	74	2.6	-	70
23	4.686	0.206	1.79	75	2.4	-	70
24	4.888	0.202	1.79	75	2.6	-	70
25	5.097	0.209	1.79	75	2.5	-	70
26	5.299	0.202	1.79	75	2.6	-	70
27	5.509	0.210	1.80	75	2.7	-	70
28	5.715	0.206	1.80	76	2.6	-	70
29	5.918	0.203	1.81	76	2.6	-	70
30	6.125	0.207	1.81	76	2.6	99	70
31	6.332	0.207	1.82	76	2.7	-	70

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

	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	6.541	0.209	1.81	77	2.6	-	70
33	6.748	0.207	1.81	77	2.5	-	70
34	6.956	0.208	1.82	77	2.6	-	70
35	7.160	0.204	1.82	77	2.5	-	70
36	7.372	0.212	1.82	77	2.5	-	70
37	7.577	0.205	1.83	77	2.5	-	70
38	7.787	0.210	1.83	78	2.7	-	70
39	7.992	0.205	1.83	78	2.7	-	70
40	8.201	0.209	1.83	78	2.6	103	70
41	8.414	0.213	1.83	78	2.7	-	70
42	8.623	0.209	1.84	79	2.5	-	70
43	8.831	0.208	1.83	79	2.5	-	70
44	9.041	0.210	1.84	79	2.6	-	70
45	9.251	0.210	1.84	79	2.5	-	70
46	9.457	0.206	1.84	79	2.7	-	70
47	9.669	0.212	1.84	80	2.5	-	70
48	9.879	0.210	1.84	80	2.6	-	70
49	10.090	0.211	1.84	80	2.5	-	71
50	10.301	0.211	1.85	80	2.6	104	71
51	10.509	0.208	1.84	81	2.5	-	71
52	10.721	0.212	1.85	81	2.7	-	71
53	10.928	0.207	1.85	81	2.7	-	71
54	11.142	0.214	1.85	81	2.7	-	71
55	11.348	0.206	1.85	81	2.5	-	71
56	11.563	0.215	1.85	81	2.5	-	71
57	11.774	0.211	1.85	82	2.7	-	71
58	11.982	0.208	1.86	82	2.6	-	71
59	12.192	0.210	1.85	82	2.6	-	71
60	12.407	0.215	1.85	82	2.5	102	71
Avg/Tot	12.407	0.207	1.79	75.7	2.5	101	69.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

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	369	429	356	385	363	380.4	751.9
1	369	426	355	387	364	380.3	736.6
2	365	422	351	390	365	378.6	725.5
3	361	417	347	391	366	376.4	719.0
4	361	412	345	392	367	375.4	728.0
5	358	408	342	396	368	374.5	755.3
6	358	405	340	406	368	375.3	782.3
7	355	401	337	419	369	376.0	802.5
8	353	398	334	433	369	377.4	820.0
9	352	395	331	447	369	378.8	835.4
10	351	392	329	464	368	380.8	846.7
11	349	389	326	481	368	382.4	852.0
12	348	387	323	497	368	384.4	857.1
13	346	385	320	511	367	385.8	863.7
14	345	383	317	524	366	387.2	872.4
15	344	382	315	537	366	388.9	882.4
16	343	381	318	531	365	387.7	891.0
17	344	381	311	532	364	386.4	896.8
18	343	381	306	533	363	385.1	902.0
19	344	381	302	535	361	384.8	907.0
20	344	381	302	538	360	384.9	911.6
21	344	382	297	537	359	383.5	916.5
22	343	382	296	539	357	383.6	920.8
23	344	383	294	540	356	383.2	925.5
24	344	384	292	541	354	382.8	929.7
25	345	385	292	543	352	383.2	932.7
26	345	385	291	543	351	383.2	935.0
27	346	386	289	547	349	383.2	937.3
28	346	387	290	548	347	383.7	940.2
29	347	389	286	549	346	383.4	943.1
30	347	391	287	551	344	383.9	945.7
31	348	392	288	553	343	384.6	947.9
32	349	394	286	554	341	384.6	950.5
33	348	395	283	557	339	384.6	953.0
34	350	397	285	559	338	385.6	955.5
35	350	399	287	561	337	386.8	958.1
36	351	400	285	564	335	387.0	960.9
37	352	402	288	567	334	388.6	964.0
38	355	404	288	567	332	389.2	967.1
39	355	405	289	568	331	389.5	969.6
40	356	408	289	570	330	390.3	971.6
41	357	409	294	572	328	392.2	973.8
42	358	411	291	571	327	391.7	975.7
43	361	413	291	574	326	393.0	977.6
44	361	414	291	574	325	393.2	980.1
45	364	416	293	575	324	394.1	982.7
46	366	418	295	575	323	395.2	985.1
47	370	419	299	576	321	397.0	987.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

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	371	421	294	575	320	396.2	990.1
49	373	423	297	575	319	397.5	992.8
50	373	425	300	577	318	398.6	995.4
51	376	427	299	577	318	399.1	998.0
52	379	429	300	575	317	399.8	1000.4
53	380	431	303	576	316	401.1	1002.5
54	382	432	305	575	315	401.9	1004.9
55	383	434	306	575	314	402.2	1007.3
56	386	435	307	576	314	403.6	1010.1
57	387	437	310	576	313	404.3	1013.3
58	388	439	313	575	312	405.4	1016.8
59	388	440	312	576	312	405.5	1020.3
60	390	441	316	577	311	406.8	1023.7
61	391	442	319	577	311	408.0	1026.5
62	392	443	320	576	310	408.0	1028.1
63	393	442	322	574	310	408.2	1028.7
64	395	442	324	574	309	408.8	1029.2
65	395	442	322	574	309	408.1	1030.3
66	397	442	326	572	308	408.9	1031.9
67	398	441	327	574	308	409.6	1032.9
68	400	441	326	573	308	409.4	1034.4
69	401	441	332	573	307	410.9	1035.9
70	404	441	332	574	307	411.5	1036.7
71	406	442	333	574	307	412.1	1037.3
72	408	443	334	574	307	412.9	1037.8
73	408	443	338	574	306	414.0	1038.4
74	410	444	337	573	306	414.3	1038.7
75	412	444	341	572	306	415.1	1038.6
76	415	444	344	574	306	416.6	1038.2
77	417	444	345	573	306	416.8	1037.8
78	419	443	347	573	306	417.5	1037.3
79	421	443	346	573	306	417.8	1036.8
80	424	443	353	572	306	419.5	1035.9
81	425	443	352	572	305	419.2	1035.1
82	425	443	355	570	306	419.8	1034.1
83	427	444	357	569	306	420.4	1032.5
84	428	444	358	569	306	420.7	1029.3
85	429	444	358	569	306	421.1	1025.6
86	431	445	359	567	306	421.4	1022.1
87	432	445	359	566	306	421.5	1018.9
88	435	446	364	565	306	422.9	1016.0
89	435	447	364	564	306	423.0	1013.6
90	437	448	364	562	306	423.5	1011.3
91	437	449	364	563	306	423.7	1008.5
92	439	450	362	560	306	423.4	1005.7
93	439	451	367	559	306	424.4	1003.2
94	439	453	367	558	306	424.5	1000.8
95	440	453	367	555	306	424.1	998.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

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	438	455	369	553	306	424.0	996.1
97	439	456	367	550	306	423.4	994.0
98	439	457	371	547	307	424.2	992.1
99	439	459	369	546	307	423.9	990.3
100	440	460	364	544	307	422.9	988.9
101	441	461	377	541	307	425.4	987.6
102	441	462	370	538	307	423.7	986.3
103	441	463	375	536	308	424.6	985.1
104	440	464	372	537	308	424.1	984.0
105	442	465	370	535	308	424.2	983.3
106	441	465	372	533	308	423.7	982.2
107	441	465	375	531	309	424.1	980.7
108	441	464	376	531	309	424.3	979.7
109	442	464	376	529	309	424.0	978.4
110	441	464	376	530	310	424.1	977.3
111	438	465	373	529	310	422.9	976.7
112	437	466	369	529	310	422.4	975.7
113	435	467	376	529	311	423.4	974.6
114	434	467	374	529	311	423.2	973.0
115	430	468	377	527	312	422.8	970.9
116	428	468	374	528	312	421.9	967.9
117	425	469	373	527	313	421.0	964.8
118	424	468	374	526	313	421.0	961.5
119	422	468	377	524	313	421.1	958.2
120	419	468	372	522	314	418.9	954.5
121	416	468	370	521	314	417.7	950.7
122	416	467	366	518	315	416.1	946.9
123	412	466	371	514	315	415.7	942.7
124	410	464	372	513	316	415.0	938.2
125	408	462	370	509	316	413.0	933.3
126	405	460	366	506	317	410.5	927.8
127	404	458	370	502	317	410.2	921.9
128	401	456	365	496	318	407.4	915.3
129	399	454	368	492	318	406.5	908.2
130	397	453	363	489	319	404.2	900.4
131	395	451	360	482	319	401.4	892.6
132	392	449	357	478	320	399.2	885.2
133	392	448	359	474	320	398.4	878.3
134	390	447	356	468	320	396.1	871.7
135	387	445	353	464	321	394.0	865.4
136	384	444	357	459	321	393.0	859.3
137	382	443	355	455	321	391.4	853.8
138	380	442	350	450	322	388.8	849.0
139	378	442	350	447	322	387.8	844.5
140	376	441	350	442	322	386.2	840.1
141	375	441	349	439	322	385.1	836.1
142	373	441	347	435	322	383.4	832.4
143	371	440	347	432	322	382.5	829.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

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	369	440	345	429	322	380.9	826.0
145	366	439	347	426	322	379.9	823.7
146	365	438	344	424	322	378.5	822.2
147	363	437	346	422	322	377.9	821.0
148	362	435	343	419	322	376.1	819.6
149	359	433	342	417	321	374.6	817.7
150	359	432	339	415	321	373.3	815.9
151	358	430	339	414	321	372.3	813.7
152	357	428	339	413	321	371.5	811.0
153	355	426	341	410	321	370.5	808.0
154	353	424	338	408	321	368.6	805.1
155	351	422	335	407	321	367.0	802.1
156	350	420	339	407	320	367.3	799.2
157	350	418	335	404	320	365.3	796.4
158	348	417	337	404	320	365.1	793.8
159	347	415	332	401	320	363.0	791.7
160	346	414	336	400	319	362.9	789.6
161	344	412	335	398	319	361.7	787.3
162	343	411	335	397	319	361.0	784.5
163	342	410	333	396	319	360.0	781.5
164	341	408	337	396	318	359.9	778.4
165	340	408	339	393	318	359.4	774.9
166	339	407	338	391	318	358.6	771.2
167	339	405	336	388	318	357.3	767.1
168	337	405	341	386	317	357.1	762.9
169	337	404	340	385	317	356.4	758.9
170	338	403	341	381	317	355.9	755.0
171	337	402	343	379	316	355.5	751.4
172	335	402	342	376	316	354.2	748.2
173	335	401	343	373	316	353.6	745.1
174	334	401	345	372	316	353.4	742.1
175	334	401	346	369	316	353.1	739.5
176	334	400	344	367	315	352.1	737.0
177	333	400	351	364	315	352.7	734.7
178	333	400	355	363	315	353.2	732.5
179	332	400	351	361	315	351.7	730.6
180	332	399	351	358	315	351.1	728.3
181	332	399	353	357	315	351.1	726.0
182	332	399	350	355	315	350.0	723.8
183	332	399	348	354	315	349.5	721.8
184	330	399	353	352	315	349.8	720.1
185	331	399	355	350	315	349.9	718.3
186	331	399	357	349	315	350.2	716.7
187	330	399	358	348	315	350.1	715.2
188	330	399	360	346	315	350.0	713.6
189	330	399	362	345	316	350.2	712.1
190	330	399	358	344	316	349.2	710.7
191	330	399	360	343	316	349.5	709.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

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	330	399	365	342	316	350.4	708.4
193	329	399	361	341	316	349.3	707.2
194	329	399	365	340	316	349.8	706.1
195	329	399	362	339	317	349.2	705.1
196	328	399	362	338	317	348.8	704.4
197	329	399	368	337	317	350.0	703.6
198	329	399	366	337	317	349.6	702.8
199	328	400	367	335	318	349.6	702.1
200	328	400	368	335	318	349.7	701.6
201	329	400	373	335	318	350.9	700.8
202	328	400	376	333	318	351.0	700.0
203	328	401	373	332	319	350.6	699.5
204	327	401	372	332	319	350.1	699.0
205	328	401	373	331	319	350.4	698.6
206	328	401	371	332	320	350.2	698.3
207	327	402	377	330	320	351.0	697.8
208	327	402	373	330	320	350.4	697.4
209	327	402	376	330	320	351.1	697.2
210	328	402	374	330	321	351.0	697.0
211	327	402	377	329	321	351.1	696.8
212	327	402	381	329	321	352.0	696.5
213	327	402	377	328	322	351.0	696.4
214	328	402	378	327	322	351.4	696.3
215	328	403	380	327	322	351.9	696.0
216	327	402	382	326	323	351.9	695.9
217	327	402	382	326	323	352.0	695.5
218	327	403	383	326	323	352.4	695.2
219	326	403	385	326	323	352.6	694.7
220	327	403	382	327	324	352.4	694.2
221	326	404	382	326	324	352.5	693.8
222	326	404	383	325	324	352.6	693.2
223	327	404	386	326	325	353.4	692.8
224	326	405	384	325	325	352.9	692.3
225	326	405	390	325	325	354.2	691.9
226	327	405	385	325	326	353.5	691.6
227	327	405	384	324	326	353.1	691.4
228	327	405	387	324	326	353.8	691.3
229	326	405	389	324	327	354.2	691.2
230	326	405	388	324	327	354.1	691.4
231	326	405	388	324	328	353.9	691.9
232	327	404	391	323	328	354.6	692.6
233	326	404	387	323	328	353.8	693.4
234	327	404	386	323	329	353.9	694.2
235	327	404	390	323	329	354.4	694.7
236	327	404	385	323	330	353.4	695.3
237	327	403	383	322	330	353.0	696.6
238	329	403	384	322	330	353.6	698.4
239	328	403	377	322	331	351.9	700.4

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

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	328	403	375	322	331	351.6	701.6
241	327	403	377	322	332	352.2	702.1
242	328	403	375	322	332	351.9	702.9
243	329	403	374	321	333	351.8	703.3
244	328	403	375	322	333	352.1	703.6
245	328	403	376	321	334	352.4	703.6
246	327	403	371	321	334	351.3	703.5
247	328	403	372	321	334	351.7	704.1
248	329	403	373	322	335	352.3	704.7
249	328	403	373	321	335	352.1	704.7
250	328	403	375	321	336	352.5	704.7
251	329	403	371	322	336	352.1	704.4
252	330	403	372	322	336	352.6	704.5
253	330	403	374	321	337	353.0	704.5
254	329	403	370	322	337	352.1	704.3
255	329	402	371	322	338	352.3	704.5
256	329	402	374	321	338	353.0	703.9
257	330	402	373	321	339	352.7	703.3
258	329	402	373	321	339	352.6	702.6
259	330	402	370	321	339	352.3	701.9
260	329	401	371	321	340	352.2	701.3
261	329	401	375	322	340	353.3	701.0
262	329	401	369	321	340	351.9	701.4
263	329	400	373	321	341	352.8	700.8
264	329	400	375	322	341	353.2	700.9
265	329	400	374	322	341	353.0	700.5
266	330	399	373	322	342	353.1	700.4
267	329	399	373	322	342	352.9	699.9
268	329	399	369	322	342	352.1	699.4
269	330	398	371	322	343	352.6	699.3
270	330	398	370	322	343	352.6	698.5
271	330	397	369	322	343	352.3	698.2
272	329	397	370	321	343	352.1	697.6
273	330	397	371	322	344	352.6	697.4
274	330	396	369	321	344	351.9	697.3
275	330	396	372	321	344	352.5	696.9
276	329	396	370	321	344	351.9	696.6
277	330	395	366	320	344	351.2	696.3
278	331	395	367	321	345	351.7	695.9
279	329	395	374	321	345	352.7	695.9
280	330	395	371	320	345	352.2	695.5
281	330	395	371	320	345	352.1	693.9
282	330	395	370	319	345	351.8	694.8
283	331	395	365	319	345	351.0	695.0
284	331	395	370	319	346	352.0	695.0
285	330	394	370	319	346	351.8	694.8
286	330	394	373	319	346	352.3	694.0
287	330	394	365	319	346	351.0	693.7

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

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	332	394	369	319	346	352.0	693.7
289	330	394	367	319	346	351.1	693.9
290	331	394	367	319	346	351.5	694.3
291	330	394	368	319	346	351.3	694.2
292	329	394	367	319	347	351.1	694.0
293	330	393	368	319	347	351.3	694.4
294	331	393	366	319	347	351.1	694.0
295	330	393	366	318	347	350.8	693.1
Average	361.5	417.5	350.8	435.0	326.2	378.2	832.5

LAB SAMPLE DATA - ASTM E2515

Client: FPI
Model: F3500
Run #: 4

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/20/2023

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00508	244.2	247.6	3.4
	B	G00509	241.9	244.9	3.0
	C - 1st Hour	G00510	244.0	247.4	3.4
	Amb	G00511	243.5	243.9	0.4
Probes	**A**	4A	116021.9	116022.5	0.6
	B	4B	116181.7	116181.8	0.1
	C - 1st Hour	4C	116996.7	116997.1	0.4
O-rings	**A**	4A	3376.5	3376.5	0.0
	B	4B	3580.2	3580.3	0.1
	C - 1st Hour	4C	3373.2	3373.3	0.1

Placed in Dessicator on:	4/21/2023

Filters	**A**	247.4	4/24 12:56	247.6	4/26 10:07				
	B	244.7	4/24 12:56	244.9	4/26 10:07				
	C - 1st Hour	247.5	4/24 12:56	247.4	4/26 10:07				
	Amb	243.7	4/24 13:03	243.9	4/26 10:07				
Probes	**A**	116022.3	4/24 12:56	116022.5	4/26 10:08				
	B	116182.0	4/24 12:56	116181.8	4/26 10:08				
	C - 1st Hour	116997.1	4/24 12:56	116997.1	4/26 10:08				
O-Rings	**A**	3376.7	4/24 12:57	3376.5	4/26 10:08				
	B	3580.4	4/24 12:56	3580.3	4/26 10:09				
	C - 1st Hour	3373.5	4/24 12:56	3373.3	4/26 10:09				

Train A Aggregate, mg:	**4.0**
Train B Aggregate, mg:	**3.2**
Train C Aggregate, mg:	**3.9**
Ambient, mg:	**0.4**

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 4 Test Date: 4/20/23

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Open 1.878”
Targeted Burn Category: III

Preburn Notes

Time	Notes
92:00	End PB

Test Notes

Test Burn Start Time: 13:59 Test Fuel Loaded by: 40 seconds
Door Closed: 45 seconds Air Control Set at: 300 seconds
Other Loading Notes: Fan on high @ 15 min

Time	Notes
	-None-

Test Burn End Time: 18:54

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 17.01 CO (%): 4.306
Mid Gas CO_2 (%): 10.09 CO (%): 2.53

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	4/20 11:16	4/20 11:18	4/20 11:19	4/21 13:27	4/21 13:28	4/21 13:29
CO_2	0.02	17.13	10.12	0.09	17.15	10.10
CO	0.002	4.322	2.487	0.007	4.320	2.456

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

Technician Signature:  Date: 5/8/23

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 4 Test Date: 4/20/23



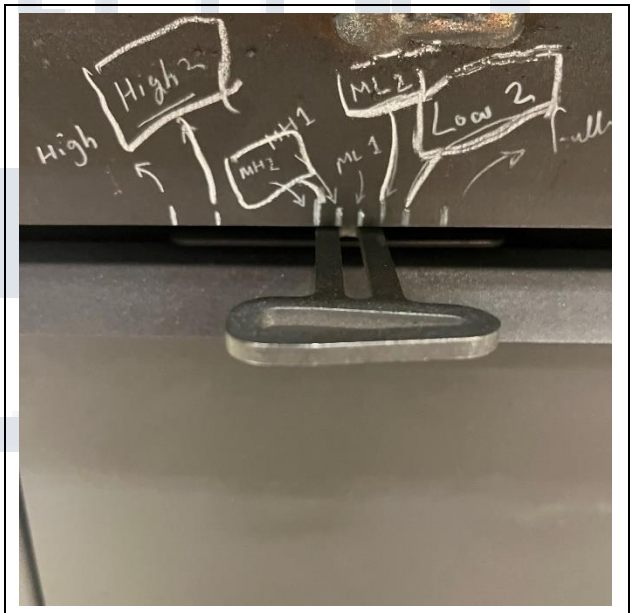
Test Fuel Front/Side View



Test Fuel Iso View



Test Fuel Loaded in Stove



Air Setting

Technician Signature: Date: 5/8/23

WOOD STOVE TEST DATA PACKET
ASTM E2780/E2515



Run 5 Data Summary

Client:	FPI
Model:	F3500
Job #:	23-141
Tracking #:	126
Test Date:	4/21/2023

Techician Signature

5/8/2023
Date

TEST RESULTS - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Burn Rate (kg/hr):	0.99

	Ambient Sample	Sample Train A	Sample Train B	1st Hour Filter
Total Sample Volume (ft^3)	101.210	76.856	70.387	12.592
Average Gas Velocity in Dilution Tunnel (ft/sec)	6.4			
Average Gas Flow Rate in Dilution Tunnel (dscf/hr)	17362.2			
Average Gas Meter Temperature (°F)	67.1	94.0	93.1	77.5
Total Sample Volume (dscf)	104.754	75.105	68.223	12.348
Average Tunnel Temperature (°F)	84.8			
Total Time of Test (min)	480			
Total Particulate Catch (mg)	0.2	2.9	2.7	1.6
Particulate Concentration, dry-standard (g/dscf)	0.0000019	0.0000386	0.0000396	0.0001296
Total PM Emissions (g)	0.27	5.10	5.23	2.22
Particulate Emission Rate (g/hr)	0.03	0.64	0.65	2.22
Emissions Factor (g/kg)	-	0.64	0.66	-
Difference from Average Total Particulate Emissions (g)	-	0.07	0.07	-
Difference from Average Total Particulate Emissions (%)	-	1.3%	1.3%	
Difference from Average Emissions Factor (g/kg)	-	0.01	0.01	-

Final Average Results	
Total Particulate Emissions (g)	5.16
Particulate Emission Rate (g/hr)	0.65
Emissions Factor (g/kg)	0.65
HHV Efficiency (%)	77.8%
LHV Efficiency (%)	84.1%
CO Emissions (g/min)	0.97

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	77.5	OK
Face Velocity	< 30 ft/min	9.1	OK
Leakage Rate	Less than 4% of average sample rate	0 cfm	OK
Ambient Temp	55-90 °F	Min:65.1/Max:68.7	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	78.4	OK

B415.1 Efficiency Results

Manufacturer:	FPI
Model:	F3500
Date:	04/21/23
Run:	5
Control #:	23-141
Test Duration:	480
Output Category:	2

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	77.8%	84.1%
Combustion Efficiency	95.8%	95.8%
Heat Transfer Efficiency	81.2%	87.8%

Output Rate (kJ/h)	15,284	14,499	**(Btu/h)**
Burn Rate (kg/h)	0.99	2.18	**(lb/h)**
Input (kJ/h)	19,634	18,625	**(Btu/h)**

Test Load Weight (dry kg)	7.93	17.48	**dry lb**
MC wet (%)	17.53		
MC dry (%)	21.26		
Particulate (g)	5.16		
CO (g)	466		
Test Duration (h)	8.00		

Emissions	Particulate	CO
g/MJ Output	0.04	3.81
g/kg Dry Fuel	0.65	58.81
g/h	0.65	58.28
g/min	0.01	0.97
lb/MM Btu Output	0.10	8.86

Air/Fuel Ratio (A/F)	11.49

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

WOODSTOVE FUEL DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Preburn Fuel Information

Size	Length (in)	Moisture Content (% DB)	Size	Length (in)	Moisture Content (% DB)
2x4	17.25	20.4	2x4	17.25	20.1
2x4	17.25	18.1	2x4	17.25	20.3
2x4	17.25	21.6	2x4	17.25	23.2
2x4	17.25	22.4	2x4	17.25	22.6
2x4	17.25	22.7			
2x4	17.25	19.6			
2x4	17.25	18.4			
2x4	17.25	20.2			
Total Fuel Weight (lbs):		19.7	Average Moisture (%DB):		20.8

Firebox Volume (ft^3):	3.10
Total 2x4 Crib Weight, with spacers (lbs):	0.00
Total 4x4 Crib Weight, with spacers (lbs):	21.17
Total Wet Fuel Weight, with spacers (lbs):	21.17

Coal Bed Range (20-25%):
Min (lbs): 4.23
Max (lbs): 5.29

Test Fuel Information

Size	Length (in)	Weight (lbs)	Moisture Content (%DB)			Dry Weight (lbs)
4x4	17.25	4.23	23.5	19.4	21.3	3.48
4x4	17.25	3.74	22.1	19.4	19.1	3.11
4x4	17.25	4.17	24.8	24.3	20.6	3.38
4x4	17.25	3.48	23.2	22.0	19.0	2.87
4x4	17.25	3.86	20.3	20.7	19.2	3.21
				Total Dry Weight, no spacers (lbs):		16.06
				Total Dry Weight, with spacers (lbs):		17.46

Spacer Moisture Readings (%DB)

24.0	21.8						
23.7	18.8						
18.3	20.7						
19.4	20.9						
21.9	23.8						
19.0	23.0						
20.9	19.7						
19.5	21.7						

Quality Checks	Requirement	Observed	Result
Fuel Density	25 - 36 (lbs/ft^3, DB)	26.3	OK
Loading Density	6.3 - 7.7 (lbs/ft^3, WB)	6.83	OK
2x4 Fuel Mix	35 - 65 % of total weight	N/A	N/A

DILUTION TUNNEL & MISC. DATA - ASTM E2780 / E2515

Client:	FPI	Job #:	23-141
Model:	F3500	Tracking #:	126
Run #:	5	Technician:	AK
Test Start Time:	13:41	Date:	4/21/2023

Total Sampling Time (min):	480
Recording Interval (min):	1

Meter Box γ Factor:	1.010	(A)
Meter Box γ Factor:	1.001	(B)
Meter Box γ Factor:	0.985	(C)
Meter Box γ Factor:	1.024	(Ambient)

	Pre-Test	Post Test	Avg.
Barometric Pressure (in. Hg)	30.27	30.13	30.20
Relative Humidity (%)	26.8	33.1	
Room Air Velocity (ft/min)	<50	<50	
Scale Audit (lbs)	10.0	10.0	
Ambient Sample Volume:		101.210	ft^3

Induced Draft Check (in. H_2O):	0
Smoke Capture Check (%):	100%
Date Flue Pipe Last Cleaned:	4/10/2023

Sample Train Post-Test Leak Checks

(A)	0.000	cfm @	-5	in. Hg
(B)	0.000	cfm @	-5	in. Hg
(C)	0.000	cfm @	-5	in. Hg
(Ambient)	0.000	cfm @	-12	in. Hg

DILUTION TUNNEL FLOW

Traverse Data

Point	dP (in H_2O)	Temp (°F)
1	0.006	85
2	0.012	85
3	0.012	85
4	0.012	85
5	0.012	85
6	0.008	85
7	0.006	85
8	0.010	84
9	0.012	84
10	0.012	84
11	0.010	84
12	0.008	84
Center	0.013	84

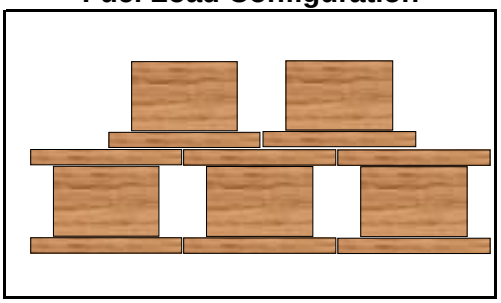
Static Pressure: -0.060 in. H_2O

Dilution Tunnel H_2O:	2.00	percent
Tunnel Diameter:	12	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:	0.7854	ft^2
V_{strav}:	6.64	ft/sec
V_{scent}:	7.63	ft/sec
F_p:	0.871	[ratio]
Initial Tunnel Flow:	300.5	scf/min

TEST FUEL PROPERTIES

Fuel Load Configuration

Firebox Left



Firebox Right

Firebox Front 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)	21.3

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

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	8.18	-0.072	431	515	376	721	327	473.8	513	68
1	8.05	-0.069	433	517	380	721	328	475.6	466	68
2	7.93	-0.067	433	517	379	720	328	475.7	438	68
3	7.82	-0.066	434	518	381	719	329	476.2	420	68
4	7.72	-0.065	432	517	382	718	330	475.8	407	68
5	7.63	-0.063	432	517	382	714	331	475.0	398	68
6	7.54	-0.064	432	516	381	712	332	474.3	392	68
7	7.45	-0.063	432	514	383	707	332	473.7	387	68
8	7.35	-0.062	432	512	384	703	333	472.7	383	68
9	7.26	-0.060	431	511	382	698	334	471.1	381	68
10	7.18	-0.061	432	509	383	695	334	470.6	378	68
11	7.08	-0.060	430	509	383	690	335	469.4	377	68
12	6.99	-0.059	430	508	383	688	335	468.6	374	68
13	6.91	-0.063	429	506	385	684	336	467.9	371	68
14	6.82	-0.058	426	505	387	682	336	467.1	369	68
15	6.75	-0.057	426	503	386	680	336	466.3	365	68
16	6.67	-0.060	424	501	386	679	336	465.2	362	68
17	6.61	-0.058	423	499	383	676	336	463.5	359	68
18	6.55	-0.058	422	497	384	673	336	462.3	356	68
19	6.48	-0.057	420	495	385	671	336	461.1	355	68
20	6.42	-0.056	420	492	383	666	336	459.3	354	68
21	6.35	-0.057	420	490	386	661	336	458.5	352	68
22	6.29	-0.056	420	488	387	657	336	457.3	352	68
23	6.23	-0.054	419	485	385	652	336	455.2	350	68
24	6.17	-0.056	418	483	389	648	335	454.6	349	68
25	6.11	-0.056	417	481	389	643	335	453.0	348	68
26	6.05	-0.055	415	479	388	640	335	451.5	347	68
27	5.99	-0.055	416	477	388	635	335	450.2	347	68
28	5.92	-0.055	416	476	388	632	334	449.0	345	68
29	5.87	-0.057	415	474	394	628	334	449.1	344	68
30	5.82	-0.055	413	473	390	624	334	446.8	343	68
31	5.76	-0.054	414	471	389	620	334	445.4	341	67
32	5.71	-0.054	413	469	388	617	334	444.0	340	67
33	5.67	-0.054	413	467	391	614	334	443.6	337	67
34	5.62	-0.053	411	465	391	611	334	442.2	335	66
35	5.58	-0.052	408	464	390	607	334	440.4	333	66
36	5.54	-0.055	409	462	393	603	334	440.2	330	66
37	5.50	-0.053	409	460	391	600	334	438.7	328	66
38	5.46	-0.053	408	458	393	595	334	437.4	325	66
39	5.15	-0.053	407	456	393	591	334	436.1	320	66
40	5.43	-0.050	406	454	391	587	334	434.3	316	66
41	5.39	-0.051	406	452	388	582	335	432.3	314	66
42	5.36	-0.051	403	450	389	577	335	430.7	313	66
43	5.32	-0.049	404	448	388	571	335	429.2	312	66
44	5.30	-0.051	401	446	389	566	336	427.6	310	65

WOODSTOVE PREBURN DATA - ASTM E2780

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

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	5.26	-0.050	402	445	388	561	336	426.3	308	66
46	4.68	-0.059	401	443	392	554	337	425.2	424	66
47	4.66	-0.054	402	441	388	549	337	423.4	371	66
48	4.63	-0.053	401	440	384	542	337	420.9	342	66
49	4.61	-0.050	400	438	383	536	338	419.0	324	66
50	4.59	-0.051	399	436	385	531	339	417.7	312	66
51	4.57	-0.048	397	434	387	526	339	416.4	305	66
52	4.55	-0.047	396	431	382	519	340	413.5	299	66
53	4.54	-0.048	393	429	384	515	340	412.1	294	66
54	4.52	-0.047	391	426	381	510	341	409.7	291	66
55	4.50	-0.048	389	424	378	506	341	407.2	289	65
56	4.48	-0.049	387	421	380	502	341	406.2	286	66
57	4.46	-0.046	385	419	375	498	341	403.5	284	66
58	4.46	-0.047	383	416	374	494	342	401.8	283	65
59	4.44	-0.046	381	414	374	491	342	400.3	281	66
60	4.42	-0.045	379	412	371	487	342	398.3	278	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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		0.012	0.67	71	0.4		21.19		101	360	69	66
1	0.134	0.134	0.012	2.08	71	0.8	-	21.18	-0.01	115	415	71	66
2	0.282	0.148	0.012	2.13	71	0.8	-	21.11	-0.07	99	383	72	66
3	0.423	0.141	0.012	2.15	71	0.8	-	21.00	-0.11	95	370	72	65
4	0.570	0.147	0.012	2.17	71	0.8	-	20.88	-0.12	95	368	72	65
5	0.712	0.142	0.012	2.19	71	0.8	-	20.74	-0.14	95	376	72	65
6	0.862	0.150	0.012	2.22	71	0.8	-	20.68	-0.06	90	337	72	66
7	1.007	0.145	0.012	2.23	71	0.8	-	20.63	-0.05	89	313	72	65
8	1.153	0.146	0.013	2.25	71	0.8	-	20.58	-0.05	88	299	72	65
9	1.299	0.146	0.013	2.26	72	0.8	-	20.54	-0.04	88	291	72	65
10	1.451	0.152	0.013	2.27	72	0.9	94	20.48	-0.06	87	286	72	65
11	1.598	0.147	0.013	2.29	72	0.9	-	20.40	-0.08	88	286	72	65
12	1.748	0.150	0.013	2.30	72	0.8	-	20.29	-0.11	88	290	72	65
13	1.896	0.148	0.013	2.31	72	0.8	-	20.19	-0.10	88	294	72	65
14	2.043	0.147	0.013	2.31	72	0.8	-	20.08	-0.11	87	297	72	65
15	2.196	0.153	0.012	2.33	73	0.8	-	19.98	-0.10	87	299	72	65
16	2.346	0.150	0.012	2.33	73	0.9	-	19.89	-0.09	87	300	73	65
17	2.497	0.151	0.012	2.34	73	0.9	-	19.81	-0.08	87	303	73	66
18	2.648	0.151	0.012	2.34	73	0.9	-	19.73	-0.08	87	306	73	66
19	2.795	0.147	0.013	2.35	74	0.9	-	19.64	-0.09	87	308	73	66
20	2.948	0.153	0.013	2.35	74	0.9	94	19.56	-0.08	86	309	73	66
21	3.100	0.152	0.012	2.37	74	0.8	-	19.47	-0.09	86	311	72	67
22	3.251	0.151	0.012	2.37	74	0.9	-	19.38	-0.09	86	311	72	67
23	3.403	0.152	0.012	2.36	75	0.9	-	19.29	-0.09	86	313	72	67
24	3.558	0.155	0.012	2.38	75	0.9	-	19.19	-0.10	86	313	73	67
25	3.707	0.149	0.012	2.38	75	0.9	-	19.10	-0.09	86	315	73	67
26	3.860	0.153	0.012	2.39	76	0.9	-	19.01	-0.09	86	316	73	67
27	4.011	0.151	0.012	2.40	76	0.9	-	18.91	-0.10	86	317	73	68
28	4.164	0.153	0.012	2.38	76	0.9	-	18.82	-0.09	87	318	73	67
29	4.316	0.152	0.013	2.39	77	0.9	-	18.71	-0.11	87	321	73	67
30	4.473	0.157	0.012	2.40	77	0.9	97	18.61	-0.10	87	323	73	67
31	4.621	0.148	0.012	2.40	77	0.9	-	18.50	-0.11	87	325	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	4.780	0.159	0.012	2.41	78	0.9	-	18.40	-0.10	87	326	73	67
33	4.932	0.152	0.012	2.41	78	0.9	-	18.30	-0.10	87	329	74	67
34	5.086	0.154	0.012	2.42	78	0.9	-	18.18	-0.12	88	331	74	67
35	5.239	0.153	0.012	2.42	79	0.9	-	18.08	-0.10	88	332	74	67
36	5.391	0.152	0.012	2.42	79	0.9	-	17.98	-0.10	88	334	74	67
37	5.547	0.156	0.012	2.42	79	0.9	-	17.87	-0.11	88	336	74	67
38	5.700	0.153	0.012	2.43	80	0.9	-	17.77	-0.10	88	337	74	67
39	5.860	0.160	0.012	2.43	80	0.9	-	17.66	-0.11	88	338	74	68
40	6.011	0.151	0.012	2.43	80	0.9	99	17.55	-0.11	88	340	74	67
41	6.169	0.158	0.012	2.43	81	1.0	-	17.44	-0.11	88	341	74	67
42	6.322	0.153	0.013	2.45	81	0.9	-	17.33	-0.11	89	342	75	67
43	6.480	0.158	0.012	2.45	81	1.0	-	17.22	-0.11	89	345	75	68
44	6.632	0.152	0.012	2.45	82	0.9	-	17.10	-0.12	89	345	75	68
45	6.788	0.156	0.012	2.44	82	0.9	-	16.98	-0.12	89	347	75	67
46	6.945	0.157	0.012	2.45	82	0.9	-	16.87	-0.11	89	348	75	68
47	7.098	0.153	0.012	2.46	83	0.9	-	16.75	-0.12	89	349	75	68
48	7.258	0.160	0.012	2.47	83	0.9	-	16.63	-0.12	89	349	75	68
49	7.410	0.152	0.012	2.46	83	0.9	-	16.51	-0.12	89	351	75	68
50	7.567	0.157	0.012	2.46	83	0.9	100	16.40	-0.11	89	351	75	67
51	7.721	0.154	0.012	2.48	84	1.0	-	16.28	-0.12	90	350	75	68
52	7.881	0.160	0.012	2.47	84	1.0	-	16.15	-0.13	90	352	75	68
53	8.035	0.154	0.012	2.47	84	0.9	-	16.04	-0.11	90	353	75	68
54	8.191	0.156	0.012	2.47	85	0.9	-	15.92	-0.12	90	353	75	68
55	8.350	0.159	0.012	2.47	85	0.9	-	15.81	-0.11	90	354	75	68
56	8.505	0.155	0.012	2.47	85	0.9	-	15.69	-0.12	90	353	75	68
57	8.664	0.159	0.012	2.48	85	1.0	-	15.57	-0.12	90	354	76	68
58	8.818	0.154	0.012	2.48	86	0.9	-	15.46	-0.11	90	354	76	68
59	8.981	0.163	0.012	2.49	86	1.0	-	15.33	-0.13	90	355	76	68
60	9.136	0.155	0.012	2.48	86	0.9	100	15.21	-0.12	90	355	76	68
61	9.294	0.158	0.012	2.48	86	1.0	-	15.10	-0.11	90	356	76	68
62	9.454	0.160	0.012	2.50	87	0.9	-	14.97	-0.13	90	357	76	68
63	9.608	0.154	0.012	2.50	87	0.9	-	14.86	-0.11	91	357	76	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	9.765	0.157	0.012	2.48	87	1.0	-	14.73	-0.13	91	357	76	68
65	9.921	0.156	0.012	2.50	87	1.0	-	14.61	-0.12	91	358	76	68
66	10.081	0.160	0.012	2.50	88	0.9	-	14.49	-0.12	91	359	76	68
67	10.241	0.160	0.012	2.50	88	0.9	-	14.36	-0.13	91	359	76	68
68	10.396	0.155	0.012	2.50	88	1.0	-	14.24	-0.12	91	360	76	68
69	10.556	0.160	0.012	2.50	88	1.0	-	14.12	-0.12	91	360	76	68
70	10.710	0.154	0.012	2.49	89	1.0	100	14.00	-0.12	91	360	76	68
71	10.876	0.166	0.012	2.50	89	0.9	-	13.88	-0.12	91	360	76	68
72	11.029	0.153	0.012	2.51	89	0.9	-	13.75	-0.13	91	360	76	68
73	11.191	0.162	0.012	2.50	89	1.0	-	13.62	-0.13	91	360	76	68
74	11.351	0.160	0.012	2.51	89	1.0	-	13.50	-0.12	92	361	76	68
75	11.506	0.155	0.012	2.51	90	0.9	-	13.38	-0.12	91	360	76	68
76	11.668	0.162	0.012	2.50	90	1.0	-	13.26	-0.12	91	358	76	68
77	11.825	0.157	0.012	2.52	90	0.9	-	13.15	-0.11	91	357	76	68
78	11.984	0.159	0.012	2.52	90	1.0	-	13.04	-0.11	91	356	76	68
79	12.143	0.159	0.012	2.52	90	1.0	-	12.93	-0.11	91	355	76	68
80	12.299	0.156	0.012	2.52	90	0.9	101	12.81	-0.12	91	355	76	68
81	12.459	0.160	0.012	2.52	91	0.9	-	12.70	-0.11	92	355	76	68
82	12.618	0.159	0.012	2.51	91	1.0	-	12.58	-0.12	91	357	76	68
83	12.779	0.161	0.012	2.52	91	1.0	-	12.47	-0.11	91	356	76	68
84	12.937	0.158	0.012	2.51	91	1.0	-	12.35	-0.12	91	356	76	68
85	13.094	0.157	0.012	2.52	91	1.0	-	12.23	-0.12	91	357	76	68
86	13.255	0.161	0.012	2.51	91	0.9	-	12.11	-0.12	91	357	76	68
87	13.411	0.156	0.012	2.52	91	0.9	-	12.00	-0.11	91	357	76	68
88	13.577	0.166	0.012	2.53	92	1.0	-	11.88	-0.12	91	357	76	68
89	13.733	0.156	0.012	2.52	92	1.0	-	11.76	-0.12	91	356	76	68
90	13.894	0.161	0.012	2.54	92	0.9	101	11.65	-0.11	91	356	76	68
91	14.054	0.160	0.012	2.53	92	0.9	-	11.53	-0.12	91	356	76	68
92	14.208	0.154	0.012	2.51	92	1.0	-	11.43	-0.10	91	355	76	68
93	14.372	0.164	0.012	2.53	92	1.0	-	11.31	-0.12	91	353	76	68
94	14.531	0.159	0.012	2.53	92	1.0	-	11.21	-0.10	91	353	76	68
95	14.692	0.161	0.012	2.54	93	1.0	-	11.10	-0.11	91	352	76	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	14.853	0.161	0.012	2.54	93	0.9	-	11.00	-0.10	91	351	76	68
97	15.009	0.156	0.012	2.53	93	1.0	-	10.89	-0.11	91	350	76	68
98	15.171	0.162	0.012	2.54	93	1.0	-	10.80	-0.09	91	348	76	68
99	15.328	0.157	0.012	2.54	93	1.0	-	10.70	-0.10	91	347	76	68
100	15.489	0.161	0.012	2.54	93	0.9	101	10.60	-0.10	91	348	76	68
101	15.651	0.162	0.012	2.54	93	1.0	-	10.49	-0.11	91	347	76	68
102	15.807	0.156	0.012	2.53	94	1.0	-	10.39	-0.10	91	346	76	68
103	15.974	0.167	0.012	2.54	94	1.0	-	10.29	-0.10	92	347	77	68
104	16.131	0.157	0.012	2.53	94	0.9	-	10.19	-0.10	92	347	77	68
105	16.292	0.161	0.012	2.54	94	1.0	-	10.08	-0.11	91	346	77	68
106	16.451	0.159	0.012	2.55	94	0.9	-	9.98	-0.10	91	346	77	68
107	16.608	0.157	0.012	2.53	94	1.0	-	9.88	-0.10	91	345	77	68
108	16.772	0.164	0.012	2.54	94	1.0	-	9.78	-0.10	91	343	76	68
109	16.932	0.160	0.012	2.53	94	0.9	-	9.69	-0.09	91	340	77	68
110	17.093	0.161	0.012	2.54	94	0.9	101	9.61	-0.08	91	338	76	68
111	17.256	0.163	0.012	2.54	94	1.0	-	9.51	-0.10	91	336	76	68
112	17.414	0.158	0.012	2.54	94	0.9	-	9.43	-0.08	91	335	76	68
113	17.574	0.160	0.012	2.54	95	1.0	-	9.34	-0.09	91	333	76	68
114	17.735	0.161	0.012	2.54	95	1.0	-	9.25	-0.09	91	332	76	68
115	17.893	0.158	0.012	2.53	95	1.0	-	9.16	-0.09	91	331	76	68
116	18.057	0.164	0.012	2.53	95	0.9	-	9.08	-0.08	91	330	76	68
117	18.214	0.157	0.012	2.54	95	0.9	-	8.99	-0.09	91	329	76	68
118	18.378	0.164	0.012	2.54	95	0.9	-	8.92	-0.07	91	329	76	68
119	18.536	0.158	0.012	2.54	95	1.0	-	8.83	-0.09	91	327	76	68
120	18.698	0.162	0.012	2.55	95	1.0	101	8.75	-0.08	91	328	76	68
121	18.858	0.160	0.012	2.54	95	0.9	-	8.67	-0.08	91	326	76	68
122	19.020	0.162	0.012	2.54	95	1.0	-	8.59	-0.08	90	325	76	68
123	19.179	0.159	0.012	2.55	95	1.0	-	8.52	-0.07	90	324	76	68
124	19.344	0.165	0.012	2.55	95	1.0	-	8.44	-0.08	90	325	76	68
125	19.501	0.157	0.012	2.54	95	0.9	-	8.36	-0.08	91	325	76	68
126	19.663	0.162	0.012	2.54	95	1.0	-	8.28	-0.08	91	325	76	68
127	19.823	0.160	0.012	2.54	96	1.0	-	8.19	-0.09	90	327	76	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	19.985	0.162	0.012	2.54	96	1.0	-	8.10	-0.09	91	328	76	68
129	20.148	0.163	0.012	2.55	96	0.9	-	8.01	-0.09	91	328	76	68
130	20.302	0.154	0.012	2.55	96	0.9	101	7.93	-0.08	91	329	76	68
131	20.470	0.168	0.012	2.55	96	1.0	-	7.84	-0.09	91	330	76	68
132	20.628	0.158	0.012	2.54	96	1.0	-	7.75	-0.09	91	330	76	68
133	20.787	0.159	0.012	2.55	96	0.9	-	7.66	-0.09	90	331	76	68
134	20.952	0.165	0.012	2.55	96	0.9	-	7.57	-0.09	91	330	76	68
135	21.111	0.159	0.012	2.55	96	1.0	-	7.48	-0.09	90	330	76	68
136	21.274	0.163	0.012	2.55	96	1.0	-	7.40	-0.08	91	330	76	68
137	21.435	0.161	0.012	2.55	96	1.0	-	7.31	-0.09	91	329	76	68
138	21.595	0.160	0.012	2.56	96	0.9	-	7.24	-0.07	90	328	76	68
139	21.757	0.162	0.012	2.55	96	1.0	-	7.16	-0.08	90	327	76	68
140	21.914	0.157	0.012	2.56	96	0.9	101	7.10	-0.06	90	326	76	68
141	22.076	0.162	0.012	2.55	96	1.0	-	7.02	-0.08	90	326	76	69
142	22.241	0.165	0.012	2.55	96	0.9	-	6.95	-0.07	90	325	76	68
143	22.399	0.158	0.012	2.55	97	0.9	-	6.88	-0.07	90	324	76	68
144	22.564	0.165	0.012	2.56	97	1.0	-	6.82	-0.06	91	323	76	68
145	22.722	0.158	0.012	2.55	97	1.0	-	6.75	-0.07	90	322	76	68
146	22.884	0.162	0.012	2.56	97	1.0	-	6.69	-0.06	90	320	76	68
147	23.047	0.163	0.012	2.55	97	0.9	-	6.64	-0.05	90	319	76	68
148	23.202	0.155	0.012	2.54	97	1.0	-	6.58	-0.06	90	317	76	68
149	23.370	0.168	0.012	2.57	97	0.9	-	6.52	-0.06	90	315	76	68
150	23.526	0.156	0.012	2.56	97	0.9	101	6.47	-0.05	90	312	76	68
151	23.688	0.162	0.012	2.56	97	1.0	-	6.43	-0.04	90	311	76	68
152	23.853	0.165	0.012	2.55	97	0.9	-	6.38	-0.05	89	310	76	68
153	24.013	0.160	0.012	2.56	97	0.9	-	6.33	-0.05	89	309	76	68
154	24.172	0.159	0.012	2.56	97	0.9	-	6.29	-0.04	89	307	76	68
155	24.338	0.166	0.012	2.56	97	0.9	-	6.24	-0.05	89	304	76	68
156	24.494	0.156	0.012	2.56	97	1.0	-	6.21	-0.03	90	303	76	68
157	24.661	0.167	0.012	2.56	97	0.9	-	6.16	-0.05	89	300	76	68
158	24.817	0.156	0.012	2.56	97	1.0	-	6.12	-0.04	89	299	76	69
159	24.982	0.165	0.012	2.56	97	1.0	-	6.07	-0.05	89	297	76	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	25.143	0.161	0.012	2.57	97	1.0	101	6.04	-0.03	89	293	76	68
161	25.303	0.160	0.012	2.56	97	0.9	-	6.00	-0.04	89	291	76	69
162	25.466	0.163	0.012	2.56	97	0.9	-	5.97	-0.03	89	290	76	68
163	25.627	0.161	0.012	2.56	97	0.9	-	5.93	-0.04	89	288	76	68
164	25.787	0.160	0.012	2.56	97	0.9	-	5.90	-0.03	88	285	76	68
165	25.952	0.165	0.012	2.55	97	0.9	-	5.86	-0.04	88	283	76	68
166	26.112	0.160	0.013	2.56	97	1.0	-	5.83	-0.03	88	282	76	68
167	26.272	0.160	0.012	2.56	97	1.0	-	5.79	-0.04	88	281	76	69
168	26.437	0.165	0.012	2.57	97	1.0	-	5.76	-0.03	87	280	76	69
169	26.596	0.159	0.012	2.56	98	0.9	-	5.72	-0.04	88	279	76	69
170	26.758	0.162	0.013	2.56	98	1.0	99	5.68	-0.04	88	279	76	68
171	26.917	0.159	0.012	2.57	98	1.0	-	5.65	-0.03	88	279	76	68
172	27.080	0.163	0.012	2.57	98	0.9	-	5.61	-0.04	88	278	76	68
173	27.245	0.165	0.012	2.56	98	1.0	-	5.57	-0.04	88	278	76	68
174	27.401	0.156	0.012	2.56	98	1.0	-	5.53	-0.04	88	277	76	68
175	27.568	0.167	0.012	2.58	98	0.9	-	5.49	-0.04	88	277	76	68
176	27.725	0.157	0.012	2.55	98	1.0	-	5.45	-0.04	88	278	76	68
177	27.890	0.165	0.012	2.56	98	0.9	-	5.40	-0.05	88	278	76	68
178	28.053	0.163	0.012	2.56	98	1.0	-	5.36	-0.04	88	279	76	68
179	28.211	0.158	0.012	2.55	98	1.0	-	5.32	-0.04	88	280	76	68
180	28.375	0.164	0.012	2.56	98	1.0	99	5.28	-0.04	88	280	76	68
181	28.539	0.164	0.012	2.56	98	1.0	-	5.25	-0.03	88	280	76	68
182	28.697	0.158	0.013	2.56	98	1.0	-	5.20	-0.05	88	280	76	68
183	28.860	0.163	0.012	2.57	98	0.9	-	5.17	-0.03	88	280	76	68
184	29.022	0.162	0.012	2.57	98	1.0	-	5.13	-0.04	88	279	76	68
185	29.184	0.162	0.012	2.56	98	1.0	-	5.10	-0.03	87	279	76	68
186	29.344	0.160	0.012	2.57	98	0.9	-	5.06	-0.04	87	279	76	68
187	29.507	0.163	0.012	2.56	98	1.0	-	5.02	-0.04	87	279	76	68
188	29.667	0.160	0.012	2.56	98	1.0	-	4.99	-0.03	87	278	76	68
189	29.832	0.165	0.012	2.57	98	0.9	-	4.95	-0.04	87	278	76	68
190	29.989	0.157	0.012	2.58	98	1.0	101	4.92	-0.03	87	278	76	68
191	30.156	0.167	0.012	2.56	98	0.9	-	4.88	-0.04	87	276	76	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	30.313	0.157	0.012	2.57	98	0.9	-	4.85	-0.03	87	276	76	68
193	30.478	0.165	0.012	2.56	98	1.0	-	4.82	-0.03	87	275	76	68
194	30.641	0.163	0.012	2.58	98	0.9	-	4.79	-0.03	87	274	76	68
195	30.800	0.159	0.012	2.56	98	1.0	-	4.76	-0.03	87	273	76	68
196	30.965	0.165	0.012	2.57	98	0.9	-	4.72	-0.04	87	272	76	68
197	31.121	0.156	0.012	2.56	98	1.0	-	4.70	-0.02	87	270	76	68
198	31.287	0.166	0.012	2.58	98	0.9	-	4.67	-0.03	87	269	76	68
199	31.450	0.163	0.012	2.57	98	1.0	-	4.63	-0.04	87	268	76	68
200	31.607	0.157	0.012	2.56	98	1.0	101	4.61	-0.02	87	267	76	68
201	31.770	0.163	0.012	2.57	98	1.0	-	4.57	-0.04	87	266	76	68
202	31.933	0.163	0.012	2.57	98	0.9	-	4.54	-0.03	86	265	76	68
203	32.092	0.159	0.012	2.58	98	1.0	-	4.51	-0.03	86	264	76	68
204	32.257	0.165	0.012	2.57	98	1.0	-	4.48	-0.03	87	263	76	68
205	32.419	0.162	0.012	2.57	98	0.9	-	4.45	-0.03	87	262	76	68
206	32.581	0.162	0.012	2.57	98	0.9	-	4.41	-0.04	86	263	76	68
207	32.745	0.164	0.012	2.57	98	1.0	-	4.38	-0.03	86	262	76	68
208	32.904	0.159	0.012	2.57	98	1.0	-	4.35	-0.03	86	262	76	68
209	33.065	0.161	0.012	2.57	98	1.0	-	4.32	-0.03	86	262	76	68
210	33.226	0.161	0.012	2.57	98	0.9	101	4.29	-0.03	86	260	76	68
211	33.387	0.161	0.012	2.57	98	1.0	-	4.26	-0.03	86	260	76	68
212	33.551	0.164	0.012	2.58	98	0.9	-	4.24	-0.02	86	260	76	68
213	33.711	0.160	0.012	2.57	98	0.9	-	4.21	-0.03	86	259	76	68
214	33.876	0.165	0.012	2.56	98	0.9	-	4.18	-0.03	86	258	75	68
215	34.039	0.163	0.012	2.57	98	0.9	-	4.15	-0.03	86	257	75	68
216	34.198	0.159	0.012	2.56	98	0.9	-	4.13	-0.02	86	257	75	68
217	34.363	0.165	0.013	2.58	98	0.9	-	4.10	-0.03	85	256	75	68
218	34.520	0.157	0.012	2.56	98	1.0	-	4.09	-0.01	86	254	75	68
219	34.682	0.162	0.012	2.56	98	0.9	-	4.06	-0.03	86	254	75	68
220	34.845	0.163	0.012	2.57	98	0.9	101	4.04	-0.02	86	253	75	68
221	35.008	0.163	0.012	2.57	98	1.0	-	4.02	-0.02	85	251	75	68
222	35.170	0.162	0.012	2.56	98	0.9	-	3.99	-0.03	85	251	75	68
223	35.331	0.161	0.012	2.56	98	1.0	-	3.97	-0.02	85	250	75	68

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	35.492	0.161	0.012	2.56	98	1.0	-	3.95	-0.02	85	248	75	68
225	35.657	0.165	0.013	2.55	98	0.9	-	3.94	-0.01	85	247	75	68
226	35.816	0.159	0.012	2.57	98	0.9	-	3.92	-0.02	85	246	75	68
227	35.976	0.160	0.012	2.55	98	1.0	-	3.91	-0.01	85	244	75	68
228	36.139	0.163	0.012	2.57	98	0.9	-	3.88	-0.03	85	244	75	68
229	36.298	0.159	0.012	2.56	98	1.0	-	3.87	-0.01	85	243	75	68
230	36.465	0.167	0.012	2.56	98	1.0	101	3.85	-0.02	85	240	75	68
231	36.627	0.162	0.012	2.56	98	0.9	-	3.84	-0.01	84	239	75	68
232	36.786	0.159	0.012	2.56	98	0.9	-	3.82	-0.02	85	238	75	68
233	36.948	0.162	0.012	2.56	98	1.0	-	3.80	-0.02	84	237	75	68
234	37.108	0.160	0.012	2.57	98	0.9	-	3.78	-0.02	84	237	75	68
235	37.273	0.165	0.012	2.57	98	1.0	-	3.76	-0.02	84	237	75	68
236	37.437	0.164	0.012	2.57	98	1.0	-	3.75	-0.01	84	236	75	68
237	37.592	0.155	0.012	2.56	98	0.9	-	3.72	-0.03	84	236	75	68
238	37.760	0.168	0.012	2.57	98	0.9	-	3.70	-0.02	84	236	75	68
239	37.917	0.157	0.012	2.57	98	1.0	-	3.68	-0.02	84	235	75	68
240	38.080	0.163	0.012	2.57	98	0.9	100	3.67	-0.01	84	235	75	68
241	38.243	0.163	0.012	2.56	98	1.0	-	3.64	-0.03	84	234	75	68
242	38.406	0.163	0.012	2.57	98	0.9	-	3.63	-0.01	84	233	75	68
243	38.567	0.161	0.012	2.56	98	0.9	-	3.62	-0.01	84	233	74	68
244	38.729	0.162	0.012	2.57	98	0.9	-	3.59	-0.03	83	232	74	67
245	38.890	0.161	0.012	2.57	98	0.9	-	3.58	-0.01	83	232	74	67
246	39.055	0.165	0.012	2.56	98	0.9	-	3.56	-0.02	84	232	74	68
247	39.212	0.157	0.012	2.57	98	0.9	-	3.54	-0.02	83	232	74	67
248	39.375	0.163	0.012	2.57	98	0.9	-	3.52	-0.02	83	231	74	67
249	39.540	0.165	0.012	2.57	98	0.9	-	3.50	-0.02	83	230	74	67
250	39.700	0.160	0.012	2.57	98	0.9	101	3.48	-0.02	83	230	74	68
251	39.863	0.163	0.012	2.57	98	0.9	-	3.47	-0.01	84	230	74	67
252	40.026	0.163	0.012	2.56	98	0.9	-	3.45	-0.02	83	230	74	67
253	40.184	0.158	0.012	2.57	98	0.9	-	3.43	-0.02	83	229	74	68
254	40.350	0.166	0.013	2.57	98	0.9	-	3.41	-0.02	83	228	74	68
255	40.509	0.159	0.012	2.57	98	0.9	-	3.39	-0.02	83	229	74	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	40.672	0.163	0.012	2.56	98	1.0	-	3.38	-0.01	83	229	74	67
257	40.833	0.161	0.012	2.58	98	0.9	-	3.36	-0.02	83	229	74	67
258	40.990	0.157	0.013	2.56	98	1.0	-	3.34	-0.02	83	229	74	68
259	41.156	0.166	0.012	2.56	98	1.0	-	3.33	-0.01	83	229	74	68
260	41.319	0.163	0.012	2.57	98	0.9	100	3.31	-0.02	83	229	74	68
261	41.478	0.159	0.012	2.57	98	1.0	-	3.28	-0.03	83	228	74	67
262	41.643	0.165	0.012	2.56	98	1.0	-	3.27	-0.01	83	227	74	67
263	41.804	0.161	0.012	2.58	98	0.9	-	3.25	-0.02	83	227	74	67
264	41.963	0.159	0.012	2.56	98	0.9	-	3.24	-0.01	83	227	74	67
265	42.127	0.164	0.012	2.57	98	0.9	-	3.22	-0.02	83	226	74	67
266	42.287	0.160	0.012	2.56	98	1.0	-	3.20	-0.02	83	225	74	67
267	42.453	0.166	0.012	2.56	98	1.0	-	3.19	-0.01	83	225	74	67
268	42.610	0.157	0.012	2.57	98	0.9	-	3.16	-0.03	83	225	74	67
269	42.775	0.165	0.012	2.57	98	0.9	-	3.15	-0.01	83	225	74	67
270	42.938	0.163	0.012	2.57	98	0.9	100	3.13	-0.02	83	224	74	67
271	43.098	0.160	0.012	2.57	98	0.9	-	3.11	-0.02	82	224	74	67
272	43.258	0.160	0.012	2.56	98	0.9	-	3.09	-0.02	82	224	74	67
273	43.423	0.165	0.012	2.56	98	0.9	-	3.08	-0.01	82	224	74	67
274	43.582	0.159	0.012	2.57	98	1.0	-	3.06	-0.02	82	224	74	67
275	43.745	0.163	0.012	2.56	98	1.0	-	3.05	-0.01	82	224	74	67
276	43.906	0.161	0.012	2.56	98	1.0	-	3.03	-0.02	82	224	74	67
277	44.066	0.160	0.012	2.56	98	0.9	-	3.01	-0.02	82	224	74	67
278	44.230	0.164	0.012	2.56	98	0.9	-	2.99	-0.02	82	224	73	67
279	44.387	0.157	0.012	2.57	98	0.9	-	2.98	-0.01	82	224	73	67
280	44.556	0.169	0.012	2.58	98	0.9	100	2.96	-0.02	82	224	73	67
281	44.712	0.156	0.012	2.55	98	1.0	-	2.94	-0.02	82	224	73	67
282	44.877	0.165	0.012	2.57	98	0.9	-	2.94	0.00	82	225	73	67
283	45.040	0.163	0.012	2.56	98	0.9	-	2.92	-0.02	82	224	73	67
284	45.197	0.157	0.012	2.57	98	1.0	-	2.91	-0.01	82	224	73	67
285	45.362	0.165	0.012	2.57	98	1.0	-	2.88	-0.03	82	223	73	67
286	45.523	0.161	0.012	2.57	98	0.9	-	2.87	-0.01	82	223	73	67
287	45.684	0.161	0.012	2.57	98	0.9	-	2.86	-0.01	82	223	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	45.849	0.165	0.012	2.55	98	1.0	-	2.85	-0.01	82	222	73	67
289	46.005	0.156	0.012	2.56	98	1.0	-	2.83	-0.02	82	222	73	67
290	46.171	0.166	0.012	2.55	98	1.0	100	2.81	-0.02	82	221	73	67
291	46.334	0.163	0.012	2.57	98	1.0	-	2.79	-0.02	82	221	73	67
292	46.490	0.156	0.012	2.56	98	0.9	-	2.78	-0.01	82	221	73	67
293	46.655	0.165	0.012	2.57	98	0.9	-	2.77	-0.01	82	221	73	67
294	46.819	0.164	0.012	2.55	98	1.0	-	2.75	-0.02	82	220	73	67
295	46.977	0.158	0.012	2.57	98	0.9	-	2.74	-0.01	82	220	73	67
296	47.140	0.163	0.012	2.56	98	0.9	-	2.72	-0.02	82	220	73	67
297	47.303	0.163	0.012	2.57	98	0.9	-	2.71	-0.01	82	221	73	67
298	47.462	0.159	0.012	2.55	98	0.9	-	2.69	-0.02	82	220	73	67
299	47.629	0.167	0.012	2.58	98	1.0	-	2.68	-0.01	82	220	73	67
300	47.787	0.158	0.012	2.56	98	0.9	100	2.67	-0.01	82	220	73	67
301	47.950	0.163	0.012	2.56	98	1.0	-	2.65	-0.02	82	220	73	67
302	48.109	0.159	0.013	2.56	98	0.9	-	2.64	-0.01	82	219	73	67
303	48.271	0.162	0.013	2.56	98	0.9	-	2.62	-0.02	82	219	73	67
304	48.435	0.164	0.012	2.56	98	0.9	-	2.61	-0.01	82	218	73	67
305	48.597	0.162	0.012	2.57	98	0.9	-	2.60	-0.01	82	218	73	67
306	48.757	0.160	0.012	2.57	98	0.9	-	2.58	-0.02	81	218	73	67
307	48.923	0.166	0.012	2.56	98	0.9	-	2.57	-0.01	81	217	73	67
308	49.081	0.158	0.012	2.56	98	1.0	-	2.56	-0.01	82	218	73	67
309	49.244	0.163	0.012	2.57	98	1.0	-	2.54	-0.02	81	217	73	67
310	49.406	0.162	0.012	2.57	98	0.9	100	2.53	-0.01	81	217	73	67
311	49.568	0.162	0.013	2.56	98	0.9	-	2.52	-0.01	81	216	73	67
312	49.729	0.161	0.012	2.57	98	0.9	-	2.50	-0.02	81	216	73	67
313	49.891	0.162	0.012	2.57	98	1.0	-	2.49	-0.01	81	215	73	67
314	50.054	0.163	0.012	2.57	98	0.9	-	2.48	-0.01	81	215	73	67
315	50.216	0.162	0.012	2.55	98	1.0	-	2.46	-0.02	81	215	73	67
316	50.376	0.160	0.012	2.57	98	1.0	-	2.44	-0.02	81	215	73	67
317	50.541	0.165	0.012	2.57	98	1.0	-	2.43	-0.01	81	214	73	67
318	50.700	0.159	0.012	2.58	98	0.9	-	2.42	-0.01	81	214	73	67
319	50.862	0.162	0.012	2.56	98	1.0	-	2.40	-0.02	81	215	73	67

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	51.026	0.164	0.012	2.58	98	0.9	100	2.38	-0.02	81	214	73	67
321	51.184	0.158	0.012	2.56	98	0.9	-	2.36	-0.02	81	214	73	67
322	51.350	0.166	0.012	2.56	98	1.0	-	2.36	0.00	81	214	73	67
323	51.508	0.158	0.012	2.56	97	0.9	-	2.34	-0.02	81	213	73	67
324	51.671	0.163	0.012	2.57	98	0.9	-	2.33	-0.01	81	213	73	67
325	51.834	0.163	0.012	2.56	97	0.9	-	2.31	-0.02	81	213	73	67
326	51.993	0.159	0.012	2.57	97	0.9	-	2.30	-0.01	81	213	73	67
327	52.153	0.160	0.012	2.56	97	0.9	-	2.28	-0.02	81	213	73	67
328	52.316	0.163	0.012	2.56	98	0.9	-	2.26	-0.02	81	213	73	67
329	52.478	0.162	0.012	2.56	98	1.0	-	2.25	-0.01	81	212	73	67
330	52.643	0.165	0.012	2.56	97	1.0	100	2.23	-0.02	81	212	73	67
331	52.801	0.158	0.012	2.56	97	0.9	-	2.22	-0.01	81	213	73	67
332	52.964	0.163	0.012	2.57	97	0.9	-	2.21	-0.01	81	213	73	67
333	53.125	0.161	0.012	2.56	97	0.9	-	2.19	-0.02	81	212	72	67
334	53.286	0.161	0.012	2.55	97	1.0	-	2.18	-0.01	81	212	72	67
335	53.450	0.164	0.012	2.57	97	1.0	-	2.16	-0.02	81	212	72	67
336	53.608	0.158	0.012	2.55	97	0.9	-	2.15	-0.01	81	212	73	67
337	53.772	0.164	0.012	2.56	97	0.9	-	2.13	-0.02	81	212	72	67
338	53.936	0.164	0.012	2.56	97	0.9	-	2.12	-0.01	81	212	73	67
339	54.096	0.160	0.012	2.56	97	1.0	-	2.10	-0.02	81	212	73	67
340	54.255	0.159	0.012	2.56	97	0.9	100	2.08	-0.02	81	212	73	67
341	54.418	0.163	0.012	2.56	97	1.0	-	2.07	-0.01	80	211	72	67
342	54.577	0.159	0.012	2.57	97	0.9	-	2.05	-0.02	81	211	72	67
343	54.742	0.165	0.012	2.56	97	1.0	-	2.03	-0.02	81	212	72	67
344	54.903	0.161	0.012	2.57	97	0.9	-	2.02	-0.01	81	212	72	67
345	55.066	0.163	0.012	2.56	97	0.9	-	2.01	-0.01	81	212	72	67
346	55.229	0.163	0.012	2.57	97	0.9	-	1.99	-0.02	80	212	72	67
347	55.388	0.159	0.012	2.56	97	0.9	-	1.98	-0.01	81	212	72	67
348	55.551	0.163	0.012	2.56	97	0.9	-	1.95	-0.03	81	212	72	67
349	55.713	0.162	0.012	2.57	97	1.0	-	1.95	0.00	81	212	72	67
350	55.871	0.158	0.012	2.57	97	0.9	100	1.93	-0.02	81	212	72	67
351	56.034	0.163	0.012	2.56	97	1.0	-	1.91	-0.02	81	212	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	56.194	0.160	0.012	2.56	97	1.0	-	1.90	-0.01	81	212	72	67
353	56.355	0.161	0.012	2.55	97	0.9	-	1.89	-0.01	81	212	72	67
354	56.520	0.165	0.012	2.56	97	0.9	-	1.87	-0.02	80	212	72	66
355	56.677	0.157	0.012	2.56	97	1.0	-	1.86	-0.01	81	211	72	66
356	56.843	0.166	0.012	2.55	97	0.9	-	1.84	-0.02	80	211	72	66
357	57.002	0.159	0.013	2.57	97	0.9	-	1.83	-0.01	80	211	72	66
358	57.164	0.162	0.012	2.57	97	1.0	-	1.81	-0.02	81	211	72	66
359	57.327	0.163	0.012	2.57	97	1.0	-	1.80	-0.01	80	211	72	66
360	57.489	0.162	0.012	2.55	97	0.9	100	1.78	-0.02	81	212	72	66
361	57.652	0.163	0.012	2.55	97	0.9	-	1.76	-0.02	80	211	72	66
362	57.814	0.162	0.013	2.56	97	1.0	-	1.75	-0.01	80	211	72	66
363	57.971	0.157	0.012	2.56	97	0.9	-	1.73	-0.02	81	211	72	66
364	58.138	0.167	0.012	2.56	97	0.9	-	1.72	-0.01	81	211	72	66
365	58.296	0.158	0.012	2.56	97	1.0	-	1.70	-0.02	80	211	72	66
366	58.459	0.163	0.012	2.55	97	1.0	-	1.69	-0.01	80	211	72	66
367	58.622	0.163	0.012	2.56	97	0.9	-	1.67	-0.02	81	212	72	66
368	58.780	0.158	0.012	2.56	97	0.9	-	1.66	-0.01	81	212	72	66
369	58.943	0.163	0.012	2.56	97	0.9	-	1.65	-0.01	81	212	72	66
370	59.101	0.158	0.012	2.56	97	0.9	100	1.63	-0.02	80	212	72	66
371	59.267	0.166	0.012	2.56	97	1.0	-	1.62	-0.01	80	211	72	66
372	59.429	0.162	0.012	2.56	97	1.0	-	1.61	-0.01	80	211	72	66
373	59.586	0.157	0.012	2.57	97	1.0	-	1.59	-0.02	80	211	72	66
374	59.751	0.165	0.012	2.56	97	1.0	-	1.57	-0.02	80	211	72	66
375	59.911	0.160	0.012	2.55	97	0.9	-	1.56	-0.01	80	212	72	66
376	60.070	0.159	0.012	2.56	97	0.9	-	1.54	-0.02	80	212	72	66
377	60.235	0.165	0.012	2.56	97	0.9	-	1.53	-0.01	80	211	72	66
378	60.393	0.158	0.012	2.56	97	0.9	-	1.52	-0.01	80	211	72	66
379	60.558	0.165	0.012	2.55	97	1.0	-	1.49	-0.03	80	212	72	66
380	60.719	0.161	0.012	2.56	97	0.9	100	1.48	-0.01	80	212	72	66
381	60.880	0.161	0.012	2.56	97	0.9	-	1.47	-0.01	80	211	72	66
382	61.042	0.162	0.012	2.56	97	0.9	-	1.45	-0.02	80	212	72	66
383	61.204	0.162	0.012	2.55	97	1.0	-	1.43	-0.02	80	213	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	61.366	0.162	0.012	2.56	97	0.9	-	1.41	-0.02	80	212	72	66
385	61.526	0.160	0.012	2.56	97	0.9	-	1.40	-0.01	80	212	72	66
386	61.689	0.163	0.012	2.57	97	1.0	-	1.38	-0.02	80	213	72	66
387	61.850	0.161	0.012	2.56	97	0.9	-	1.37	-0.01	80	212	72	66
388	62.011	0.161	0.012	2.55	97	0.9	-	1.36	-0.01	80	212	72	66
389	62.172	0.161	0.012	2.56	97	0.9	-	1.34	-0.02	80	213	72	66
390	62.337	0.165	0.012	2.56	97	0.9	100	1.32	-0.02	80	213	72	66
391	62.496	0.159	0.012	2.56	97	1.0	-	1.30	-0.02	80	213	72	66
392	62.656	0.160	0.012	2.55	97	1.0	-	1.29	-0.01	80	213	72	66
393	62.821	0.165	0.012	2.56	97	1.0	-	1.27	-0.02	80	212	72	66
394	62.977	0.156	0.012	2.55	97	1.0	-	1.26	-0.01	80	213	72	66
395	63.144	0.167	0.012	2.56	97	1.0	-	1.24	-0.02	80	212	72	66
396	63.301	0.157	0.012	2.55	97	1.0	-	1.22	-0.02	80	213	72	66
397	63.465	0.164	0.012	2.56	97	1.0	-	1.20	-0.02	80	213	72	66
398	63.626	0.161	0.012	2.55	97	0.9	-	1.20	0.00	80	212	72	66
399	63.789	0.163	0.012	2.57	97	0.9	-	1.18	-0.02	80	213	72	66
400	63.948	0.159	0.012	2.56	97	0.9	100	1.16	-0.02	80	214	72	66
401	64.114	0.166	0.012	2.55	97	1.0	-	1.14	-0.02	80	214	72	66
402	64.269	0.155	0.012	2.57	97	0.9	-	1.12	-0.02	80	214	72	66
403	64.437	0.168	0.012	2.56	97	0.9	-	1.11	-0.01	80	214	72	66
404	64.596	0.159	0.012	2.56	97	0.9	-	1.10	-0.01	80	214	72	66
405	64.755	0.159	0.012	2.55	97	0.9	-	1.08	-0.02	80	214	72	66
406	64.918	0.163	0.012	2.56	97	0.9	-	1.06	-0.02	80	214	72	66
407	65.079	0.161	0.012	2.56	97	0.9	-	1.05	-0.01	80	213	72	66
408	65.241	0.162	0.012	2.55	97	0.9	-	1.03	-0.02	80	213	72	66
409	65.404	0.163	0.012	2.55	97	1.0	-	1.02	-0.01	80	213	72	66
410	65.564	0.160	0.012	2.55	97	1.0	100	1.01	-0.01	80	213	72	66
411	65.724	0.160	0.012	2.56	97	0.9	-	0.99	-0.02	80	212	72	66
412	65.884	0.160	0.012	2.56	97	1.0	-	0.97	-0.02	80	213	72	66
413	66.048	0.164	0.012	2.55	97	1.0	-	0.96	-0.01	80	212	72	66
414	66.209	0.161	0.012	2.55	97	0.9	-	0.95	-0.01	80	213	72	66
415	66.370	0.161	0.012	2.56	97	0.9	-	0.93	-0.02	80	212	72	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	66.532	0.162	0.012	2.56	97	1.0	-	0.92	-0.01	80	212	72	66
417	66.694	0.162	0.012	2.55	97	1.0	-	0.90	-0.02	80	213	72	66
418	66.856	0.162	0.012	2.56	97	0.9	-	0.88	-0.02	80	213	72	66
419	67.016	0.160	0.012	2.57	97	0.9	-	0.87	-0.01	80	212	72	66
420	67.174	0.158	0.012	2.56	97	0.9	100	0.85	-0.02	80	212	72	66
421	67.341	0.167	0.012	2.56	97	1.0	-	0.84	-0.01	80	212	72	66
422	67.501	0.160	0.012	2.55	97	0.9	-	0.82	-0.02	80	211	72	66
423	67.662	0.161	0.012	2.56	97	0.9	-	0.81	-0.01	80	212	72	66
424	67.825	0.163	0.012	2.55	97	0.9	-	0.80	-0.01	80	211	72	66
425	67.982	0.157	0.012	2.56	97	0.9	-	0.78	-0.02	80	210	72	66
426	68.146	0.164	0.012	2.55	97	0.9	-	0.76	-0.02	80	210	72	66
427	68.307	0.161	0.012	2.55	97	0.9	-	0.75	-0.01	80	209	72	66
428	68.467	0.160	0.012	2.56	96	0.9	-	0.74	-0.01	80	210	72	66
429	68.630	0.163	0.012	2.56	97	0.9	-	0.72	-0.02	80	209	72	66
430	68.791	0.161	0.012	2.56	97	0.9	100	0.71	-0.01	80	209	72	66
431	68.951	0.160	0.012	2.54	96	1.0	-	0.70	-0.01	80	209	72	66
432	69.116	0.165	0.012	2.55	97	1.0	-	0.68	-0.02	80	209	72	66
433	69.271	0.155	0.012	2.56	97	0.9	-	0.67	-0.01	80	209	72	66
434	69.437	0.166	0.012	2.56	96	0.9	-	0.65	-0.02	80	209	72	66
435	69.595	0.158	0.012	2.55	97	1.0	-	0.64	-0.01	79	208	72	66
436	69.757	0.162	0.012	2.56	96	1.0	-	0.62	-0.02	79	209	72	66
437	69.920	0.163	0.012	2.55	96	0.9	-	0.61	-0.01	80	208	72	66
438	70.079	0.159	0.012	2.55	96	1.0	-	0.59	-0.02	80	208	72	66
439	70.244	0.165	0.012	2.55	96	0.9	-	0.58	-0.01	79	208	72	66
440	70.407	0.163	0.012	2.55	96	0.9	100	0.57	-0.01	79	209	71	66
441	70.562	0.155	0.012	2.54	96	1.0	-	0.55	-0.02	79	208	71	66
442	70.727	0.165	0.012	2.54	96	1.0	-	0.54	-0.01	80	208	72	66
443	70.886	0.159	0.012	2.57	96	0.9	-	0.52	-0.02	80	208	71	66
444	71.047	0.161	0.012	2.55	96	0.9	-	0.51	-0.01	79	208	72	66
445	71.213	0.166	0.012	2.56	96	0.9	-	0.50	-0.01	79	208	71	66
446	71.371	0.158	0.012	2.56	96	1.0	-	0.48	-0.02	79	208	72	66
447	71.536	0.165	0.012	2.56	96	0.9	-	0.47	-0.01	79	208	71	66

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	71.692	0.156	0.012	2.54	96	0.9	-	0.45	-0.02	79	208	71	66
449	71.857	0.165	0.012	2.55	96	0.9	-	0.44	-0.01	79	208	71	66
450	72.019	0.162	0.012	2.55	96	0.9	100	0.42	-0.02	79	208	71	66
451	72.179	0.160	0.012	2.56	96	0.9	-	0.41	-0.01	79	208	71	66
452	72.341	0.162	0.012	2.56	96	1.0	-	0.40	-0.01	79	208	71	66
453	72.503	0.162	0.012	2.57	96	1.0	-	0.38	-0.02	79	208	71	66
454	72.661	0.158	0.012	2.56	96	0.9	-	0.37	-0.01	79	207	71	66
455	72.826	0.165	0.012	2.55	96	1.0	-	0.35	-0.02	79	208	71	66
456	72.983	0.157	0.012	2.55	96	0.9	-	0.34	-0.01	79	208	71	66
457	73.144	0.161	0.012	2.54	96	0.9	-	0.33	-0.01	79	208	71	66
458	73.311	0.167	0.012	2.56	96	0.9	-	0.31	-0.02	79	207	71	66
459	73.465	0.154	0.012	2.54	96	1.0	-	0.30	-0.01	79	208	71	66
460	73.630	0.165	0.012	2.55	96	0.9	100	0.28	-0.02	79	208	71	66
461	73.789	0.159	0.012	2.56	96	1.0	-	0.27	-0.01	79	208	71	66
462	73.951	0.162	0.012	2.56	96	1.0	-	0.26	-0.01	79	208	71	66
463	74.116	0.165	0.012	2.55	96	0.9	-	0.24	-0.02	79	207	71	66
464	74.272	0.156	0.012	2.55	96	1.0	-	0.22	-0.02	79	208	71	66
465	74.436	0.164	0.012	2.56	96	0.9	-	0.21	-0.01	79	208	71	66
466	74.596	0.160	0.012	2.55	96	1.0	-	0.20	-0.01	79	208	71	66
467	74.759	0.163	0.012	2.56	96	0.9	-	0.19	-0.01	79	208	71	65
468	74.923	0.164	0.012	2.55	96	0.9	-	0.18	-0.01	79	207	71	66
469	75.082	0.159	0.012	2.55	96	0.9	-	0.16	-0.02	79	207	71	66
470	75.243	0.161	0.012	2.54	96	0.9	100	0.15	-0.01	79	207	71	66
471	75.407	0.164	0.012	2.55	96	0.9	-	0.13	-0.02	79	206	71	66
472	75.564	0.157	0.012	2.55	96	1.0	-	0.12	-0.01	79	206	71	65
473	75.729	0.165	0.012	2.55	96	0.9	-	0.10	-0.02	79	206	71	65
474	75.888	0.159	0.012	2.55	96	1.0	-	0.09	-0.01	79	206	71	65
475	76.047	0.159	0.012	2.55	96	0.9	-	0.07	-0.02	79	206	71	65
476	76.210	0.163	0.012	2.56	96	1.0	-	0.07	0.00	79	206	71	65
477	76.368	0.158	0.012	2.56	96	0.9	-	0.05	-0.02	79	205	71	65
478	76.533	0.165	0.012	2.55	96	1.0	-	0.04	-0.01	79	206	71	65
479	76.691	0.158	0.012	2.54	96	1.0	-	0.03	-0.01	79	206	71	65

BOX A TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	76.856	0.165	0.012	2.56	96	1.0	100	0.00	-0.03	79	206	71	65
Avg/Tot	76.856	0.160	0.012	2.53	94.0	0.9	100			84.8	263.6	73.8	67.1

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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		0.70	71	1.4		69	-0.058	3.22	0.148
1	0.131	0.131	2.06	71	1.5	-	71	-0.062	2.21	0.131
2	0.275	0.144	2.06	71	1.6	-	72	-0.061	4.54	0.034
3	0.413	0.138	2.05	71	1.5	-	72	-0.062	6.26	0.032
4	0.554	0.141	2.06	71	1.9	-	72	-0.063	8.49	0.036
5	0.693	0.139	2.05	71	1.9	-	72	-0.056	9.85	0.035
6	0.832	0.139	2.06	71	1.5	-	72	-0.055	7.90	0.036
7	0.975	0.143	2.07	71	2.0	-	72	-0.052	5.80	0.030
8	1.109	0.134	2.06	71	1.5	-	73	-0.052	5.34	0.023
9	1.252	0.143	2.07	71	1.9	-	73	-0.052	5.32	0.025
10	1.394	0.142	2.08	72	1.8	98	73	-0.052	5.80	0.027
11	1.533	0.139	2.07	72	1.7	-	73	-0.052	7.91	0.032
12	1.676	0.143	2.08	72	2.0	-	73	-0.053	11.08	0.031
13	1.814	0.138	2.08	72	1.6	-	73	-0.055	12.45	0.308
14	1.955	0.141	2.08	72	2.0	-	73	-0.053	12.67	0.242
15	2.097	0.142	2.08	73	1.5	-	73	-0.055	11.86	0.043
16	2.238	0.141	2.08	73	1.5	-	73	-0.055	10.66	0.038
17	2.378	0.140	2.08	73	1.5	-	73	-0.053	10.44	0.036
18	2.518	0.140	2.08	73	2.0	-	73	-0.055	10.42	0.032
19	2.660	0.142	2.09	74	1.9	-	73	-0.054	10.59	0.032
20	2.798	0.138	2.08	74	1.6	96	74	-0.054	10.52	0.030
21	2.944	0.146	2.08	75	2.0	-	74	-0.054	10.64	0.032
22	3.082	0.138	2.09	75	1.5	-	74	-0.054	10.80	0.028
23	3.226	0.144	2.09	75	1.6	-	74	-0.054	10.99	0.036
24	3.368	0.142	2.09	76	1.8	-	74	-0.054	11.19	0.030
25	3.509	0.141	2.09	76	1.9	-	74	-0.055	11.34	0.030
26	3.651	0.142	2.10	76	2.0	-	74	-0.055	11.50	0.032
27	3.792	0.141	2.09	77	1.7	-	75	-0.055	11.66	0.033
28	3.934	0.142	2.10	77	2.0	-	74	-0.054	11.64	0.033
29	4.078	0.144	2.10	77	1.9	-	74	-0.055	11.89	0.034
30	4.220	0.142	2.11	77	1.6	98	75	-0.055	12.33	0.036
31	4.360	0.140	2.10	78	1.8	-	75	-0.059	12.52	0.030

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	4.503	0.143	2.10	78	1.5	-	75	-0.056	12.70	0.032
33	4.649	0.146	2.11	78	1.5	-	75	-0.054	12.98	0.043
34	4.789	0.140	2.11	78	2.0	-	75	-0.057	13.12	0.036
35	4.933	0.144	2.10	79	1.6	-	75	-0.058	13.01	0.040
36	5.072	0.139	2.11	79	1.7	-	75	-0.057	12.99	0.035
37	5.217	0.145	2.11	79	1.7	-	75	-0.056	12.88	0.037
38	5.359	0.142	2.11	80	1.6	-	75	-0.057	13.09	0.041
39	5.504	0.145	2.11	80	1.5	-	75	-0.057	13.24	0.080
40	5.648	0.144	2.11	80	1.9	100	75	-0.058	13.43	0.146
41	5.790	0.142	2.12	81	1.6	-	75	-0.055	13.52	0.228
42	5.936	0.146	2.12	81	1.5	-	75	-0.056	13.56	0.340
43	6.077	0.141	2.11	81	2.0	-	75	-0.059	13.62	0.418
44	6.222	0.145	2.11	82	2.0	-	75	-0.059	13.68	0.518
45	6.364	0.142	2.12	82	2.0	-	75	-0.060	13.71	0.634
46	6.510	0.146	2.13	82	2.0	-	75	-0.058	13.77	0.714
47	6.651	0.141	2.13	83	1.5	-	75	-0.055	13.77	0.767
48	6.797	0.146	2.12	83	2.0	-	76	-0.060	13.70	0.843
49	6.941	0.144	2.12	83	1.8	-	76	-0.060	13.71	0.861
50	7.081	0.140	2.12	83	1.5	100	76	-0.059	13.77	0.818
51	7.228	0.147	2.13	84	1.8	-	76	-0.059	13.80	0.841
52	7.370	0.142	2.12	84	1.8	-	76	-0.059	13.71	0.958
53	7.517	0.147	2.13	84	1.9	-	76	-0.063	13.72	0.919
54	7.659	0.142	2.13	85	1.8	-	76	-0.058	13.78	0.882
55	7.806	0.147	2.13	85	1.9	-	76	-0.058	13.78	0.963
56	7.948	0.142	2.13	85	2.0	-	76	-0.060	13.76	1.025
57	8.095	0.147	2.13	85	1.9	-	76	-0.059	13.79	1.094
58	8.239	0.144	2.13	86	1.7	-	76	-0.058	13.85	1.133
59	8.387	0.148	2.14	86	1.5	-	76	-0.059	13.86	1.187
60	8.531	0.144	2.13	86	1.7	101	76	-0.059	13.91	1.225
61	8.674	0.143	2.13	86	1.5	-	76	-0.058	13.97	1.306
62	8.821	0.147	2.14	87	1.5	-	76	-0.061	14.04	1.392
63	8.964	0.143	2.14	87	1.6	-	76	-0.060	14.00	1.487

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	9.110	0.146	2.14	87	2.0	-	76	-0.060	14.01	1.517
65	9.252	0.142	2.14	87	1.5	-	76	-0.063	13.93	1.771
66	9.399	0.147	2.14	88	2.0	-	76	-0.062	13.87	1.924
67	9.545	0.146	2.14	88	2.0	-	77	-0.060	13.88	1.955
68	9.689	0.144	2.14	88	1.6	-	77	-0.063	13.79	1.968
69	9.832	0.143	2.14	88	2.0	-	77	-0.059	13.79	2.001
70	9.980	0.148	2.15	88	1.5	101	77	-0.061	13.82	2.028
71	10.127	0.147	2.14	89	1.5	-	77	-0.060	13.80	2.209
72	10.270	0.143	2.15	89	1.5	-	77	-0.062	13.70	2.425
73	10.418	0.148	2.15	89	1.6	-	77	-0.061	13.67	2.569
74	10.563	0.145	2.14	89	1.6	-	77	-0.060	13.68	2.466
75	10.708	0.145	2.14	89	1.6	-	77	-0.062	13.67	2.263
76	10.853	0.145	2.15	90	1.9	-	77	-0.060	13.85	1.921
77	11.000	0.147	2.15	90	2.0	-	77	-0.061	13.80	1.861
78	11.144	0.144	2.15	90	1.8	-	77	-0.059	13.83	1.866
79	11.292	0.148	2.15	90	1.9	-	77	-0.061	13.85	1.784
80	11.433	0.141	2.15	90	2.0	101	77	-0.061	13.89	1.880
81	11.581	0.148	2.15	91	1.8	-	77	-0.060	13.86	2.007
82	11.727	0.146	2.14	91	2.0	-	77	-0.063	13.85	2.149
83	11.875	0.148	2.15	91	1.6	-	77	-0.059	13.83	2.241
84	12.018	0.143	2.14	91	2.0	-	77	-0.060	13.77	2.396
85	12.164	0.146	2.15	91	1.9	-	77	-0.059	13.73	2.481
86	12.309	0.145	2.16	91	1.5	-	77	-0.062	13.71	2.649
87	12.457	0.148	2.15	92	1.5	-	77	-0.059	13.67	2.705
88	12.604	0.147	2.15	92	1.5	-	77	-0.062	13.73	2.728
89	12.751	0.147	2.15	92	2.0	-	77	-0.060	13.70	2.595
90	12.896	0.145	2.15	92	1.5	101	77	-0.057	13.68	2.525
91	13.042	0.146	2.15	92	2.0	-	77	-0.057	13.70	2.463
92	13.185	0.143	2.15	92	2.0	-	77	-0.062	13.71	2.399
93	13.331	0.146	2.15	92	2.0	-	77	-0.058	13.68	2.251
94	13.481	0.150	2.15	93	1.7	-	77	-0.057	13.73	2.166
95	13.626	0.145	2.16	93	2.0	-	77	-0.060	13.74	2.060

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	13.774	0.148	2.15	93	1.6	-	77	-0.060	13.74	1.937
97	13.919	0.145	2.16	93	1.5	-	77	-0.058	13.71	2.038
98	14.065	0.146	2.16	93	1.7	-	77	-0.058	13.67	1.980
99	14.209	0.144	2.16	93	1.5	-	77	-0.057	13.73	1.899
100	14.358	0.149	2.16	93	1.5	101	77	-0.060	13.72	2.058
101	14.502	0.144	2.16	93	1.7	-	77	-0.058	13.64	2.213
102	14.650	0.148	2.16	93	1.5	-	77	-0.060	13.53	2.409
103	14.797	0.147	2.16	93	1.8	-	77	-0.059	13.40	2.565
104	14.946	0.149	2.16	93	1.8	-	77	-0.059	13.32	2.736
105	15.091	0.145	2.16	93	1.5	-	77	-0.056	13.30	2.829
106	15.237	0.146	2.16	94	1.5	-	77	-0.060	13.31	2.787
107	15.382	0.145	2.16	94	1.8	-	77	-0.057	13.31	2.625
108	15.531	0.149	2.16	94	2.0	-	77	-0.059	13.42	2.417
109	15.679	0.148	2.16	94	2.0	-	77	-0.055	13.54	2.178
110	15.827	0.148	2.16	94	1.9	101	77	-0.057	13.58	1.937
111	15.972	0.145	2.16	94	1.5	-	77	-0.056	13.62	1.851
112	16.119	0.147	2.16	94	1.8	-	77	-0.056	13.79	1.644
113	16.263	0.144	2.15	94	1.7	-	77	-0.054	13.71	1.615
114	16.412	0.149	2.16	94	1.5	-	77	-0.057	13.86	1.371
115	16.556	0.144	2.16	94	1.9	-	77	-0.054	13.91	1.405
116	16.704	0.148	2.16	94	1.5	-	77	-0.056	13.92	1.195
117	16.851	0.147	2.16	95	1.9	-	77	-0.057	13.91	1.370
118	16.998	0.147	2.16	95	1.9	-	77	-0.056	13.91	1.311
119	17.144	0.146	2.16	95	1.8	-	77	-0.055	13.99	1.142
120	17.292	0.148	2.16	95	1.5	100	77	-0.054	14.07	1.054
121	17.439	0.147	2.17	95	1.9	-	77	-0.054	14.28	0.572
122	17.586	0.147	2.16	95	1.8	-	78	-0.055	14.23	0.583
123	17.733	0.147	2.16	95	1.5	-	78	-0.056	14.10	0.709
124	17.880	0.147	2.16	95	1.8	-	77	-0.054	14.02	0.824
125	18.029	0.149	2.16	95	1.7	-	77	-0.053	14.01	0.993
126	18.171	0.142	2.16	95	1.9	-	77	-0.056	14.00	1.216
127	18.323	0.152	2.16	95	1.6	-	77	-0.054	13.91	1.450

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	18.468	0.145	2.15	95	1.5	-	77	-0.056	13.88	1.587
129	18.617	0.149	2.16	95	1.8	-	77	-0.056	13.81	1.780
130	18.759	0.142	2.16	95	2.0	100	77	-0.055	13.88	1.711
131	18.910	0.151	2.16	95	1.5	-	77	-0.059	13.86	1.728
132	19.056	0.146	2.16	95	1.6	-	77	-0.055	13.96	1.686
133	19.202	0.146	2.16	95	1.5	-	77	-0.055	13.98	1.669
134	19.350	0.148	2.16	95	1.5	-	77	-0.056	14.08	1.426
135	19.499	0.149	2.16	96	1.9	-	78	-0.055	14.33	1.034
136	19.645	0.146	2.17	96	1.9	-	78	-0.054	14.29	1.053
137	19.793	0.148	2.16	96	1.9	-	78	-0.057	14.27	0.810
138	19.940	0.147	2.17	96	1.5	-	77	-0.058	14.33	0.503
139	20.087	0.147	2.16	96	2.0	-	78	-0.053	14.20	0.378
140	20.232	0.145	2.17	96	2.0	101	77	-0.051	14.26	0.251
141	20.378	0.146	2.16	96	1.7	-	78	-0.053	14.21	0.107
142	20.528	0.150	2.17	96	2.0	-	77	-0.052	13.66	0.256
143	20.675	0.147	2.16	96	2.0	-	77	-0.056	13.27	0.358
144	20.823	0.148	2.17	96	1.8	-	77	-0.052	13.22	0.267
145	20.968	0.145	2.16	96	1.5	-	77	-0.056	13.17	0.401
146	21.116	0.148	2.16	96	1.7	-	77	-0.054	12.92	0.332
147	21.263	0.147	2.16	96	1.5	-	77	-0.052	12.81	0.290
148	21.409	0.146	2.17	96	1.6	-	77	-0.054	12.75	0.235
149	21.557	0.148	2.17	96	2.0	-	77	-0.050	12.57	0.055
150	21.704	0.147	2.17	96	1.9	101	77	-0.050	12.81	0.022
151	21.850	0.146	2.17	96	1.5	-	77	-0.055	12.39	0.024
152	22.001	0.151	2.17	96	1.8	-	77	-0.051	11.55	0.020
153	22.147	0.146	2.17	96	1.5	-	77	-0.051	11.23	0.010
154	22.294	0.147	2.17	96	1.6	-	77	-0.051	11.04	0.016
155	22.441	0.147	2.17	96	1.5	-	77	-0.050	10.93	0.016
156	22.588	0.147	2.17	96	1.5	-	77	-0.049	10.84	0.016
157	22.736	0.148	2.17	96	1.6	-	77	-0.049	10.91	0.011
158	22.883	0.147	2.17	96	1.6	-	77	-0.047	10.92	0.014
159	23.031	0.148	2.16	96	1.5	-	77	-0.049	10.87	0.013

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	23.177	0.146	2.17	96	1.6	101	77	-0.049	10.59	0.013
161	23.325	0.148	2.16	96	1.7	-	77	-0.047	10.20	0.013
162	23.471	0.146	2.16	96	1.6	-	77	-0.051	10.19	0.015
163	23.619	0.148	2.16	96	1.5	-	77	-0.046	10.21	0.011
164	23.766	0.147	2.16	96	1.7	-	77	-0.050	10.24	0.013
165	23.914	0.148	2.17	97	1.9	-	77	-0.047	10.17	0.015
166	24.064	0.150	2.16	97	1.8	-	77	-0.049	10.17	0.010
167	24.207	0.143	2.17	97	1.9	-	77	-0.049	10.05	0.013
168	24.358	0.151	2.17	97	1.5	-	77	-0.049	10.09	0.015
169	24.504	0.146	2.16	97	1.5	-	77	-0.046	10.15	0.013
170	24.651	0.147	2.17	97	1.7	98	77	-0.047	10.33	0.013
171	24.798	0.147	2.17	97	1.9	-	77	-0.046	10.47	0.014
172	24.946	0.148	2.17	97	1.7	-	77	-0.049	10.61	0.013
173	25.095	0.149	2.17	97	1.9	-	77	-0.045	10.61	0.014
174	25.241	0.146	2.17	97	2.0	-	77	-0.047	10.70	0.010
175	25.390	0.149	2.17	97	1.6	-	77	-0.047	10.72	0.014
176	25.535	0.145	2.17	97	1.6	-	77	-0.045	10.94	0.015
177	25.685	0.150	2.17	97	1.7	-	77	-0.052	11.13	0.015
178	25.833	0.148	2.17	97	2.0	-	77	-0.048	11.11	0.019
179	25.978	0.145	2.17	97	1.6	-	77	-0.047	11.20	0.014
180	26.127	0.149	2.17	97	1.5	98	77	-0.047	11.38	0.013
181	26.275	0.148	2.17	97	1.5	-	77	-0.047	11.51	0.012
182	26.421	0.146	2.17	97	1.6	-	77	-0.047	11.34	0.015
183	26.568	0.147	2.16	97	2.0	-	77	-0.047	11.12	0.014
184	26.716	0.148	2.16	97	1.6	-	77	-0.046	11.16	0.013
185	26.865	0.149	2.17	97	1.6	-	77	-0.046	11.32	0.013
186	27.009	0.144	2.17	97	1.8	-	76	-0.046	11.24	0.016
187	27.161	0.152	2.17	97	1.9	-	77	-0.045	11.00	0.014
188	27.304	0.143	2.16	97	1.9	-	76	-0.046	10.86	0.017
189	27.455	0.151	2.17	97	1.8	-	76	-0.045	10.65	0.014
190	27.599	0.144	2.17	97	1.9	100	76	-0.045	10.68	0.013
191	27.751	0.152	2.18	97	2.1	-	76	-0.043	10.62	0.016

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	27.895	0.144	2.17	97	1.5	-	76	-0.044	10.58	0.014
193	28.047	0.152	2.17	97	2.0	-	76	-0.046	10.64	0.014
194	28.193	0.146	2.18	97	1.9	-	76	-0.047	10.61	0.016
195	28.342	0.149	2.17	97	1.8	-	76	-0.045	10.59	0.012
196	28.487	0.145	2.16	97	1.7	-	76	-0.044	10.57	0.013
197	28.635	0.148	2.17	97	1.6	-	76	-0.045	10.55	0.012
198	28.782	0.147	2.17	97	1.8	-	76	-0.043	10.53	0.011
199	28.932	0.150	2.17	97	1.9	-	76	-0.045	10.46	0.011
200	29.075	0.143	2.17	97	2.0	100	76	-0.046	10.50	0.012
201	29.224	0.149	2.18	97	2.0	-	76	-0.042	10.48	0.010
202	29.370	0.146	2.17	97	1.6	-	76	-0.042	10.43	0.015
203	29.519	0.149	2.16	97	1.6	-	76	-0.043	10.41	0.010
204	29.665	0.146	2.17	97	1.5	-	76	-0.044	10.50	0.015
205	29.817	0.152	2.17	97	1.9	-	76	-0.042	10.56	0.011
206	29.962	0.145	2.16	97	1.5	-	76	-0.042	10.56	0.013
207	30.112	0.150	2.17	97	2.0	-	76	-0.040	10.59	0.014
208	30.258	0.146	2.17	97	2.0	-	76	-0.047	10.61	0.013
209	30.405	0.147	2.17	97	1.6	-	76	-0.043	10.75	0.014
210	30.551	0.146	2.17	97	1.5	100	76	-0.043	10.63	0.013
211	30.700	0.149	2.17	97	1.5	-	76	-0.043	10.61	0.011
212	30.847	0.147	2.17	97	1.7	-	76	-0.041	10.54	0.011
213	30.996	0.149	2.17	97	1.5	-	76	-0.043	10.46	0.011
214	31.145	0.149	2.18	97	1.8	-	76	-0.044	10.34	0.013
215	31.294	0.149	2.17	97	1.6	-	76	-0.041	10.19	0.013
216	31.441	0.147	2.16	97	1.5	-	76	-0.042	9.98	0.011
217	31.589	0.148	2.17	97	2.0	-	76	-0.042	10.01	0.011
218	31.733	0.144	2.17	97	2.0	-	76	-0.040	9.96	0.013
219	31.881	0.148	2.17	97	1.8	-	76	-0.043	9.64	0.010
220	32.029	0.148	2.17	97	2.0	100	76	-0.043	9.59	0.010
221	32.179	0.150	2.17	97	1.5	-	76	-0.042	9.43	0.012
222	32.326	0.147	2.17	97	1.5	-	75	-0.042	9.33	0.009
223	32.470	0.144	2.17	97	1.7	-	75	-0.041	9.24	0.010

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	32.621	0.151	2.17	97	2.0	-	76	-0.039	9.17	0.010
225	32.768	0.147	2.17	97	1.5	-	75	-0.042	9.06	0.009
226	32.916	0.148	2.17	97	1.7	-	75	-0.043	9.09	0.009
227	33.060	0.144	2.17	97	1.5	-	75	-0.041	8.95	0.013
228	33.209	0.149	2.17	97	1.6	-	75	-0.040	8.96	0.008
229	33.356	0.147	2.17	97	2.0	-	75	-0.041	9.05	0.012
230	33.507	0.151	2.17	97	1.5	100	75	-0.039	9.05	0.012
231	33.653	0.146	2.17	97	1.5	-	75	-0.040	9.16	0.014
232	33.803	0.150	2.17	97	1.6	-	75	-0.037	9.22	0.013
233	33.946	0.143	2.17	97	1.5	-	75	-0.038	9.23	0.012
234	34.096	0.150	2.17	97	1.6	-	75	-0.040	9.20	0.011
235	34.244	0.148	2.17	97	1.5	-	75	-0.039	9.13	0.011
236	34.394	0.150	2.17	97	2.0	-	75	-0.040	9.30	0.012
237	34.537	0.143	2.17	97	2.0	-	75	-0.037	9.34	0.010
238	34.689	0.152	2.17	97	1.5	-	75	-0.036	9.30	0.013
239	34.832	0.143	2.16	97	1.8	-	75	-0.037	9.27	0.010
240	34.982	0.150	2.17	97	1.5	100	75	-0.038	9.31	0.009
241	35.127	0.145	2.17	97	1.7	-	75	-0.036	9.27	0.014
242	35.280	0.153	2.17	97	1.6	-	75	-0.038	9.30	0.012
243	35.425	0.145	2.17	97	1.6	-	75	-0.039	9.30	0.011
244	35.572	0.147	2.17	97	1.6	-	75	-0.039	9.32	0.011
245	35.720	0.148	2.17	97	1.6	-	75	-0.037	9.35	0.010
246	35.870	0.150	2.17	97	1.6	-	75	-0.036	9.38	0.009
247	36.012	0.142	2.17	97	1.5	-	75	-0.037	9.32	0.013
248	36.162	0.150	2.16	97	1.8	-	75	-0.039	9.32	0.011
249	36.310	0.148	2.16	97	1.9	-	75	-0.039	9.36	0.008
250	36.459	0.149	2.17	97	1.9	100	75	-0.038	9.23	0.013
251	36.605	0.146	2.16	97	2.0	-	75	-0.037	9.29	0.009
252	36.755	0.150	2.17	97	1.9	-	75	-0.037	9.30	0.013
253	36.901	0.146	2.17	97	1.7	-	75	-0.036	9.43	0.010
254	37.050	0.149	2.17	97	1.6	-	75	-0.038	9.32	0.017
255	37.196	0.146	2.18	97	2.0	-	75	-0.036	9.30	0.012

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	37.345	0.149	2.17	97	2.0	-	75	-0.039	9.23	0.009
257	37.489	0.144	2.17	97	1.8	-	75	-0.037	9.32	0.011
258	37.639	0.150	2.17	97	1.5	-	75	-0.035	9.33	0.009
259	37.785	0.146	2.17	97	1.5	-	75	-0.036	9.29	0.010
260	37.936	0.151	2.17	97	1.8	100	75	-0.039	9.29	0.016
261	38.080	0.144	2.16	97	2.1	-	74	-0.040	9.30	0.010
262	38.231	0.151	2.18	97	1.5	-	74	-0.036	9.27	0.012
263	38.378	0.147	2.17	97	1.9	-	74	-0.037	9.38	0.009
264	38.523	0.145	2.17	97	2.0	-	74	-0.039	9.36	0.012
265	38.671	0.148	2.17	97	1.7	-	74	-0.037	9.36	0.010
266	38.821	0.150	2.17	97	1.5	-	74	-0.036	9.42	0.015
267	38.969	0.148	2.18	97	1.9	-	74	-0.037	9.36	0.010
268	39.113	0.144	2.17	97	1.5	-	74	-0.036	9.48	0.012
269	39.264	0.151	2.17	97	1.6	-	74	-0.036	9.48	0.009
270	39.411	0.147	2.17	97	1.9	100	74	-0.036	9.36	0.019
271	39.558	0.147	2.17	97	1.5	-	74	-0.036	9.43	0.013
272	39.702	0.144	2.17	97	1.7	-	74	-0.037	9.41	0.014
273	39.853	0.151	2.17	97	1.5	-	74	-0.036	9.41	0.020
274	40.000	0.147	2.17	97	1.7	-	74	-0.036	9.27	0.011
275	40.147	0.147	2.17	97	2.0	-	74	-0.036	9.30	0.013
276	40.295	0.148	2.17	96	1.7	-	74	-0.038	9.32	0.015
277	40.442	0.147	2.17	97	2.0	-	74	-0.039	9.31	0.011
278	40.588	0.146	2.18	96	1.9	-	74	-0.039	9.39	0.011
279	40.738	0.150	2.17	96	1.7	-	74	-0.035	8.75	0.014
280	40.885	0.147	2.17	96	1.5	100	74	-0.037	8.75	0.014
281	41.033	0.148	2.17	96	2.0	-	74	-0.036	8.76	0.013
282	41.181	0.148	2.17	96	1.5	-	74	-0.038	8.69	0.013
283	41.331	0.150	2.17	96	1.7	-	74	-0.038	8.68	0.013
284	41.473	0.142	2.16	96	2.0	-	74	-0.040	8.66	0.013
285	41.625	0.152	2.17	96	1.5	-	74	-0.035	8.65	0.015
286	41.768	0.143	2.17	96	1.6	-	74	-0.038	8.62	0.013
287	41.920	0.152	2.17	96	1.8	-	74	-0.039	8.60	0.015

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	42.066	0.146	2.17	96	1.5	-	74	-0.037	8.54	0.016
289	42.213	0.147	2.17	96	1.9	-	74	-0.038	8.55	0.018
290	42.361	0.148	2.17	96	1.7	100	74	-0.036	8.62	0.012
291	42.511	0.150	2.17	96	1.5	-	74	-0.038	8.62	0.010
292	42.653	0.142	2.17	96	1.7	-	74	-0.039	8.59	0.016
293	42.802	0.149	2.17	96	2.0	-	74	-0.035	8.56	0.018
294	42.950	0.148	2.17	96	1.8	-	74	-0.037	8.50	0.016
295	43.098	0.148	2.18	96	2.0	-	74	-0.037	8.43	0.010
296	43.244	0.146	2.18	96	1.5	-	74	-0.036	8.48	0.013
297	43.396	0.152	2.17	96	1.5	-	74	-0.039	8.18	0.008
298	43.539	0.143	2.17	96	1.7	-	74	-0.035	8.24	0.011
299	43.691	0.152	2.17	96	1.6	-	74	-0.038	8.07	0.011
300	43.836	0.145	2.17	96	1.5	100	74	-0.037	8.14	0.014
301	43.984	0.148	2.17	96	1.9	-	74	-0.037	8.13	0.012
302	44.131	0.147	2.17	96	2.0	-	74	-0.038	8.14	0.018
303	44.280	0.149	2.18	96	2.0	-	74	-0.037	8.14	0.008
304	44.426	0.146	2.17	96	2.0	-	74	-0.037	8.14	0.013
305	44.577	0.151	2.17	96	1.5	-	74	-0.034	8.20	0.013
306	44.721	0.144	2.17	96	1.5	-	74	-0.037	8.26	0.015
307	44.872	0.151	2.17	96	2.0	-	74	-0.035	8.19	0.014
308	45.019	0.147	2.17	96	1.4	-	74	-0.034	8.33	0.008
309	45.164	0.145	2.17	96	1.6	-	74	-0.035	8.34	0.012
310	45.314	0.150	2.17	96	1.8	100	74	-0.035	8.34	0.011
311	45.462	0.148	2.17	96	1.6	-	73	-0.035	8.37	0.015
312	45.607	0.145	2.17	96	1.9	-	74	-0.033	8.31	0.011
313	45.757	0.150	2.17	96	1.5	-	74	-0.036	8.35	0.008
314	45.905	0.148	2.17	96	2.0	-	73	-0.035	8.44	0.009
315	46.051	0.146	2.17	96	1.5	-	73	-0.035	8.48	0.013
316	46.199	0.148	2.17	96	2.0	-	73	-0.037	8.51	0.014
317	46.346	0.147	2.17	96	1.5	-	73	-0.034	8.56	0.013
318	46.495	0.149	2.17	96	1.6	-	73	-0.035	8.73	0.014
319	46.641	0.146	2.17	96	1.5	-	73	-0.037	8.66	0.012

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	46.791	0.150	2.18	96	1.5	100	73	-0.036	8.75	0.007
321	46.937	0.146	2.18	96	1.5	-	73	-0.032	8.70	0.015
322	47.086	0.149	2.17	96	1.5	-	73	-0.035	8.74	0.014
323	47.231	0.145	2.17	96	1.7	-	73	-0.034	8.87	0.011
324	47.381	0.150	2.17	96	2.0	-	73	-0.036	8.88	0.016
325	47.527	0.146	2.17	96	2.0	-	73	-0.037	8.89	0.017
326	47.677	0.150	2.18	96	2.0	-	73	-0.035	8.91	0.012
327	47.820	0.143	2.17	96	1.6	-	73	-0.033	8.88	0.015
328	47.970	0.150	2.17	96	1.6	-	73	-0.035	8.88	0.010
329	48.118	0.148	2.17	96	1.9	-	73	-0.033	8.88	0.015
330	48.268	0.150	2.17	96	2.0	100	73	-0.032	8.90	0.016
331	48.413	0.145	2.17	96	1.7	-	73	-0.034	8.90	0.015
332	48.563	0.150	2.17	96	1.5	-	73	-0.035	8.85	0.014
333	48.706	0.143	2.17	96	1.5	-	73	-0.033	8.79	0.015
334	48.858	0.152	2.17	96	1.5	-	73	-0.038	9.02	0.014
335	49.003	0.145	2.16	96	2.0	-	73	-0.031	8.96	0.009
336	49.150	0.147	2.17	96	1.5	-	73	-0.034	9.04	0.015
337	49.298	0.148	2.17	96	2.0	-	73	-0.034	9.05	0.014
338	49.448	0.150	2.17	96	2.0	-	73	-0.035	9.00	0.012
339	49.593	0.145	2.17	96	2.0	-	73	-0.033	9.10	0.014
340	49.741	0.148	2.17	96	2.0	100	73	-0.034	9.05	0.015
341	49.887	0.146	2.17	96	1.8	-	73	-0.036	9.03	0.014
342	50.036	0.149	2.18	96	1.5	-	73	-0.035	8.98	0.016
343	50.182	0.146	2.17	96	1.7	-	73	-0.036	9.07	0.016
344	50.334	0.152	2.18	96	1.5	-	73	-0.036	9.05	0.015
345	50.479	0.145	2.17	96	2.0	-	73	-0.036	9.01	0.012
346	50.629	0.150	2.17	96	1.5	-	73	-0.034	8.95	0.014
347	50.775	0.146	2.17	96	1.7	-	73	-0.036	8.66	0.013
348	50.924	0.149	2.18	96	1.5	-	73	-0.034	8.67	0.012
349	51.071	0.147	2.17	96	1.9	-	73	-0.034	8.66	0.016
350	51.217	0.146	2.17	96	2.0	100	73	-0.033	8.76	0.013
351	51.364	0.147	2.17	96	1.9	-	73	-0.035	8.77	0.012

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	51.512	0.148	2.17	96	1.9	-	73	-0.033	8.70	0.013
353	51.659	0.147	2.17	96	1.9	-	73	-0.034	8.73	0.016
354	51.807	0.148	2.17	96	1.6	-	73	-0.034	8.69	0.012
355	51.954	0.147	2.17	96	1.8	-	73	-0.036	8.78	0.010
356	52.101	0.147	2.17	96	1.5	-	73	-0.036	8.66	0.015
357	52.249	0.148	2.17	96	1.5	-	73	-0.034	8.62	0.013
358	52.395	0.146	2.17	96	1.9	-	73	-0.032	8.83	0.014
359	52.544	0.149	2.16	96	1.5	-	73	-0.032	8.82	0.016
360	52.693	0.149	2.17	96	2.0	100	73	-0.037	8.85	0.016
361	52.841	0.148	2.17	96	1.8	-	73	-0.035	8.80	0.015
362	52.988	0.147	2.16	96	1.9	-	73	-0.034	8.86	0.014
363	53.135	0.147	2.17	96	2.0	-	73	-0.036	8.90	0.017
364	53.283	0.148	2.17	96	1.9	-	73	-0.035	8.86	0.013
365	53.432	0.149	2.17	96	1.8	-	73	-0.035	8.87	0.016
366	53.578	0.146	2.17	96	1.9	-	73	-0.034	8.76	0.014
367	53.727	0.149	2.17	96	1.5	-	73	-0.037	8.88	0.016
368	53.873	0.146	2.17	96	1.5	-	73	-0.034	8.86	0.016
369	54.021	0.148	2.17	96	1.5	-	73	-0.035	8.82	0.014
370	54.167	0.146	2.17	96	2.0	100	73	-0.035	8.90	0.014
371	54.319	0.152	2.17	96	2.0	-	73	-0.035	8.88	0.018
372	54.464	0.145	2.17	96	1.9	-	73	-0.035	8.89	0.015
373	54.611	0.147	2.17	96	2.0	-	73	-0.034	8.95	0.013
374	54.759	0.148	2.16	96	2.0	-	73	-0.035	8.87	0.015
375	54.906	0.147	2.17	96	1.8	-	73	-0.034	8.95	0.014
376	55.051	0.145	2.17	96	1.7	-	73	-0.034	8.94	0.015
377	55.201	0.150	2.17	96	2.0	-	73	-0.034	8.90	0.016
378	55.346	0.145	2.17	96	1.5	-	73	-0.033	9.05	0.015
379	55.498	0.152	2.17	96	1.7	-	73	-0.034	9.05	0.017
380	55.640	0.142	2.16	96	2.0	100	73	-0.033	9.14	0.015
381	55.793	0.153	2.17	96	2.0	-	73	-0.037	9.01	0.016
382	55.936	0.143	2.17	96	1.5	-	73	-0.036	9.03	0.017
383	56.087	0.151	2.17	96	1.5	-	73	-0.035	9.08	0.017

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	56.233	0.146	2.17	96	1.7	-	73	-0.035	9.05	0.017
385	56.380	0.147	2.17	96	1.5	-	73	-0.036	9.08	0.016
386	56.529	0.149	2.17	96	1.5	-	73	-0.035	9.06	0.016
387	56.678	0.149	2.17	96	1.7	-	73	-0.037	9.05	0.021
388	56.822	0.144	2.17	96	2.0	-	73	-0.036	9.10	0.022
389	56.973	0.151	2.17	96	2.0	-	73	-0.032	9.12	0.015
390	57.119	0.146	2.18	96	1.9	100	73	-0.034	9.16	0.012
391	57.268	0.149	2.17	96	1.6	-	73	-0.035	9.17	0.017
392	57.412	0.144	2.16	96	1.5	-	73	-0.035	9.17	0.012
393	57.563	0.151	2.17	96	2.0	-	73	-0.036	9.18	0.016
394	57.707	0.144	2.17	96	1.7	-	73	-0.035	9.18	0.014
395	57.858	0.151	2.17	96	2.0	-	73	-0.034	9.10	0.014
396	58.003	0.145	2.17	96	1.5	-	73	-0.033	9.07	0.016
397	58.153	0.150	2.17	96	1.5	-	73	-0.036	9.04	0.019
398	58.298	0.145	2.17	96	1.5	-	72	-0.034	9.00	0.018
399	58.447	0.149	2.17	96	1.8	-	72	-0.035	9.05	0.019
400	58.592	0.145	2.17	96	1.5	100	73	-0.033	9.16	0.012
401	58.741	0.149	2.17	96	2.0	-	72	-0.035	9.08	0.018
402	58.887	0.146	2.17	96	1.5	-	72	-0.036	8.92	0.019
403	59.036	0.149	2.16	96	1.8	-	72	-0.034	8.79	0.010
404	59.184	0.148	2.17	95	1.6	-	72	-0.037	8.76	0.012
405	59.328	0.144	2.18	95	1.5	-	72	-0.033	8.63	0.016
406	59.477	0.149	2.17	95	1.6	-	72	-0.033	8.72	0.014
407	59.626	0.149	2.17	95	1.7	-	72	-0.033	8.66	0.015
408	59.773	0.147	2.17	96	1.5	-	72	-0.038	8.66	0.023
409	59.921	0.148	2.17	95	2.0	-	72	-0.035	8.70	0.014
410	60.070	0.149	2.17	95	1.7	100	72	-0.035	8.37	0.014
411	60.214	0.144	2.17	95	2.0	-	72	-0.035	8.33	0.016
412	60.363	0.149	2.17	96	1.9	-	72	-0.036	8.35	0.014
413	60.511	0.148	2.17	95	2.0	-	72	-0.035	8.24	0.012
414	60.658	0.147	2.17	95	1.8	-	72	-0.034	8.34	0.018
415	60.806	0.148	2.16	95	1.6	-	72	-0.036	8.29	0.013

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	60.953	0.147	2.17	95	1.6	-	72	-0.036	8.25	0.018
417	61.101	0.148	2.16	95	1.8	-	72	-0.034	8.37	0.013
418	61.250	0.149	2.16	95	1.5	-	72	-0.038	8.43	0.015
419	61.392	0.142	2.17	95	1.7	-	72	-0.033	8.59	0.015
420	61.542	0.150	2.17	95	1.7	100	72	-0.034	8.58	0.015
421	61.690	0.148	2.17	95	1.5	-	72	-0.036	8.46	0.016
422	61.839	0.149	2.17	95	2.0	-	72	-0.037	8.36	0.016
423	61.984	0.145	2.16	95	1.5	-	72	-0.034	8.25	0.015
424	62.134	0.150	2.17	95	1.9	-	72	-0.035	8.38	0.016
425	62.278	0.144	2.17	95	1.5	-	72	-0.033	8.34	0.013
426	62.430	0.152	2.17	95	1.9	-	72	-0.032	8.33	0.012
427	62.573	0.143	2.17	95	1.9	-	72	-0.035	8.33	0.016
428	62.724	0.151	2.17	95	1.7	-	72	-0.034	8.38	0.010
429	62.868	0.144	2.17	95	1.5	-	72	-0.032	8.29	0.016
430	63.019	0.151	2.17	95	1.5	100	72	-0.034	8.22	0.016
431	63.164	0.145	2.17	95	1.9	-	72	-0.036	8.19	0.016
432	63.315	0.151	2.17	95	2.0	-	72	-0.035	8.25	0.018
433	63.458	0.143	2.16	95	1.7	-	72	-0.032	8.25	0.018
434	63.606	0.148	2.17	95	1.5	-	72	-0.032	8.27	0.016
435	63.754	0.148	2.17	95	1.7	-	72	-0.036	8.11	0.017
436	63.900	0.146	2.17	95	1.5	-	72	-0.034	8.21	0.016
437	64.048	0.148	2.16	95	1.9	-	72	-0.033	8.34	0.014
438	64.195	0.147	2.17	95	1.8	-	72	-0.034	8.26	0.016
439	64.345	0.150	2.17	95	1.5	-	72	-0.033	8.30	0.016
440	64.492	0.147	2.17	95	1.7	100	72	-0.033	8.33	0.014
441	64.637	0.145	2.17	95	2.0	-	72	-0.035	8.35	0.017
442	64.783	0.146	2.17	95	1.8	-	72	-0.036	8.16	0.017
443	64.933	0.150	2.17	95	1.7	-	72	-0.034	8.27	0.015
444	65.078	0.145	2.17	95	1.5	-	72	-0.033	8.23	0.017
445	65.230	0.152	2.17	95	1.9	-	72	-0.033	8.28	0.014
446	65.375	0.145	2.17	95	1.8	-	72	-0.034	8.16	0.017
447	65.524	0.149	2.17	95	1.6	-	72	-0.035	8.25	0.015

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	65.668	0.144	2.17	95	1.6	-	72	-0.032	8.33	0.018
449	65.820	0.152	2.17	95	1.8	-	72	-0.035	8.29	0.017
450	65.966	0.146	2.17	95	1.5	100	72	-0.035	8.29	0.020
451	66.116	0.150	2.17	95	1.8	-	72	-0.035	8.29	0.022
452	66.260	0.144	2.17	95	2.0	-	72	-0.034	8.33	0.019
453	66.410	0.150	2.17	95	1.5	-	72	-0.033	8.28	0.017
454	66.555	0.145	2.17	95	2.0	-	72	-0.035	8.21	0.020
455	66.705	0.150	2.17	95	2.1	-	72	-0.032	8.24	0.018
456	66.847	0.142	2.17	95	1.8	-	72	-0.034	8.29	0.017
457	66.997	0.150	2.17	95	1.5	-	72	-0.033	8.36	0.018
458	67.144	0.147	2.17	95	2.0	-	72	-0.034	8.36	0.020
459	67.291	0.147	2.17	95	1.5	-	72	-0.032	8.32	0.019
460	67.436	0.145	2.17	95	1.7	100	72	-0.034	8.18	0.019
461	67.586	0.150	2.17	95	1.8	-	72	-0.036	8.07	0.021
462	67.732	0.146	2.17	95	2.1	-	72	-0.035	7.99	0.018
463	67.883	0.151	2.17	95	1.6	-	72	-0.036	8.03	0.020
464	68.026	0.143	2.17	95	1.6	-	72	-0.035	7.96	0.020
465	68.175	0.149	2.18	95	1.5	-	72	-0.033	8.01	0.017
466	68.322	0.147	2.17	95	2.0	-	72	-0.034	8.04	0.016
467	68.473	0.151	2.17	95	1.6	-	72	-0.033	7.92	0.018
468	68.619	0.146	2.17	95	1.6	-	72	-0.034	8.09	0.015
469	68.768	0.149	2.17	95	1.7	-	72	-0.035	8.01	0.015
470	68.914	0.146	2.17	95	1.9	100	72	-0.036	8.11	0.017
471	69.062	0.148	2.17	95	1.5	-	72	-0.034	8.10	0.017
472	69.209	0.147	2.16	95	2.0	-	72	-0.033	7.96	0.019
473	69.357	0.148	2.17	95	1.5	-	72	-0.036	8.07	0.021
474	69.504	0.147	2.17	95	2.0	-	72	-0.036	8.16	0.021
475	69.648	0.144	2.17	95	1.5	-	72	-0.035	8.09	0.018
476	69.795	0.147	2.17	95	1.6	-	72	-0.036	8.11	0.019
477	69.942	0.147	2.17	95	1.7	-	72	-0.033	8.07	0.017
478	70.090	0.148	2.16	95	1.5	-	72	-0.034	8.00	0.018
479	70.237	0.147	2.17	95	1.5	-	72	-0.035	8.02	0.021

BOX B TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	70.387	0.150	2.17	95	1.8	100	72	-0.033	7.93	0.019
Avg/Tot	70.387	0.147	2.16	93.1	1.7	100	74.5	-0.044	10.28	0.355

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	0.000		0.56	72	2.1		68
1	0.200	0.200	1.75	71	2.3	-	68
2	0.405	0.205	1.76	71	2.3	-	68
3	0.608	0.203	1.77	71	2.3	-	68
4	0.811	0.203	1.77	71	2.5	-	69
5	1.014	0.203	1.78	71	2.4	-	69
6	1.218	0.204	1.79	71	2.5	-	69
7	1.423	0.205	1.81	72	2.5	-	69
8	1.625	0.202	1.81	72	2.4	-	69
9	1.830	0.205	1.82	72	2.4	-	69
10	2.040	0.210	1.81	72	2.5	97	70
11	2.246	0.206	1.82	72	2.4	-	70
12	2.453	0.207	1.82	73	2.4	-	70
13	2.660	0.207	1.82	73	2.4	-	70
14	2.864	0.204	1.82	73	2.6	-	70
15	3.074	0.210	1.83	73	2.5	-	70
16	3.280	0.206	1.83	74	2.4	-	70
17	3.487	0.207	1.83	74	2.6	-	70
18	3.695	0.208	1.82	74	2.6	-	70
19	3.899	0.204	1.83	75	2.6	-	71
20	4.107	0.208	1.83	75	2.4	96	71
21	4.319	0.212	1.84	76	2.4	-	71
22	4.523	0.204	1.84	76	2.5	-	71
23	4.734	0.211	1.84	76	2.6	-	72
24	4.943	0.209	1.85	77	2.4	-	72
25	5.152	0.209	1.85	77	2.5	-	72
26	5.358	0.206	1.86	77	2.4	-	72
27	5.570	0.212	1.86	78	2.6	-	72
28	5.776	0.206	1.86	78	2.6	-	72
29	5.990	0.214	1.86	78	2.6	-	72
30	6.201	0.211	1.87	78	2.4	98	72
31	6.408	0.207	1.87	78	2.4	-	72

BOX C TEST DATA - ASTM E2780 / ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

	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	6.621	0.213	1.87	78	2.6	-	72
33	6.833	0.212	1.88	79	2.6	-	72
34	7.044	0.211	1.88	79	2.6	-	72
35	7.254	0.210	1.88	79	2.6	-	72
36	7.463	0.209	1.88	79	2.6	-	72
37	7.675	0.212	1.89	79	2.6	-	72
38	7.886	0.211	1.89	79	2.5	-	72
39	8.103	0.217	1.89	80	2.6	-	72
40	8.316	0.213	1.90	80	2.6	101	72
41	8.527	0.211	1.89	80	2.6	-	72
42	8.741	0.214	1.90	81	2.6	-	72
43	8.953	0.212	1.90	81	2.6	-	72
44	9.166	0.213	1.89	81	2.6	-	72
45	9.380	0.214	1.90	81	2.6	-	73
46	9.592	0.212	1.90	81	2.4	-	73
47	9.802	0.210	1.90	82	2.4	-	73
48	10.020	0.218	1.91	82	2.6	-	73
49	10.233	0.213	1.90	82	2.5	-	73
50	10.444	0.211	1.90	82	2.6	101	73
51	10.658	0.214	1.91	83	2.6	-	73
52	10.872	0.214	1.91	83	2.6	-	73
53	11.086	0.214	1.91	83	2.4	-	73
54	11.300	0.214	1.90	83	2.4	-	73
55	11.515	0.215	1.91	83	2.6	-	73
56	11.728	0.213	1.91	84	2.6	-	73
57	11.944	0.216	1.91	84	2.6	-	73
58	12.159	0.215	1.92	84	2.5	-	73
59	12.377	0.218	1.91	84	2.6	-	73
60	12.592	0.215	1.92	84	2.6	102	73
Avg/Tot	12.592	0.210	1.84	77.5	2.5	99	71.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
0	370	404	369	474	342	391.9	753.1
1	367	401	370	470	342	389.9	738.0
2	363	397	362	465	342	385.8	723.9
3	358	392	356	459	342	381.4	712.4
4	355	387	351	454	342	377.7	706.2
5	352	382	348	448	342	374.5	709.0
6	349	378	341	447	342	371.5	711.4
7	346	373	337	446	342	368.6	710.4
8	344	369	331	446	341	366.0	708.5
9	339	364	329	444	341	363.2	705.7
10	336	359	325	443	340	360.6	701.4
11	333	355	320	442	339	357.6	698.0
12	330	351	315	440	339	354.9	695.3
13	326	347	312	439	338	352.4	694.5
14	323	343	309	440	337	350.6	696.5
15	320	340	305	442	336	348.7	702.0
16	317	337	300	446	335	347.3	708.7
17	314	334	298	451	334	346.1	715.2
18	311	331	295	457	333	345.5	720.5
19	310	329	293	461	332	345.0	724.5
20	308	326	291	467	331	344.7	727.9
21	307	324	287	473	330	344.4	730.9
22	305	322	286	477	329	343.9	733.9
23	305	320	283	482	328	343.7	737.2
24	304	319	281	484	327	342.9	740.6
25	303	317	280	487	326	342.4	744.3
26	302	316	279	491	324	342.2	748.5
27	302	314	275	493	323	341.4	753.2
28	301	313	276	495	322	341.4	758.1
29	299	312	275	498	320	340.9	763.9
30	299	311	274	501	319	340.7	770.0
31	301	311	272	504	317	341.1	776.1
32	300	310	272	506	316	340.8	783.4
33	301	309	271	510	315	341.1	790.7
34	301	309	269	513	313	340.9	797.8
35	302	308	269	515	312	341.3	804.9
36	303	308	270	518	311	341.7	811.7
37	302	308	268	522	309	341.8	817.9
38	303	308	268	525	308	342.3	824.1
39	302	308	269	527	307	342.6	830.4
40	304	308	268	532	306	343.4	836.7
41	303	308	268	534	304	343.5	843.1
42	305	308	269	537	303	344.6	849.4
43	305	309	267	541	302	344.8	855.4
44	307	309	268	545	301	345.9	861.1
45	308	310	268	547	300	346.5	866.7
46	308	311	269	549	299	347.0	872.2
47	309	312	268	552	298	347.7	877.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
48	310	312	268	554	297	348.1	882.7
49	311	313	271	557	296	349.5	887.5
50	312	314	271	559	295	350.0	892.3
51	312	315	270	561	294	350.3	897.1
52	313	316	272	563	293	351.4	902.1
53	314	316	272	565	292	351.6	906.7
54	314	317	273	567	291	352.5	911.0
55	316	318	274	568	290	353.4	914.9
56	318	319	276	569	289	354.2	918.6
57	318	320	275	572	289	354.5	922.1
58	319	320	275	574	288	355.1	925.5
59	319	322	278	576	287	356.4	928.7
60	321	322	277	578	286	357.0	931.7
61	321	323	278	578	286	357.1	934.6
62	323	324	278	580	285	358.0	937.4
63	324	325	282	581	284	359.0	940.0
64	325	326	283	583	284	360.1	942.1
65	326	327	284	584	283	360.6	944.2
66	327	328	284	585	282	361.0	946.0
67	327	329	286	586	282	362.0	947.5
68	329	330	287	587	281	362.7	948.9
69	330	331	289	588	280	363.5	950.4
70	331	332	287	590	280	363.9	951.9
71	333	333	287	591	279	364.5	953.6
72	334	334	290	590	279	365.5	955.4
73	335	335	293	592	278	366.5	956.8
74	337	336	291	592	278	366.7	957.6
75	337	337	293	592	278	367.3	956.2
76	337	338	295	593	277	367.9	954.7
77	338	339	296	593	277	368.4	954.7
78	340	340	296	593	276	369.0	956.3
79	342	341	299	595	276	370.3	958.3
80	343	342	298	595	276	370.5	960.6
81	343	343	298	596	275	371.1	962.8
82	344	344	301	596	275	372.1	964.7
83	345	345	302	596	275	372.6	966.2
84	346	346	303	596	274	373.0	967.5
85	347	347	304	597	274	373.7	968.5
86	348	349	305	597	274	374.4	969.3
87	350	350	306	597	274	375.3	969.7
88	351	351	306	598	273	375.8	969.9
89	350	352	309	597	273	376.3	969.8
90	352	353	312	597	273	377.4	969.2
91	354	354	312	597	273	377.7	968.5
92	354	355	313	597	273	378.3	968.3
93	356	355	313	597	272	378.7	968.3
94	357	356	314	597	272	379.3	968.2
95	358	357	315	596	272	379.7	968.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
96	358	358	317	597	272	380.3	967.9
97	360	358	318	597	272	380.9	967.5
98	360	359	319	597	271	381.4	967.4
99	361	360	319	599	271	382.0	967.1
100	363	361	320	599	271	382.6	967.7
101	363	361	321	600	271	383.3	968.8
102	363	363	321	599	271	383.3	969.7
103	364	364	321	600	271	383.9	969.6
104	366	366	320	600	271	384.4	968.7
105	366	368	323	600	270	385.5	967.1
106	368	369	325	600	270	386.4	964.7
107	368	370	322	601	270	386.2	961.6
108	368	372	320	601	270	386.1	958.7
109	368	373	322	602	270	386.9	955.8
110	370	373	322	602	270	387.7	953.4
111	370	374	324	603	270	388.2	952.0
112	370	375	322	604	270	388.1	950.9
113	371	376	322	603	270	388.2	949.2
114	371	376	323	604	270	388.7	947.1
115	371	377	321	604	270	388.5	945.3
116	370	378	321	604	270	388.5	943.3
117	370	379	321	604	270	388.8	941.0
118	368	380	321	607	269	389.1	938.0
119	368	381	321	606	269	389.1	935.8
120	367	383	321	607	269	389.5	935.0
121	365	383	323	608	269	389.6	935.0
122	363	385	322	607	269	389.2	936.5
123	364	385	325	606	269	389.8	938.2
124	363	386	327	606	269	389.9	940.1
125	363	387	326	605	268	389.6	941.8
126	363	387	327	604	268	389.7	943.1
127	362	388	327	603	268	389.6	944.1
128	363	388	330	602	268	390.1	945.1
129	363	389	330	600	268	389.8	946.0
130	363	389	330	600	268	390.0	946.8
131	363	390	334	598	268	390.4	946.9
132	363	391	334	597	268	390.4	946.9
133	364	391	335	596	268	390.7	947.0
134	364	392	335	595	268	390.7	947.3
135	364	392	336	595	268	391.2	948.0
136	365	393	335	596	268	391.4	947.5
137	365	394	337	597	268	392.3	945.9
138	365	395	337	598	268	392.6	944.1
139	366	395	338	599	269	393.2	943.5
140	367	395	336	600	269	393.4	943.9
141	366	396	339	601	269	394.1	944.2
142	366	396	339	601	269	394.1	944.1
143	365	396	338	602	269	394.2	942.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
144	364	397	338	601	269	393.7	941.0
145	364	397	338	600	269	393.5	937.9
146	362	398	335	598	269	392.4	934.0
147	360	399	337	597	270	392.6	929.8
148	360	400	336	595	270	392.1	925.3
149	358	401	337	593	270	391.8	920.5
150	357	401	338	591	270	391.6	916.9
151	357	401	337	588	270	390.7	913.9
152	356	401	335	585	271	389.6	910.6
153	354	401	337	582	271	389.0	907.2
154	353	401	338	578	271	388.3	903.5
155	353	401	337	575	271	387.5	898.9
156	351	402	338	571	272	386.7	894.3
157	351	402	339	568	272	386.3	889.4
158	350	402	339	564	272	385.3	885.0
159	350	402	339	560	272	384.6	880.5
160	350	402	338	556	272	383.6	876.2
161	348	402	339	551	272	382.5	871.5
162	348	402	336	547	272	381.0	866.4
163	346	401	336	543	272	379.8	861.0
164	346	401	337	538	272	378.9	855.6
165	344	400	337	534	273	377.5	850.5
166	343	399	336	530	273	376.0	845.7
167	342	399	335	526	273	375.0	841.0
168	341	397	337	522	273	374.1	836.4
169	340	396	337	519	273	372.9	832.5
170	340	394	335	516	273	371.5	829.3
171	338	393	334	513	272	370.1	826.1
172	338	391	333	510	272	369.0	823.6
173	337	390	333	507	272	367.6	821.6
174	336	388	333	505	272	366.9	820.2
175	335	387	333	504	272	366.2	819.1
176	334	386	332	502	272	365.1	818.3
177	334	384	333	500	272	364.5	818.2
178	333	383	333	500	272	364.2	818.1
179	333	382	333	498	272	363.5	818.3
180	332	381	332	499	272	363.1	818.8
181	331	380	332	499	272	362.8	819.4
182	331	380	332	499	272	362.4	820.2
183	331	379	332	499	272	362.4	820.8
184	331	378	331	499	272	362.0	821.4
185	330	377	331	498	272	361.8	822.1
186	330	377	332	499	272	361.9	822.5
187	330	376	330	499	272	361.3	822.6
188	330	375	331	498	272	361.4	822.6
189	329	375	331	498	272	361.0	821.6
190	330	375	332	498	272	361.3	820.1
191	330	374	332	497	272	360.7	817.8

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
192	329	374	333	496	272	360.8	814.9
193	329	373	333	495	272	360.4	811.3
194	329	373	333	494	272	360.1	807.6
195	330	372	332	493	272	359.7	803.9
196	329	371	333	493	272	359.5	800.3
197	329	371	332	491	272	359.1	796.8
198	329	371	332	489	272	358.4	793.3
199	329	370	335	487	272	358.6	790.1
200	328	370	333	486	272	357.6	787.2
201	329	369	334	484	272	357.7	784.3
202	329	369	334	483	272	357.5	781.6
203	328	369	336	481	273	357.0	779.3
204	329	368	333	480	273	356.3	777.0
205	328	368	335	477	273	356.1	774.9
206	328	367	337	476	273	356.0	773.1
207	328	367	334	475	273	355.2	771.1
208	328	367	337	473	273	355.6	769.7
209	329	366	338	472	273	355.7	768.3
210	328	366	336	471	274	354.8	766.8
211	328	365	338	470	274	355.0	765.6
212	328	365	337	469	274	354.4	764.3
213	328	364	339	469	274	354.9	763.0
214	327	364	338	468	275	354.1	761.4
215	328	363	337	466	275	353.7	759.7
216	328	363	338	465	275	353.5	757.7
217	328	362	338	463	275	353.3	755.7
218	328	362	340	462	275	353.4	753.4
219	327	361	339	461	276	352.8	751.0
220	327	361	338	459	276	352.2	749.0
221	328	360	340	458	276	352.3	746.7
222	326	359	340	456	276	351.6	744.4
223	326	359	339	456	277	351.3	741.6
224	326	358	340	453	277	350.9	738.3
225	324	358	339	451	277	349.8	734.8
226	324	358	341	449	277	349.8	731.3
227	323	357	341	447	278	348.9	727.8
228	322	357	342	445	278	348.5	724.4
229	322	356	340	443	278	347.7	720.8
230	321	355	339	440	279	346.8	717.4
231	320	355	340	438	279	346.2	714.4
232	320	354	341	435	279	345.8	711.4
233	320	354	340	433	280	345.4	708.3
234	318	353	340	431	280	344.3	705.6
235	318	353	341	428	280	343.9	703.0
236	317	352	341	427	281	343.5	700.7
237	318	352	343	425	281	343.6	698.8
238	316	352	340	424	281	342.6	696.7
239	316	351	340	421	282	342.1	695.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
240	315	351	343	420	282	342.2	693.3
241	315	351	342	419	282	341.7	691.8
242	314	351	344	417	283	341.5	690.2
243	313	350	343	416	283	341.1	688.6
244	315	350	344	414	283	341.4	687.2
245	313	350	344	413	284	340.5	686.0
246	313	350	345	412	284	340.6	684.6
247	313	350	347	411	284	340.8	683.6
248	312	349	345	410	284	340.0	682.4
249	312	349	346	409	285	340.2	681.3
250	312	349	347	409	285	340.3	680.2
251	312	349	347	407	285	340.0	679.2
252	311	349	348	407	285	339.8	678.4
253	311	349	350	405	286	340.0	677.5
254	310	349	348	405	286	339.4	676.7
255	309	349	351	404	286	339.8	675.8
256	309	349	350	403	286	339.6	674.8
257	311	349	351	402	287	339.8	674.0
258	309	349	349	402	287	339.1	673.1
259	309	349	352	401	287	339.4	672.2
260	308	349	348	400	287	338.6	671.3
261	309	349	352	399	288	339.3	670.5
262	309	349	353	398	288	339.6	669.8
263	309	349	353	397	288	339.2	669.0
264	307	349	352	397	288	338.8	668.3
265	307	350	352	396	288	338.5	667.6
266	307	350	354	395	289	339.0	666.9
267	307	350	352	395	289	338.4	666.2
268	307	350	352	394	289	338.3	665.6
269	307	350	353	393	289	338.5	665.2
270	307	350	354	394	289	338.7	664.8
271	306	350	352	393	290	338.1	664.4
272	306	350	356	392	290	338.7	664.2
273	306	349	354	392	290	338.3	664.0
274	305	349	355	391	290	338.1	663.8
275	306	349	354	392	290	338.0	663.6
276	306	348	356	391	291	338.4	663.4
277	305	348	355	392	291	338.0	662.9
278	306	348	355	391	291	338.1	662.7
279	304	348	354	390	291	337.3	662.3
280	305	347	356	390	291	337.8	661.7
281	304	347	355	390	291	337.4	661.0
282	303	347	355	390	292	337.5	660.1
283	305	347	355	389	292	337.6	659.4
284	304	346	354	390	292	337.0	658.1
285	303	346	354	389	292	336.7	657.2
286	304	345	355	388	292	336.8	656.1
287	303	345	352	388	292	335.9	655.0

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
288	303	344	353	388	292	336.3	653.9
289	303	344	351	388	293	335.4	652.9
290	302	343	352	388	293	335.4	652.0
291	302	343	351	387	293	335.0	650.9
292	301	342	352	387	293	334.9	650.1
293	301	341	353	386	293	334.8	649.2
294	300	341	354	385	293	334.6	648.1
295	300	340	351	385	293	333.8	647.0
296	301	340	351	384	293	333.7	645.8
297	299	339	352	383	294	333.4	645.1
298	299	338	351	383	294	333.0	644.2
299	299	338	350	382	294	332.5	643.4
300	299	337	351	382	294	332.4	642.5
301	299	337	349	381	294	331.8	641.2
302	300	336	349	380	294	331.8	640.0
303	298	335	346	380	294	330.7	638.8
304	298	335	347	379	295	330.6	637.7
305	299	334	347	377	295	330.3	636.6
306	298	334	344	377	295	329.5	635.8
307	299	333	346	376	295	329.8	635.0
308	297	333	346	376	295	329.3	634.2
309	297	333	342	375	295	328.4	633.5
310	297	332	339	374	296	327.6	632.9
311	297	332	344	373	296	328.3	632.4
312	298	331	343	373	296	328.2	632.0
313	298	331	342	372	296	327.8	631.6
314	297	330	341	371	296	327.1	631.2
315	297	330	341	371	296	327.0	630.7
316	297	330	342	370	297	327.1	630.4
317	297	329	339	370	297	326.3	630.0
318	297	329	341	370	297	326.6	629.8
319	296	329	340	369	297	326.2	629.7
320	296	328	337	369	297	325.4	629.7
321	296	328	340	368	297	325.8	629.8
322	296	328	338	368	297	325.5	629.8
323	295	328	335	368	297	324.7	629.9
324	295	328	339	367	298	325.2	630.1
325	295	328	337	367	298	325.0	630.2
326	296	328	336	367	298	324.8	630.4
327	296	327	338	367	298	325.2	630.8
328	295	327	337	366	298	324.8	631.1
329	295	327	336	366	298	324.7	631.4
330	295	327	337	367	298	324.9	631.7
331	296	327	339	366	298	325.3	632.1
332	296	327	339	366	299	325.2	632.5
333	295	327	339	366	299	325.0	632.8
334	295	327	337	366	299	324.9	633.0
335	295	327	337	366	299	324.7	633.3

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
336	295	327	338	366	299	324.9	633.6
337	295	327	339	365	299	325.2	633.9
338	296	327	340	366	300	325.6	634.3
339	294	327	338	365	300	324.8	634.8
340	295	327	337	366	300	325.0	635.1
341	295	327	337	365	300	324.8	635.5
342	294	327	334	366	300	324.1	635.7
343	294	327	333	366	300	324.1	636.0
344	294	327	338	366	301	325.1	636.2
345	295	327	338	367	301	325.3	636.2
346	295	327	340	366	301	325.8	636.1
347	295	327	338	366	301	325.2	635.6
348	294	327	336	366	301	324.9	635.2
349	296	327	339	366	301	325.7	634.7
350	295	327	339	365	302	325.4	633.9
351	295	327	336	366	302	325.0	633.0
352	295	327	334	366	302	324.5	632.1
353	296	326	335	365	302	324.9	631.1
354	295	326	335	365	302	324.7	630.5
355	295	326	332	365	303	324.2	630.1
356	296	326	331	365	303	324.2	629.5
357	296	326	333	365	303	324.5	629.4
358	296	326	329	365	303	323.8	629.2
359	295	326	331	365	303	324.0	629.1
360	296	326	328	365	303	323.5	628.9
361	296	326	332	365	304	324.4	629.0
362	296	326	330	365	304	323.8	629.0
363	296	326	328	366	304	323.9	628.8
364	295	326	331	365	304	324.2	628.9
365	296	326	331	366	304	324.5	628.9
366	296	326	330	366	304	324.2	628.9
367	295	326	332	366	304	324.7	629.1
368	295	326	327	366	305	323.6	629.2
369	296	326	326	367	305	323.9	628.8
370	295	326	325	367	305	323.5	628.8
371	295	326	329	367	305	324.2	628.7
372	295	326	331	367	305	324.7	628.6
373	295	326	325	367	305	323.6	628.2
374	295	326	325	367	305	323.7	628.1
375	294	326	327	367	305	324.1	628.3
376	294	327	325	367	306	323.6	628.4
377	295	327	328	368	306	324.5	628.4
378	294	327	329	367	306	324.6	628.4
379	294	327	328	368	306	324.5	628.4
380	293	327	328	368	306	324.4	628.4
381	294	327	328	367	306	324.3	628.3
382	293	327	331	368	306	325.0	628.5
383	292	327	324	368	306	323.7	628.5

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
384	292	327	328	368	307	324.3	628.6
385	292	327	327	368	307	324.3	628.7
386	292	328	327	368	307	324.3	628.8
387	292	328	328	368	307	324.7	628.9
388	292	328	331	369	307	325.3	629.0
389	293	328	331	369	307	325.5	629.2
390	292	328	329	369	307	325.1	629.5
391	292	328	332	369	307	325.7	629.6
392	292	328	330	369	307	325.3	629.8
393	292	329	329	370	308	325.5	630.0
394	292	329	331	370	308	325.8	630.4
395	292	329	328	370	308	325.3	630.6
396	292	329	329	370	308	325.6	630.9
397	292	330	331	370	308	326.0	631.0
398	291	330	331	371	308	326.0	630.8
399	291	330	332	371	308	326.5	631.0
400	291	330	331	371	308	326.2	631.0
401	291	330	330	370	308	325.9	631.0
402	290	330	332	371	309	326.3	631.3
403	292	330	334	371	309	327.1	631.5
404	291	330	334	371	309	326.9	631.7
405	292	330	331	370	309	326.4	631.8
406	291	330	333	371	309	326.8	631.4
407	291	331	333	370	309	326.7	631.0
408	291	331	331	370	309	326.4	630.6
409	291	331	331	370	309	326.4	629.8
410	291	331	333	370	309	326.7	629.2
411	292	331	331	369	310	326.3	628.7
412	291	331	330	369	310	326.0	628.0
413	292	331	331	369	310	326.2	627.4
414	292	330	332	368	310	326.3	626.8
415	292	330	334	367	310	326.5	626.3
416	292	330	330	366	310	325.7	625.7
417	291	330	332	367	310	325.9	625.0
418	292	330	330	366	310	325.7	624.3
419	291	329	329	365	311	325.1	623.8
420	291	329	329	365	311	324.9	623.1
421	291	328	328	365	311	324.6	622.4
422	290	328	327	364	311	324.0	621.9
423	292	328	327	364	311	324.3	621.5
424	292	327	328	363	311	324.3	620.8
425	291	327	328	363	311	324.2	620.2
426	292	327	326	362	311	323.4	619.5
427	291	327	326	362	311	323.3	618.7
428	292	326	328	361	311	323.7	618.1
429	292	326	325	361	311	322.9	617.6
430	292	325	326	361	311	323.0	616.8
431	292	325	323	359	311	322.3	616.2

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
432	292	325	326	359	311	322.6	615.7
433	291	324	323	359	311	321.9	615.1
434	292	324	325	359	312	322.2	614.6
435	290	324	323	358	312	321.3	614.2
436	291	324	323	358	312	321.3	613.7
437	291	323	322	358	312	321.1	613.3
438	291	323	324	357	312	321.3	613.0
439	292	323	322	357	312	321.1	612.5
440	291	322	320	358	312	320.5	612.1
441	291	322	319	357	312	320.0	611.8
442	291	322	318	357	312	319.7	611.4
443	292	321	322	357	312	320.7	611.0
444	290	321	323	356	312	320.3	610.8
445	290	321	319	356	312	319.3	610.3
446	291	321	320	356	312	319.7	610.0
447	290	321	316	356	312	318.8	609.5
448	290	320	317	356	311	318.9	609.1
449	288	320	318	355	311	318.6	608.7
450	290	320	318	355	311	318.8	608.2
451	288	320	317	355	311	318.2	607.6
452	289	320	315	355	311	317.9	607.6
453	288	319	315	356	311	317.9	607.3
454	289	319	317	356	311	318.2	607.1
455	288	319	317	355	311	318.0	607.0
456	288	319	316	356	311	318.0	606.8
457	289	319	316	355	311	318.1	606.9
458	288	319	316	356	311	317.8	606.7
459	289	319	314	355	310	317.4	606.6
460	288	319	313	356	310	317.1	606.5
461	288	318	312	356	310	316.8	606.0
462	288	318	313	356	310	317.1	605.7
463	288	318	316	356	310	317.4	605.6
464	288	318	315	355	310	317.1	605.4
465	288	318	311	355	310	316.2	605.0
466	288	317	313	355	309	316.6	604.5
467	287	317	312	355	309	316.2	603.8
468	288	317	309	355	309	315.6	603.4
469	288	317	310	355	309	315.6	602.9
470	288	317	308	355	309	315.1	602.1
471	287	317	309	354	309	315.1	601.5
472	287	317	310	354	309	315.2	601.1
473	287	316	312	353	308	315.3	600.6
474	288	316	309	354	308	314.9	600.1
475	287	316	308	353	308	314.5	599.9
476	287	316	310	353	308	314.7	599.4
477	287	316	306	353	308	313.8	598.9
478	288	316	310	352	308	314.6	598.7
479	288	315	308	351	308	314.0	598.6

WOODSTOVE SURFACE TEMPERATURE DATA

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

Stove ΔT: 78

	Temperature Data (°F)						
Elapsed Time (min)	FB Left	FB Right	FB Back	FB Top	FB Bottom	Stove Surface Average	Catalyst Exit
480	286	315	307	352	308	313.5	598.5
Average	316.6	345.8	325.7	453.3	292.8	346.8	743.9

LAB SAMPLE DATA - ASTM E2515

Client: FPI
Model: F3500
Run #: 5

Job #: 23-141
Tracking #: 126
Technician: AK
Date: 4/21/2023

		Sample ID	Tare, mg	Final, mg	Catch, mg
Filters	**A**	G00514	243.9	246.3	2.4
	B	G00515	242.3	244.5	2.2
	C - 1st Hour	G00516	243.5	244.7	1.2
	Amb	G00517	244.3	244.5	0.2
Probes	**A**	5A	116756.9	116757.4	0.5
	B	5B	116875.2	116875.4	0.2
	C - 1st Hour	5C	115854.7	115854.9	0.2
O-rings	**A**	5A	3536.0	3536.0	0.0
	B	5B	3532.7	3533.0	0.3
	C - 1st Hour	5C	3377.6	3377.8	0.2

Placed in Dessicator on:	4/21/2023

Filters	**A**	246.2	4/24 12:56	246.3	4/26 10:07				
	B	244.5	4/24 12:56	244.5	4/26 10:07				
	C - 1st Hour	244.7	4/24 12:56	244.7	4/26 10:07				
	Amb	244.5	4/24 13:03	244.5	4/26 10:07				
Probes	**A**	116757.6	4/24 12:56	116757.4	4/26 10:08				
	B	116875.5	4/24 12:56	116875.4	4/26 10:08				
	C - 1st Hour	115855.0	4/24 12:56	115854.9	4/26 10:08				
O-Rings	**A**	3536.0	4/24 12:57	3536.0	4/26 10:08				
	B	3532.9	4/24 12:56	3533.0	4/26 10:09				
	C - 1st Hour	3377.7	4/24 12:56	3377.8	4/26 10:09				

Train A Aggregate, mg:	**2.9**
Train B Aggregate, mg:	**2.7**
Train C Aggregate, mg:	**1.6**
Ambient, mg:	**0.2**

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 5 Test Date: 4/21/23

Wood Heater Run Notes

Test Control Settings

Primary Air Setting(s): Open 1.405”
Targeted Burn Category: II (fan confirmation)

Preburn Notes

Time	Notes
45:00	Removed 0.5 lb from firebox, raked coal bed
61:00	End PB

Test Notes

Test Burn Start Time: 13:41 Test Fuel Loaded by: 50 seconds
Door Closed: 55 seconds Air Control Set at: 300 seconds
Other Loading Notes: Fan off (fan confirmation)

Time	Notes
	-None-

Test Burn End Time: 21:41

Flue Gas Concentration Measurement

Calibration Gas Values: Span Gas CO_2 (%): 17.01 CO (%): 4.306
Mid Gas CO_2 (%): 10.09 CO (%): 2.53

Calibration Results:

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	4/21 13:27	4/21 13:28	4/21 13:29	4/22 13:23	4/22 13:24	4/22 13:26
CO_2	0.09	17.15	10.10	0.13	16.99	9.90
CO	0.007	4.320	2.456	-0.010	4.311	2.404

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

Technician Signature:  Date: 5/8/23

ASTM E2780 Wood Heater Run Sheets

Client: FPI Job Number: 23-131 Tracking #: 126
Model: F3500 Run Number: 5 Test Date: 4/21/23



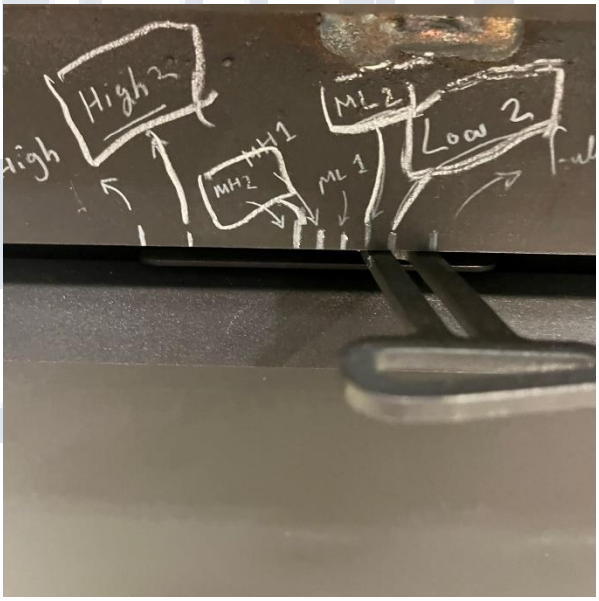
Test Fuel Front/Side View



Test Fuel Iso View



Test Fuel Loaded in Stove



Air Setting

Technician Signature: Date: 5/8/23

ASTM E2515 - Glass Filters

Sample	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00469	222.1	222.2	—	—	SB	22-843	#4
G00470	223.0	222.9	—	—	SB	↓	↓
G00471	221.0	221.0	—	—	SB		
G00472	222.1	221.9	—	—	SB		
G00473	221.7	221.7	—	—	SB	22-843	#5
G00474	222.1	222.2	—	—	SB	↓	↓
G00475	221.3	221.3	—	—	SB		
G00476	221.4	221.3	—	—	SB		
G00477	220.5	220.5	—	—	SB		
G00478	221.4	221.4	—	—	SB		
G00479	223.0	223.1	—	—	SB		
G00480	243.9	243.9	—	—	SB	22-841	#1
G00481	242.1	242.1	—	—	SB	↓	↓
G00482	246.0	246.0	—	—	SB	22-841	#2
G00483	242.8	242.7	—	—	SB	↓	↓
G00484	242.0	241.8	—	—	SB	22-791	#AZ-1 Maple
G00485	240.7	240.9	—	—	SB	↓	↓
G00486	242.4	242.4	—	—	SB	22-791	#2 AZ-Maple

Weight 1 Date/Time:
2/8 - 12:00
Weight 2 Date/Time:
2/9 - 11:00
Weight 3 Date/Time:
Weight 4 Date/Time:

Sample	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00487	242.3	242.2	—	—	SB	22-791	#2 AZ-Maple
G00488	242.9	242.8	—	—	SB	22-841	#3
G00489	242.9	243.1	—	—	SB	↓	↓
G00490	242.8	242.7	—	—	SB	22-791	#3 AZ-Maple
G00491	242.3	242.2	—	—	SB	↓	↓
G00492	241.9	241.9	—	—	SB	22-791	#4 AZ-Maple
G00493	242.3	242.4	—	—	SB	↓	↓
G00494	242.0	241.9	—	—	SB	23-141	#1
G00495	243.3	243.3	—	—	SB		
G00496	242.9	243.0	—	—	SB		
G00497	243.1	243.0	—	—	SB		
G00498	242.4	242.4	—	—	SB	22-791	#5 AZ-Maple
G00499	244.1	244.1	—	—	SB	↓	↓
G00500	243.7	243.7	—	—	SB	23-141	#2
G00501	243.6	243.7	—	—	SB		
G00502	242.2	242.2	—	—	SB		
G00503	242.1	242.0	—	—	SB		
G00504	244.0	244.5	244.3	—	SB	23-141	#3

Weight 1 Date/Time:
2/9 - 11:00
Weight 2 Date/Time:
3/20 - 9:30
Weight 3 Date/Time:
3/21 - 10:15
Weight 4 Date/Time:

ASTM E2515 - Glass Filters

Sample	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00505	240.8	241.0	–	–	SB	23-141	#3
G00506	242.8	243.0	–	–	SB	↓	↓
G00507	243.0	242.9	–	–	SB	↓	↓
G00508	244.3	244.2	–	–	SB	23-141	#4
G00509	241.8	241.9	–	–	SB	↓	↓
G00510	243.9	244.0	–	–	SB	↓	↓
G00511	243.6	243.5	–	–	SB	↓	↓
G00512	242.7	242.7	–	–	SB	22-791	#6 Air Impl
G00513	241.6	241.6	–	–	SB	↓	↓
G00514	243.8	243.9	–	–	SB	23-141	#5
G00515	242.4	242.3	–	–	SB	↓	↓
G00516	243.4	243.5	–	–	SB	↓	↓
G00517	244.3	244.3	–	–	SB	↓	↓
G00518	243.8	243.8	–	–	SB	#6	Impl Blank
G00519	243.8	243.7	–	–	SB	#5	Foam Blank
G00520	243.5	243.6	–	–	SB	ST5	#1
G00521	244.2	244.3	–	–	SB	↓	↓
G00522	243.7	243.7	–	–	SB	↓	↓

Weight 1 Date/Time:
4/13 - 15:00
Weight 2 Date/Time:
4/14 - 10:00
Weight 3 Date/Time:
Weight 4 Date/Time:

Sample	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
G00523	242.5	242.5	–	–	SB	ST5	#2
G00524	241.7	241.8	–	–	SB	↓	↓
G00525	242.7	242.5	–	–	SB	↓	↓
G00526	242.1	242.1	–	–	SB	ST5	#3
G00527	243.9	243.8	–	–	SB	↓	↓
G00528	242.7	242.7	–	–	SB	↓	↓
G00529	240.3	240.3	–	–	SB	ST5	#4
G00530	241.9	241.9	–	–	SB	↓	↓
G00531	244.1	244.0	–	–	SB	↓	↓
G00532	244.0	244.0	–	–	SB	22-791	#7 Impl Air
G00533	242.3	242.2	–	–	SB	↓	↓
G00534	242.3	242.2	–	–	SB	23-143	#1
G00535	241.4	241.5	–	–	SB	↓	↓
G00536	242.1	242.1	–	–	SB	↓	↓
G00537	244.0	244.1	–	–	SB	↓	↓
G00538	244.1	243.9	–	–	SB	23-144	#1
G00539	242.6	242.7	–	–	SB	↓	↓
G00540	243.1	243.1	–	–	SB	↓	↓

Weight 1 Date/Time:
4/13 - 15:00
Weight 2 Date/Time:
4/14 - 10:00
Weight 3 Date/Time:
Weight 4 Date/Time:

ASTM E2515 - O-Ring Samples 1-10

Date:	4/13	4/14					
Time:	15:00	10:00					
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
1A	3568.3	3568.1	–	–	SB	23-141	#1
1B	3556.5	3556.6	–	–	SB		
1C	4167.9	4168.0	–	–	SB		
2A	3553.6	3553.7	–	–	SB	23-141	#2
2B	3572.5	3572.5	–	–	SB		
2C	3391.4	3391.6	–	–	SB		
3A	3580.4	3580.5	–	–	SB	23-141	#3
3B	3569.1	3569.1	–	–	SB		
3C	3622.9	3622.9	–	–	SB		
4A	3376.6	3376.5	–	–	SB	23-141	#4
4B	3580.2	3580.2	–	–	SB		
4C	3373.2	3373.2	–	–	SB		
5A	3536.2	3536.0	–	–	SB	23-141	#5
5B	3532.6	3532.7	–	–	SB		
5C	3377.5	3377.6	–	–	SB		

Date:	4/20	4/21					
Time:	15:00	8:00					
	Weight 1	Weight 2	Weigth 3	Weight 4	Initial	Project	Run
6A	3615.0	3615.2	–	–	SB	575	~~Sample~~ Blank
6B	3397.4	3397.5	–	–	SB	575	#1
6C	3402.1	3402.0	–	–	SB		
7A	3572.4	3572.5	–	–	SB	575	#2
7B	3523.5	3523.5	–	–	SB		
7C	3408.0	3408.0	–	–	SB		
8A	3552.5	3552.4	–	–	SB	575	#3
8B	3358.5	3358.4	–	–	SB		
8C	3587.0	3587.0	–	–	SB		
9A	3580.7	3580.8	–	–	SB	575	#4
9B	3523.5	3527.5	–	–	SB		
9C	3431.7	3431.6	–	–	SB		
10A	3361.7	3361.8	–	–	SB	22-791	#2 Maple #2
10B	3570.9	3570.9	–	–	SB		
10C	3366.9	3366.9	–	–	SB		

ASTM E2515 - Probe Samples 1-10

Date:	4/13	4/14					
Time:	15:00	10:00					
	Weight 1	**Weight 2**	**Weigth 3**	**Weight 4**	**Initial**	**Project**	**Run**
1A	115626.6	115626.5	–	–	SB	23-141	#1
1B	115901.6	115901.5	–	–	SB		
1C	116432.9	116432.7	–	–	SB		
2A	116056.4	116056.2	–	–	SB	23-141	#2
2B	116173.3	116173.2	–	–	SB		
2C	116428.8	116428.8	–	–	SB		
3A	115879.8	115879.6	–	–	SB	23-141	#3
3B	116119.7	116119.7	–	–	SB		
3C	116617.5	116617.4	–	–	SB		
4A	116021.9	116021.9	–	–	SB	23-141	#4
4B	116181.7	116181.7	–	–	SB		
4C	116996.7	116996.7	–	–	SB		
5A	116757.0	116756.9	–	–	SB	23-141	#5
5B	116875.0	116875.2	–	–	SB		
5C	115854.9	115854.7	–	–	SB		

Date:	4/20	4/25	4/26				
Time:	15:00	10:00	10:45				
	Weight 1	**Weight 2**	**Weigth 3**	**Weight 4**	**Initial**	**Project**	**Run**
6A	116381.5	116382.1	116382.0	–	SB	STS	Sample blank
6B	115952.8	115953.4	115953.2	–	SB	STD	#1
6C	115127.5	115128.4	115128.3	–	SB		
7A	116557.1	116557.5	116557.6	–	SB	STS	#2
7B	117127.5	117128.0	117127.9	–	SB		
7C	116550.2	116550.6	116550.6	–	SB		
8A	116640.9	116632.9	116632.7	–	SB	STS	#3
8B	116664.2	116664.5	116664.7	–	SB		
8C	116662.3	116662.5	–	–	SB		
9A	116529.6	116529.9	116529.8	–	SB	STS	#4
9B	117737.3	117737.5	–	–	SB		
9C	116602.3	116602.7	116602.7	–	SB		
10A	116642.1	116642.5	116642.5	–	SB	22-791	#7 Maple A7
10B	117750.2	117750.3	–	–	SB		
10C	116727.3	116727.9	116727.8	–	SB		

Regency F3500 EPA Test Burn Instructions

Kindling/Start-up

- Prepare one load of kindling weighing 5.0-5.5lb, with pieces 0.5-1” diameter, pieces should be roughly 10.0” length, see **Figure 1**.
- Prepare one load of startup weighing approximately 7.0-8.0lb, with pieces 1.75-2.0” diameter. All pieces should be roughly10.0” length, see **Figure 2**.
- Stack the kindling crisscross in the firebox, see **Figure 3**. With the by-pass open, primary on high, and light the kindling with a torch aimed at the two sides for 45-60 seconds, then leave the door wide open for 4-5 minutes until the fire is well established, then close.
- Close the bypass when the combustor temperature reads 425-450 Fahrenheit.
- When most of the kindling has charcoalized, and weight reached to 2.0-2.5lb (after 25-30 min from starting the fire), bring the pieces in the back of the stove to the front, flatten the coals, and load the start-up load on top, ensuring there is room for air between pieces, see **Figure 4**. Keep the door open for 30-60 seconds before closing it.
- Wait for the start-up load to burn down to 1.5-2.0lb on the scale (after 90-100 min from starting the fire) , then remove the coals, zero the scale, and replace the coals to account for moisture losses in the fireplace and chimney.
- Level the coalbed, then load the pre-burn.



Figure 1: Kindling



Figure 2: Start up load



Figure 3: Stacked kindling



Figure 4: Loading the start-up load

Pre-burn Load

- The pre-burn should weigh between 19.1-20.5lb and be made up of 11 or 12 pieces of Douglas fir 2x4.
- All pieces should be cut to 16".
- The by-pass can remain closed while loading the pre-load.
- To load the pre-burn, place 3 of the pieces in North-South orientation, flat on top of the coalbed, put the pieces all the way to the back of the firebox. Leave 2-2.5" between the pieces, see **Figure 5**. Next, load three pieces in east-west orientation standing on the narrow edge. The E-W pieces should be spaced more toward the back so that there is roughly 4'' of free space to the front of the firebox.
  Next, load three pieces laid N-S flat on top, like the first layer (all the way to the back of the firebox and leave 2-2.5" between the pieces.).
  Finally, for 2-3 pieces on top (4th layer), space them E-W, flat on the top of the 3rd layer, place them more towards the back, with approx. 1.5" between the pieces, see **Figure 6**. After loading, leave the door cracked approx. 2" for 1-2 minutes.
- For a high burn, turn the fan on high and start the pre-burn phase after the door has been closed. For the remaining runs, do the following:
  - **Low** – Burn on high until 7.2-7.4lbs remain, set the air to LOW, set the fan to low, start the pre-burn.
  - **Med/Low** – Burn on high until 8.2-8.4lbs remain, set the air to MED/LOW, set the fan to low, start the pre-burn.
  - **Med/High** – Burn on high until 10.2-10.4lb remain, set the air to MED/HIGH, set the fan to high, start the pre-burn.

- For the high, at 8-8.3 lbs., pull the coals towards the front of the firebox to ensure complete charcoalization of the coal bed. Keep the door open for the least amount of time possible.
- For all other runs, at 40-42 minutes into pre-burn, pull the coals towards the front of the firebox to ensure complete charcoalization of the coal bed. Keep the door open for the least amount of time possible.
- When at least 1 hour at the test air setting has passed, AND the coalbed is in the correct range, rake the coals hard to ensure a flat surface for the test load (especially against the back wall). Ensure the pilot is not covered or blocked.

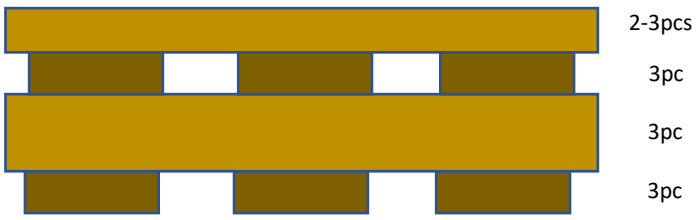


Figure 5: Front view of the Pre-burn orientation



Figure 6: Pre-burn orientation (11 pcs)

Test Load

- The test load is made up of five 4x4 pieces of length 17”, as well as 16 spacers. Three 4x4 pieces will receive 4 spacers, and the other two pieces get 2 spacers each. The test load should weigh between 20.5-22.5lb, and the average moisture should try to be between 21-23%.
- When ready to load the test load, turn the fan off, and return the air to high. Open the door and load the test load. Place three 4x4’s with 4 spacers on each North-South on the coal bed as close to the back wall as possible. Place one 4x4 with 2 spacers N-S on top of the two left most piece at their middle, and finally, place the 4x4 with 2 spacers N-S on top of the two right most piece at their middle, see **Figure 7** and **Figure 8**. Close the door right away after loading.
- For the different runs, turn on the fan as following.
    - **High** – Fan on high at 15 minutes
    - **Med/High** – Fan on high at 15 minutes
    - **Med/Low** – Fan on low at 20 minutes
    - **Low** – Fan on low at 20 minutes

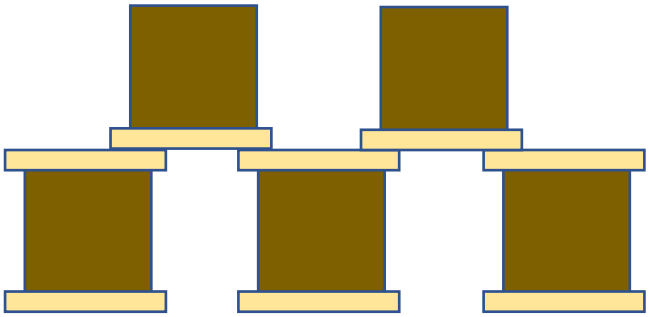


Figure 7: Front view of the test load orientation



Figure 8: Test load orientation

Sample Calculations – ASTM E2780 & E2515

Client:	FPI
Model:	F3500-1
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 = 13.3 %

M_{Swb} = 1.7 lbs

0.4536 = Conversion factor from lbs to kg

M_{Sdb} = [(1.7 x 0.4536) (100/(100 + 13.3)

M_{Sdb} = **0.67** 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} = 3.94

FM_{CPn} = 20.2

= 3.9 (100/(100+ 20.2)

= 3.3 lbs

Total dry crib weight, excluding spacers = 16.34 lbs

M_{Cdb} = **7.41** 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 = 1057 in^3

1728 = conversion from in^3 to ft^3

D_{Cdb} = 16.34 / 1057 * 1728

= **26.73** 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:

$$M_{FTAdb} = 0.67 + 7.41$$

$$= \mathbf{8.09} \text{ kg}$$

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} = 8.09 kg
θ = 531 min

$$BR = \frac{60 \times 8.09}{531}$$

BR = **0.91** 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:

$$Fp = \frac{6.56}{7.81} = 0.840$$

$$V_s = 0.840 \times 85.49 \times 0.99 \times 0.116 \times \left(\frac{75.6 + 460}{\left(29.63 + \frac{-0.06}{13.6}\right) \times 28.78} \right)^{1/2}$$

V_s = **6.56** 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:

$$Q_{sd} = 3600 \times (1 - 0.02) \times 6.56 \times 0.7854 \times \frac{528}{75.6 + 460} \times \frac{29.63 + \frac{-0.06}{13.6}}{29.92}$$

Q_{sd} = **17731.8** 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:

$$V_{m(std)} = 17.64 \times 84.500 \times 1.01 \times \frac{\left(29.63 + \frac{2.46}{13.6}\right)}{(91.6 + 460)}$$

$V_{m(std)}$ = **81.357** dscf

Using equation for Train B:

$$V_{m(std)} = 17.64 \times 77.483 \times 1.001 \times \frac{\left(29.63 + \frac{2.10}{13.6}\right)}{(90.6 + 460)}$$

$V_{m(std)}$ = **74.015** dscf

Using equation for ambient train:

$$V_{m(std)} = 17.64 \times 111.76 \times 1.024 \times \frac{\left(29.63 + \frac{0.00}{13.6}\right)}{(63.9 + 460)}$$

$V_{m(std)}$ = **114.185** 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 = 0.2 + 1.8 + 0.2

m_n = **2.2** mg

Using equation for Train B:

m_n = 0.6 + 1.5 + 0.1

m_n = **2.2** 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:

$$C_s = 0.001 \times \frac{2.2}{81.36}$$

C_s = **0.00003** g/dscf

For Train B

$$C_s = 0.001 \times \frac{2.2}{74.01}$$

C_s = **0.00003** g/dscf

For Ambient Train

$$C_r = 0.001 \times \frac{0.0}{114.18}$$

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 = (0.000027 - 0.000000) x 17731.8 x 531 /60

E_T = **4.24** g

For Train B

E_T = (0.000030 - 0.000000) x 17731.8 x 531 /60

E_T = **4.66** g

Average

E = **4.45** 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):

$$PR = \left(\frac{531 \times 1.434 \times 6.56 \times (80.5 + 460) \times (91.6 + 460)}{10 \times 84.5 \times 6.45 \times (75.6 + 460) \times (70.9 + 460)} \right) \times 100$$

PR = **96** %

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) = 4.45 g

θ = 531 min

$PM_R = 60 \times (4.45 / 531)$

PM_R = **0.50** 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) = 4.45 g

M_{Bdb} = 8.09 kg

PM_F = 4.45 / 8.09

PM_F = **0.55** 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: FPI
Model: F3500-1
Date: 04/17/23
Run: 1
Control #: 23-131
Test Duration: 531 min

	HHV	LHV
Eff	79.74%	86.19%
Comb Eff	96.52%	96.52%
HT Eff	82.62%	89.30%
Output	14,390	kJ/h
Burn Rate	0.91	kg/h
Grams CO	402	g
Input	18,045	kJ/h
MC wet	16.93	

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.

Ultimate CO_2
$CO_{2\text{-ult}}$ 19.64
F_0
1.062

Air Fue
Overall Heating Efficiency: 79.74% Dry Molecular W
Combustion Efficiency: 96.52% Dry Moles Exhaus
Heat Transfer Efficiency: 82.62% Air Fuel Ratio

Heat Output: 13,650 Btu/h 14,390 kJ/h
Heat Input: 17,118 Btu/h 18,045 kJ/h
Burn Duration: 8.85 h
Burn Rate: 2.01 lb/h 0.911 kg/h
Stack Temp: 226.4 Deg. F 108.0 Deg. C

Averages	0.28	10.05	1.04	20.26	10.07	108.10	17.71	98.8%	83.4%	82.4%	12.34	2.82
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	9.71	0.10	2.79	579.5%	20.75	17.91	152.9	17.9	98.9%	59.8%	59.1%	41.0	9.71
1	9.71	0.09	2.66	612.5%	20.76	18.05	181.7	17.9	99.1%	51.7%	51.2%	43.0	9.71
2	9.68	0.04	3.34	481.8%	20.72	17.36	167.5	18.1	100.5%	61.6%	62.0%	35.2	9.68
3	9.65	0.02	4.58	327.1%	20.64	16.05	158.2	17.9	100.7%	70.1%	70.6%	25.8	9.65
4	9.61	0.02	6.38	206.8%	20.52	14.12	155.8	17.9	100.4%	75.5%	75.8%	18.5	9.61
5	9.54	0.03	10.01	95.7%	20.28	10.25	159.5	17.9	100.1%	79.9%	80.0%	11.8	9.54
6	9.51	0.03	10.88	80.0%	20.22	9.32	142.9	17.9	100.0%	81.7%	81.7%	10.9	9.51
7	9.48	0.02	7.56	159.0%	20.44	12.87	131.5	17.9	100.2%	79.7%	79.9%	15.7	9.48
8	9.46	0.02	6.74	190.9%	20.49	13.75	124.9	17.9	100.4%	79.3%	79.6%	17.6	9.46
9	9.44	0.02	6.18	217.0%	20.53	14.34	120.9	17.8	100.5%	78.9%	79.2%	19.2	9.44
10	9.41	0.02	6.27	212.4%	20.52	14.25	119.7	17.8	100.4%	79.1%	79.5%	18.9	9.41
11	9.39	0.02	7.09	176.2%	20.47	13.37	119.6	17.8	100.3%	80.3%	80.5%	16.7	9.39
12	9.36	0.02	7.52	160.4%	20.44	12.91	119.7	17.8	100.2%	80.7%	80.9%	15.7	9.36
13	9.33	0.02	8.02	144.2%	20.41	12.37	120.5	17.8	100.2%	81.2%	81.3%	14.8	9.33
14	9.30	0.02	9.13	114.6%	20.34	11.19	121.3	17.8	100.1%	82.0%	82.1%	13.0	9.30
15	9.27	0.02	8.49	130.9%	20.38	11.88	121.7	17.8	100.3%	81.5%	81.7%	14.0	9.27
16	9.24	0.02	8.26	137.4%	20.39	12.13	122.4	17.8	100.3%	81.2%	81.4%	14.4	9.24
17	9.21	0.02	8.13	141.0%	20.40	12.26	123.2	17.8	100.3%	81.0%	81.3%	14.6	9.21
18	9.18	0.02	8.09	142.2%	20.40	12.31	123.9	17.8	100.2%	80.9%	81.1%	14.6	9.18
19	9.16	0.02	8.03	144.0%	20.41	12.37	124.1	17.8	100.3%	80.9%	81.1%	14.7	9.16
20	9.12	0.02	7.83	150.1%	20.42	12.58	124.7	17.7	100.2%	80.6%	80.8%	15.1	9.12
21	9.09	0.01	8.05	143.6%	20.41	12.35	124.8	17.7	100.3%	80.8%	81.1%	14.7	9.09
22	9.06	0.02	9.09	115.7%	20.34	11.24	125.6	17.7	100.2%	81.7%	81.8%	13.0	9.06
23	9.02	0.02	9.75	101.1%	20.30	10.54	126.4	17.7	100.2%	82.1%	82.2%	12.2	9.02
24	8.98	0.02	9.98	96.5%	20.28	10.29	126.7	17.7	100.2%	82.2%	82.3%	11.9	8.98
25	8.94	0.02	10.17	93.0%	20.27	10.10	126.7	17.6	100.2%	82.3%	82.5%	11.7	8.94
26	8.91	0.02	10.29	90.5%	20.26	9.96	126.6	17.7	100.1%	82.4%	82.5%	11.5	8.91
27	8.87	0.02	10.38	89.0%	20.25	9.87	126.8	17.7	100.1%	82.4%	82.6%	11.4	8.87
28	8.83	0.02	11.06	77.4%	20.21	9.14	127.9	17.6	100.1%	82.8%	82.8%	10.7	8.83
29	8.79	0.03	11.73	67.0%	20.16	8.42	128.5	17.6	100.0%	83.1%	83.0%	10.1	8.79
30	8.75	0.02	11.31	73.3%	20.19	8.87	128.8	17.7	100.1%	82.8%	82.9%	10.5	8.75
31	8.72	0.02	10.84	80.8%	20.22	9.37	129.0	17.7	100.1%	82.6%	82.6%	10.9	8.72
32	8.68	0.02	10.50	86.6%	20.25	9.73	130.0	17.7	100.1%	82.3%	82.4%	11.3	8.68
33	8.64	0.02	10.30	90.4%	20.26	9.95	130.1	17.7	100.1%	82.2%	82.2%	11.5	8.64
34	8.61	0.02	10.06	94.8%	20.27	10.20	130.4	17.6	100.1%	82.0%	82.1%	11.8	8.61
35	8.57	0.02	10.52	86.4%	20.24	9.72	131.2	17.6	100.1%	82.2%	82.3%	11.3	8.57
36	8.53	0.02	11.19	75.3%	20.20	9.01	132.1	17.7	100.1%	82.6%	82.6%	10.6	8.53
37	8.49	0.02	11.04	77.7%	20.21	9.16	131.4	17.7	100.1%	82.5%	82.6%	10.8	8.49

el Ratio (A/F)	
Weight (M_d)	30.01
st Gas (N_r):	411.62
o (A/F)	11.84

%HC 0.88

Combustion Efficiency: 96.52%
Total Input (kJ): 159,700 151,468 (Btu)
Total Output (kJ): 127,350 120,785 (Btu)
Efficiency: 79.74%
Total CO (g): 401.54

Moisture of Wood (wet basis): 16.9343
Initial Dry Weight Wt_{do} (kg): 8.06
Moisture Content Dry 20.39

Load Weight (kg): **9.71**

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

70.94	2.51	68.85	159786	4.06	6.87	2.74	19810.00	16.93	79.60	21.11	2.55	8.71	0.02	0.25	40.03
% Wet Consumed	Dry Wt. Now	% Dry Comsumed		Fuel Properties				Mw Moisture	Mass Balance (moles/100 mole dry flue gas)					kg Wood per 100 mole dfp	
			Total	Carbon	Hydrogen	Oxygen	Calorific								
x	Wt_{dn}	y	Input	/12= [a]	/1= [b]	/16= [c]	Value	Fuel Burnt	[h]	[u]	[w]	[j]	[k]	Nk	CO_2
0.00	8.06	0.00	0	4.06	6.87	2.74	19810.00	16.93	79.20	21.01	0.71	2.46	-0.01	0.07	39.58
0.00	8.06	0.00	187	4.06	6.87	2.74	19810.00	16.93	79.20	21.01	0.68	2.35	-0.02	0.07	39.66
0.23	8.04	0.23	448	4.06	6.87	2.74	19810.00	16.93	79.26	21.02	0.83	2.88	-0.02	0.08	40.61
0.56	8.02	0.56	635	4.06	6.87	2.74	19810.00	16.93	79.35	21.05	1.13	3.92	-0.02	0.11	40.84
1.03	7.98	1.03	896	4.06	6.87	2.74	19810.00	16.93	79.47	21.08	1.57	5.44	-0.02	0.16	40.82
1.68	7.93	1.68	821	4.06	6.87	2.74	19810.00	16.93	79.71	21.14	2.47	8.51	-0.01	0.25	40.74
2.06	7.90	2.06	485	4.06	6.87	2.74	19810.00	16.93	79.76	21.16	2.68	9.24	-0.01	0.27	40.73
2.29	7.88	2.29	411	4.06	6.87	2.74	19810.00	16.93	79.55	21.10	1.86	6.44	-0.02	0.19	40.78
2.57	7.85	2.57	373	4.06	6.87	2.74	19810.00	16.93	79.50	21.09	1.66	5.73	-0.02	0.16	40.84
2.76	7.84	2.76	336	4.06	6.87	2.74	19810.00	16.93	79.46	21.08	1.52	5.27	-0.02	0.15	40.84
2.99	7.82	2.99	411	4.06	6.87	2.74	19810.00	16.93	79.47	21.08	1.54	5.34	-0.02	0.15	40.82
3.27	7.80	3.27	485	4.06	6.87	2.74	19810.00	16.93	79.52	21.09	1.75	6.04	-0.02	0.17	40.81
3.60	7.77	3.60	485	4.06	6.87	2.74	19810.00	16.93	79.55	21.10	1.85	6.40	-0.02	0.18	40.78
3.88	7.75	3.88	485	4.06	6.87	2.74	19810.00	16.93	79.58	21.11	1.98	6.82	-0.02	0.20	40.79
4.21	7.72	4.21	485	4.06	6.87	2.74	19810.00	16.93	79.65	21.13	2.25	7.76	-0.01	0.22	40.77
4.49	7.70	4.49	448	4.06	6.87	2.74	19810.00	16.93	79.61	21.12	2.09	7.22	-0.02	0.21	40.82
4.77	7.68	4.77	485	4.06	6.87	2.74	19810.00	16.93	79.60	21.11	2.03	7.02	-0.02	0.20	40.81
5.10	7.65	5.10	485	4.06	6.87	2.74	19810.00	16.93	79.59	21.11	2.00	6.91	-0.02	0.20	40.81
5.38	7.63	5.38	448	4.06	6.87	2.74	19810.00	16.93	79.59	21.11	1.99	6.88	-0.02	0.20	40.80
5.66	7.61	5.66	523	4.06	6.87	2.74	19810.00	16.93	79.58	21.11	1.98	6.83	-0.02	0.20	40.80
6.03	7.58	6.03	523	4.06	6.87	2.74	19810.00	16.93	79.57	21.11	1.93	6.66	-0.02	0.19	40.79
6.31	7.55	6.31	523	4.06	6.87	2.74	19810.00	16.93	79.59	21.11	1.98	6.84	-0.02	0.20	40.84
6.69	7.52	6.69	597	4.06	6.87	2.74	19810.00	16.93	79.65	21.13	2.24	7.72	-0.02	0.22	40.80
7.06	7.49	7.06	635	4.06	6.87	2.74	19810.00	16.93	79.70	21.14	2.40	8.28	-0.01	0.24	40.79
7.48	7.46	7.48	635	4.06	6.87	2.74	19810.00	16.93	79.71	21.14	2.46	8.47	-0.01	0.24	40.80
7.85	7.43	7.85	597	4.06	6.87	2.74	19810.00	16.93	79.72	21.15	2.50	8.63	-0.01	0.25	40.81
8.23	7.40	8.23	597	4.06	6.87	2.74	19810.00	16.93	79.73	21.15	2.54	8.74	-0.01	0.25	40.79
8.60	7.37	8.60	635	4.06	6.87	2.74	19810.00	16.93	79.74	21.15	2.56	8.81	-0.01	0.25	40.80
9.02	7.33	9.02	672	4.06	6.87	2.74	19810.00	16.93	79.78	21.16	2.72	9.38	-0.01	0.27	40.79
9.44	7.30	9.44	635	4.06	6.87	2.74	19810.00	16.93	79.82	21.17	2.89	9.96	-0.01	0.29	40.74
9.82	7.27	9.82	597	4.06	6.87	2.74	19810.00	16.93	79.80	21.17	2.79	9.60	-0.01	0.28	40.77
10.19	7.24	10.19	597	4.06	6.87	2.74	19810.00	16.93	79.77	21.16	2.67	9.20	-0.01	0.27	40.77
10.57	7.21	10.57	597	4.06	6.87	2.74	19810.00	16.93	79.74	21.15	2.59	8.92	-0.01	0.26	40.78
10.94	7.18	10.94	597	4.06	6.87	2.74	19810.00	16.93	79.73	21.15	2.54	8.74	-0.01	0.25	40.77
11.31	7.15	11.31	597	4.06	6.87	2.74	19810.00	16.93	79.72	21.14	2.48	8.55	-0.01	0.25	40.79
11.69	7.12	11.69	597	4.06	6.87	2.74	19810.00	16.93	79.75	21.15	2.59	8.93	-0.01	0.26	40.78
12.06	7.09	12.06	635	4.06	6.87	2.74	19810.00	16.93	79.79	21.16	2.76	9.49	-0.01	0.27	40.79
12.48	7.06	12.48	597	4.06	6.87	2.74	19810.00	16.93	79.78	21.16	2.72	9.36	-0.01	0.27	40.80

Moisture Content M_{Cwb}: 16.93432

Dry kg : 8.06
CA: 49
HY: 7
OX: 43.9

LHV
7885.2

45.86	**0.75**	**0.04**	**338.17**	**34.45**	**11.33**	**381.25**	**3563.07**	**2698.03**	**2627.71**	**2597.73**	**3393.73**	**3145.76**	**290.86**	**75136.89**	**59331.05**
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**
254.05	1.43	-0.20	1123.55	34.92	11.33	426.04	5391.58	4051.19	3937.93	3894.61	5204.14	4711.86	291.04	213.40	1029.23
268.67	1.38	-0.23	1178.97	34.98	11.33	454.82	6609.24	4935.99	4790.56	4739.43	6445.47	5729.71	291.04	262.11	1326.15
211.26	0.47	-0.27	964.57	35.06	11.33	440.65	6000.48	4494.59	4365.45	4318.16	5822.80	5222.30	291.21	243.67	949.55
143.12	0.18	-0.20	707.72	34.93	11.33	431.32	5610.99	4211.27	4092.35	4047.58	5426.39	4896.26	291.09	229.14	602.72
90.31	0.12	-0.13	508.14	34.78	11.33	428.93	5510.62	4138.05	4021.71	3977.60	5324.73	4811.91	291.09	224.94	373.69
41.74	0.12	-0.05	324.47	34.62	11.33	432.65	5667.08	4252.17	4131.79	4086.65	5483.27	4943.36	291.09	230.90	177.49
34.91	0.12	-0.04	298.64	34.60	11.33	416.04	4971.97	3743.85	3641.13	3600.66	4781.72	4357.35	291.09	202.51	130.70
69.38	0.12	-0.09	429.01	34.71	11.33	404.65	4500.01	3396.77	3305.61	3268.45	4309.64	3956.49	291.09	183.52	235.68
83.36	0.09	-0.12	481.95	34.76	11.33	398.04	4229.88	3197.46	3112.78	3077.55	4040.87	3726.05	291.04	172.76	266.53
94.77	0.11	-0.14	525.06	34.79	11.33	394.04	4067.89	3077.71	2996.86	2962.80	3880.21	3587.50	290.98	166.12	291.68
92.76	0.12	-0.13	517.43	34.79	11.33	392.87	4020.12	3042.34	2962.60	2928.89	3832.95	3546.55	290.98	164.10	282.22
76.90	0.11	-0.11	457.47	34.74	11.33	392.76	4015.57	3038.97	2959.34	2925.66	3828.46	3542.65	290.98	163.88	233.69
70.02	0.12	-0.09	431.39	34.71	11.33	392.87	4022.23	3043.97	2964.20	2930.47	3834.88	3548.46	290.93	164.04	213.12
62.91	0.11	-0.09	404.56	34.69	11.33	393.65	4054.07	3067.55	2987.04	2953.08	3866.38	3575.77	290.93	165.37	192.97
50.00	0.11	-0.06	355.73	34.65	11.33	394.43	4085.94	3091.14	3009.88	2975.69	3897.91	3603.07	290.93	166.58	154.54
57.10	0.08	-0.08	382.70	34.68	11.33	394.82	4099.77	3101.30	3019.71	2985.41	3911.75	3614.80	290.98	167.34	177.10
59.95	0.08	-0.08	393.43	34.69	11.33	395.54	4129.38	3123.22	3040.92	3006.41	3941.08	3640.16	290.98	168.53	187.23
61.53	0.09	-0.09	399.40	34.70	11.33	396.32	4161.28	3146.82	3063.77	3029.03	3972.69	3667.48	290.98	169.84	193.61
62.06	0.10	-0.09	401.40	34.69	11.33	397.04	4193.04	3170.37	3086.59	3051.62	4004.00	3694.76	290.93	171.09	196.76
62.81	0.10	-0.09	404.23	34.70	11.33	397.26	4202.16	3177.12	3093.12	3058.08	4013.05	3702.56	290.93	171.46	199.56
65.50	0.11	-0.09	414.36	34.70	11.33	397.82	4227.08	3195.62	3111.05	3075.82	4037.61	3723.99	290.87	172.41	209.33
62.64	0.07	-0.09	403.69	34.70	11.33	397.93	4233.76	3200.62	3115.91	3080.63	4044.07	3729.81	290.82	172.90	200.50
50.45	0.08	-0.07	357.52	34.66	11.33	398.76	4268.00	3225.93	3140.41	3104.88	4078.05	3759.09	290.82	174.14	162.75
44.09	0.08	-0.06	333.47	34.64	11.33	399.59	4300.16	3249.61	3163.31	3127.55	4110.14	3786.45	290.87	175.41	143.27
42.08	0.07	-0.06	325.87	34.64	11.33	399.82	4309.30	3256.36	3169.84	3134.02	4119.22	3794.26	290.87	175.80	137.01
40.53	0.06	-0.06	320.06	34.64	11.33	399.82	4313.52	3259.63	3173.04	3137.18	4123.08	3798.09	290.76	176.03	132.11
39.47	0.08	-0.05	315.99	34.63	11.33	399.76	4309.12	3256.31	3169.81	3133.98	4118.88	3794.22	290.82	175.75	128.51
38.79	0.06	-0.05	313.47	34.63	11.33	399.98	4318.26	3263.06	3176.34	3140.45	4127.96	3802.03	290.82	176.20	126.57
33.73	0.07	-0.04	294.33	34.61	11.33	401.09	4366.10	3298.45	3210.61	3174.37	4175.34	3843.00	290.76	178.10	111.25
29.24	0.11	-0.03	277.23	34.59	11.33	401.65	4388.98	3315.34	3226.95	3190.55	4198.09	3862.52	290.76	178.79	96.94
31.97	0.08	-0.04	287.62	34.60	11.33	401.93	4398.31	3322.15	3233.52	3197.06	4207.54	3870.37	290.82	179.31	106.20
35.25	0.09	-0.04	300.03	34.61	11.33	402.15	4407.47	3328.91	3240.06	3203.53	4216.65	3878.18	290.82	179.69	117.35
37.79	0.09	-0.05	309.62	34.62	11.33	403.15	4448.68	3359.31	3269.47	3232.65	4257.67	3913.33	290.82	181.40	126.94
39.41	0.09	-0.05	315.76	34.62	11.33	403.26	4453.26	3362.69	3272.74	3235.89	4262.23	3917.24	290.82	181.57	132.54
41.34	0.08	-0.05	323.06	34.63	11.33	403.59	4469.12	3374.46	3284.15	3247.17	4277.85	3930.88	290.76	182.28	139.49
37.67	0.08	-0.05	309.19	34.62	11.33	404.32	4498.92	3396.43	3305.40	3268.21	4307.52	3956.27	290.76	183.48	127.93
32.84	0.07	-0.04	290.96	34.61	11.33	405.21	4533.50	3421.84	3329.96	3292.53	4342.16	3985.61	290.82	184.92	112.37
33.88	0.06	-0.05	294.93	34.62	11.33	404.54	4503.87	3399.92	3308.74	3271.53	4312.80	3960.25	290.87	183.77	115.18

SUMS					AVERAGE	SUMS						
113896.46	442454.15	16764.76	863371.16	283887.22	3486.54	32341.19	5552.87	26788.32	127444.63	5561.70	401.54	26.86
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
411.05	4375.79	-178.97	1700.05	551.36	8101.91	0.00	0	0.00	0	0	0.00	0.00
398.43	5587.62	-206.61	1738.63	562.89	9669.22	91.10	2	89.35	96	2	0.37	-0.03
136.38	4165.17	-242.55	1724.85	557.14	7534.20	170.37	-2	172.78	278	-2	0.30	-0.10
51.21	2864.57	-182.93	1706.92	553.45	5825.07	186.61	-4	190.82	448	-4	0.16	-0.10
34.87	2021.19	-114.25	1696.49	552.49	4789.42	216.61	-4	220.19	679	-4	0.15	-0.09
33.90	1326.01	-44.73	1693.47	553.98	3971.01	164.63	0	165.09	657	0	0.14	-0.03
34.34	1075.30	-34.64	1672.09	547.35	3627.66	88.87	0	88.88	396	0	0.08	-0.02
35.51	1402.20	-83.68	1663.48	542.80	3979.52	82.49	-1	83.49	328	-1	0.07	-0.03
26.02	1483.22	-108.07	1658.09	540.19	4038.74	76.11	-2	77.65	297	-2	0.05	-0.04
32.13	1555.65	-121.68	1654.72	538.63	4117.24	69.83	-2	71.34	266	-2	0.05	-0.04
35.38	1515.50	-117.30	1652.83	538.16	4070.89	84.38	-2	86.08	326	-2	0.07	-0.04
31.26	1338.40	-96.36	1650.47	538.12	3859.45	94.55	-2	96.14	391	-2	0.07	-0.04
35.67	1264.19	-84.45	1649.40	538.18	3780.15	92.60	-1	93.80	393	-1	0.09	-0.04
30.53	1194.70	-76.57	1649.51	538.49	3695.01	90.52	-1	91.65	395	-1	0.07	-0.03
30.65	1058.53	-57.94	1648.48	538.80	3539.65	86.71	-1	87.38	399	-1	0.07	-0.03
22.00	1142.52	-72.12	1650.39	538.93	3626.17	82.00	-1	83.13	366	-1	0.05	-0.03
24.03	1182.83	-75.28	1651.61	539.22	3678.17	90.11	-1	91.36	395	-1	0.06	-0.03
24.40	1209.80	-77.39	1652.78	539.53	3712.58	90.95	-1	92.25	394	-1	0.06	-0.03
27.41	1224.91	-76.79	1653.66	539.84	3736.88	84.50	-1	85.62	363	-1	0.06	-0.03
27.61	1236.17	-77.78	1654.04	539.93	3750.99	98.96	-1	100.28	424	-1	0.07	-0.04
32.78	1274.50	-79.30	1654.95	540.17	3804.83	100.38	-1	101.61	422	-1	0.08	-0.04
18.87	1243.62	-81.53	1655.39	540.24	3749.98	98.93	-2	100.58	424	-2	0.05	-0.04
23.12	1110.07	-62.05	1654.32	540.57	3602.91	108.63	-1	109.80	489	-1	0.07	-0.03
22.75	1042.93	-53.07	1654.31	540.88	3526.48	112.97	-1	113.94	522	-1	0.07	-0.03
21.06	1021.29	-50.94	1654.35	540.97	3499.54	112.11	-1	113.07	523	-1	0.07	-0.03
17.23	1004.10	-50.46	1654.44	541.01	3474.45	104.76	-1	105.76	493	-1	0.05	-0.03
22.68	990.30	-46.45	1653.87	540.97	3465.63	104.49	-1	105.21	493	-1	0.07	-0.03
18.00	984.45	-47.61	1654.27	541.06	3452.93	110.62	-1	111.56	524	-1	0.06	-0.03
19.01	934.30	-39.87	1654.86	541.52	3399.16	115.30	-1	116.01	557	-1	0.06	-0.02
30.82	884.51	-28.04	1654.27	541.74	3359.02	107.61	0	107.53	527	0	0.10	-0.02
23.73	919.52	-35.19	1655.30	541.83	3390.71	102.23	0	102.58	495	0	0.07	-0.02
24.76	961.16	-39.45	1656.03	541.92	3441.47	103.76	0	104.21	494	0	0.07	-0.02
24.45	1000.88	-43.24	1657.65	542.32	3490.39	105.24	-1	105.81	492	-1	0.07	-0.02
26.08	1021.75	-44.84	1657.96	542.36	3517.40	106.05	-1	106.62	491	-1	0.08	-0.02
23.20	1049.04	-48.92	1658.87	542.51	3546.48	106.93	-1	107.71	490	-1	0.07	-0.03
22.20	1010.50	-44.10	1659.23	542.80	3502.06	105.59	-1	106.25	492	-1	0.07	-0.02
18.79	957.99	-38.70	1659.67	543.13	3438.18	110.14	-1	110.78	524	-1	0.06	-0.02
15.88	964.86	-41.52	1659.09	542.85	3440.11	103.72	-1	104.50	494	-1	0.05	-0.02

F3500B-1 Conditioning Data

Elapsed Tir	Scale Weight (lbs)	Flue (F)	Ambient (F)	FB Top (F)	FB Bottom (F)	FB Back (F)
0	22.13	330.9	67.8	381.8	238.5	298.4
5	21.16	361	67.8	400.5	237	311.4
10	20.74	262.5	68	422.4	237.2	305.4
15	20.32	246.8	67.7	413.3	236.9	291.5
20	19.78	244	67.8	423.8	236.8	280.8
25	19.41	236.3	67.6	420.4	236.2	273.8
30	19.02	232.8	67.1	397.7	235.1	264.8
35	18.51	224.8	67.4	338.3	234.1	261.7
40	17.98	222.4	67.4	331.4	232.4	251.8
45	17.47	221.3	67.5	326.2	230.7	251.3
50	16.98	225.6	67.2	323.5	229	247.8
55	16.45	225.9	67	322.4	227.8	248.8
60	15.91	228.7	67.2	322.4	226.9	251
65	15.37	232	67.4	324.7	226.2	255.6
70	14.82	233.6	67.6	334.2	226	256.6
75	14.26	235	67.7	338.7	226.3	261.6
80	13.69	236	67.6	338.5	227.2	266.1
85	13.14	236.6	67.9	344.4	228	272
90	12.63	235.1	68.1	343.7	229.2	273.7
95	12.09	237	68.4	343.7	230.3	282.2
100	11.57	232.8	68.4	346.4	231.7	286.3
105	11	233.3	67.9	338.4	233.3	292
110	10.39	233.7	67.9	337.6	234.9	299.8
115	9.82	233.7	67.8	334.3	236.2	305
120	9.24	232.4	67.6	333.6	238.3	313.3
125	8.71	230.6	67.7	340.7	239.4	316.5
130	8.2	227.5	68.6	338.3	240.5	328.2
135	7.69	231	68.7	334.5	242	330.7
140	7.27	226.3	68.8	333	243.5	335.3
145	6.88	225.9	69.1	332.6	244.7	340.1
150	6.54	220.4	69.1	339.2	246	337.4
155	6.18	217.9	69.2	332.8	247.3	338.3
160	5.85	215.7	69.3	333.7	248.7	329.4
165	5.56	210.6	69.3	332.4	250.4	332.8
170	5.28	211.6	69.5	325.1	251.9	331.6
175	5	208	69.4	315.3	253.5	332.1
180	4.75	203.2	69.2	304.7	255.2	333.4
185	4.53	200.7	69.5	305	257.3	332.2
190	4.32	195.1	69.6	298.7	259	334.4
195	4.11	192.1	69.6	293.4	261.2	334.9
200	3.96	188.1	69.6	277.7	263.4	332.8
205	3.77	185.6	69.6	276.5	265.1	331.3
210	3.64	179.6	69.6	274.7	267.2	332.6
215	3.52	176.5	69.6	262.7	268.7	335
220	3.43	171.6	69.6	255.4	270.4	327.6
225	3.34	166.4	69.3	244.5	271.3	322

F3500B-1 Conditioning Data

230	3.25	162.5	69.4	240.4	272.5	319.2
235	3.17	157.8	69.4	234.8	273.7	314.3
240	3.08	157.2	69.2	228.5	275	307.4
245	3	154.4	69.2	224.6	276.2	302.7
250	2.91	153.8	69.2	220	277	303.8
255	2.83	152.1	69	220.2	277.7	299.5
260	2.75	152.2	69	219.4	278.2	297.6
265	2.66	151.7	69	219	278.1	292.2
270	2.59	150.6	68.9	218	278.3	293.7
275	2.51	150.3	68.8	215.8	278	292
280	2.42	149.8	69	215.6	277.3	285.4
285	2.35	146.9	68.8	212.1	277	278.6
290	2.28	145.1	68.8	209.4	276.5	276.4
295	2.21	143.7	68.6	204.6	276.2	272.7
300	2.13	142	68.6	204.4	276	269.8
305	2.07	141.4	68.5	203.8	275.9	265.7
310	2	140.1	68.6	201.8	275.9	258.9
315	1.94	139.5	68.5	201.8	276.1	258.1
320	1.87	139.9	68.5	203.5	276.2	256.2
325	1.79	139.1	68.4	200.3	276.5	254.5
330	1.73	138.5	68.5	199.9	277.3	252.9
335	1.66	137.9	68.3	195.7	278.1	254.4
340	1.59	137.2	68.3	193.8	279.5	252.6
345	1.52	137	68.3	195.2	281	252.1
350	1.45	135.9	68.4	190.3	282.2	250.6
355	1.39	136	68.4	190.8	283.6	251.3
360	1.33	135.9	68.4	188.6	285	249.7
365	1.25	134.4	68.3	187.2	286	247.8
370	1.2	135	68.2	188.5	286.6	249.5
375	1.13	134.4	68.3	185.7	287.2	246.8
380	1.06	133.5	68	186.3	287.4	248.4
385	0.99	133.4	68	186.9	287.4	249
390	0.93	135	68	185.5	287.2	247
395	0.85	135.5	68	185.6	286.5	246.5
400	0.77	135.6	68	189.4	285.7	247.6
405	0.72	136.7	67.8	188.4	285.1	246.6
410	0.64	137.1	67.7	192.5	283.8	248.3
415	0.57	137.7	67.7	194.1	282.9	246.6
420	0.48	139.2	67.6	194.9	281.9	244.8
425	0.42	138.4	67.7	192.9	280.7	245.1
430	0.36	138.8	67.7	191.3	279.9	245.2
435	0.27	138.3	67.7	191.2	279.1	246.9
440	0.21	137.7	67.6	191.3	278.5	247.9
445	0.13	138.6	67.5	190.9	277.9	245.5
450	0	138.4	67.5	189.7	277	246.1

F3500B-1 Conditioning Data

Tests were done at a medium low air setting

Test load average moisture content -22.4%

F3500B-1 Conditioning Data

FB Left (F)	FB Right (F)	Catalyst (F)	Avg. Surface Temp (F)
334.6	343.8	969.1	319.4
337.6	361.1	965.9	329.5
325.3	351.6	977.2	328.4
311	333.7	901.9	317.3
301.6	322.1	926.6	313
293.6	313.9	907.5	307.6
286.8	306.9	882.8	298.3
282.2	302	882.1	283.7
280.1	304.9	936.5	280.1
278.8	309.4	971.8	279.3
277.6	312.9	975.8	278.1
277.5	315	979.5	278.3
279.1	317.1	992.7	279.3
282.6	322.6	1010.7	282.4
286.7	329.8	1023.7	286.7
289.5	338.1	1029.9	290.8
291.8	346.7	1026.3	294.1
293.5	355.9	1030.2	298.7
295.7	366.4	1034.2	301.7
298.2	376.6	1032.6	306.2
301.2	384.7	1009.5	310
305	390.7	992.3	311.9
309.9	395.8	983.2	315.6
315.4	402.1	981.5	318.6
320.6	405.2	983.6	322.2
325.6	408.7	985.8	326.2
330.5	412.3	985.6	330
334.9	415.8	983.3	331.6
338.8	418.7	979.7	333.9
342.4	419.8	1012.6	335.9
346.3	417.3	1000.7	337.2
349.4	412.4	989	336
351.9	407	982.3	334.1
353.9	401.6	978.3	334.2
357.3	395.1	972.8	332.2
361.3	390.2	947.7	330.5
363.8	385.3	913.4	328.5
365.3	380.7	897.2	328.1
366	377.4	883.3	327.1
365.6	374.1	867.4	325.8
365.3	372.5	851.1	322.4
365.5	370.6	831.5	321.8
363.5	368.2	813	321.2
360.4	364.2	787.9	318.2
357	360.2	754.3	314.1
352.9	355.7	725	309.3

F3500B-1 Conditioning Data

347.9	350.7	701.1	306.1
344	346.5	687.1	302.7
339.3	343	682.8	298.6
335.3	340.3	681.4	295.8
331.4	337.9	681.2	294
327.4	335	681.4	292
324	331.8	682.4	290.2
321.5	328.9	681.6	287.9
319.2	326.7	682.3	287.2
316.3	323.7	676.8	285.2
312.4	319.6	663	282.1
308.6	315.5	639.9	278.4
305.7	312.3	629	276.1
303.2	310.2	627	273.4
300.9	308.4	620.7	271.9
297.9	307.2	618.7	270.1
295.5	306.1	616.8	267.6
293.4	304.3	613.8	266.7
291	302.8	613.1	265.9
288.9	301.5	605.5	264.4
286.4	300	603	263.3
285.3	297.9	597.4	262.3
283.6	296.2	590.8	261.2
282.6	294.7	587.7	261.1
282.1	293.5	582.9	259.7
281.7	291.8	579.9	259.8
281.4	290.7	579.6	259.1
281.3	289.5	567	258.4
280.7	288.9	575	258.8
280.5	288.3	574.6	257.7
280	287.4	579	257.9
280.2	286.9	571.4	258.1
279.5	286.1	573.4	257.1
279.5	285.7	580.8	256.7
279.6	285.4	579.4	257.6
279.1	285.3	591.9	256.9
278.9	285	604.2	257.7
278.6	284.8	607	257.4
278.6	285.3	605.8	257.1
278.7	286	603.2	256.7
279.3	286.5	603.1	256.4
279.4	286.7	595.2	256.7
279	286.2	599.3	256.6
278.7	285.8	601.8	255.7
279.5	285.1	600	255.5

F3500B-1 Conditioning Data

Elapsed Time (m	Scale Weight (lb	Flue (F)	Ambient (F)	FB Top (F)	FB Bottom (F)	FB Back (F)
0	22.42	252.1	65.4	316.8	294.8	299.4
1	27.15	350.5	65.3	310	296.5	299
2	22.35	320.4	65.4	320.3	294.3	297.7
3	22.16	295.2	65.5	319.7	293.8	295.6
4	21.97	293.1	65.3	315.7	293.7	292.9
5	21.76	304.1	65.5	319.6	293.5	293.9
6	21.54	319.1	65.2	320.7	293.6	293.5
7	21.33	332.7	65.7	323.8	293.1	294.4
8	21.1	345.4	65.6	334.2	293.4	294
9	20.84	358.4	65.9	337.6	292.9	293.9
10	20.59	370.4	66	359.3	292.8	296.5
11	20.35	381.5	66	361.2	292	294.9
12	20.1	388.4	66.2	368.3	292.2	298.2
13	19.91	347.6	66.2	381.9	293	299.3
14	19.79	318.3	66.2	384.4	292.7	299.1
15	19.7	297.1	66.3	392.1	292.5	298.6
16	19.59	283.2	66.3	391.4	291.8	297
17	19.51	271.9	66.5	398.9	291.6	296.3
18	19.42	265.5	66.3	393.4	291	294.9
19	19.32	260.3	66.3	409.8	290.6	293.5
20	19.23	255	66.6	394.7	290.1	291.8
21	19.11	252.1	66.5	395.8	289.4	291.2
22	19.02	247.9	66.3	392.8	289	289.8
23	18.92	246.7	66.2	398.2	288.1	287.8
24	18.82	245.5	66.4	398.9	287.8	287.6
25	18.72	242.9	66.4	397.4	287.3	285.7
26	18.61	241.3	66.5	393	286.8	286.9
27	18.5	240.8	66.3	397.2	286.2	285
28	18.39	241.4	66.4	402.3	285.6	284
29	18.29	241.8	66.5	403.8	285.3	284.2
30	18.16	241.9	66.4	398.1	284.4	282.3
31	18.04	243.4	66.5	405.9	284.2	283.2
32	17.93	244.3	66.3	404.1	283.7	281.5
33	17.81	244.9	66.4	398.7	282.9	280.5
34	17.68	246.3	66.4	410.9	282.3	280.6
35	17.58	246.9	66.3	407.1	281.9	279.9
36	17.45	247.4	66.3	406.7	281.5	279.9
37	17.32	247.7	66.4	411	281	279
38	17.2	250.2	66.3	409.4	280.3	278.8
39	17.07	249.8	66.2	417.7	280.1	279.3
40	16.94	251.6	66.3	413.3	279.2	279.7
41	16.82	252	66.3	414.5	278.8	280.5
42	16.68	252.9	66.3	425.4	278	279.7
43	16.54	252.9	66.4	415.4	277.8	281.8
44	16.4	253.5	66.3	416.7	277.2	281.5
45	16.28	251.5	66.2	390.8	277.1	297.4

F3500B-1 Conditioning Data

46	16.19	249.2	66.3	383.2	276.9	292.8
47	16.07	246.7	66.3	375.6	276.4	291.6
48	15.96	243.6	66.4	375.2	275.9	291.1
49	15.84	241.7	66.3	371.1	275.8	287.5
50	15.74	242	66.3	363.5	275	287.3
51	15.64	241.4	66.2	365.8	274.6	287.1
52	15.54	239.2	66.3	359.7	274.4	287.8
53	15.42	239.8	66.3	355.6	273.4	286.9
54	15.34	243	66.5	357.3	273	285.6
55	15.21	241.8	66.3	355.2	272.3	286.9
56	15.1	242.4	66.3	359.5	272.1	287.1
57	14.99	243.3	66.4	349	271.8	290.8
58	14.87	243.3	66.5	356.4	271.4	289.6
59	14.76	242.3	66.5	354.5	271	293.8
60	14.64	242.8	66.3	356.1	270.4	293.2
61	14.52	244.5	66.4	354.2	270.5	293.5
62	14.41	243.2	66.3	347.3	269.9	296.5
63	14.28	243.6	66.5	350.8	270	293.5
64	14.17	243.3	66.4	350.9	269.5	298.1
65	14.06	243.1	66.3	346.1	269.2	301.3
66	13.94	244.4	66.4	347.7	268.9	301.7
67	13.81	244.6	66.4	345.2	268.5	302.3
68	13.7	243.7	66.3	341.1	268.2	305.3
69	13.57	244.4	66.2	346.8	268.2	306.4
70	13.45	243.3	66.3	346.1	267.9	304.7
71	13.33	243.5	66.3	351.1	267.8	306.1
72	13.22	244.3	66.4	345.6	267.5	307.6
73	13.11	242.9	66.3	344.5	267.4	311.9
74	13	244.3	66.4	341.5	266.9	313
75	12.89	242.7	66.4	338.7	267	311.2
76	12.79	241.3	66.5	340	266.2	315.1
77	12.67	239.9	66.4	339.5	265.7	312.4
78	12.57	240	66.4	334.2	265.6	314
79	12.47	239.6	66.6	339	265.3	320.2
80	12.37	237.6	66.7	336.4	264.7	319.4
81	12.27	234.6	66.8	334.5	264.7	319.1
82	12.16	231.9	66.9	342.1	264.7	320.3
83	12.07	233.7	66.7	340.3	264.2	321.2
84	11.99	232.6	66.9	334	263.9	324.5
85	11.89	232.4	66.9	340.9	263.8	322.8
86	11.79	231.4	67	340.1	263.4	325.3
87	11.71	231.9	67.1	338.7	262.9	328.7
88	11.61	232.4	67.2	344.3	262.8	330.1
89	11.52	231.5	67	340.1	262.2	329
90	11.43	229.8	67	341	262.1	330.1
91	11.34	229.7	66.9	347.9	261.8	329.4
92	11.24	230.4	66.8	345.2	261.4	329.6

F3500B-1 Conditioning Data

93	11.15	228.4	66.9	346.8	261.4	331.7
94	11.05	228.7	67	338.1	261.1	329.3
95	10.96	230.8	67.1	340.2	260.7	326.6
96	10.87	229.5	67.2	338.5	260.4	335.3
97	10.75	230.9	67.2	337.8	259.9	333.5
98	10.68	229.1	67.2	333.3	259.9	335.2
99	10.57	227.5	67.2	336.3	259.4	335.1
100	10.49	227.3	67.3	337.5	259.3	333.4
101	10.39	226	67.3	338.2	258.8	337.8
102	10.31	225.5	67.4	336.2	258.6	337.1
103	10.22	223.4	67.3	332.6	258.2	336.2
104	10.15	223.2	67.4	333.9	257.9	336.2
105	10.06	221.5	67.4	335.9	257.5	340.9
106	9.99	219.7	67.4	331	257.1	336.6
107	9.9	220.8	67.3	337.4	257.1	341.3
108	9.82	219.8	67.3	333.5	257	335.8
109	9.74	220.6	67.2	331.3	256.8	340.8
110	9.67	219.4	67.3	334.3	256.5	338.4
111	9.58	220.7	67.2	335.3	256.3	341.4
112	9.5	219.1	67.1	335.7	256.2	339.5
113	9.42	219.1	67	335.8	256.1	342.3
114	9.34	219.5	67	332.6	256.1	339
115	9.26	219	66.9	338.7	256	345
116	9.16	219.4	67.1	332.2	255.5	343.7
117	9.09	218.5	67.1	334.2	255.5	344.5
118	9.02	220.1	67	334.2	255.2	344.5
119	8.94	217.6	67.1	332.8	254.7	342.3
120	8.86	218.6	67.3	334	254.6	344.3
121	8.77	217.4	67.3	335.9	254.5	342.8
122	8.69	217.8	67.3	341.6	254.6	344.7
123	8.63	218.7	67.4	337.9	254.3	346.4
124	8.55	219	67.2	332.2	254.6	344.8
125	8.46	219.1	67.3	331.4	254.3	346
126	8.37	217.8	67.3	339.5	254.4	348.5
127	8.29	217.5	67.3	334	254.3	345.9
128	8.21	219.4	67.3	334.8	254.3	343.4
129	8.12	217.7	67.2	335.9	254.3	342.7
130	8.05	217.1	67.3	337.4	254.3	339.2
131	7.98	215.8	67.4	337.6	254.1	338.8
132	7.91	212.6	67.2	340.4	254.3	341.6
133	7.83	210.4	67.3	336.6	254.4	339.3
134	7.77	208.6	67.3	335.2	254.1	339.4
135	7.71	206.1	67.4	338.7	254.2	334.9
136	7.67	204.9	67.5	334.1	254.1	335
137	7.63	202.6	67.5	332.8	254.2	334.7
138	7.56	201.2	67.4	327.8	254.2	332.6
139	7.51	200.5	67.3	328.7	254.2	331

F3500B-1 Conditioning Data

140	7.46	199.7	67.4	334.2	254.5	332.5
141	7.43	198.7	67.3	325.8	254.5	329.9
142	7.38	198.9	67.4	321.6	254.3	328.3
143	7.34	196.6	67.5	317.7	254.4	328.8
144	7.3	195.6	67.6	321.4	254.6	328.3
145	7.25	194.4	67.6	313.4	254.4	326.4
146	7.2	193.3	67.5	312.3	254.6	329
147	7.15	191.7	67.6	312.3	254.7	326
148	7.12	192.4	67.4	309.8	254.8	327.3
149	7.05	191.8	67.5	307	255.3	326
150	7.01	191.6	67.6	305.1	255	328.8
151	6.95	191.5	67.6	303.2	255.5	328.5
152	6.91	191.1	67.5	297.7	255.6	328.2
153	6.85	190.8	67.5	302.4	255.8	330.5
154	6.8	189.5	67.5	301.5	255.9	334.3
155	6.75	190	67.4	290.8	256	333.3
156	6.7	189.3	67.5	293.2	256.4	331.6
157	6.64	189.2	67.5	295.1	256.4	335.1
158	6.59	188.5	67.5	298	256.6	337.6
159	6.55	188.4	67.6	293.5	257	338.4
160	6.49	189.2	67.4	291.9	257.2	338.5
161	6.44	188.6	67.3	291.5	257.4	341.1
162	6.39	187.7	67.5	288.1	257.6	342.1
163	6.34	187.3	67.4	290.9	257.9	342.3
164	6.28	188.7	67.6	290.3	258.1	339.6
165	6.23	189.6	67.6	290.2	258.6	340.8
166	6.17	189.3	67.5	289.7	259.1	340
167	6.12	190.5	67.5	291.5	259.3	344.1
168	6.07	190.1	67.6	289.7	259.4	339.8
169	6.02	189.7	67.6	294.2	260	341.1
170	5.97	189.2	67.6	291.7	260.3	346.3
171	5.91	189.8	67.5	291.7	260.4	349.3
172	5.86	188.5	67.4	288.9	261	346.5
173	5.83	188.8	67.5	293	261.3	344.8
174	5.77	189.8	67.5	301.2	261.6	350.1
175	5.72	188.8	67.4	296.4	261.8	351
176	5.67	189.9	67.4	293.6	262.2	348.6
177	5.61	190.2	67.5	296.2	262.4	350.7
178	5.56	191	67.3	295.4	263	350.7
179	5.52	189.5	67.3	298.5	263.2	353.4
180	5.48	190.5	67.3	296	263.4	354.1
181	5.42	190	67.4	294.3	263.8	355.4
182	5.36	190	67.4	296.5	264.2	352.3
183	5.32	191.3	67.3	293.1	264.1	353.6
184	5.29	189.8	67.4	293.5	264.6	354.9
185	5.25	189.4	67.3	296.2	264.9	357.6
186	5.2	188.7	67.4	294.8	265.1	357

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187	5.17	188.8	67.3	293.1	265.5	355.8
188	5.13	188.2	67.3	293.8	265.6	356.4
189	5.09	187.6	67.3	294.7	265.9	357.3
190	5.05	186.2	67.2	292.2	266.1	352.8
191	5.02	187.2	67	296.9	266.3	357.4
192	4.98	187.1	67.2	291	266.7	357.1
193	4.95	186	67.3	291	266.7	357.4
194	4.91	185.1	67.3	290.2	267	355.7
195	4.87	185.6	67.2	291.9	267.5	352.6
196	4.84	183.5	67.3	288.9	267.6	351.4
197	4.8	183.3	67.2	287.1	267.9	354.7
198	4.77	183.3	67.2	285.4	268.1	352.9
199	4.74	182.8	67.3	284.5	268.4	353.6
200	4.71	182.1	67.2	288.3	268.5	355.3
201	4.67	180.5	67.2	283.8	269	353.4
202	4.62	182.6	67.1	285.7	269.2	358.1
203	4.58	182	67.1	285.2	269.5	353.2
204	4.56	179.7	67.1	278.4	270	356.6
205	4.53	180.1	67.1	277.2	270	352.5
206	4.49	180.3	67.2	275.3	270.5	354.6
207	4.45	179.3	67.1	275.6	270.6	354.1
208	4.43	180.1	67	282.2	271.1	357.7
209	4.39	178.8	67.1	274.7	271.1	354
210	4.35	177.7	67.1	275.4	271.3	350.1
211	4.32	177.4	67	276.5	271.7	352.2
212	4.3	176.5	67	271.3	272	352.4
213	4.28	174.8	67	265.5	272.3	345.8
214	4.26	173.4	67.1	268.5	272.7	341.5
215	4.23	174.3	67	266.2	273.1	341.8
216	4.21	171.6	67.1	267.8	273.3	341.2
217	4.2	171.2	66.9	261.2	274	338.4
218	4.17	169.5	67.1	263.1	274.1	336.5
219	4.16	167.8	67.1	264.8	274.5	332.7
220	4.13	166.1	67	254.2	274.6	331.1
221	4.12	164.1	66.9	255.8	274.8	331.3
222	4.1	162.1	67	252.4	275.2	327.6
223	4.1	160.3	67	251	275.4	323.7
224	4.08	160.1	66.9	250.7	275.9	318.7
225	4.06	159.1	66.8	247.2	276.2	321.8
226	4.06	158	66.8	243.3	276.5	318.1
227	4.04	156.2	66.8	241.7	276.9	315.3
228	4.03	155.4	67	242.8	277	316.7
229	4	154.7	67	238.5	277.1	313.7
230	4.01	153.6	66.9	236.3	277.3	315.4
231	3.99	152.2	66.8	233.5	277.5	309.7
232	3.97	151.7	66.9	232.8	277.8	306.2
233	3.96	149.7	66.8	230.3	277.9	304.6

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234	3.94	149.5	66.8	227.2	278	302.7
235	3.93	149.7	66.7	232.4	278.1	305
236	3.92	149.2	66.7	228.1	278	301.9
237	3.9	148.5	66.7	226.2	277.9	304
238	3.89	148	66.7	220.1	278.1	299.3
239	3.88	146.4	66.7	222.7	278.2	297.5
240	3.87	145.4	66.7	225.4	278	296.6
241	3.86	145	66.7	219.2	278.1	294.6
242	3.84	143.8	66.9	218.3	278	296
243	3.82	143.7	66.7	216.6	277.8	290.9
244	3.83	143.3	66.5	214.3	277.7	290.5
245	3.8	142.8	66.7	214.3	277.7	291
246	3.79	141.7	66.8	212.5	277.8	287.3
247	3.77	141.7	66.8	212.9	277.5	287
248	3.77	140.8	66.5	212.1	277.1	284
249	3.76	139.9	66.6	209.5	277.2	281.8
250	3.74	139.4	66.6	209.5	277.2	282.3
251	3.73	139.9	66.6	209.6	277.1	284.5
252	3.72	138.8	66.7	206.5	276.9	281.1
253	3.71	138.4	66.6	205.7	276.9	279.4
254	3.7	137.6	66.6	206	276.5	280.1
255	3.69	137.1	66.5	202.4	276.5	277.1
256	3.66	137.3	66.5	205.5	276.1	275.3
257	3.66	137.3	66.5	204.1	276.1	278.7
258	3.64	136.8	66.5	202.6	275.8	274.6
259	3.63	136.2	66.5	204	275.6	272
260	3.62	136.3	66.7	202.5	275.5	272.8
261	3.61	135.5	66.6	203.2	275.5	272.7
262	3.59	135.5	66.6	206.3	275.1	272.7
263	3.58	135.5	66.4	204.2	274.8	272.4
264	3.57	135.8	66.4	204.7	274.5	270
265	3.55	135.3	66.5	204.8	274.4	272.5
266	3.54	135.3	66.3	202.9	274.1	272.2
267	3.54	135.1	66.4	199.7	274.2	268.1
268	3.51	135	66.4	201	274.1	268.4
269	3.51	135.1	66.4	201.1	274	268
270	3.48	134.7	66.4	199.7	274	266.2
271	3.47	134.7	66.3	198.8	273.7	267.2
272	3.47	134.6	66.3	200.5	273.3	269.3
273	3.44	134.7	66.3	208.4	273.2	269
274	3.44	134.1	66.4	201.7	273	266.7
275	3.42	134.4	66.2	204.1	272.8	264.9
276	3.41	134.3	66.3	201.9	272.7	267.4
277	3.4	134.3	66.1	202.4	272.4	266.9
278	3.38	135	66.3	200.9	272.3	264.8
279	3.37	135.2	66.4	200.1	272.3	266.3
280	3.36	133.9	66.3	200.5	272	267.2

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281	3.34	134.6	66.3	202.9	272	265.9
282	3.33	134.3	66.3	198.9	272.1	264.4
283	3.32	134.4	66.1	200.9	271.7	265.6
284	3.31	134.3	66.2	200.5	271.8	266.5
285	3.29	134.3	66.3	200.8	271.5	268.5
286	3.28	134.9	66.2	204.2	271.7	268.4
287	3.26	134.5	66.3	200.2	271.2	267.1
288	3.26	134.2	66.2	198.4	271	267.8
289	3.25	133.8	66.1	198	271	266
290	3.24	133.4	66.1	197.8	270.9	269.6
291	3.21	133.2	66.1	199	270.8	266
292	3.21	133.3	66.1	199.2	270.9	266.5
293	3.19	133.4	66.1	198.9	270.6	269.1
294	3.17	133.6	66.1	197.1	270.4	268.9
295	3.17	134.1	66.1	198.6	270.4	269.2
296	3.16	133.6	66.1	195.8	270.4	269.6
297	3.14	132.8	66	196.7	270.2	269.9
298	3.13	133	66.1	196.8	270	267.7
299	3.12	133.1	66.1	196.9	269.9	268.2
300	3.1	132.9	65.9	194.4	269.9	272.1
301	3.1	133.5	66.1	199.1	270	271.4
302	3.09	133.4	66	197.7	269.6	271.7
303	3.07	133.2	66	195.2	269.6	272.7
304	3.06	132.7	66	194.7	269.6	272.3
305	3.06	132.3	66	196.1	269.4	272
306	3.04	132.5	65.9	198.7	269.2	270.8
307	3.02	132.3	66.1	195.5	269.3	270.6
308	3	132.6	65.9	196.4	269.1	272.7
309	3	131.6	66	189.9	269.2	271.9
310	2.99	131.3	65.7	193.4	269	274.5
311	2.98	131.8	65.8	192.9	268.8	270.3
312	2.97	132	66	190.5	268.8	272
313	2.96	131.9	65.9	188.3	268.9	272.7
314	2.95	132.2	65.9	189.3	268.7	271.9
315	2.93	131.6	65.8	192.4	268.6	272.7
316	2.92	130.6	65.8	192	268.6	273.1
317	2.91	131.5	65.8	191.1	268.6	274
318	2.88	131.2	65.9	190.6	268.3	273.6
319	2.89	130.6	65.8	190.5	268.1	274.5
320	2.88	131.3	65.7	189.8	268.3	272.7
321	2.86	131.5	65.7	190.4	267.9	271
322	2.84	131.1	65.8	189.6	267.8	275.5
323	2.83	131.2	65.9	190.4	267.7	275.1
324	2.82	131.8	65.8	188	267.7	274.5
325	2.81	131.1	65.7	189.4	267.5	273.8
326	2.79	131.3	65.8	186.2	267.4	271.4
327	2.78	131.5	65.6	185.3	267.4	276.8

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328	2.78	131.8	65.8	186.9	267.3	275.6
329	2.76	131.7	65.7	188.8	267.1	277.5
330	2.73	130.8	65.7	187.7	267	279.7
331	2.73	131.1	65.5	186.8	266.8	278.1
332	2.72	131.2	65.5	187.9	266.7	277.2
333	2.71	130.6	65.5	186.6	266.8	279
334	2.7	130.3	65.5	187.2	266.5	277.7
335	2.68	130.1	65.4	187.5	266.4	281.3
336	2.68	131	65.5	185.5	266.5	280.8
337	2.65	131	65.5	189.1	266.2	281
338	2.65	131.3	65.5	185.2	266.1	283.1
339	2.63	131.7	65.5	186	266	282.5
340	2.62	131.6	65.5	185.4	266	283.9
341	2.62	131	65.4	187.6	265.9	281.8
342	2.6	130.3	65.4	184.5	265.7	282.4
343	2.58	130.4	65.3	188.3	265.7	284.7
344	2.56	130.9	65.5	188.5	265.5	287.2
345	2.56	130.9	65.3	187.6	265.3	284.8
346	2.54	131.6	65.4	186.9	265.5	287
347	2.52	131.7	65.4	185.9	265.2	287.6
348	2.5	132.2	65.4	185.7	265.1	290
349	2.49	132.9	65.5	185.9	265.3	289.2
350	2.47	132.5	65.3	185.3	265.2	289.7
351	2.46	132.8	65.2	186.5	265.2	288.7
352	2.44	132.4	65.3	187.4	264.7	289.4
353	2.43	132.5	65.3	187.5	265	292.4
354	2.41	132.6	65.3	186	264.8	292.8
355	2.39	132.7	65.3	188.2	265	293.5
356	2.39	132.6	65.2	188	265	294
357	2.37	132.3	65.2	188.8	264.9	291.5
358	2.36	133.1	65	186.1	264.8	294.2
359	2.34	132.7	65.1	187.5	264.9	296.9
360	2.33	132.8	65.1	185.2	265.1	293.1
361	2.31	132.8	65.1	186.1	264.8	296.7
362	2.3	133.3	65	187.4	264.8	296.8
363	2.28	133.2	65.1	188.5	264.9	297.2
364	2.27	133.8	65.2	187.7	265	296.3
365	2.25	133.9	65.1	188.7	265	297.3
366	2.23	133.7	65.2	187.8	265.2	299.9
367	2.21	134	65.1	193	265	299.5
368	2.21	134	65	190.7	265.2	299.1
369	2.18	133.3	65	189.5	265.1	295.8
370	2.17	132.5	64.9	189.6	265.2	301.6
371	2.15	133.3	65	191	265.2	300.8
372	2.13	134.2	65	192.3	264.9	302.7
373	2.12	134	65.1	190.2	265.5	300.7
374	2.11	133.8	65	189	265.5	298.6

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375	2.08	134.5	64.9	191.4	265.5	300.5
376	2.07	133.8	64.9	192.8	265.7	302
377	2.05	134.3	65	191	265.6	302
378	2.04	133.9	64.9	188.1	265.6	303.3
379	2.02	134.3	64.8	189.8	265.7	302.8
380	2.01	134.5	64.9	191.7	266.1	302.2
381	1.99	135.4	65	190.8	265.8	302.8
382	1.97	135.4	64.9	191.1	266.2	301.8
383	1.95	135.4	64.8	192.2	266.1	304.7
384	1.93	135.4	64.7	188.3	266.1	304.9
385	1.92	135.3	64.9	189.5	266.3	303.7
386	1.9	135.8	64.8	188.9	266.4	305.5
387	1.89	134.7	64.8	190.1	266.5	304
388	1.87	134.1	64.8	190.2	266.5	304.8
389	1.86	134	64.8	188.7	266.6	301.4
390	1.83	134.7	64.6	188	266.6	306.1
391	1.81	133.2	64.6	190.2	266.8	304.7
392	1.8	133.3	64.7	194.5	267	306.4
393	1.78	132.8	64.8	190.5	266.9	306.8
394	1.77	132.6	64.8	192	266.9	306.5
395	1.75	133.2	64.7	191.1	266.8	306
396	1.74	133.3	64.7	190.6	267.1	307.8
397	1.73	134.4	64.8	192.5	267	307.4
398	1.69	135	64.6	190.9	267	309.4
399	1.68	134.2	64.7	189.6	267.1	306.7
400	1.67	134.9	64.7	192.4	267.2	308.6
401	1.65	134	64.6	191.5	267.4	309.3
402	1.64	135.3	64.7	189.9	267.3	306.7
403	1.63	134.9	64.7	190.1	267.4	309.4
404	1.61	135.3	64.5	196.3	267.4	308
405	1.59	135.2	64.7	193.6	267.5	307.9
406	1.59	134.6	64.5	193.4	267.5	306.8
407	1.57	134.7	64.5	194.3	267.9	308
408	1.55	133.9	64.5	191.7	267.9	307.2
409	1.54	134.5	64.5	192.4	267.9	305.1
410	1.52	134.2	64.6	191	268	306.7
411	1.5	134.1	64.5	190.3	268.2	308.2
412	1.49	134.6	64.6	190.9	268.3	307.2
413	1.48	134.6	64.6	191	268.3	305.9
414	1.45	134	64.6	193.8	268.3	305.1
415	1.44	133.1	64.5	191.5	268.5	306.3
416	1.43	133.9	64.5	191.4	268.5	304.2
417	1.4	132.6	64.5	194.5	268.4	308.1
418	1.39	133.5	64.6	193.8	268.9	305
419	1.37	134.9	64.5	195.1	268.8	304.3
420	1.37	134.2	64.5	191.6	268.9	304.3
421	1.36	134.9	64.4	191	269.1	303.6

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422	1.34	134.3	64.6	197.4	269.2	303.8
423	1.33	134.3	64.3	195.4	268.9	304.2
424	1.31	134	64.4	190.6	269.1	306.8
425	1.28	134.3	64.4	193.1	269.2	301.8
426	1.27	135.2	64.5	195	269.6	304.3
427	1.27	134.7	64.5	193.5	269.5	306.3
428	1.25	134.6	64.4	192.1	269.4	308
429	1.24	134.4	64.5	191.1	269.6	301.8
430	1.22	134	64.5	191.1	269.6	305.5
431	1.2	134.4	64.4	193.4	269.9	304.9
432	1.19	133.9	64.5	190.4	269.8	305.9
433	1.17	133.1	64.4	191.1	270	305.8
434	1.16	133.4	64.4	189.6	270.3	304.1
435	1.16	132.2	64.5	189.6	270.5	302.7
436	1.15	132.2	64.5	192.7	270.8	303.6
437	1.12	131.7	64.4	188	270.8	304.8
438	1.1	131.8	64.5	188.6	271.1	301
439	1.1	131.3	64.5	188.1	271.4	304.5
440	1.09	131.4	64.4	187.8	271.7	303.2
441	1.07	131.6	64.3	188.9	272.1	302.7
442	1.04	131.5	64.3	186.4	272.6	302.3
443	1.04	131.4	64.3	185.8	272.9	302
444	1.04	131	64.3	186.9	273.2	303.3
445	1	131.3	64.2	186.4	273.5	304.1
446	0.99	131.7	64	185.8	273.8	302.6
447	0.99	131.1	64.2	185.9	274.1	302.7
448	0.96	130.9	64.1	186.2	274.4	304
449	0.95	131.3	64.3	186	274.7	302
450	0.93	131.4	64.2	186.1	275	302.7
451	0.92	131.5	64.1	186	275.2	302.5
452	0.91	131.2	64.2	186.4	275.5	300.8
453	0.89	131.4	64.2	184.7	276	301.2
454	0.88	131.2	64.1	185.1	276.2	301.2
455	0.87	131.7	64.2	187.2	276.4	298.5
456	0.84	130.7	64.2	183.7	276.7	302.3
457	0.84	131	64.2	183	277.1	300.4
458	0.82	130.7	64.2	185.7	277.4	301.5
459	0.81	131.1	64	186.2	277.7	300.7
460	0.8	130.8	64.2	181.5	277.9	298
461	0.78	130.6	64.2	183.6	278.1	301.2
462	0.77	131.5	64.3	186.1	278.5	298
463	0.76	131.5	64.1	185.2	278.7	298.5
464	0.73	131	64.1	186	279	296.2
465	0.72	131.6	64.1	184.4	279.2	296.3
466	0.72	131.3	64.2	184.4	279.3	295.2
467	0.71	130.5	64.3	184.7	279.4	290.9
468	0.69	130.3	64.2	183.4	279.4	293.6

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469	0.68	130.3	64.1	185.9	279.4	291.8
470	0.67	130.3	64.1	185.7	279.6	287.5
471	0.64	130.5	63.9	182.7	279.6	288.2
472	0.64	130.6	64	185.6	279.3	288.1
473	0.63	130.2	64.1	184.7	279.5	283.7
474	0.61	129.1	64.1	184	279.4	283.2
475	0.6	129.6	64.2	184.7	279.2	282.5
476	0.6	128.7	64.2	181.6	279.1	281.6
477	0.58	128.6	64.2	183.1	279.1	280.2
478	0.57	129	64.2	185.7	278.9	281.5
479	0.55	129.1	64.1	182.9	278.8	277.5
480	0.54	129.2	64.3	184.3	278.6	276.7
481	0.53	129	64.2	182.2	278.5	276.2
482	0.52	129.4	64.2	185.7	278.3	275.2
483	0.51	128.9	64.1	185.2	278.3	275.8
484	0.5	128.6	64	182.4	278.2	270.1
485	0.49	128.6	64.2	183	278.1	269.4
486	0.48	129.1	64.1	181.6	277.9	266.7
487	0.46	128.6	64.2	182.1	277.9	267.6
488	0.45	128.6	64	184.8	277.6	269.1
489	0.43	129.9	64.1	182.7	277.5	267.3
490	0.43	129.7	63.9	181.6	277.5	263
491	0.4	129.5	63.9	183.2	277.2	261.7
492	0.4	129	63.9	182.2	277	261.9
493	0.4	128.6	63.8	183.1	277	261
494	0.38	129.4	64	183.8	276.8	259.4
495	0.37	129.5	64	186.5	276.7	259.7
496	0.35	129.3	64.1	183.1	276.4	260.8
497	0.34	129.8	63.9	184.8	276.2	259.4
498	0.33	128.8	63.8	184.1	276.1	259.4
499	0.33	129.1	63.9	185.6	276	253.7
500	0.31	129.1	63.8	187.5	275.8	258.5
501	0.3	129.1	64	185.5	275.7	257
502	0.29	129.7	64	185.8	275.6	255.6
503	0.28	129.5	64	188.4	275.5	253.5
504	0.26	129.9	64	183.6	275.3	253.4
505	0.24	129.4	64.2	185.5	275.1	254.9
506	0.23	129.5	64	187.2	275.1	251.6
507	0.22	129.5	63.8	186.4	274.7	256.4
508	0.21	129.4	63.9	184.9	274.8	251.5
509	0.21	129.9	63.8	184.6	274.6	251
510	0.18	130.4	63.7	189.1	274.3	250.8
511	0.17	130.4	63.8	185.8	274.2	250.5
512	0.16	129.6	63.8	186.4	274.4	252.6
513	0.15	128.8	63.8	186.4	274.1	250.1
514	0.14	129	63.8	184.9	273.9	250.8
515	0.12	129.1	63.8	186.4	273.8	252.6

F3500B-1 Conditioning Data

516	0.11	129.3	63.8	185.5	273.7	247.6
517	0.09	129.4	63.8	187.6	273.6	251.2
518	0.08	129.2	63.9	186.3	273.6	250
519	0	128.7	63.9	185.6	273.6	252.3

Tests were done at a medium low air setting

Test load average moisture content -21.5%

F3500B-1 Conditioning Data

FB Left (F)	FB Right (F)	Catalyst (F)	Avg. Surface Temp (F)
323.7	335.1	807.3	314
323.9	334.7	717.8	312.8
325.1	332.6	653.2	314
324.3	330.9	715	312.9
323.7	330.1	863	311.2
323.4	330.7	944.8	312.2
323.1	332.4	1005.2	312.7
322	333.7	1052.6	313.4
321.8	336.7	1080.2	316
322.3	340.4	1079.9	317.4
322.6	344.5	1068.6	323.1
322.7	347.9	1061	323.8
323.4	352.3	1068	326.9
324.1	355.6	1022	330.8
324.4	357.4	1008.1	331.6
323.3	357.3	1005.4	332.7
322.5	356.2	1003.3	331.8
321.2	354.3	996.7	332.5
320.9	352.8	985.8	330.6
320.5	350.9	972.6	333
319.9	348.6	959.9	329
319.6	346.8	952.3	328.6
319.3	344.5	951.5	327.1
318.6	342.5	954.9	327
318.2	340.8	958.1	326.7
318	338.9	960	325.5
317.4	337.5	962.5	324.3
317.4	335.8	966.3	324.3
317.4	334.3	971.2	324.7
317.3	333.3	977	324.8
317.3	332.2	982.7	322.9
317.3	331.2	988.1	324.4
317.7	330.4	989.9	323.5
317.8	329.8	991.6	321.9
318.1	329	994.1	324.2
318.4	328.8	997.2	323.2
319.2	328.8	998.6	323.2
319.4	328.3	1000.5	323.7
320.7	328.5	1001.2	323.5
320.6	328.8	1001.2	325.3
321.8	329.9	1000	324.8
322.4	331	998.3	325.4
322.9	332.7	995.8	327.7
323.6	334.6	991.5	326.7
324.3	336.2	988.2	327.2
324.5	337.2	984.7	325.4

F3500B-1 Conditioning Data

325	339	984	323.4
325.2	340.2	991.9	321.8
325.7	340.9	1005.1	321.8
325.6	341.9	1016.4	320.4
325.4	342.4	1023.9	318.7
325.7	343	1030.3	319.2
325.9	343.5	1033.7	318.3
325.9	344.4	1035.1	317.2
325.6	345.4	1035.5	317.4
324.9	346.6	1034.2	317.2
324.5	347.6	1030.2	318.2
324.1	349.1	1025.3	317
323.7	350.7	1020.5	318.4
323.7	352.5	1016.2	319.1
323.7	353.5	1013.1	319.4
323.5	354.8	1010.8	319.3
323.6	356.9	1009.2	318.8
323.8	358.1	1008.5	319.2
323.9	358.3	1007.5	320.1
323.9	359.9	1007.7	320.1
324.3	361.4	1009.2	320.8
324.7	362.6	1010.2	320.7
325.3	364.7	1009.8	320.9
325.1	365.5	1009.6	322.4
325.5	367.2	1009.1	322.3
325.5	369	1008.1	323.9
325.8	371	1007	323.5
326.1	372.9	1005.6	324.5
326.4	374	1005.2	324.4
326.8	376.1	1005	323.9
326.8	376.4	1005.3	324.9
327	377.7	1006.3	324.5
327.2	379	1007.8	324
327.4	380.1	1010.2	326.4
327.9	381	1012.9	325.9
328	381.4	1015.4	325.5
328	381.8	1018	327.4
328.4	382.2	1020.7	327.3
328.3	382.8	1024	326.7
328.9	383.7	1026.3	328
328.7	383.7	1028.1	328.2
328.8	384.2	1029.1	328.7
328.8	384.1	1029.1	330
329.1	384.7	1029.3	329
329.2	384.9	1028.7	329.5
329.4	385.6	1026.7	330.8
329.7	385.5	1023.6	330.3

F3500B-1 Conditioning Data

330	386.9	1019.9	331.3
329.9	387.2	1016.8	329.1
330.2	388.2	1012.2	329.2
330.2	389.1	1007.3	330.7
330.2	389.7	1003.5	330.2
330.5	391.1	1000.2	330
330.9	391.6	997.1	330.7
330.8	392.4	993.6	330.7
330.8	393.7	990.8	331.9
331	394.5	988.3	331.5
331.3	395.3	985.8	330.7
331.3	395.6	986.6	331
331.6	395.9	993.3	332.4
331.4	396.4	1002.5	330.5
332	396.5	1008.6	332.9
331.3	396.5	1014	330.8
331.7	396.8	1016.7	331.5
331.2	397.2	1017.5	331.5
331.5	397.2	1016.6	332.3
331.5	397.4	1014.7	332.1
331.6	397.9	1012.5	332.8
331.8	398.4	1010	331.6
332.3	398.7	1007.7	334.1
332.6	399.4	1006.8	332.7
332.6	399.8	1006.2	333.3
332.8	400.2	1005.6	333.4
333.4	400.9	1005.4	332.8
333.6	401	1003.6	333.5
333.5	401.7	1003.5	333.7
333.5	402	1004	335.3
333.8	402.5	1004.9	335
334.2	402.8	1003.9	333.7
334.7	403	1002.7	333.9
334.3	404.2	1002.1	336.2
335	404.3	1001.8	334.7
335	404.3	995.8	334.4
335	403.6	982.9	334.3
335.4	403.4	968.7	333.9
335.5	402.8	956.9	333.8
335.8	402.6	946.9	334.9
336.4	402	940.9	333.7
337	402.5	937.2	333.6
337.9	402.7	937.5	333.6
339	403.7	941.2	333.2
340.3	404.2	947.3	333.3
340.9	404.7	952.8	332
341.4	404.7	953.3	332

F3500B-1 Conditioning Data

342.2	404.5	947.4	333.6
342.9	404.6	938.3	331.5
343.2	404.1	927.4	330.3
343.3	403.7	916.4	329.6
343.8	403.1	905.5	330.3
343.9	402.1	896.8	328.1
344.2	401.4	890.1	328.3
344.5	400.2	885.1	327.6
344.6	399.3	881.9	327.1
344.6	398.1	880.7	326.2
344.6	397.5	880.5	326.2
344.8	396	880.9	325.6
344.9	395.2	881.4	324.3
345.5	394.2	882.1	325.7
346.5	393.8	883	326.4
346.9	392.5	883.4	323.9
347.3	391.4	883.9	324
348.6	390.8	884.6	325.2
349.1	389.9	885.5	326.2
349.3	389.4	886.6	325.5
350	388.7	888.3	325.3
350.1	388.1	890.2	325.6
350.6	386.9	892.5	325.1
350.7	386.1	895.1	325.6
351	385.9	898.6	325
350.9	385.2	903.3	325.1
350.8	385.1	908.1	324.9
351.1	384.6	913.3	326.1
351.1	384	917.8	324.8
351	383.8	920.8	326
351	383.3	922.4	326.5
351.8	383.1	922.4	327.3
351.3	382.9	921.1	326.1
351.5	383.1	919.7	326.7
351.6	382.3	918.1	329.4
351.8	382.4	916.1	328.7
351.7	382.5	915.1	327.7
351.8	382.1	914.9	328.6
351.9	381.3	915.5	328.5
352	381.3	916.6	329.7
351.5	380.5	917.6	329.1
351.7	380.2	918	329.1
351.5	379.8	918.6	328.8
351.7	379.3	918.7	328.4
352	379.2	918	328.8
351.6	379.1	916	329.9
351.9	378.7	913.4	329.5

F3500B-1 Conditioning Data

351.9	378.2	910.4	328.9
352.6	377.5	907.1	329.2
351.8	377.4	904.7	329.4
351.5	376.7	900.2	327.9
351.2	375.8	897.7	329.5
351.5	375.6	893.8	328.4
351	374.9	888.9	328.2
350.4	374.5	884.7	327.6
350.2	374	880.9	327.2
349.6	373.5	876.2	326.2
349.3	372.7	872.6	326.3
348.3	372.3	869	325.4
348.2	371.7	864.9	325.3
348	371	861.5	326.2
347.7	370.4	857.5	324.9
347.4	369.2	855.1	325.9
346.7	369.1	852.9	324.7
346.4	368.4	851.8	324
346.3	367.9	850.9	322.8
346.5	367.3	850.3	322.8
346.2	366.6	849.4	322.6
346.1	365.7	850.1	324.5
345	365.3	852.5	322
344.8	364.2	851.1	321.2
344.9	363.9	846.2	321.9
344.6	362.7	837.5	320.6
343.7	361.9	827.3	317.9
343.4	361.2	815.8	317.5
342.9	360.6	804	316.9
342.1	359.8	790.7	316.8
341.4	359	779.6	314.8
340.7	358.2	768	314.5
340.6	357.5	756.4	314
339.6	356.4	746.9	311.2
338.6	355.6	736.8	311.2
337.6	354.6	727.7	309.5
337.1	353.5	718.3	308.1
336.3	352.5	709.9	306.8
335.6	351.1	704.4	306.4
334.1	349.9	698.2	304.4
332.8	348.9	691.8	303.1
331.5	347.6	686.8	303.1
331.1	346.1	683.4	301.3
329.8	344.7	680.3	300.7
328.4	343	676.1	298.4
327.8	341.9	673	297.3
326.3	340.7	670.2	296

F3500B-1 Conditioning Data

325.5	339.2	667.8	294.5
325.1	338	664.2	295.8
323.6	336.4	661	293.6
322.4	334.9	656.6	293.1
321.1	333.6	652.7	290.4
320.5	332.3	652	290.3
319.1	331.2	647.5	290.1
318.5	330	645.1	288.1
317.5	329	644.1	287.8
316.1	328.1	639.9	285.9
315.4	326.9	635.8	285
314.6	326.2	631.9	284.7
313.5	325	629.9	283.2
312.6	324	628.7	282.8
311.6	322.9	624.1	281.6
310.7	322.2	618.8	280.3
309.5	321.2	619.4	279.9
308.4	320.2	617.4	279.9
307.9	319.5	607.7	278.4
307.1	318.7	612.3	277.6
306.5	317.9	606.7	277.4
305.8	317.1	609.3	275.7
304.7	315.9	608.6	275.5
303.8	315.6	606.3	275.7
303.2	314.6	603.4	274.2
302.8	313.7	602.6	273.6
302.2	312.8	608	273.2
301.8	312.1	609.3	273
301.2	311.6	601.4	273.4
300.7	310.8	606.9	272.6
299.8	309.7	613	271.7
299.6	309.6	608.7	272.2
299	308.7	609.8	271.4
298.3	308	609.8	269.7
298.1	307.5	610.6	269.8
297.7	306.7	608.8	269.5
296.8	306.2	609.8	268.6
296.5	305.5	610.8	268.3
296.1	305.2	610.5	268.9
295.4	304.5	612	270.1
295.2	303.9	614.6	268.1
294.8	303.3	614.9	268
294.1	303.1	611.4	267.8
293.9	302.4	610.8	267.6
293.6	301.6	606.4	266.6
293.3	301.1	609.9	266.6
293	300.8	617.5	266.7

F3500B-1 Conditioning Data

293.1	300.3	616.5	266.8
292.6	299.9	608.8	265.6
292.3	299.2	614.8	265.9
291.7	298.6	613.6	265.8
292	298.3	613.7	266.2
291.1	297.5	607.8	266.6
290.4	296.9	603.5	265.2
290.7	296.7	607.7	264.9
290.4	296.1	605.9	264.3
290	295.4	605.6	264.8
289.6	295.3	602.3	264.1
289	294.9	604.1	264.1
289.3	294	603	264.4
288.9	293.6	599.5	263.8
288.7	293.2	597.8	264
288.5	292.6	598.4	263.4
288.1	292.4	598	263.5
287.8	291.6	593.6	262.8
287.4	291.1	588.1	262.7
287.7	290.5	591.6	262.9
287.2	290.5	591.4	263.6
286.4	289.7	587	263
286.2	289	586.3	262.5
286.3	288.8	592.9	262.3
286	288.7	582	262.4
285.6	287.8	586.2	262.4
285.5	287.6	583.8	261.7
285.1	287	585.5	262.1
284.6	287.1	583.7	260.5
284.1	286.4	579.6	261.5
284.2	286.2	585.6	260.5
284	285.7	578	260.2
283.6	285.1	582.2	259.7
283.3	284.8	578.7	259.6
282.8	284.6	583.1	260.2
283	284.2	581.4	260.2
282.1	283.7	574.7	259.9
282	283.1	576.7	259.5
282.1	282.9	576.4	259.6
281.7	282.4	572.6	259
281.6	282.2	578.2	258.6
281.3	281.9	576.9	259.2
281.1	281.5	580.3	259.2
280.8	281.1	579.6	258.4
280.6	280.8	576.1	258.4
280.2	280.5	576.1	257.1
280.5	280.5	582.1	258.1

F3500B-1 Conditioning Data

279.9	280.3	581.7	258
279.5	279.8	573.8	258.5
279.5	279.9	575.9	258.8
279.4	279.4	579.7	258.1
279.2	279	581	258
279.2	278.8	579.2	258.1
278.9	278.8	569.1	257.8
278.9	278.8	575.3	258.6
278.8	278.5	578.9	258
279	278.1	574.4	258.7
278.3	277.8	574.9	258.1
278.2	277.7	578.2	258.1
278.3	277.1	583.4	258.1
278.1	276.4	586	258
277.8	276.8	587	257.4
278	276.3	588	258.6
277.6	276.3	587	259
278	275.6	589	258.3
277.6	275.5	590.3	258.5
277.9	275.4	592.1	258.4
277.6	275.1	591.3	258.7
277.4	275.2	590.7	258.6
277.7	275	585.2	258.6
277.8	274.8	589.9	258.6
277.8	274.9	595.2	258.8
278.1	274.8	595.8	259.5
278.3	274.7	596.9	259.3
278.4	274.6	597.5	259.9
278.6	274.4	600.4	260
278.5	274.2	599.5	259.6
279.1	274.5	600.7	259.7
278.8	274.2	600.4	260.5
279.2	274	600.8	259.3
278.9	273.8	602.7	260.1
279	273.6	603.4	260.3
278.9	273.6	603.9	260.6
279.5	273.4	605.1	260.4
279.8	273.5	604.8	260.9
279.9	273.3	605.4	261.2
279.9	273.4	606.5	262.2
279.8	273.2	605.3	261.6
280.2	273.2	605.7	260.8
280.5	273.4	604.4	262
281	273.4	604.5	262.3
281	273.5	604.1	262.9
281.5	273.6	604.9	262.3
282	273.5	605.9	261.7

F3500B-1 Conditioning Data

282.2	273.4	605.1	262.6
282.7	273.5	605.2	263.4
283.2	273.5	605.8	263
283.6	273.3	604.7	262.8
284.3	273.2	604	263.2
284.6	273.4	606.5	263.6
285	273.5	606.5	263.6
285.3	273.2	607.9	263.5
286.3	273.6	608	264.6
286.7	273.5	605	263.9
287.8	273.3	607.9	264.1
288.6	274	607.9	264.7
289	273.7	612.5	264.7
289.6	273.7	612.2	265
290.4	274	609.3	264.2
290.6	274.2	611.6	265.1
291.4	274.3	612.6	265.5
292.1	274.2	613	266.8
292.2	274.7	613.3	266.2
292.9	274.7	612.4	266.6
293	274.9	612.6	266.4
293.9	274.9	611.5	266.9
294.4	275.3	612.5	267.3
295	275.3	611.6	267.5
295	275.4	613	266.8
295.7	275.8	611.7	267.9
295.8	275.7	612.6	267.9
296.1	275.9	610.7	267.2
296.7	275.8	611.1	267.9
296.7	276	610.8	268.9
297.5	276.1	613.2	268.5
297.5	276.1	612.1	268.2
297.9	276	611.7	268.8
298	276.2	611.5	268.2
298.9	276.4	610.4	268.1
298.6	276.2	613.5	268.1
298.8	276.4	611.4	268.4
298.8	276.3	613	268.3
299.4	276.3	615.2	268.2
299.6	276.5	616.8	268.6
299.4	276.6	617	268.5
300.1	276.4	621.4	268.1
299.6	276.2	619.7	269.4
299.7	275.8	622.3	268.7
300.2	275.6	619.9	268.8
300.4	275.4	620.6	268.1
300.7	275.5	620.4	268

F3500B-1 Conditioning Data

301.1	275.1	619.9	269.3
301.3	274.9	617.8	268.9
301.6	274.8	615.9	268.6
301.7	274.6	614.6	268.1
301.8	274.6	613.1	269.1
302.2	274.9	609.6	269.3
302.4	274.8	608.7	269.3
302.5	274.8	605.3	268
302.8	274.6	601.8	268.7
302.3	274.4	599.7	269
303.2	274.3	597.2	268.7
303.1	274.2	596.5	268.8
303.2	274.2	593.4	268.3
302.9	274.3	591	268
302.7	274	590	268.8
302.9	273.9	589.5	268.1
303	273.4	588	267.4
302.8	273.6	586.5	268.1
303	273.2	584.9	267.8
302.8	273	586.4	267.9
302.7	273.2	586.2	267.4
302.6	273	586.2	267.3
302.7	273.2	587	267.8
302.1	272.6	586.6	267.7
302.5	273	585.1	267.6
301.6	272.5	585.5	267.3
301.7	272.5	583.9	267.8
301.7	272.3	583.8	267.3
301.7	272.5	583.2	267.6
301.8	272.3	584.1	267.6
301	272.3	581.4	267.2
301.4	272.5	582.2	267.1
301.4	272.5	584.3	267.3
301.2	272.3	584.5	267.1
301	272.3	586.1	267.2
300.8	271.7	584.8	266.6
300.6	271.5	586.2	267.4
300.1	271.9	586.7	267.3
300.3	271.9	587.9	265.9
300.3	271.5	588.7	266.9
300.4	271.9	587.6	267
300.2	272.1	585.6	267
299.6	272.5	586.1	266.7
299.9	272.4	586.3	266.4
299.7	272.5	587.2	266.2
299.6	272.3	586.7	265.4
299.4	272.9	585.1	265.7

F3500B-1 Conditioning Data

298.9	272.5	585.9	265.7
298.7	272.4	585.4	264.8
298.5	272.6	585.7	264.3
297.9	272.1	583.5	264.6
297.7	271.6	584.6	263.5
297.3	270.9	582.7	263
297.1	271.1	579	262.9
296.6	271.1	583.3	262
296.3	270.8	580.3	261.9
295.7	270.6	581.9	262.5
295.6	270.5	581.7	261
295.2	269.8	581.9	260.9
295	269.7	582.1	260.3
294.4	269.3	576.8	260.6
293.8	268.8	572.2	260.4
293.4	268.9	578	258.6
292.9	268.6	576.9	258.4
292.5	268.1	579.7	257.4
292	267.6	578.2	257.4
291.3	267.4	581.8	258
290.8	267.1	576.6	257.1
290.5	266.6	584.7	255.8
289.9	266	579.4	255.6
289.3	265.5	583.6	255.2
288.6	265.1	576.9	255
287.9	264.8	582.9	254.5
287.4	264.4	586.5	254.9
287.1	264.1	585.2	254.3
286.4	263.9	584.8	254.1
286.1	264	586.3	253.9
285.4	263.3	586.7	252.8
284.5	262.7	584.6	253.8
284.2	262.5	588	253
283.8	262.4	586.6	252.7
282.9	261.8	584.2	252.4
282.1	262	587.1	251.3
281.8	260.8	582.2	251.6
281	260.7	582.6	251.1
280.5	260.3	583.9	251.7
280	259.9	585	250.2
279.7	259.6	578.1	249.9
278.9	259.4	581.4	250.5
278.7	259.1	583.8	249.6
277.8	259	583.5	250.1
277.3	258.6	578.5	249.3
276.9	258.5	580.4	249
276.5	258.3	579.3	249.5

F3500B-1 Conditioning Data

275.9	258.2	583.8	248.2
275.2	257.7	585.6	249
274.9	257.7	578.4	248.5
274.7	257.9	584.1	248.8

F3500B-1 Conditioning Data

ET	Scale	Flue	REAR	LEFT	RIGHT	TOP	BOTTOM	AMB
0	20	384.07	364	400	385	429	337	383
1	21.1	448	361	399	384	429	337	382
2	19.92	398	351	395	382	429	338	379
3	19.85	380	346	392	379	422	339	375
4	19.68	381	343	390	377	415	339	373
5	19.56	393	339	388	375	412	339	370
6	19.48	357	334	386	374	414	339	369
7	19.43	334	329	383	371	414	339	367
8	19.4	320	325	380	368	416	339	365
9	19.36	311	324	376	364	416	338	364
10	19.33	304	318	373	360	426	338	363
11	19.29	299	313	368	357	423	337	360
12	19.24	296	309	365	353	419	337	357
13	19.14	296	305	362	350	422	336	355
14	19.09	296	304	359	346	421	335	353
15	19.01	297	300	356	344	425	335	352
16	18.93	298	293	354	341	419	334	348
17	18.85	299	294	352	340	421	333	348
18	18.76	300	288	350	339	429	332	348
19	18.7	301	286	349	338	429	331	347
20	18.63	302	292	346	336	438	330	348
21	18.53	302	314	345	335	433	330	351
22	18.48	302	310	344	333	422	328	348
23	18.41	301	309	342	333	430	327	348
24	18.32	301	306	341	333	427	326	347
25	18.24	301	305	341	332	429	325	346
26	18.15	301	303	340	332	435	324	347
27	18.05	301	301	340	332	436	322	346
28	17.98	302	299	340	332	433	321	345
29	17.9	302	299	339	332	431	320	344
30	17.82	302	297	338	333	437	318	345
31	17.73	301	296	338	333	433	317	344
32	17.65	301	294	338	333	445	315	345
33	17.59	301	293	337	334	440	314	344
34	17.51	299	291	337	334	440	313	343
35	17.42	299	290	337	335	432	311	341
36	17.35	299	288	336	336	439	310	342
37	17.26	299	288	336	336	433	309	340
38	17.2	299	288	336	337	440	308	342
39	17.11	298	289	336	337	440	306	342
40	17.04	298	289	336	338	444	305	342
41	16.98	298	288	336	340	440	304	342
42	16.9	298	286	336	340	444	303	342
43	16.83	298	290	336	341	443	301	342
44	16.76	298	286	336	342	439	300	341
45	16.68	297	288	336	343	436	299	341

F3500B-1 Conditioning Data

46	16.62	297	285	336	344	427	298	338
47	16.53	296	287	336	344	436	297	340
48	16.48	296	289	336	344	443	296	342
49	16.4	295	286	336	344	439	295	340
50	16.33	295	287	336	345	431	294	339
51	16.28	295	287	336	345	434	293	339
52	16.2	294	288	336	346	436	292	339
53	16.13	294	286	336	346	435	291	339
54	16.08	294	284	336	346	434	290	338
55	16.01	294	286	336	346	434	289	338
56	15.92	294	285	336	345	439	289	339
57	15.85	294	287	336	346	438	288	339
58	15.8	294	284	336	345	434	287	337
59	15.74	295	285	337	344	432	286	337
60	15.66	294	288	337	345	438	285	339
61	15.61	294	286	338	344	439	284	338
62	15.52	294	284	338	343	432	284	336
63	15.48	294	286	338	343	433	283	336
64	15.41	294	286	339	343	433	282	337
65	15.32	294	285	340	342	432	281	336
66	15.2	293	286	340	342	437	281	337
67	15.16	293	286	341	342	436	280	337
68	15.05	293	285	341	342	434	279	336
69	14.95	293	287	342	341	438	279	337
70	14.89	293	285	343	343	439	278	337
71	14.78	293	289	343	341	433	277	337
72	14.68	293	287	344	342	434	277	337
73	14.59	294	287	344	342	439	276	338
74	14.48	294	286	345	342	433	276	336
75	14.43	294	290	345	342	429	275	336
76	14.33	294	290	346	342	432	275	337
77	14.24	295	293	347	342	435	274	338
78	14.13	295	290	347	342	434	274	337
79	14.06	296	292	348	343	438	273	339
80	13.98	297	293	348	342	433	273	338
81	13.87	297	293	349	343	440	272	339
82	13.77	298	293	350	343	440	272	339
83	13.71	299	295	351	344	440	271	340
84	13.57	300	295	351	344	444	271	341
85	13.5	301	296	352	344	439	271	340
86	13.4	301	297	353	345	438	270	340
87	13.28	302	297	354	345	441	270	341
88	13.19	303	298	354	346	438	270	341
89	13.11	302	298	355	346	438	270	341
90	13	302	300	356	347	440	269	342
91	12.94	303	299	357	347	449	269	344
92	12.84	303	301	357	348	455	269	346

F3500B-1 Conditioning Data

93	12.74	303	304	358	348	450	269	346
94	12.65	303	303	359	349	454	268	347
95	12.54	303	302	359	349	456	268	347
96	12.47	304	305	360	349	463	268	349
97	12.35	303	306	361	350	453	268	347
98	12.25	304	306	361	351	462	268	349
99	12.17	304	305	362	352	464	267	350
100	12.09	304	308	363	352	460	267	350
101	11.97	304	307	364	353	453	267	349
102	11.86	304	309	365	355	471	267	353
103	11.79	304	306	366	355	468	266	352
104	11.7	304	309	367	356	465	266	353
105	11.59	303	312	369	357	469	266	355
106	11.52	303	314	370	358	458	266	353
107	11.38	302	312	372	359	474	266	357
108	11.32	303	315	374	359	459	266	354
109	11.22	302	317	375	360	467	265	357
110	11.13	302	315	377	360	464	265	356
111	11.01	302	318	378	362	463	265	357
112	10.93	302	318	379	363	473	265	360
113	10.87	302	321	380	364	466	265	359
114	10.75	303	322	381	365	472	265	361
115	10.65	305	321	381	366	474	264	361
116	10.53	306	323	382	367	467	264	361
117	10.45	306	326	383	368	471	264	362
118	10.36	307	328	384	368	468	264	363
119	10.27	308	328	385	369	475	264	364
120	10.12	309	329	387	370	473	264	365
121	10.05	308	332	389	371	469	264	365
122	9.93	308	333	390	372	465	264	365
123	9.84	307	335	392	373	459	264	365
124	9.74	307	335	394	374	462	264	366
125	9.65	306	337	395	375	459	264	366
126	9.52	304	337	396	376	471	264	369
127	9.47	303	339	398	377	466	264	369
128	9.34	302	342	399	378	462	264	369
129	9.27	300	342	401	378	465	264	370
130	9.18	300	345	402	379	463	264	371
131	9.08	299	345	403	380	465	264	371
132	9.02	298	345	404	381	462	264	371
133	8.93	298	347	405	382	460	264	371
134	8.86	297	349	406	382	461	264	372
135	8.76	296	350	407	382	460	264	373
136	8.68	295	352	407	382	456	264	372
137	8.62	295	353	407	383	460	264	373
138	8.52	295	354	408	382	454	264	372
139	8.41	294	357	408	382	453	264	373

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140	8.37	294	355	408	382	452	264	372
141	8.34	293	357	408	381	453	264	373
142	8.22	293	357	408	381	455	264	373
143	8.2	292	358	409	381	453	264	373
144	8.12	291	361	409	381	452	264	373
145	8.01	290	359	409	381	453	264	373
146	7.99	290	364	409	381	451	264	374
147	7.9	289	363	409	380	450	264	373
148	7.83	289	363	409	380	445	265	372
149	7.82	288	365	409	379	448	265	373
150	7.72	287	365	409	378	444	265	372
151	7.64	286	366	409	378	446	265	373
152	7.62	285	367	409	377	440	265	372
153	7.56	284	369	409	377	445	265	373
154	7.47	283	366	409	377	435	266	371
155	7.43	282	369	409	376	445	266	373
156	7.39	281	368	409	376	442	266	372
157	7.35	281	369	408	375	430	266	370
158	7.3	280	369	408	375	438	266	371
159	7.23	279	370	406	374	434	267	370
160	7.17	278	366	406	374	435	267	369
161	7.14	276	368	404	373	430	267	368
162	7.11	274	367	402	371	426	267	367
163	7.07	273	368	400	370	431	267	367
164	7.05	271	369	398	369	425	267	366
165	6.97	269	366	396	368	420	267	363
166	6.94	267	365	395	367	411	267	361
167	6.91	265	362	393	365	412	268	360
168	6.88	263	361	391	364	405	268	358
169	6.85	261	363	389	362	407	268	358
170	6.81	259	359	387	361	400	268	355
171	6.76	257	363	385	360	401	268	355
172	6.72	255	358	383	359	397	268	353
173	6.73	253	359	381	357	396	268	352
174	6.72	251	354	379	356	387	269	349
175	6.65	249	354	377	355	387	269	348
176	6.64	247	349	376	353	382	269	346
177	6.57	245	351	374	352	376	269	344
178	6.58	243	350	373	351	373	269	343
179	6.56	241	348	371	350	375	269	343
180	6.53	239	348	370	349	368	269	341
181	6.49	238	347	368	348	365	269	339
182	6.45	236	346	366	347	360	269	338
183	6.4	234	342	365	346	357	269	336
184	6.39	233	341	363	345	352	269	334
185	6.34	231	341	362	344	357	269	334
186	6.32	230	342	360	343	348	269	332

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187	6.3	228	338	359	342	350	269	332
188	6.25	228	337	358	341	337	269	328
189	6.23	227	336	356	341	339	269	328
190	6.22	226	335	355	339	332	268	326
191	6.18	225	332	354	338	332	268	325
192	6.12	225	333	353	338	329	268	324
193	6.1	225	335	352	336	334	268	325
194	6.06	224	326	351	336	332	268	323
195	6.02	224	331	350	335	331	268	323
196	6.02	224	328	349	334	335	268	323
197	5.94	224	329	348	334	328	268	322
198	5.92	224	327	347	333	325	268	320
199	5.89	224	326	346	332	331	268	321
200	5.86	224	328	346	332	329	268	320
201	5.84	225	327	345	331	330	268	320
202	5.79	225	327	344	331	325	267	319
203	5.71	225	326	343	330	329	267	319
204	5.69	226	326	342	330	334	267	320
205	5.64	226	327	341	329	326	267	318
206	5.59	227	326	341	328	325	267	318
207	5.59	227	327	340	328	332	267	319
208	5.56	227	324	340	328	331	267	318
209	5.52	228	325	339	328	326	266	317
210	5.44	228	327	339	328	326	266	317
211	5.43	229	327	338	327	332	266	318
212	5.37	230	330	338	327	327	266	318
213	5.36	230	329	338	327	331	266	318
214	5.31	230	331	337	326	330	266	318
215	5.27	231	328	337	326	333	266	318
216	5.22	231	332	337	326	341	266	320
217	5.19	232	331	337	326	339	265	320
218	5.15	232	332	337	326	331	265	318
219	5.13	232	335	337	326	336	265	320
220	5.06	232	335	337	325	346	265	322
221	5.04	232	335	337	326	342	265	321
222	5.03	232	342	337	325	345	265	323
223	5	232	342	337	325	342	265	322
224	4.93	232	341	338	325	342	265	322
225	4.91	231	341	338	326	337	264	321
226	4.88	231	343	338	325	343	264	323
227	4.82	230	346	338	326	336	264	322
228	4.82	230	345	339	326	340	264	323
229	4.79	229	349	339	326	341	264	324
230	4.77	228	346	339	326	334	264	322
231	4.69	228	348	340	326	338	264	323
232	4.7	227	346	340	326	336	264	322
233	4.66	227	350	340	325	339	264	324

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234	4.65	227	347	340	326	328	264	321
235	4.63	227	351	340	325	333	264	323
236	4.59	226	350	340	326	331	264	322
237	4.56	225	352	341	326	334	264	323
238	4.52	225	350	341	325	334	264	323
239	4.48	225	356	341	326	333	264	324
240	4.46	225	352	342	325	332	264	323
241	4.41	225	354	342	326	329	264	323
242	4.4	224	352	342	326	334	264	324
243	4.38	223	355	343	326	331	264	324
244	4.36	223	356	343	325	327	264	323
245	4.32	222	356	343	325	329	264	324
246	4.28	221	359	343	325	330	264	324
247	4.3	220	360	344	325	331	264	325
248	4.27	220	361	344	325	323	264	323
249	4.23	219	361	344	325	321	264	323
250	4.21	218	362	344	325	324	264	324
251	4.17	217	366	344	325	316	264	323
252	4.18	216	365	344	325	321	264	324
253	4.14	216	368	344	324	319	264	324
254	4.13	215	365	344	324	315	264	322
255	4.1	214	368	344	324	316	264	323
256	4.07	214	370	344	324	311	264	323
257	4.07	213	367	344	324	311	264	322
258	4.05	213	371	345	324	305	264	322
259	4	212	369	345	323	309	264	322
260	4.02	211	370	345	323	308	264	322
261	3.98	211	371	345	323	302	264	321
262	3.95	210	374	345	323	303	264	322
263	3.98	209	372	344	322	304	264	321
264	3.94	209	373	345	322	300	264	321
265	3.89	209	373	344	321	300	264	321
266	3.9	208	372	344	321	300	264	320
267	3.87	208	370	344	321	301	264	320
268	3.86	207	373	344	321	296	265	320
269	3.85	207	376	344	320	296	265	320
270	3.82	207	372	344	320	295	265	319
271	3.77	206	372	344	320	294	265	319
272	3.77	206	371	344	319	295	265	319
273	3.75	206	372	344	319	296	265	319
274	3.73	205	370	344	318	295	265	318
275	3.74	205	377	344	318	293	265	319
276	3.71	205	376	343	318	297	265	320
277	3.68	205	379	343	317	288	265	318
278	3.65	205	380	343	316	290	265	319
279	3.66	205	378	343	316	288	265	318
280	3.6	205	380	342	315	290	265	319

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281	3.58	204	383	342	315	287	265	319
282	3.6	204	385	342	314	289	265	319
283	3.57	204	386	342	314	289	265	319
284	3.53	203	391	342	314	288	265	320
285	3.52	203	391	342	313	285	265	319
286	3.52	203	393	342	313	292	265	321
287	3.48	202	391	341	313	286	265	319
288	3.46	202	392	342	312	287	265	320
289	3.44	202	398	341	312	287	265	321
290	3.44	202	399	341	312	280	265	320
291	3.41	201	399	342	312	281	265	320
292	3.42	201	397	341	312	282	265	320
293	3.37	201	399	342	312	278	265	319
294	3.33	201	402	342	312	280	265	320
295	3.33	200	405	341	312	282	265	321
296	3.3	200	402	341	312	285	265	321
297	3.31	200	401	341	312	280	265	320
298	3.26	200	401	341	312	277	265	319
299	3.27	200	405	341	312	284	265	321
300	3.26	200	405	341	312	278	265	320
301	3.22	200	403	341	312	280	265	320
302	3.2	200	406	340	312	273	265	320
303	3.19	200	405	340	313	279	265	320
304	3.14	199	405	339	313	279	265	320
305	3.13	199	404	339	313	277	265	320
306	3.1	199	405	339	313	276	265	320
307	3.08	199	406	338	313	277	265	320
308	3.09	199	408	338	313	277	265	320
309	3.06	199	408	337	313	275	266	320
310	3.03	198	410	337	314	279	266	321
311	3.01	198	405	336	314	275	266	319
312	3.01	198	409	336	314	280	266	321
313	2.98	198	408	336	314	275	266	320
314	2.97	197	408	335	315	271	266	319
315	2.95	197	407	335	314	270	266	318
316	2.91	197	410	335	315	272	266	319
317	2.92	197	406	334	315	274	266	319
318	2.88	197	409	334	315	274	266	320
319	2.89	197	412	333	315	274	266	320
320	2.84	196	412	333	315	274	267	320
321	2.83	196	408	332	316	272	267	319
322	2.81	196	413	332	316	275	267	321
323	2.79	196	411	332	316	273	267	320
324	2.79	196	412	331	316	273	267	320
325	2.76	195	412	331	316	273	267	320
326	2.75	195	416	331	317	274	267	321
327	2.73	195	415	330	317	274	268	321

F3500B-1 Conditioning Data

328	2.72	195	414	330	317	273	268	320
329	2.69	195	417	330	317	274	268	321
330	2.68	195	411	329	317	268	268	319
331	2.65	195	412	329	317	271	268	319
332	2.65	195	413	329	317	269	268	319
333	2.6	194	414	328	318	269	269	320
334	2.59	195	413	328	317	273	269	320
335	2.6	194	412	328	318	271	269	320
336	2.56	194	416	327	318	273	269	321
337	2.56	194	410	327	318	272	269	319
338	2.52	194	411	327	318	271	269	319
339	2.51	194	412	326	318	268	270	319
340	2.49	194	410	326	318	267	270	318
341	2.48	193	413	326	319	268	270	319
342	2.47	193	413	326	319	268	270	319
343	2.45	193	413	325	319	269	270	319
344	2.42	193	408	325	320	267	270	318
345	2.4	193	408	325	320	271	271	319
346	2.38	193	408	325	319	266	271	318
347	2.37	193	409	325	320	268	271	319
348	2.36	194	408	325	320	271	271	319
349	2.34	193	410	324	320	270	271	319
350	2.33	193	410	325	321	265	272	318
351	2.3	193	408	324	321	271	272	319
352	2.29	193	408	324	321	266	272	318
353	2.27	193	405	324	321	270	272	319
354	2.24	193	404	324	322	271	272	319
355	2.24	192	409	324	323	271	272	320
356	2.24	192	404	324	323	267	272	318
357	2.18	192	404	324	323	266	273	318
358	2.17	192	405	323	323	270	273	319
359	2.17	192	401	323	323	265	273	317
360	2.16	192	402	323	323	267	273	318
361	2.14	192	399	323	323	272	273	318
362	2.11	191	398	322	324	271	274	318
363	2.12	191	396	322	323	270	274	317
364	2.1	192	395	322	323	274	274	318
365	2.08	191	394	322	323	264	274	315
366	2.07	191	395	322	323	268	274	316
367	2.03	191	399	321	323	263	275	316
368	2.01	191	392	321	323	269	275	316
369	2.01	191	397	321	322	263	275	316
370	1.98	191	395	321	322	269	275	316
371	1.98	190	391	321	322	267	276	315
372	1.96	191	391	320	322	263	276	314
373	1.96	191	391	320	321	265	276	315
374	1.93	190	386	319	321	270	276	315

F3500B-1 Conditioning Data

375	1.92	190	382	319	321	265	277	313
376	1.92	190	383	318	320	268	277	313
377	1.89	190	384	318	321	267	277	313
378	1.87	190	382	318	320	266	277	313
379	1.86	190	380	317	320	268	278	313
380	1.85	190	381	317	320	267	278	313
381	1.81	190	383	317	319	268	278	313
382	1.83	190	381	317	319	268	278	312
383	1.77	190	381	316	318	266	278	312
384	1.79	189	378	316	319	268	279	312
385	1.76	189	376	316	318	263	279	310
386	1.76	189	374	316	318	265	279	310
387	1.73	189	374	316	317	269	279	311
388	1.72	189	376	316	317	269	279	311
389	1.71	189	375	316	317	267	280	311
390	1.69	189	376	316	317	270	280	312
391	1.68	189	371	316	316	266	280	310
392	1.67	189	372	315	315	270	280	311
393	1.65	188	372	315	316	266	280	310
394	1.64	188	369	316	314	267	281	309
395	1.6	188	370	315	314	266	281	309
396	1.6	188	368	315	314	266	281	309
397	1.59	188	365	315	314	269	281	309
398	1.56	188	367	315	313	263	281	308
399	1.56	188	370	315	313	266	282	309
400	1.55	187	362	315	312	263	282	307
401	1.52	188	365	315	312	264	282	308
402	1.51	188	362	315	312	263	282	307
403	1.5	187	361	315	311	262	282	306
404	1.5	187	359	315	311	265	282	307
405	1.47	187	361	315	311	264	282	306
406	1.45	187	358	315	310	264	283	306
407	1.47	187	358	315	310	265	283	306
408	1.41	187	357	314	310	266	283	306
409	1.41	187	358	314	309	266	283	306
410	1.39	187	359	314	309	268	283	307
411	1.39	187	359	314	309	261	283	305
412	1.36	187	357	314	308	265	283	305
413	1.36	188	355	313	308	263	283	304
414	1.32	188	354	313	307	263	284	304
415	1.34	187	353	312	307	265	284	304
416	1.3	187	353	312	307	263	284	304
417	1.3	187	354	312	306	261	284	303
418	1.29	187	353	311	306	265	284	304
419	1.25	187	353	311	306	265	284	304
420	1.24	187	352	311	305	262	284	303
421	1.23	187	352	311	305	267	284	304

F3500B-1 Conditioning Data

422	1.22	187	354	310	305	263	284	303
423	1.21	187	352	310	305	264	284	303
424	1.18	187	353	310	304	265	284	303
425	1.18	187	352	309	304	263	284	303
426	1.16	187	351	309	304	261	284	302
427	1.16	187	352	309	303	264	284	302
428	1.13	187	349	308	303	266	284	302
429	1.13	187	350	308	303	268	284	303
430	1.1	187	351	308	302	263	284	301
431	1.1	187	348	307	302	264	284	301
432	1.09	187	349	307	302	263	284	301
433	1.07	187	349	307	302	264	284	301
434	1.04	187	349	307	301	264	284	301
435	1.03	187	345	306	301	263	284	300
436	1.02	187	351	306	301	263	284	301
437	1.01	187	346	306	300	259	284	299
438	1.02	188	344	305	300	258	284	298
439	0.96	188	340	305	300	260	284	298
440	0.97	187	339	305	299	260	284	297
441	0.96	187	335	305	298	254	284	295
442	0.92	187	338	304	299	260	284	297
443	0.93	187	338	304	298	258	284	296
444	0.91	187	337	304	298	258	284	296
445	0.89	187	332	304	297	260	284	295
446	0.88	187	339	303	297	256	284	296
447	0.88	187	334	303	297	261	284	296
448	0.85	187	340	303	297	259	284	297
449	0.84	187	337	303	296	259	284	296
450	0.83	187	334	302	296	256	283	294
451	0.82	187	337	302	296	262	283	296
452	0.8	187	335	302	296	260	283	295
453	0.79	187	338	302	295	258	283	295
454	0.77	186	339	302	295	263	283	296
455	0.76	186	337	302	295	258	283	295
456	0.75	186	343	301	296	258	283	296
457	0.72	185	339	301	295	253	283	294
458	0.72	186	344	301	296	256	283	296
459	0.7	185	338	301	295	261	283	296
460	0.68	185	343	301	296	252	282	295
461	0.68	185	340	301	294	255	282	294
462	0.65	185	338	301	295	252	282	293
463	0.66	185	342	301	294	253	282	294
464	0.62	184	343	301	294	253	282	295
465	0.61	184	337	301	294	255	282	294
466	0.59	184	337	301	294	248	282	292
467	0.59	183	343	301	294	254	282	295
468	0.57	183	328	301	294	249	282	291

F3500B-1 Conditioning Data

469	0.56	183	335	301	294	246	281	291
470	0.55	183	335	301	294	249	281	292
471	0.54	182	332	301	294	251	281	292
472	0.51	182	334	301	293	251	281	292
473	0.5	182	331	301	294	247	281	291
474	0.47	181	335	301	294	247	281	292
475	0.49	181	336	301	294	250	281	292
476	0.46	181	333	301	294	251	281	292
477	0.44	181	338	301	294	250	281	293
478	0.43	181	336	301	293	250	281	292
479	0.4	181	340	301	293	247	281	293
480	0.4	181	341	301	293	248	281	293
481	0.39	181	335	301	293	249	281	292
482	0.37	181	335	301	292	247	281	291
483	0.36	181	337	301	293	245	281	291
484	0.35	181	339	301	293	252	281	293
485	0.32	180	335	302	293	247	281	292
486	0.31	181	334	302	292	245	281	291
487	0.29	181	335	302	293	246	281	291
488	0.28	181	337	302	292	247	281	292
489	0.31	180	337	302	292	246	281	292
490	0.28	181	333	302	292	248	281	291
491	0.27	181	334	302	292	248	281	291
492	0.28	181	330	302	292	251	281	291
493	0.23	180	329	301	292	247	281	290
494	0.21	180	325	301	291	247	281	289
495	0.19	180	331	301	291	245	281	290
496	0.17	181	324	301	291	246	281	289
497	0.18	181	320	301	291	245	281	288
498	0.15	180	320	301	291	245	281	288
499	0.13	180	315	301	291	243	281	286
500	0.11	180	319	301	291	245	281	288
501	0.11	180	319	300	291	245	281	287
502	0.09	180	318	300	291	242	281	286
503	0.08	180	315	300	291	243	281	286
504	0.08	180	315	300	290	238	281	285
505	0	180	318	300	290	246	281	287

Tests were done at a medium low air setting

Test load average moisture content -22.0%

F3500B-1 Conditioning Data

AVG T	CAT
69	865
69	761
69	742
69	737
69	782
69	878
69	917
70	947
70	967
69	970
70	960
70	942
70	925
70	912
70	912
70	924
70	946
70	969
70	986
70	997
70	1003
70	1007
70	1007
70	1007
70	1006
70	1005
70	1004
70	1002
70	1001
70	1000
70	998
70	996
70	995
70	997
70	1000
70	1003
70	1004
70	1007
70	1010
70	1013
70	1015
70	1018
70	1019
69	1020
70	1018
69	1017

F3500B-1 Conditioning Data

69	1014
69	1012
69	1010
69	1009
69	1008
69	1008
69	1008
69	1008
69	1009
69	1012
69	1015
69	1017
69	1019
69	1022
69	1023
69	1024
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69	1067
69	1070
69	1074
69	1077
69	1079
70	1080
70	1080
70	1080
70	1080
70	1080
70	1081

F3500B-1 Conditioning Data

70	1082
70	1085
70	1089
70	1091
70	1092
70	1091
70	1089
70	1085
70	1082
70	1080
70	1078
70	1076
70	1074
70	1072
70	1070
70	1069
70	1069
70	1071
70	1077
70	1086
70	1096
70	1104
70	1105
70	1100
70	1094
70	1088
71	1082
71	1075
71	1068
71	1062
71	1057
71	1053
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71	1061
71	1065
71	1070
71	1074
71	1076

F3500B-1 Conditioning Data

71	1078
71	1077
71	1076
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71	1066
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71	1055
71	1050
71	1045
71	1042
71	1035
71	1029
71	1023
71	1018
71	1015
71	1011
71	1006
71	1001
71	994
71	985
71	976
71	964
71	951
71	938
71	924
71	911
71	900
71	890
71	880
71	870
71	860
71	849
71	840
71	832
71	826
70	821
70	818
70	815
70	814

F3500B-1 Conditioning Data

70	814
70	814
70	815
70	817
70	818
70	820
70	822
70	825
70	829
70	833
70	837
70	842
70	847
70	851
70	856
70	862
70	867
70	872
70	877
70	882
70	886
70	890
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70	897
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70	904
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70	903
70	897
70	890
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70	874
70	870
70	868
70	866
70	865

F3500B-1 Conditioning Data

70	865
69	865
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70	866
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69	864
69	861
69	857
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69	846
69	838
69	830
69	821
69	813
69	805
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69	791
69	786
69	781
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69	773
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69	763
69	760
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69	750
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69	737
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69	734
69	732
69	730
69	727

F3500B-1 Conditioning Data

69	725
69	722
69	720
69	717
69	715
69	713
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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

ET	Scale	Flue	REAR	LEFT	RIGHT	TOP	BOTTOM	AMB
0	20.03	383.49	364	414	383	426	324	382
1	20.02	451	361	413	384	389	325	374
2	20.02	407	355	410	383	400	326	375
3	19.82	395	350	407	380	392	328	371
4	19.67	401	347	404	380	391	328	370
5	19.48	421	342	402	379	380	329	366
6	19.39	393	340	401	378	389	330	368
7	19.28	376	335	399	377	397	330	368
8	19.2	367	330	396	375	397	331	366
9	19.16	360	327	392	373	407	331	366
10	19.07	354	324	389	371	416	331	366
11	19.02	349	320	385	368	427	331	366
12	18.97	346	319	381	368	416	330	363
13	18.88	344	313	378	364	426	330	362
14	18.79	346	312	374	362	425	329	361
15	18.71	348	307	372	359	426	329	359
16	18.61	350	306	370	357	423	328	357
17	18.51	352	304	368	355	431	328	357
18	18.41	354	302	367	354	440	327	358
19	18.31	357	299	366	352	440	326	357
20	18.2	360	298	365	352	449	325	358
21	18.08	363	325	365	351	449	325	363
22	17.96	364	326	366	350	443	323	362
23	17.87	364	323	366	351	440	322	361
24	17.76	363	326	366	351	441	321	361
25	17.67	362	320	367	351	443	320	360
26	17.57	361	320	367	351	446	319	361
27	17.46	362	321	367	351	445	318	360
28	17.37	362	320	367	350	439	316	359
29	17.28	362	320	368	351	447	315	360
30	17.14	361	320	368	352	447	313	360
31	17.06	360	317	368	353	450	312	360
32	16.97	358	319	369	353	445	311	359
33	16.85	357	318	370	353	449	309	360
34	16.78	356	318	370	354	448	308	359
35	16.67	355	316	371	354	455	307	361
36	16.61	354	316	372	353	455	305	360
37	16.5	353	314	373	354	449	304	359
38	16.39	353	315	374	354	452	303	360
39	16.28	354	313	375	353	454	301	360
40	16.19	354	316	377	354	449	300	359
41	16.1	355	316	379	355	448	299	359
42	16	357	317	380	355	462	298	362
43	15.87	361	318	380	355	461	296	362
44	15.75	364	317	381	356	457	295	361
45	15.64	366	319	382	357	459	294	362

F3500B-1 Conditioning Data

46	15.53	366	320	382	358	450	293	361
47	15.4	367	320	384	359	456	292	362
48	15.3	366	323	386	360	460	291	364
49	15.16	365	324	388	362	450	290	363
50	14.97	364	322	391	362	470	289	367
51	14.83	363	324	394	364	453	288	365
52	14.7	363	323	397	366	455	287	365
53	14.57	363	325	400	366	463	286	368
54	14.42	363	326	402	367	461	285	368
55	14.28	363	328	405	369	458	284	369
56	14.15	363	328	407	370	457	283	369
57	13.99	364	325	410	370	458	282	369
58	13.82	364	331	412	371	453	281	369
59	13.69	365	329	414	372	454	281	370
60	13.52	367	331	416	373	455	280	371
61	13.37	368	334	418	374	458	279	372
62	13.24	368	334	419	375	456	278	372
63	13.07	368	336	420	376	455	278	373
64	12.9	369	337	421	379	447	277	372
65	12.76	369	341	421	379	447	276	373
66	12.59	370	341	421	380	453	276	374
67	12.44	370	344	421	380	450	275	374
68	12.28	370	346	420	382	456	274	376
69	12.13	369	350	420	385	450	274	376
70	11.97	369	351	420	385	456	273	377
71	11.84	369	353	419	386	460	273	378
72	11.64	368	354	419	388	457	272	378
73	11.51	368	358	419	389	440	272	376
74	11.4	366	362	419	391	451	271	379
75	11.23	366	364	419	392	457	271	381
76	11.06	365	367	419	394	450	270	380
77	10.96	364	370	419	395	448	270	380
78	10.83	362	372	420	396	442	270	380
79	10.69	360	374	420	397	449	270	382
80	10.55	357	375	421	398	448	269	382
81	10.43	355	377	421	400	450	269	383
82	10.31	354	377	420	401	453	268	384
83	10.22	353	380	420	402	444	268	383
84	10.11	352	383	420	403	452	268	385
85	9.98	352	385	419	404	452	268	385
86	9.87	351	386	418	405	449	268	385
87	9.78	351	387	417	407	460	267	388
88	9.67	350	390	416	408	445	267	385
89	9.55	349	392	415	409	457	267	388
90	9.44	347	394	414	411	455	267	388
91	9.33	346	396	414	412	453	267	388
92	9.23	345	397	413	413	455	267	389

F3500B-1 Conditioning Data

93	9.13	343	399	412	414	455	267	389
94	9.07	343	401	412	416	443	267	388
95	8.97	341	402	412	417	452	267	390
96	8.85	340	404	411	418	448	267	390
97	8.77	340	406	411	419	452	267	391
98	8.66	339	407	411	421	451	267	391
99	8.54	339	409	411	421	454	267	392
100	8.46	338	411	411	422	454	267	393
101	8.33	338	412	411	423	460	267	395
102	8.27	338	410	412	423	461	267	394
103	8.15	338	412	412	423	464	267	396
104	8.09	337	413	412	422	454	267	394
105	7.96	336	414	412	422	462	267	395
106	7.89	336	411	413	421	451	267	393
107	7.78	335	412	413	421	462	267	395
108	7.69	334	413	414	421	457	267	394
109	7.59	334	413	415	419	458	268	395
110	7.5	333	414	416	420	460	268	395
111	7.44	332	412	417	420	464	268	396
112	7.35	330	412	418	420	457	268	395
113	7.24	329	413	419	420	464	269	397
114	7.18	328	415	420	420	458	269	396
115	7.09	328	417	421	419	456	269	396
116	7.02	326	416	422	419	457	270	397
117	6.95	325	417	423	418	450	270	396
118	6.84	323	419	424	419	446	271	396
119	6.76	323	419	424	419	453	271	397
120	6.7	322	422	425	419	442	271	396
121	6.63	321	421	426	419	441	272	396
122	6.55	320	426	426	419	438	272	396
123	6.45	319	426	427	420	440	273	397
124	6.4	318	426	427	420	428	273	395
125	6.31	317	427	427	420	439	274	397
126	6.26	317	431	426	421	430	274	396
127	6.2	316	429	425	421	439	275	398
128	6.11	315	431	425	421	433	276	397
129	6.06	315	432	424	421	432	276	397
130	5.98	314	433	424	421	428	276	397
131	5.92	313	435	423	421	429	277	397
132	5.85	312	435	423	422	430	277	397
133	5.77	312	436	423	422	425	278	397
134	5.7	311	439	422	421	430	278	398
135	5.64	310	438	422	422	422	279	396
136	5.58	309	441	422	421	417	279	396
137	5.49	308	441	422	422	427	280	398
138	5.43	307	441	422	421	422	280	397
139	5.38	306	442	422	421	415	281	396

F3500B-1 Conditioning Data

140	5.33	305	443	422	421	422	281	398
141	5.26	304	443	422	420	419	281	397
142	5.23	303	441	422	421	419	282	397
143	5.18	302	445	422	420	419	282	398
144	5.12	301	444	421	420	416	283	397
145	5.08	299	446	421	420	420	283	398
146	5.02	299	446	421	419	410	284	396
147	4.96	298	443	421	420	416	284	397
148	4.94	297	444	421	419	410	284	396
149	4.88	295	443	421	418	406	285	394
150	4.85	293	440	421	417	401	285	393
151	4.83	292	441	420	415	399	286	392
152	4.8	290	439	419	414	401	286	392
153	4.76	289	437	419	413	398	287	391
154	4.74	287	433	418	411	391	287	388
155	4.68	285	434	416	409	393	287	388
156	4.65	283	430	415	407	389	288	386
157	4.62	281	429	413	406	386	288	384
158	4.59	279	425	412	405	387	289	384
159	4.55	278	424	410	403	392	289	383
160	4.51	276	422	408	401	379	289	380
161	4.49	275	414	407	399	377	290	377
162	4.47	273	415	405	397	374	290	376
163	4.44	272	412	404	395	366	290	373
164	4.41	270	411	402	393	371	291	374
165	4.39	269	409	401	392	372	291	373
166	4.37	268	405	399	390	364	291	370
167	4.33	266	405	397	389	365	292	370
168	4.3	265	402	396	387	359	292	367
169	4.3	264	397	394	387	359	292	366
170	4.26	263	397	393	385	354	292	364
171	4.23	261	398	391	383	356	293	364
172	4.19	260	389	389	382	351	293	361
173	4.16	258	390	388	379	345	293	359
174	4.18	257	391	386	378	343	293	358
175	4.16	256	389	385	377	343	293	357
176	4.14	254	386	384	375	347	293	357
177	4.09	253	385	382	374	334	293	354
178	4.09	251	381	381	372	333	293	352
179	4.07	249	380	380	371	333	293	352
180	4.02	248	376	379	370	332	293	350
181	4.01	246	376	378	369	326	293	348
182	3.98	245	374	378	368	323	293	347
183	4.01	243	375	377	366	323	293	347
184	3.96	242	374	376	365	321	293	346
185	3.94	240	370	375	365	317	293	344
186	3.92	238	370	374	364	313	293	342

F3500B-1 Conditioning Data

187	3.9	237	366	373	362	319	293	343
188	3.91	236	367	372	362	312	293	341
189	3.87	235	366	371	361	310	292	340
190	3.87	234	364	370	360	310	292	339
191	3.85	232	367	370	359	302	292	338
192	3.83	231	364	369	358	303	292	337
193	3.8	230	364	368	357	303	292	337
194	3.76	229	364	367	356	302	292	336
195	3.76	229	361	366	355	299	292	335
196	3.76	228	360	366	355	294	292	333
197	3.73	227	358	365	354	298	292	333
198	3.71	226	357	364	353	298	292	333
199	3.7	226	356	363	352	294	292	331
200	3.68	225	357	363	351	292	291	331
201	3.65	224	360	362	350	293	291	331
202	3.65	224	357	362	350	289	291	330
203	3.62	223	356	361	349	293	291	330
204	3.62	222	353	360	348	282	291	327
205	3.6	221	355	360	348	291	291	329
206	3.58	221	355	359	348	288	290	328
207	3.56	220	351	359	348	285	290	327
208	3.54	220	353	359	346	281	290	326
209	3.53	219	354	358	347	281	290	326
210	3.49	219	354	357	346	287	290	327
211	3.49	219	354	357	346	282	290	326
212	3.45	218	357	357	347	279	289	326
213	3.43	218	358	356	346	279	289	326
214	3.44	218	358	356	346	283	289	326
215	3.4	217	357	355	346	275	289	324
216	3.37	217	358	355	346	278	288	325
217	3.37	217	357	355	346	275	288	324
218	3.35	216	360	354	347	272	288	324
219	3.31	217	360	354	348	274	288	325
220	3.32	216	359	354	347	282	287	326
221	3.3	216	362	354	347	271	287	324
222	3.27	216	362	354	348	274	287	325
223	3.26	216	364	354	348	272	287	325
224	3.23	216	367	354	348	274	287	326
225	3.21	216	371	354	348	273	286	326
226	3.18	215	368	354	348	278	286	327
227	3.16	216	371	354	348	271	286	326
228	3.18	216	372	354	348	271	286	326
229	3.13	216	372	354	347	274	286	327
230	3.14	216	373	354	348	274	285	327
231	3.09	216	377	355	347	269	285	326
232	3.09	216	379	355	347	270	285	327
233	3.07	216	380	355	346	270	285	327

F3500B-1 Conditioning Data

234	3.04	216	385	356	346	271	285	328
235	3.02	216	385	356	346	269	285	328
236	2.98	216	387	356	346	269	284	329
237	2.95	217	387	357	346	265	284	328
238	2.95	217	393	357	346	273	284	331
239	2.92	217	394	357	346	270	284	330
240	2.91	217	396	357	346	270	284	331
241	2.9	217	397	357	346	269	284	331
242	2.85	217	398	357	346	272	284	331
243	2.84	217	401	357	346	270	283	331
244	2.86	217	400	358	346	269	283	331
245	2.85	217	404	358	346	268	283	332
246	2.8	217	403	358	346	277	283	333
247	2.79	217	406	358	346	273	283	333
248	2.76	217	402	358	346	272	283	332
249	2.73	218	403	359	346	266	283	331
250	2.71	218	409	359	346	274	283	334
251	2.7	219	407	359	346	269	283	333
252	2.68	219	409	359	346	268	283	333
253	2.63	219	409	359	346	269	283	333
254	2.65	219	411	359	346	271	282	334
255	2.6	220	415	359	347	274	282	335
256	2.61	219	413	359	347	274	282	335
257	2.56	220	420	359	347	273	282	336
258	2.54	220	420	359	347	275	282	337
259	2.54	220	417	359	347	271	282	335
260	2.54	220	421	359	347	274	282	337
261	2.48	220	418	359	348	278	282	337
262	2.49	220	421	359	347	273	282	337
263	2.47	220	417	359	347	271	282	335
264	2.43	220	421	359	347	275	282	337
265	2.41	220	421	359	347	277	282	337
266	2.4	220	422	359	347	272	282	337
267	2.37	220	425	359	347	273	282	337
268	2.37	220	423	359	347	275	282	337
269	2.33	221	423	359	346	275	283	337
270	2.33	221	425	358	346	277	283	338
271	2.29	221	422	358	346	272	283	336
272	2.26	221	422	358	345	274	283	336
273	2.26	221	423	357	345	272	283	336
274	2.21	221	424	357	345	275	283	337
275	2.22	221	427	357	344	271	283	336
276	2.21	221	427	357	344	272	283	337
277	2.17	221	423	357	344	277	283	337
278	2.16	220	426	356	344	274	283	337
279	2.15	220	426	356	343	273	283	336
280	2.12	220	421	356	343	272	283	335

F3500B-1 Conditioning Data

281	2.09	220	425	356	343	275	283	336
282	2.06	221	421	355	343	273	283	335
283	2.03	220	424	356	343	267	284	335
284	2.03	221	422	356	342	272	284	335
285	2.02	221	427	356	342	275	284	337
286	2	221	421	356	343	275	284	336
287	1.98	220	422	356	343	275	284	336
288	1.93	220	426	357	342	278	284	337
289	1.93	219	424	357	342	273	284	336
290	1.9	219	422	357	343	268	284	335
291	1.89	219	421	357	343	270	284	335
292	1.87	219	423	357	342	275	284	336
293	1.85	219	419	357	342	268	284	334
294	1.84	219	421	357	342	270	284	335
295	1.81	219	421	357	343	271	285	335
296	1.79	219	421	357	342	269	285	335
297	1.76	219	420	357	342	273	285	335
298	1.74	218	420	357	342	272	285	335
299	1.74	218	421	356	342	269	285	335
300	1.71	219	419	356	342	270	285	335
301	1.71	218	422	356	341	273	286	336
302	1.7	218	422	355	342	265	286	334
303	1.65	218	417	355	342	273	286	335
304	1.63	218	419	355	342	273	286	335
305	1.63	218	415	354	342	274	286	334
306	1.61	218	417	354	341	270	287	334
307	1.58	218	422	353	341	272	287	335
308	1.56	218	417	353	342	271	287	334
309	1.57	218	417	353	341	271	287	334
310	1.51	219	414	352	342	271	287	333
311	1.54	218	417	352	341	266	287	333
312	1.52	218	415	352	341	272	288	334
313	1.47	218	415	352	341	267	288	333
314	1.45	218	413	352	340	271	288	333
315	1.44	217	413	351	340	273	288	333
316	1.43	217	409	351	340	271	288	332
317	1.41	217	407	351	340	272	288	332
318	1.38	217	405	351	339	267	288	330
319	1.39	216	409	351	339	271	289	332
320	1.35	216	408	351	339	268	289	331
321	1.33	216	403	350	339	271	289	330
322	1.33	216	409	350	339	270	289	331
323	1.31	216	408	350	338	266	289	330
324	1.3	216	402	350	339	267	289	329
325	1.26	216	401	350	339	269	289	330
326	1.25	216	397	350	338	265	289	328
327	1.24	216	396	350	338	266	289	328

F3500B-1 Conditioning Data

328	1.23	215	396	349	339	267	289	328
329	1.21	215	395	349	337	265	290	327
330	1.18	215	393	349	337	272	290	328
331	1.18	214	392	349	337	265	290	327
332	1.14	214	391	349	337	264	290	326
333	1.12	214	394	349	336	265	290	327
334	1.09	214	390	349	336	263	290	326
335	1.09	213	388	349	336	264	290	325
336	1.09	213	388	349	336	267	290	326
337	1.04	213	384	349	335	258	290	323
338	1.04	213	391	349	335	260	290	325
339	1.04	213	388	349	335	261	290	324
340	1	213	385	349	334	264	290	324
341	1	212	381	348	334	261	290	323
342	0.98	212	386	348	333	262	291	324
343	0.97	212	384	348	333	256	291	322
344	0.94	212	385	347	333	258	291	323
345	0.91	212	381	347	333	260	291	322
346	0.91	211	380	347	333	261	291	322
347	0.91	211	382	347	331	252	291	321
348	0.88	211	379	346	331	258	291	321
349	0.86	211	379	346	331	258	291	321
350	0.83	211	380	346	331	254	290	320
351	0.82	211	380	346	331	258	290	321
352	0.81	211	377	345	331	257	290	320
353	0.78	211	380	345	330	259	290	321
354	0.77	211	379	345	330	255	290	320
355	0.75	211	378	345	330	263	290	321
356	0.73	211	376	345	330	255	290	319
357	0.73	211	378	344	329	257	290	320
358	0.7	211	379	344	329	256	290	320
359	0.67	211	377	344	329	255	290	319
360	0.67	211	379	344	329	252	290	319
361	0.65	211	379	344	329	257	290	320
362	0.64	211	379	343	329	256	290	319
363	0.6	211	378	343	328	256	290	319
364	0.6	211	379	342	328	258	290	319
365	0.57	211	379	342	328	257	290	319
366	0.57	211	377	342	328	253	289	318
367	0.54	211	377	341	327	254	289	318
368	0.54	211	375	341	327	256	289	318
369	0.5	210	374	340	327	255	289	317
370	0.49	210	376	340	327	257	289	318
371	0.47	210	376	340	328	253	289	317
372	0.45	210	375	340	328	255	289	317
373	0.45	209	373	340	327	250	289	316
374	0.41	209	371	339	328	250	289	315

F3500B-1 Conditioning Data

375	0.4	209	372	339	327	253	289	316
376	0.39	209	372	339	327	254	289	316
377	0.37	209	369	339	327	251	289	315
378	0.35	209	372	340	327	254	289	316
379	0.34	208	371	340	327	253	290	316
380	0.31	208	371	340	327	246	290	315
381	0.3	208	368	340	327	251	290	315
382	0.29	207	371	341	327	246	290	315
383	0.26	207	368	341	326	253	290	316
384	0.25	207	371	341	326	254	290	317
385	0.23	207	366	342	326	253	290	315
386	0.22	206	367	342	326	247	291	315
387	0.2	206	367	342	326	249	291	315
388	0.19	206	363	342	325	245	291	313
389	0.16	205	365	342	325	251	291	315
390	0.16	205	363	342	324	254	291	315
391	0.15	205	365	342	324	245	291	313
392	0.12	205	368	342	324	248	292	315
393	0.11	205	365	342	323	253	292	315
394	0.1	205	364	342	323	249	292	314
395	0.07	205	360	342	322	244	292	312
396	0	205	364	342	322	250	292	314

Tests were done at a medium low air setting

Test load average moisture content -22.6%

F3500B-1 Conditioning Data

AVG T	CAT
65	873
65	801
65	776
65	785
65	874
65	1010
65	1061
65	1092
65	1109
65	1112
65	1106
65	1092
65	1075
65	1064
65	1064
65	1064
65	1062
65	1064
65	1072
65	1084
65	1095
65	1104
65	1108
65	1106
65	1102
65	1101
65	1102
65	1106
65	1107
65	1103
65	1096
65	1089
65	1084
65	1082
65	1081
65	1080
65	1080
65	1082
65	1085
65	1091
65	1097
65	1103
65	1110
65	1116
65	1116
65	1112

F3500B-1 Conditioning Data

66	1106
66	1101
66	1100
66	1103
66	1109
66	1114
66	1118
66	1123
66	1128
66	1131
66	1132
66	1132
66	1131
66	1129
66	1127
66	1126
66	1124
66	1123
66	1122
66	1120
66	1117
66	1113
66	1111
66	1109
66	1106
66	1104
66	1103
66	1102
66	1101
66	1101
66	1100
66	1099
66	1098
66	1098
66	1100
66	1104
66	1107
66	1111
66	1113
66	1115
66	1115
66	1115
66	1113
66	1110
66	1107
66	1103
66	1101

F3500B-1 Conditioning Data

66	1098
66	1097
67	1097
67	1097
67	1097
67	1097
67	1098
67	1097
67	1098
67	1098
67	1097
67	1095
67	1093
68	1091
68	1088
68	1086
68	1085
68	1085
68	1085
68	1085
68	1084
68	1083
68	1083
68	1084
68	1084
68	1083
68	1083
68	1085
68	1091
68	1092
68	1094
68	1093
68	1090
68	1087
68	1084
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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

ET	Scale	Flue	REAR	LEFT	RIGHT	TOP	BOTTOM	AMB
0	20.27	328.54	346	399	354	443	337	376
1	18.81	384	346	398	354	441	338	375
2	20.2	366	340	395	352	437	339	372
3	20.15	346	334	391	349	432	339	369
4	20.08	338	331	387	345	427	339	366
5	19.99	337	325	382	342	422	339	362
6	19.93	314	320	378	340	418	340	359
7	19.89	297	319	373	337	417	340	357
8	19.86	286	315	369	333	416	340	355
9	19.83	279	310	364	331	415	340	352
10	19.77	275	307	360	326	414	340	349
11	19.73	273	302	355	323	412	339	347
12	19.66	272	298	351	320	411	339	344
13	19.63	272	294	348	319	411	339	342
14	19.55	273	289	344	315	412	339	340
15	19.49	275	288	341	314	413	338	339
16	19.4	279	284	338	312	414	338	337
17	19.32	285	283	336	310	418	337	337
18	19.24	289	280	334	309	424	337	337
19	19.16	293	277	332	309	431	336	337
20	19.09	297	275	331	307	439	335	338
21	19.02	299	297	330	306	446	334	343
22	18.93	300	292	329	306	450	333	342
23	18.88	300	289	327	305	457	332	342
24	18.82	300	287	325	304	462	330	342
25	18.74	300	287	324	303	465	329	342
26	18.68	300	287	322	303	469	328	342
27	18.61	300	285	321	303	472	326	341
28	18.55	300	283	319	302	473	325	340
29	18.48	300	282	318	302	476	323	340
30	18.41	301	281	317	302	479	322	340
31	18.32	302	277	316	302	480	321	339
32	18.25	302	278	315	301	484	319	339
33	18.19	303	276	314	301	488	318	339
34	18.1	304	272	313	301	493	316	339
35	18.03	304	272	313	301	498	315	340
36	17.96	303	273	312	301	504	313	341
37	17.88	303	271	312	300	507	312	340
38	17.79	302	271	311	300	512	310	341
39	17.73	302	269	311	300	516	309	341
40	17.64	303	270	311	301	518	307	342
41	17.56	303	270	311	302	522	306	342
42	17.49	304	270	312	303	524	305	343
43	17.38	306	269	312	303	527	303	343
44	17.32	307	269	312	305	530	302	344
45	17.23	310	270	312	306	532	301	344

F3500B-1 Conditioning Data

46	17.14	312	271	313	307	534	299	345
47	17.05	315	273	314	308	536	298	346
48	16.96	318	273	314	311	538	297	346
49	16.89	321	274	315	313	539	296	347
50	16.75	324	274	316	315	539	295	348
51	16.67	326	276	317	316	542	294	349
52	16.59	329	276	318	318	543	293	349
53	16.51	331	279	318	319	545	292	351
54	16.38	332	279	319	321	546	291	351
55	16.31	334	281	319	323	548	290	352
56	16.22	335	283	320	324	549	289	353
57	16.11	337	283	321	326	550	288	354
58	16.01	338	285	322	327	551	287	354
59	15.92	339	286	322	329	552	286	355
60	15.84	340	287	323	331	554	286	356
61	15.74	340	288	324	332	554	285	357
62	15.64	341	289	325	335	556	284	358
63	15.54	341	290	327	336	557	284	359
64	15.45	342	294	328	338	559	283	360
65	15.35	342	295	329	340	559	282	361
66	15.21	342	296	330	341	559	282	362
67	15.05	342	299	332	344	560	281	363
68	14.92	342	301	333	346	561	281	364
69	14.81	343	301	334	347	562	280	365
70	14.68	342	303	335	349	561	280	365
71	14.55	342	303	336	350	562	280	366
72	14.44	342	306	337	351	563	279	367
73	14.29	341	303	337	353	563	279	367
74	14.18	341	307	338	355	564	279	368
75	14.07	341	307	339	355	566	278	369
76	13.94	340	309	339	357	564	278	369
77	13.8	339	308	340	359	565	278	370
78	13.71	338	311	341	361	565	277	371
79	13.6	338	312	341	362	566	277	372
80	13.49	338	314	342	363	567	277	373
81	13.38	337	314	343	364	568	277	373
82	13.25	337	314	343	365	570	277	374
83	13.14	337	320	344	366	569	276	375
84	13.02	336	320	345	367	568	276	375
85	12.91	336	324	346	368	568	276	376
86	12.8	336	323	346	369	569	276	377
87	12.7	336	327	347	370	570	276	378
88	12.57	336	328	348	372	569	276	379
89	12.47	335	327	349	373	570	276	379
90	12.38	335	331	350	374	569	276	380
91	12.27	336	334	351	374	571	276	381
92	12.15	335	335	352	377	569	276	382

F3500B-1 Conditioning Data

93	12.02	335	336	353	377	570	276	382
94	11.9	335	335	354	379	569	276	382
95	11.81	334	336	355	380	570	276	383
96	11.7	333	337	357	379	570	276	384
97	11.61	332	340	359	381	570	276	385
98	11.5	332	342	361	380	570	276	386
99	11.4	331	343	363	381	570	276	386
100	11.28	330	342	364	380	571	276	387
101	11.21	330	344	367	381	571	276	388
102	11.08	329	346	369	382	572	276	389
103	11	328	346	371	382	572	276	389
104	10.89	328	346	373	382	571	276	389
105	10.8	327	346	375	383	570	276	390
106	10.69	326	346	377	383	569	276	390
107	10.58	326	347	379	384	570	276	391
108	10.49	325	346	381	383	568	276	391
109	10.4	325	348	383	383	567	276	391
110	10.29	324	349	385	383	567	276	392
111	10.19	324	347	387	383	567	276	392
112	10.09	324	352	389	383	568	276	394
113	9.98	324	349	391	382	567	276	393
114	9.9	324	352	394	382	566	276	394
115	9.78	324	352	396	381	565	276	394
116	9.67	324	354	398	383	564	276	395
117	9.58	324	352	400	383	564	277	395
118	9.47	323	354	402	382	563	277	396
119	9.37	323	356	404	382	563	277	397
120	9.3	322	356	406	382	563	277	397
121	9.14	322	358	408	383	562	277	397
122	9.08	321	354	409	383	561	277	397
123	9	321	360	411	383	562	277	398
124	8.9	320	360	412	383	558	277	398
125	8.78	320	358	414	383	559	277	398
126	8.66	320	362	414	384	559	277	399
127	8.58	320	364	415	384	558	278	400
128	8.49	320	365	416	384	556	278	400
129	8.37	319	366	416	385	556	278	400
130	8.28	320	368	417	386	555	279	401
131	8.16	320	368	418	386	556	279	401
132	8.07	319	368	418	385	556	280	401
133	7.98	318	370	418	386	559	280	403
134	7.89	316	371	418	385	559	281	403
135	7.82	313	370	418	384	561	281	403
136	7.73	311	370	418	383	562	281	403
137	7.67	309	370	418	382	563	281	403
138	7.59	307	372	419	382	563	281	403
139	7.52	305	371	419	382	563	282	403

F3500B-1 Conditioning Data

140	7.46	304	368	419	381	562	282	402
141	7.41	302	369	420	381	561	282	403
142	7.34	301	372	420	380	559	282	403
143	7.26	300	370	421	380	558	283	402
144	7.21	298	372	421	379	556	283	402
145	7.18	296	370	422	378	554	283	401
146	7.12	295	371	422	378	551	284	401
147	7.03	294	371	422	379	548	284	401
148	7	292	371	423	378	545	284	400
149	6.93	291	370	423	377	543	284	399
150	6.9	290	373	423	375	539	285	399
151	6.85	289	374	424	374	538	285	399
152	6.76	289	374	424	374	534	285	398
153	6.72	288	373	424	373	532	285	397
154	6.67	288	374	424	371	529	285	397
155	6.59	287	373	425	370	527	285	396
156	6.54	288	374	425	369	524	285	396
157	6.48	288	373	425	368	524	285	395
158	6.41	288	379	426	368	524	285	396
159	6.37	289	382	426	367	523	285	396
160	6.28	289	377	426	366	522	285	395
161	6.23	289	382	426	366	521	285	396
162	6.16	289	380	426	365	522	285	396
163	6.12	289	381	426	364	522	285	396
164	6.07	288	383	425	364	522	285	396
165	6.01	288	384	425	362	522	285	396
166	5.96	288	385	424	362	522	285	396
167	5.9	287	387	424	362	521	285	396
168	5.86	287	387	423	360	521	285	395
169	5.82	286	387	422	359	522	285	395
170	5.77	286	389	421	360	520	285	395
171	5.69	286	391	420	359	520	285	395
172	5.68	286	393	420	359	517	285	395
173	5.62	285	393	419	358	516	285	394
174	5.56	285	395	419	358	514	285	394
175	5.53	284	396	418	358	512	285	394
176	5.49	284	395	418	358	511	285	393
177	5.44	283	400	417	358	509	286	394
178	5.35	283	402	417	358	507	286	394
179	5.32	282	401	417	358	506	286	393
180	5.29	281	402	417	357	504	286	393
181	5.23	281	402	416	357	503	286	393
182	5.19	280	405	416	357	500	286	393
183	5.16	279	407	416	357	499	286	393
184	5.09	278	408	415	356	496	286	392
185	5.05	278	410	416	357	494	287	393
186	5.02	277	410	415	356	491	287	392

F3500B-1 Conditioning Data

187	4.96	276	409	415	357	490	287	391
188	4.93	275	414	415	355	488	287	392
189	4.88	274	412	415	356	486	287	391
190	4.85	273	412	415	356	484	287	391
191	4.79	272	414	414	355	482	288	391
192	4.75	271	414	415	355	480	288	390
193	4.71	270	413	415	355	479	288	390
194	4.66	269	414	414	355	478	288	390
195	4.62	268	415	414	353	475	289	389
196	4.6	267	414	414	354	472	289	389
197	4.55	265	414	414	353	470	289	388
198	4.53	264	418	413	353	469	289	388
199	4.48	263	416	413	353	466	289	387
200	4.45	262	417	412	352	465	290	387
201	4.42	261	416	412	352	463	290	387
202	4.38	260	415	411	352	461	290	386
203	4.35	258	414	411	351	458	290	385
204	4.31	257	415	410	350	457	290	385
205	4.29	255	416	409	350	456	291	384
206	4.28	253	417	408	349	454	291	384
207	4.25	252	415	407	349	452	291	383
208	4.2	250	414	407	349	449	291	382
209	4.18	249	412	405	348	448	292	381
210	4.17	247	410	404	347	446	292	380
211	4.14	246	410	404	347	442	292	379
212	4.11	245	411	402	346	440	292	378
213	4.1	243	409	401	346	437	292	377
214	4.09	242	410	400	345	436	293	377
215	4.07	240	406	399	345	432	293	375
216	4.05	239	409	398	343	430	293	375
217	4.03	237	407	397	343	428	293	374
218	4.01	236	406	395	342	424	293	372
219	3.97	235	404	394	342	423	294	371
220	3.98	234	403	393	341	420	294	370
221	3.95	233	402	392	341	417	294	369
222	3.93	231	401	391	339	415	294	368
223	3.92	230	396	390	340	413	294	367
224	3.88	229	396	389	338	410	295	366
225	3.87	228	397	388	338	408	295	365
226	3.87	227	399	387	337	405	295	365
227	3.84	226	397	386	337	403	295	364
228	3.83	225	400	384	337	402	295	364
229	3.81	224	393	383	336	399	295	361
230	3.78	224	396	382	335	398	296	361
231	3.78	223	393	382	334	395	296	360
232	3.75	222	396	380	335	394	296	360
233	3.74	221	394	379	334	393	296	359

F3500B-1 Conditioning Data

234	3.71	220	390	379	333	391	296	358
235	3.71	220	384	378	333	388	296	356
236	3.7	219	389	377	333	388	296	357
237	3.69	219	384	376	332	386	297	355
238	3.65	218	396	375	331	386	297	357
239	3.65	217	386	374	331	384	297	355
240	3.63	216	388	373	330	382	297	354
241	3.59	216	391	372	330	381	297	354
242	3.6	215	387	371	329	380	297	353
243	3.57	215	393	371	329	379	297	354
244	3.55	214	384	370	329	377	297	352
245	3.54	214	386	370	328	377	297	352
246	3.52	214	386	369	327	376	297	351
247	3.51	213	386	369	327	375	298	351
248	3.51	213	388	368	327	374	298	351
249	3.48	212	388	367	326	373	298	351
250	3.47	212	384	367	326	372	298	350
251	3.43	212	385	366	325	371	298	349
252	3.43	211	381	366	326	370	298	348
253	3.41	211	382	365	325	370	298	348
254	3.39	211	384	365	324	368	298	348
255	3.39	211	383	364	324	368	298	347
256	3.37	210	381	364	323	367	298	347
257	3.35	210	386	363	323	366	298	347
258	3.33	210	382	363	323	365	298	346
259	3.31	209	382	362	323	364	298	346
260	3.3	209	382	362	322	364	298	345
261	3.29	209	384	361	321	363	298	346
262	3.28	209	379	361	321	361	298	344
263	3.25	208	380	360	321	361	298	344
264	3.24	208	380	360	320	360	298	344
265	3.23	208	378	359	319	359	298	343
266	3.23	207	378	359	319	358	298	342
267	3.2	207	378	358	318	357	298	342
268	3.19	206	376	357	318	355	298	341
269	3.17	206	376	357	317	355	298	341
270	3.15	206	377	356	317	354	298	340
271	3.13	205	374	356	316	353	298	339
272	3.13	205	374	355	316	352	298	339
273	3.11	204	374	354	315	352	298	339
274	3.11	204	372	354	315	350	298	338
275	3.07	204	370	353	314	350	298	337
276	3.07	203	370	353	314	349	298	337
277	3.07	203	369	352	314	348	298	336
278	3.05	202	366	351	313	347	298	335
279	3.03	202	372	351	312	346	298	336
280	3.02	202	367	350	312	346	298	335

F3500B-1 Conditioning Data

281	3.01	201	365	350	311	345	298	334
282	2.99	201	367	349	310	345	298	334
283	2.98	201	370	349	310	345	298	334
284	2.96	201	370	348	310	344	298	334
285	2.96	201	366	347	310	344	298	333
286	2.93	201	368	347	309	343	298	333
287	2.92	201	370	346	310	343	298	333
288	2.89	201	371	345	309	343	298	333
289	2.88	201	368	345	308	343	298	333
290	2.88	200	367	344	307	342	298	332
291	2.86	200	368	343	307	343	298	332
292	2.85	200	369	343	307	342	298	332
293	2.84	200	370	342	306	342	298	332
294	2.81	200	369	341	306	342	297	331
295	2.8	200	372	340	305	343	297	332
296	2.79	200	367	340	306	343	297	330
297	2.77	200	368	339	305	342	297	330
298	2.75	200	368	339	304	342	297	330
299	2.74	200	370	338	304	343	297	330
300	2.7	201	369	338	304	343	296	330
301	2.69	201	376	337	304	343	296	331
302	2.66	201	370	337	303	343	296	330
303	2.67	201	371	336	303	344	296	330
304	2.65	202	370	336	303	344	296	330
305	2.66	202	369	336	303	344	295	329
306	2.65	202	368	335	303	344	295	329
307	2.62	202	373	335	302	345	295	330
308	2.6	202	371	335	302	345	295	330
309	2.57	202	371	334	302	346	294	329
310	2.58	202	372	334	302	345	294	329
311	2.55	203	370	334	302	345	294	329
312	2.53	203	374	334	302	346	294	330
313	2.51	203	369	333	302	346	294	329
314	2.48	203	371	333	302	345	293	329
315	2.51	203	373	332	302	346	293	329
316	2.46	203	374	332	302	346	293	329
317	2.46	203	374	331	302	346	293	329
318	2.43	203	368	331	301	347	293	328
319	2.43	203	372	330	302	346	292	329
320	2.41	203	373	330	302	347	292	329
321	2.39	204	373	329	302	347	292	329
322	2.37	204	374	329	302	348	292	329
323	2.35	204	376	328	302	347	292	329
324	2.33	204	377	328	302	347	291	329
325	2.33	204	376	327	302	347	291	329
326	2.31	204	372	327	302	347	291	328
327	2.28	203	371	327	302	345	291	327

F3500B-1 Conditioning Data

328	2.28	203	372	326	302	345	290	327
329	2.27	203	369	325	302	346	290	327
330	2.26	203	372	325	302	345	290	327
331	2.23	203	375	325	302	344	290	327
332	2.21	203	374	324	302	344	289	327
333	2.2	203	371	324	302	344	289	326
334	2.2	203	368	323	302	344	289	325
335	2.18	203	371	323	302	344	288	326
336	2.16	203	370	323	302	345	288	326
337	2.13	203	368	322	302	344	288	325
338	2.12	203	369	322	302	345	288	325
339	2.12	203	371	322	301	345	287	325
340	2.09	203	373	322	302	344	287	326
341	2.07	203	367	322	302	344	287	324
342	2.05	203	367	321	301	344	286	324
343	2.05	203	367	321	301	345	286	324
344	2.04	203	367	321	302	344	286	324
345	2.02	203	364	321	301	344	286	323
346	2	203	369	321	302	344	285	324
347	1.98	203	364	321	302	343	285	323
348	1.96	203	368	321	302	344	285	324
349	1.96	203	370	321	302	343	285	324
350	1.92	203	369	321	302	343	284	324
351	1.93	203	369	321	302	343	284	324
352	1.92	202	365	321	302	342	284	323
353	1.89	202	366	321	302	342	284	323
354	1.87	203	369	321	301	342	283	323
355	1.86	203	365	321	302	341	283	322
356	1.84	202	373	321	301	341	283	324
357	1.82	202	377	321	302	341	283	325
358	1.82	202	368	321	301	341	283	323
359	1.78	202	371	321	301	340	282	323
360	1.78	202	371	321	301	340	282	323
361	1.76	201	368	321	301	340	282	322
362	1.75	201	369	321	300	339	282	322
363	1.73	201	372	321	300	338	282	323
364	1.72	201	370	321	300	338	282	322
365	1.7	201	375	321	300	338	282	323
366	1.69	200	371	321	300	337	282	322
367	1.66	200	373	321	300	337	282	322
368	1.65	200	374	321	300	336	282	322
369	1.63	199	377	321	300	336	281	323
370	1.62	199	375	321	300	335	281	322
371	1.61	199	371	321	300	335	281	322
372	1.6	199	373	321	299	334	281	322
373	1.58	199	379	321	299	334	281	323
374	1.57	199	373	321	298	334	281	321

F3500B-1 Conditioning Data

375	1.54	199	376	321	299	333	281	322
376	1.53	199	377	321	299	332	281	322
377	1.51	199	375	321	298	332	281	321
378	1.49	199	374	320	298	333	281	321
379	1.47	199	377	321	298	332	281	322
380	1.46	199	372	321	298	332	281	321
381	1.44	199	372	320	298	332	281	321
382	1.43	199	378	320	299	332	281	322
383	1.41	199	376	320	299	332	281	322
384	1.4	198	372	320	298	332	281	321
385	1.39	198	376	320	298	331	281	321
386	1.37	198	378	320	299	331	281	322
387	1.35	198	372	320	299	331	281	321
388	1.33	198	373	320	299	331	281	321
389	1.3	198	371	320	299	331	281	320
390	1.3	198	373	319	299	331	281	321
391	1.29	198	377	319	299	331	281	321
392	1.26	198	375	319	299	331	281	321
393	1.26	198	376	319	299	330	281	321
394	1.23	198	374	319	299	331	281	321
395	1.22	198	375	319	299	331	281	321
396	1.2	198	378	319	299	331	280	321
397	1.18	198	377	319	299	331	280	321
398	1.17	198	375	319	299	331	280	321
399	1.16	198	374	319	299	331	280	321
400	1.16	199	377	318	299	331	280	321
401	1.11	199	378	319	299	331	280	321
402	1.12	199	374	319	299	332	280	321
403	1.09	199	376	319	299	332	280	321
404	1.06	199	378	319	298	332	280	321
405	1.05	199	373	319	299	332	280	321
406	1.06	199	376	319	298	332	280	321
407	1.04	199	371	319	298	332	280	320
408	1.02	200	372	319	298	333	280	321
409	1	200	371	319	298	333	280	320
410	0.97	200	368	320	298	332	280	320
411	0.96	200	368	320	298	332	280	320
412	0.96	199	370	320	298	333	280	320
413	0.94	199	369	320	298	332	280	320
414	0.92	199	366	320	298	332	280	319
415	0.91	199	368	320	298	331	280	320
416	0.89	198	362	320	298	331	280	318
417	0.88	198	366	321	297	330	280	319
418	0.87	198	368	320	298	330	280	319
419	0.85	198	362	321	297	329	281	318
420	0.84	197	366	321	297	329	281	319
421	0.81	197	366	321	297	328	281	318

F3500B-1 Conditioning Data

422	0.81	196	361	321	296	327	281	317
423	0.79	197	364	321	297	327	281	318
424	0.77	196	362	321	297	327	281	317
425	0.76	196	360	321	297	326	281	317
426	0.73	196	364	321	296	326	281	318
427	0.73	196	360	321	296	325	281	317
428	0.71	196	358	322	296	325	281	316
429	0.68	196	359	322	295	324	281	316
430	0.67	196	358	322	295	324	281	316
431	0.66	196	351	323	295	323	281	315
432	0.65	195	359	323	295	323	281	316
433	0.63	195	354	323	295	322	281	315
434	0.62	195	354	323	294	321	281	315
435	0.61	194	356	323	295	321	281	315
436	0.59	194	350	323	295	321	281	314
437	0.59	193	348	323	295	320	281	313
438	0.57	193	350	323	295	319	281	314
439	0.56	192	347	323	294	319	281	313
440	0.55	192	348	322	294	318	281	313
441	0.53	191	343	322	294	318	281	312
442	0.52	191	344	322	294	317	281	312
443	0.5	191	339	322	293	316	281	310
444	0.49	191	341	321	293	316	281	311
445	0.49	191	340	321	293	316	281	310
446	0.47	190	337	321	292	316	281	309
447	0.44	190	335	321	291	315	281	309
448	0.44	190	333	320	291	314	281	308
449	0.45	190	335	320	290	314	281	308
450	0.43	190	333	319	289	315	281	308
451	0.41	190	328	319	289	315	281	306
452	0.39	190	326	319	288	314	281	306
453	0.4	190	324	319	288	314	281	305
454	0.37	190	326	318	287	314	281	305
455	0.37	190	324	318	287	313	281	305
456	0.35	190	324	318	286	314	281	304
457	0.33	190	324	318	286	313	281	304
458	0.31	190	320	318	285	313	280	303
459	0.32	190	318	318	285	313	280	303
460	0.29	190	314	318	284	313	280	302
461	0.29	190	309	318	284	313	280	301
462	0.27	190	309	318	283	313	280	300
463	0.26	189	310	317	282	313	280	300
464	0.25	190	315	317	282	313	279	302
465	0.22	189	315	317	282	314	279	302
466	0.22	189	310	317	282	312	279	300
467	0.21	189	306	317	281	313	279	299
468	0.19	190	304	317	281	313	279	299

F3500B-1 Conditioning Data

469	0.18	190	301	317	280	313	279	298
470	0.16	189	306	318	280	312	278	299
471	0.15	190	306	318	280	312	278	299
472	0.12	189	306	318	280	312	278	299
473	0.13	189	305	318	279	312	278	298
474	0.1	189	304	318	279	311	278	298
475	0.1	189	304	318	279	312	277	298
476	0.08	189	300	318	279	311	277	297
477	0.04	189	306	318	279	312	277	298

Tests were done at a medium low air setting

Test load average moisture content -22.9%

F3500B-1 Conditioning Data

AVG T	CAT
70	767
70	682
70	654
70	649
70	660
70	696
70	720
70	745
70	767
70	782
70	789
70	792
69	796
69	805
69	823
69	849
69	882
69	923
69	957
69	983
69	1003
69	1017
69	1024
69	1028
69	1028
69	1026
69	1026
69	1026
69	1027
69	1029
69	1031
69	1034
69	1035
69	1034
69	1028
69	1022
69	1016
69	1012
69	1009
69	1009
69	1009
69	1009
69	1012
69	1018
69	1025
69	1034

F3500B-1 Conditioning Data

69	1044
69	1053
69	1062
69	1069
69	1074
69	1078
69	1081
69	1085
69	1089
69	1092
69	1095
69	1098
69	1101
69	1102
69	1102
69	1102
69	1101
69	1101
69	1102
69	1101
69	1101
70	1100
70	1100
70	1100
70	1099
70	1098
70	1098
70	1099
70	1100
71	1101
71	1101
71	1102
71	1103
71	1105
71	1105
71	1105
71	1105
71	1105
71	1104
71	1104
72	1103
72	1103
72	1102
72	1101
72	1101
72	1100
72	1099

F3500B-1 Conditioning Data

72	1098
72	1096
72	1095
72	1096
72	1097
72	1098
72	1100
72	1102
72	1100
72	1097
72	1092
72	1088
72	1084
72	1082
72	1081
72	1081
72	1081
72	1081
72	1079
72	1077
72	1075
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72	1059
73	1055
72	1049
72	1042
73	1036
73	1036
73	1047
73	1052
73	1055

F3500B-1 Conditioning Data

73	1056
73	1054
73	1050
73	1044
73	1038
73	1033
73	1027
73	1022
73	1018
73	1013
73	1010
73	1008
73	1008
73	1010
73	1014
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73	1027
73	1034
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73	1051
73	1048
72	1045
72	1041
72	1037
72	1032
72	1027
72	1023
72	1018
72	1014
72	1010
72	1005
72	1002
72	997
72	992
72	987
72	982
72	977
72	972

F3500B-1 Conditioning Data

72	967
72	963
72	959
72	955
72	950
72	945
72	939
72	933
72	927
72	921
72	916
72	910
72	906
72	902
72	898
72	894
72	890
72	885
72	879
72	874
72	868
72	863
72	858
72	853
72	847
72	841
72	835
72	829
72	823
72	818
72	812
72	807
72	802
72	797
72	793
72	789
72	785
72	781
72	778
72	775
72	773
72	770
72	768
72	766
72	764
72	761
72	759

F3500B-1 Conditioning Data

72	757
72	755
72	753
72	752
72	751
72	750
72	749
71	749
72	748
72	748
71	746
71	745
71	744
71	744
71	743
71	742
71	742
71	741
71	741
71	740
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71	738
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71	735
71	733
71	731
71	729
71	727
71	725
71	723
71	721
71	720
71	719
71	717
71	716
71	714
71	713
71	711
71	710
71	708
71	706
71	704
71	703
71	702
71	701
71	701

F3500B-1 Conditioning Data

71	702
71	703
71	704
71	705
71	707
71	708
71	709
71	710
71	711
71	711
71	712
71	712
71	713
71	715
71	717
71	720
71	722
71	724
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71	728
71	730
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71	734
71	735
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71	737
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70	740
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70	742
70	744
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70	746
70	744
70	741
70	737
70	734
70	732

F3500B-1 Conditioning Data

70	732
70	732
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70	735
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70	737
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70	737
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70	732
70	731
70	730
70	729
70	728
70	726
70	724
70	722
70	719
70	717
70	715
70	713
70	711
69	709
69	708
69	706
69	705
69	704
69	703
69	702
69	701
69	701
69	700
69	700

F3500B-1 Conditioning Data

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69	699
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69	708
69	706
69	704
69	702
69	699
69	696
69	694
69	692
69	690
69	688
69	687
69	686
69	685

F3500B-1 Conditioning Data

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69	683
69	683
69	682
69	681
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69	679
69	678
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68	670
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68	673
68	674
68	675
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F3500B-1 Conditioning Data

68	676
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F3500B-1 Conditioning Data

ET	Scale	Flue	REAR	LEFT	RIGHT	TOP	BOTTOM	AMB
0	19.72	361.1	359	397	374	499	334	393
1	22.48	408	359	396	374	492	335	391
2	19.69	385	354	393	371	485	336	388
3	19.65	363	350	388	369	477	336	384
4	19.57	353	346	384	365	469	337	380
5	19.48	351	344	379	362	462	337	377
6	19.43	326	337	376	360	455	337	373
7	19.39	308	335	371	358	450	337	370
8	19.37	295	331	367	355	446	337	367
9	19.34	287	324	362	350	443	336	363
10	19.29	281	319	357	347	439	336	360
11	19.26	276	316	353	343	435	336	356
12	19.26	271	310	348	339	431	335	352
13	19.24	267	306	344	335	428	335	349
14	19.17	264	302	339	331	424	334	346
15	19.17	261	297	335	327	420	334	342
16	19.13	259	294	331	323	415	333	339
17	19.07	257	291	327	320	413	332	336
18	19.05	258	287	324	316	409	331	333
19	19.01	257	283	321	313	407	331	331
20	18.93	257	279	319	309	405	330	328
21	18.91	257	277	317	307	405	329	327
22	18.88	256	274	315	304	405	328	325
23	18.84	255	271	313	302	403	327	323
24	18.78	256	268	310	299	403	325	321
25	18.74	255	266	308	297	403	324	320
26	18.69	255	262	306	295	403	323	318
27	18.69	254	261	303	292	403	322	316
28	18.63	254	258	301	291	403	321	315
29	18.61	254	257	299	289	402	319	313
30	18.55	255	255	297	287	402	318	312
31	18.5	254	253	295	286	403	317	311
32	18.46	254	250	294	285	404	315	310
33	18.41	255	248	292	282	405	314	308
34	18.4	254	246	291	281	408	312	308
35	18.34	253	244	289	280	410	311	307
36	18.29	253	244	287	279	412	310	306
37	18.25	253	242	286	277	414	308	305
38	18.22	253	241	285	275	416	307	305
39	18.17	255	239	283	274	418	305	304
40	18.13	255	238	282	273	422	304	304
41	18.05	255	238	281	272	424	302	304
42	18.05	255	236	280	270	429	301	303
43	17.99	254	234	279	269	431	300	303
44	17.96	254	234	278	268	433	298	302
45	17.89	254	232	278	267	434	297	302

F3500B-1 Conditioning Data

46	17.85	254	231	277	267	435	296	301
47	17.84	255	230	276	266	435	294	300
48	17.8	256	229	275	265	436	293	300
49	17.75	257	228	275	264	436	292	299
50	17.71	258	228	274	263	435	290	298
51	17.65	259	227	274	263	435	289	298
52	17.6	261	227	273	262	435	288	297
53	17.55	265	226	274	263	436	287	297
54	17.48	269	227	275	263	437	285	297
55	17.39	275	227	277	263	439	284	298
56	17.31	280	226	279	264	443	283	299
57	17.22	283	226	281	264	447	282	300
58	17.17	286	227	284	265	454	280	302
59	17.09	289	228	285	266	460	279	304
60	17.04	291	228	287	267	466	278	305
61	16.97	294	227	288	268	472	277	306
62	16.91	297	229	290	269	477	276	308
63	16.83	299	229	291	271	482	274	309
64	16.76	301	229	292	272	486	273	310
65	16.71	302	230	293	272	490	272	311
66	16.64	303	229	294	273	494	271	312
67	16.59	304	230	296	275	497	270	314
68	16.51	305	231	297	276	500	269	314
69	16.47	306	232	298	277	504	268	316
70	16.38	306	232	299	278	505	267	316
71	16.33	307	232	300	279	509	266	317
72	16.27	308	233	301	281	511	265	318
73	16.2	309	234	302	282	513	264	319
74	16.13	312	235	303	283	514	263	320
75	16.06	313	236	305	284	518	262	321
76	15.98	315	237	306	285	519	261	322
77	15.93	316	237	307	287	522	260	323
78	15.86	317	238	308	288	524	260	324
79	15.8	319	240	309	289	525	259	324
80	15.71	321	241	311	291	529	258	326
81	15.67	322	241	312	292	531	257	327
82	15.59	324	242	314	293	534	256	328
83	15.5	326	243	315	294	537	256	329
84	15.45	327	245	317	296	540	255	331
85	15.35	330	246	318	297	543	254	332
86	15.25	332	247	320	299	546	254	333
87	15.13	333	249	321	300	549	253	334
88	15.03	334	250	323	302	552	252	336
89	14.92	336	253	325	303	556	252	338
90	14.81	338	253	327	304	559	251	339
91	14.71	339	254	328	306	564	251	341
92	14.61	341	257	330	308	568	250	343

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93	14.47	342	258	332	309	571	249	344
94	14.38	343	260	334	311	578	249	346
95	14.25	344	262	335	313	582	248	348
96	14.14	345	264	337	314	586	248	350
97	14.01	346	266	339	315	591	247	352
98	13.9	348	267	341	318	596	247	354
99	13.76	349	270	342	319	599	246	355
100	13.65	352	272	344	322	602	246	357
101	13.5	355	274	346	324	605	246	359
102	13.36	358	276	348	328	607	245	361
103	13.2	361	281	350	331	609	245	363
104	13.06	363	281	352	334	609	245	364
105	12.91	365	285	355	337	610	244	366
106	12.76	365	288	357	341	610	244	368
107	12.63	365	289	360	344	609	244	369
108	12.48	365	291	362	346	609	243	370
109	12.33	365	295	364	349	609	243	372
110	12.19	365	297	366	351	607	243	373
111	12.05	364	300	369	355	607	243	374
112	11.91	364	301	370	356	607	242	375
113	11.76	363	304	372	360	606	242	377
114	11.64	363	307	374	361	607	242	378
115	11.51	362	310	375	364	607	242	380
116	11.38	361	312	377	367	607	242	381
117	11.25	361	314	378	369	606	242	382
118	11.1	360	319	380	370	607	241	383
119	11	359	318	381	371	607	241	384
120	10.88	357	318	383	374	607	241	385
121	10.76	356	322	385	375	608	241	386
122	10.66	354	323	387	376	609	241	387
123	10.55	353	324	388	378	609	241	388
124	10.44	352	327	390	379	610	241	389
125	10.34	351	329	391	380	609	241	390
126	10.22	350	330	392	381	612	241	391
127	10.11	350	333	392	382	612	241	392
128	10.03	350	337	392	384	614	241	394
129	9.95	349	339	392	386	616	241	395
130	9.84	349	339	392	388	617	242	396
131	9.72	348	342	392	390	616	242	396
132	9.63	347	343	392	392	619	242	397
133	9.55	347	346	392	393	619	242	398
134	9.46	346	347	391	395	620	242	399
135	9.35	345	350	391	397	620	242	400
136	9.26	345	353	391	398	621	242	401
137	9.17	344	355	391	399	621	243	402
138	9.1	343	355	391	401	622	243	402
139	9	343	358	391	402	622	243	403

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140	8.93	342	361	391	403	622	243	404
141	8.85	342	361	391	405	621	244	404
142	8.77	342	362	391	406	622	244	405
143	8.68	342	367	391	407	620	244	406
144	8.59	341	368	391	408	621	244	407
145	8.51	341	370	391	409	620	245	407
146	8.42	341	375	391	409	619	245	408
147	8.35	340	377	391	411	618	245	408
148	8.26	340	377	392	412	617	245	409
149	8.19	340	378	392	412	618	246	409
150	8.1	339	379	393	413	616	246	409
151	8	338	380	394	413	616	246	410
152	7.93	337	379	394	412	615	247	410
153	7.85	336	380	395	413	616	247	410
154	7.78	335	378	395	414	614	247	410
155	7.72	334	382	396	413	613	247	410
156	7.66	332	382	397	413	613	248	411
157	7.59	331	382	397	413	612	248	410
158	7.5	329	382	398	413	610	248	410
159	7.46	328	381	398	412	608	249	410
160	7.4	326	381	399	412	606	249	409
161	7.32	325	384	399	412	604	249	410
162	7.26	324	381	400	413	601	250	409
163	7.18	323	383	400	412	598	250	409
164	7.12	322	384	400	412	597	250	409
165	7.06	321	386	401	412	594	251	409
166	7	320	385	401	412	592	251	408
167	6.93	319	385	401	412	591	252	408
168	6.87	318	385	401	412	590	252	408
169	6.79	318	388	401	412	588	252	408
170	6.73	317	386	401	412	587	253	408
171	6.66	316	387	400	413	586	253	408
172	6.59	316	386	400	413	585	253	407
173	6.54	316	388	400	413	585	254	408
174	6.47	316	388	400	413	585	254	408
175	6.42	315	388	400	414	584	255	408
176	6.35	315	389	400	414	584	255	408
177	6.29	314	389	400	413	584	255	408
178	6.22	314	390	400	414	584	256	409
179	6.17	314	391	400	414	584	256	409
180	6.11	314	391	401	414	584	256	409
181	6.06	313	392	401	414	584	257	410
182	6	312	392	402	414	583	257	410
183	5.94	311	392	402	414	582	257	410
184	5.89	311	395	403	414	583	258	410
185	5.85	310	395	403	413	582	258	410
186	5.8	309	396	404	412	580	258	410

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187	5.75	308	395	404	413	580	259	410
188	5.7	308	398	404	411	578	259	410
189	5.67	307	399	404	411	576	259	410
190	5.62	306	403	405	410	574	260	410
191	5.57	305	404	405	409	571	260	410
192	5.52	304	404	405	408	568	260	409
193	5.49	303	404	406	408	566	260	409
194	5.45	301	407	405	407	563	261	409
195	5.39	300	410	406	406	561	261	409
196	5.36	299	409	405	406	558	261	408
197	5.33	297	408	405	405	555	261	407
198	5.28	296	411	405	404	552	262	407
199	5.25	295	412	405	403	550	262	406
200	5.22	294	413	405	402	546	262	406
201	5.18	292	415	404	401	544	262	405
202	5.16	291	417	404	400	540	263	405
203	5.12	290	418	404	399	537	263	404
204	5.09	288	419	403	398	535	263	404
205	5.05	287	420	403	397	531	263	403
206	5.04	286	420	402	397	529	264	402
207	4.99	284	419	402	395	525	264	401
208	4.96	283	418	401	394	522	264	400
209	4.91	282	416	400	393	520	264	399
210	4.88	281	416	399	392	519	264	398
211	4.85	281	412	398	390	518	265	397
212	4.82	280	415	397	390	518	265	397
213	4.78	281	412	396	388	517	265	396
214	4.75	280	412	395	387	517	265	395
215	4.72	280	409	395	386	517	265	394
216	4.69	280	406	394	385	519	266	394
217	4.66	280	408	393	384	518	266	394
218	4.62	280	408	392	383	519	266	394
219	4.59	280	407	391	382	520	266	393
220	4.55	280	406	391	382	519	266	393
221	4.53	279	406	390	381	520	267	393
222	4.51	279	407	389	380	521	267	393
223	4.47	279	406	388	379	520	267	392
224	4.44	278	404	388	378	521	267	392
225	4.41	278	405	387	377	520	267	391
226	4.38	277	403	387	377	521	267	391
227	4.33	277	403	386	376	521	268	391
228	4.32	277	401	385	375	520	268	390
229	4.27	276	400	385	374	519	268	389
230	4.26	276	401	384	373	518	268	389
231	4.21	276	400	384	373	519	268	389
232	4.18	276	401	383	372	519	268	389
233	4.15	276	400	383	371	519	269	388

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234	4.12	276	401	383	371	516	269	388
235	4.08	276	399	382	371	516	269	387
236	4.06	275	399	382	370	517	269	387
237	4.01	276	397	382	369	517	269	387
238	4	275	399	382	369	517	269	387
239	3.96	275	396	382	368	517	270	387
240	3.91	275	397	382	368	517	270	387
241	3.89	275	398	382	367	517	270	387
242	3.86	275	398	382	367	518	270	387
243	3.82	276	398	382	366	518	270	387
244	3.8	276	396	382	366	518	270	386
245	3.78	276	396	382	367	517	271	386
246	3.73	275	397	382	366	517	271	387
247	3.71	274	399	382	367	515	271	387
248	3.68	272	397	382	367	512	271	386
249	3.67	270	397	382	366	510	271	385
250	3.64	268	393	381	366	506	271	384
251	3.63	266	394	381	367	502	272	383
252	3.59	264	392	381	366	497	272	382
253	3.58	262	392	381	367	493	272	381
254	3.58	260	392	380	366	490	272	380
255	3.54	259	390	380	367	485	273	379
256	3.52	257	389	380	366	481	273	378
257	3.5	256	388	379	366	477	273	377
258	3.48	254	388	379	365	474	274	376
259	3.47	252	387	379	366	469	274	375
260	3.46	251	385	378	365	467	274	374
261	3.44	249	382	378	364	463	275	373
262	3.43	248	381	378	363	460	275	371
263	3.41	246	381	378	363	456	276	371
264	3.39	245	379	377	363	453	276	370
265	3.37	244	377	377	362	450	277	369
266	3.35	242	376	377	362	448	277	368
267	3.34	241	373	376	361	445	278	367
268	3.31	240	373	376	360	444	278	366
269	3.3	239	372	375	359	441	279	365
270	3.27	238	371	375	358	439	279	364
271	3.24	238	370	375	358	437	279	364
272	3.25	237	369	375	358	436	280	364
273	3.23	236	368	374	357	435	281	363
274	3.22	236	367	374	355	433	281	362
275	3.21	235	364	374	355	432	281	361
276	3.18	234	362	374	355	432	282	361
277	3.17	234	363	373	353	430	282	360
278	3.14	233	361	372	353	429	283	360
279	3.15	233	359	372	352	428	283	359
280	3.11	232	359	371	352	427	284	358

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281	3.11	232	358	371	350	426	284	358
282	3.09	231	355	370	350	425	284	357
283	3.07	231	355	369	348	426	285	356
284	3.06	231	355	368	348	424	285	356
285	3.04	230	354	367	346	424	285	355
286	3.03	230	353	367	346	423	286	355
287	3.02	229	354	366	345	422	286	355
288	2.99	229	352	365	344	421	286	354
289	2.98	229	352	364	343	420	287	353
290	2.97	229	350	364	342	420	287	352
291	2.94	228	350	363	342	419	287	352
292	2.94	228	350	362	340	419	287	352
293	2.93	228	349	362	340	418	288	351
294	2.91	227	349	361	339	418	288	351
295	2.89	227	349	360	338	416	288	350
296	2.88	227	351	359	337	415	288	350
297	2.87	226	348	359	336	415	288	349
298	2.84	226	349	358	336	414	288	349
299	2.84	226	349	357	335	414	288	349
300	2.82	226	348	357	335	412	288	348
301	2.81	225	349	356	334	411	288	348
302	2.79	225	349	355	334	411	288	347
303	2.78	225	348	355	333	410	288	347
304	2.77	224	350	354	332	410	288	347
305	2.74	224	349	354	332	409	288	346
306	2.73	224	350	353	331	409	288	346
307	2.71	224	350	353	331	408	288	346
308	2.69	224	347	352	331	408	288	345
309	2.67	223	351	351	330	408	288	346
310	2.66	223	350	351	330	407	288	345
311	2.66	223	350	351	329	407	288	345
312	2.63	223	350	350	329	405	288	345
313	2.61	223	351	349	329	404	288	344
314	2.6	223	350	349	328	405	288	344
315	2.58	222	351	349	328	403	288	344
316	2.57	222	352	348	329	403	288	344
317	2.55	222	351	348	328	402	288	343
318	2.55	222	352	347	329	402	288	343
319	2.52	222	351	347	328	401	287	343
320	2.5	222	352	346	328	401	287	343
321	2.5	221	353	346	328	401	287	343
322	2.48	221	352	345	327	400	287	342
323	2.46	221	352	345	327	399	287	342
324	2.45	221	354	345	327	399	287	342
325	2.43	221	353	344	327	398	287	342
326	2.41	220	354	344	326	398	287	342
327	2.4	220	355	343	326	397	287	342

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328	2.39	220	354	343	326	397	287	341
329	2.37	220	355	343	326	396	287	341
330	2.35	220	355	342	326	395	287	341
331	2.34	220	356	342	326	395	287	341
332	2.33	220	358	342	325	395	287	341
333	2.31	220	357	342	325	395	287	341
334	2.29	220	357	341	325	394	287	341
335	2.28	220	358	341	325	394	286	341
336	2.26	220	357	341	325	393	286	340
337	2.25	220	359	340	325	393	286	341
338	2.23	219	358	340	324	392	286	340
339	2.21	219	359	340	325	392	286	340
340	2.19	219	359	340	324	392	286	340
341	2.18	220	360	340	324	392	286	340
342	2.17	219	361	340	325	391	286	340
343	2.16	219	361	340	324	392	286	340
344	2.14	219	362	339	324	391	286	340
345	2.13	219	362	339	324	391	286	340
346	2.09	219	362	339	324	391	286	340
347	2.09	219	363	339	323	390	285	340
348	2.07	219	363	338	323	391	285	340
349	2.06	219	365	338	323	390	285	340
350	2.04	219	365	338	323	390	285	340
351	2.02	219	366	338	323	390	285	340
352	2.02	219	367	337	323	390	285	340
353	1.99	219	367	337	323	389	285	340
354	1.99	219	368	337	323	389	285	340
355	1.96	219	369	337	323	389	285	341
356	1.94	219	371	336	322	388	285	340
357	1.94	219	371	336	323	388	285	341
358	1.91	219	370	336	322	389	285	340
359	1.9	219	372	336	323	389	285	341
360	1.89	219	370	335	323	389	285	340
361	1.87	219	370	335	322	387	284	340
362	1.85	219	371	335	323	388	284	340
363	1.85	219	370	335	323	388	284	340
364	1.82	219	372	335	323	388	284	340
365	1.8	219	370	335	323	388	284	340
366	1.8	219	370	335	323	388	284	340
367	1.78	219	369	335	323	388	284	340
368	1.77	219	366	335	323	388	284	339
369	1.74	219	366	335	323	388	284	339
370	1.73	219	365	335	322	389	284	339
371	1.73	219	365	335	322	389	284	339
372	1.71	220	364	335	322	388	284	339
373	1.69	219	364	335	321	388	284	338
374	1.67	220	362	334	322	388	284	338

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375	1.65	220	362	334	321	388	284	338
376	1.64	220	362	334	321	388	284	338
377	1.62	220	360	334	321	388	284	337
378	1.62	219	359	333	321	387	283	337
379	1.59	219	360	333	320	387	283	337
380	1.59	219	359	333	320	387	283	336
381	1.56	219	358	333	319	387	283	336
382	1.54	219	358	333	319	387	283	336
383	1.53	219	359	333	319	386	283	336
384	1.52	219	359	333	319	386	283	336
385	1.5	219	358	333	318	386	283	336
386	1.49	219	358	333	318	386	283	336
387	1.47	219	356	333	318	386	283	335
388	1.45	219	360	333	318	385	283	336
389	1.43	219	359	333	317	386	283	336
390	1.42	219	360	333	317	385	283	336
391	1.41	219	359	333	317	385	283	336
392	1.38	219	359	334	317	385	283	335
393	1.37	219	361	334	317	384	283	336
394	1.36	218	361	334	316	385	283	336
395	1.34	218	363	334	316	384	283	336
396	1.32	218	362	334	316	384	283	336
397	1.31	218	363	335	317	384	283	336
398	1.29	218	364	335	317	384	283	336
399	1.29	218	364	335	316	384	283	336
400	1.25	218	364	335	317	383	283	336
401	1.24	218	366	335	316	383	283	337
402	1.23	218	365	335	317	383	283	337
403	1.21	218	367	336	315	383	283	337
404	1.2	218	366	336	316	383	283	337
405	1.18	218	367	336	316	382	283	337
406	1.17	218	369	336	316	383	283	337
407	1.15	218	368	336	315	382	283	337
408	1.13	218	368	336	316	382	283	337
409	1.12	218	370	336	315	383	283	337
410	1.11	218	368	336	316	383	283	337
411	1.09	218	368	335	315	382	283	337
412	1.08	218	369	335	315	383	283	337
413	1.06	219	367	335	315	383	283	336
414	1.05	219	366	335	315	383	283	337
415	1.03	219	365	335	315	383	283	336
416	1.01	219	364	334	315	383	283	336
417	1	219	364	334	314	383	283	336
418	0.99	220	363	334	315	384	283	335
419	0.97	220	359	334	314	383	283	335
420	0.96	220	360	334	314	384	283	335
421	0.94	220	360	334	314	384	283	335

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422	0.93	220	359	334	314	382	283	334
423	0.92	220	358	334	314	384	282	334
424	0.9	220	356	334	313	383	282	334
425	0.89	219	356	334	313	383	282	334
426	0.87	219	354	334	313	383	282	333
427	0.85	219	353	333	312	383	282	333
428	0.84	219	353	333	312	382	282	333
429	0.83	219	352	333	312	383	282	332
430	0.81	219	351	333	311	383	282	332
431	0.8	220	350	333	311	383	282	332
432	0.79	219	350	332	312	382	282	332
433	0.77	220	349	332	311	383	282	331
434	0.76	220	348	332	311	383	282	331
435	0.73	220	347	332	310	383	281	331
436	0.72	220	346	331	310	383	281	330
437	0.71	220	345	331	310	383	281	330
438	0.7	220	344	331	310	383	281	330
439	0.68	220	344	331	309	384	281	330
440	0.67	220	344	331	309	384	281	330
441	0.65	220	343	330	309	384	281	329
442	0.64	221	344	330	309	384	281	329
443	0.61	221	341	330	309	384	281	329
444	0.6	221	340	330	308	384	281	329
445	0.58	221	341	330	308	384	280	329
446	0.57	221	341	330	307	384	280	329
447	0.55	221	341	330	308	384	280	329
448	0.54	221	339	330	307	385	280	328
449	0.52	221	338	330	307	384	280	328
450	0.5	221	340	330	308	384	280	328
451	0.49	221	339	330	307	384	280	328
452	0.47	221	338	331	307	384	280	328
453	0.47	221	338	331	307	384	279	328
454	0.44	221	338	331	307	384	279	328
455	0.42	221	338	331	306	383	279	328
456	0.41	221	338	332	307	383	279	328
457	0.38	221	338	332	306	383	279	328
458	0.37	220	340	332	306	382	279	328
459	0.36	220	338	333	306	382	279	328
460	0.34	220	336	333	306	382	279	327
461	0.33	220	338	333	306	382	279	328
462	0.31	220	338	334	306	382	278	328
463	0.29	220	340	334	306	382	278	328
464	0.28	220	339	335	306	381	278	328
465	0.25	219	337	335	305	381	278	327
466	0.24	219	338	336	305	381	278	327
467	0.22	219	339	336	305	381	278	328
468	0.21	219	337	336	305	380	278	327

F3500B-1 Conditioning Data

469	0.19	219	339	337	306	380	278	328
470	0.18	219	338	337	305	380	278	328
471	0.16	218	339	338	305	380	278	328
472	0.13	218	340	338	304	380	278	328
473	0.13	218	338	338	305	380	278	328
474	0.11	218	338	338	304	379	278	327
475	0.1	218	339	339	304	380	278	328
476	0.07	218	339	339	304	379	278	328
477	0.06	218	340	339	304	379	278	328
478	0	218	339	340	303	379	278	328

Tests were done at a medium low air setting

Test load average moisture content -22.0%

F3500B-1 Conditioning Data

AVG T	CAT
73	778
73	704
74	659
73	643
73	640
73	665
73	691
73	712
73	729
73	739
73	743
73	739
73	733
73	726
73	719
73	712
73	705
73	702
73	705
72	711
72	722
72	736
72	747
72	757
72	767
72	774
72	777
72	779
72	780
72	780
72	779
72	778
72	779
72	782
72	783
72	786
72	790
72	795
72	801
72	804
72	805
72	803
72	801
72	802
72	806
72	815

F3500B-1 Conditioning Data

72	825
72	836
72	846
72	853
73	858
73	860
72	863
72	872
72	883
72	900
73	923
72	950
73	976
73	999
73	1017
73	1027
73	1032
73	1032
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73	1072
73	1080
73	1087
73	1093
73	1100
73	1105
73	1112
73	1117
73	1121
73	1126
73	1130
73	1134
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73	1139

F3500B-1 Conditioning Data

73	1140
73	1140
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73	1136
74	1136
73	1135
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74	1140
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74	1137
74	1132
74	1127
74	1121
74	1116
74	1111
74	1108
74	1106
74	1105
74	1104
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74	1102
74	1100
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74	1101
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74	1109
74	1112
74	1114
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74	1116
74	1117
74	1120
74	1125
74	1132
74	1135

F3500B-1 Conditioning Data

74	1135
74	1135
74	1134
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74	1133
74	1132
74	1131
74	1130
74	1129
74	1127
74	1123
74	1119
75	1116
75	1113
75	1109
75	1103
75	1098
75	1092
75	1086
75	1081
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75	1061
75	1057

F3500B-1 Conditioning Data

75	1051
75	1045
75	1038
75	1030
75	1023
75	1016
75	1009
75	1002
75	995
75	989
75	982
75	975
75	968
75	960
75	951
75	943
75	936
75	929
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F3500B-1 Conditioning Data

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75	970
75	956
75	937
75	917
75	897
75	877
75	860
75	846
75	833
75	822
75	813
75	805
75	799
75	792
75	786
75	780
74	775
74	770
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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

ET	Scale	Flue	REAR	LEFT	RIGHT	TOP	BOTTOM	AMB
0	19.54	370.65	347	395	350	461	344	379
1	19.57	408	343	394	349	459	345	378
2	19.52	375	339	392	348	455	345	376
3	19.45	360	333	388	346	449	345	372
4	19.36	356	329	385	343	444	345	369
5	19.27	359	327	383	338	440	345	367
6	19.2	330	323	382	336	437	345	365
7	19.18	311	319	379	334	437	345	363
8	19.16	299	316	376	330	436	345	360
9	19.13	291	312	372	327	436	345	358
10	19.1	285	306	367	323	433	345	355
11	19.06	281	303	363	318	432	345	352
12	19.04	277	299	359	315	429	344	349
13	19.01	273	296	354	312	426	344	347
14	18.97	270	292	350	307	423	344	343
15	18.96	267	289	346	305	420	343	341
16	18.92	265	285	342	302	416	342	337
17	18.85	268	282	338	298	413	342	335
18	18.79	270	278	335	296	411	341	332
19	18.71	272	276	333	294	410	340	331
20	18.66	275	274	330	295	410	340	330
21	18.58	279	295	328	293	408	339	333
22	18.52	282	292	327	293	409	338	332
23	18.44	283	289	325	292	409	337	330
24	18.42	285	289	323	292	410	336	330
25	18.34	287	287	322	292	412	335	330
26	18.27	288	286	321	292	414	334	329
27	18.2	290	284	320	292	415	332	328
28	18.15	291	284	319	292	417	331	329
29	18.08	292	283	317	293	418	330	328
30	17.99	294	282	316	293	420	328	328
31	17.91	296	281	316	294	421	327	328
32	17.83	300	281	316	294	425	326	328
33	17.74	302	281	316	293	430	324	329
34	17.64	304	280	318	293	435	323	330
35	17.58	305	278	320	293	442	321	331
36	17.51	307	280	322	292	448	320	332
37	17.42	309	278	325	292	454	318	333
38	17.37	310	279	327	291	461	317	335
39	17.28	311	279	329	291	466	316	336
40	17.22	312	280	331	290	471	314	337
41	17.13	313	279	333	291	476	313	338
42	17.07	314	278	335	290	478	311	338
43	16.99	316	281	337	290	480	310	339
44	16.92	318	280	338	290	484	308	340
45	16.84	320	279	340	290	485	307	340

F3500B-1 Conditioning Data

46	16.76	323	280	341	290	487	306	341
47	16.68	325	282	342	290	491	305	342
48	16.58	328	284	344	290	493	303	343
49	16.51	331	284	345	290	495	302	343
50	16.42	334	287	347	291	500	301	345
51	16.34	338	286	349	291	504	300	346
52	16.24	341	288	351	292	509	299	348
53	16.14	343	288	353	293	515	297	349
54	16.06	344	289	356	293	519	296	351
55	15.96	346	291	358	293	525	295	353
56	15.86	347	293	361	294	530	295	354
57	15.78	349	295	363	295	534	294	356
58	15.68	350	295	366	295	539	293	357
59	15.59	351	298	369	295	542	292	359
60	15.51	352	301	371	296	546	291	361
61	15.4	352	301	373	296	550	291	362
62	15.27	353	304	376	297	553	290	364
63	15.14	353	304	378	298	554	290	365
64	15	354	307	380	298	557	289	366
65	14.87	354	309	383	300	560	289	368
66	14.76	354	312	385	300	561	288	369
67	14.61	354	312	387	301	563	288	370
68	14.45	354	315	389	301	564	287	371
69	14.35	353	318	392	303	565	287	373
70	14.2	354	318	394	303	565	287	373
71	14.05	354	323	396	305	567	286	375
72	13.93	354	323	398	304	567	286	376
73	13.8	354	325	399	306	569	286	377
74	13.67	354	325	402	306	569	285	377
75	13.55	354	328	404	308	570	285	379
76	13.4	354	330	406	308	570	285	380
77	13.3	353	331	408	309	572	285	381
78	13.18	353	328	410	310	573	285	381
79	13.03	353	333	412	310	574	285	383
80	12.91	353	335	413	311	574	284	383
81	12.78	353	337	415	313	575	284	385
82	12.67	353	340	417	314	575	284	386
83	12.55	352	338	419	316	575	284	387
84	12.4	351	341	421	316	576	284	387
85	12.29	351	341	423	316	577	284	388
86	12.17	351	343	425	317	576	284	389
87	12.04	351	346	426	318	577	284	390
88	11.92	351	349	428	318	577	284	391
89	11.79	351	352	430	319	577	284	392
90	11.66	351	352	431	321	576	284	393
91	11.56	352	355	433	320	578	284	394
92	11.44	352	355	434	322	578	284	395

F3500B-1 Conditioning Data

93	11.31	351	354	436	322	579	284	395
94	11.18	351	355	437	324	579	284	396
95	11.08	351	362	439	324	579	284	397
96	10.95	351	363	440	325	580	284	398
97	10.83	351	364	441	326	579	284	399
98	10.7	351	364	442	327	579	284	399
99	10.6	351	367	443	328	580	284	400
100	10.46	352	369	444	328	579	284	401
101	10.34	351	369	445	330	580	284	402
102	10.23	351	371	445	332	580	284	402
103	10.13	352	373	446	332	580	284	403
104	10.01	352	373	446	334	580	284	403
105	9.85	352	373	446	336	579	284	404
106	9.72	353	371	447	337	580	285	404
107	9.61	354	377	447	340	580	285	406
108	9.5	354	379	447	343	580	285	407
109	9.38	353	376	447	344	580	285	407
110	9.28	353	375	448	346	580	285	407
111	9.13	353	377	448	349	579	285	408
112	9.01	353	376	448	349	578	286	408
113	8.87	351	382	449	352	578	286	409
114	8.76	351	384	449	353	577	286	410
115	8.64	351	385	449	355	577	286	411
116	8.51	350	387	450	357	575	286	411
117	8.44	349	388	449	358	575	286	411
118	8.3	348	391	450	359	575	286	412
119	8.17	347	389	450	360	575	287	412
120	8.06	346	393	450	361	575	287	413
121	7.99	344	390	450	361	574	287	412
122	7.84	343	391	450	362	573	287	413
123	7.77	342	393	450	364	573	288	413
124	7.65	341	394	450	365	572	288	414
125	7.56	340	397	450	367	573	288	415
126	7.42	339	399	450	368	573	288	415
127	7.36	338	402	450	368	571	289	416
128	7.26	337	404	450	371	572	289	417
129	7.15	337	408	451	371	571	289	418
130	7.07	336	404	451	372	571	290	418
131	6.97	335	408	452	371	570	290	418
132	6.87	335	409	453	371	570	290	419
133	6.77	335	410	452	372	571	291	419
134	6.67	335	414	452	371	570	291	420
135	6.59	334	418	452	373	570	292	421
136	6.49	334	418	452	374	569	292	421
137	6.4	333	417	452	374	569	293	421
138	6.33	332	420	451	375	570	294	422
139	6.2	330	422	451	377	568	294	422

F3500B-1 Conditioning Data

140	6.14	328	426	451	377	567	295	423
141	6.08	326	432	451	378	566	295	424
142	5.97	324	431	451	379	565	296	424
143	5.89	322	434	450	379	565	296	425
144	5.83	320	432	450	380	564	297	424
145	5.77	319	432	450	381	562	297	425
146	5.72	318	438	450	383	562	298	426
147	5.67	316	439	450	382	562	299	426
148	5.59	315	441	450	384	561	299	427
149	5.53	314	437	450	383	560	300	426
150	5.49	313	441	450	384	559	301	427
151	5.43	312	442	449	385	558	301	427
152	5.38	310	443	448	386	557	302	427
153	5.34	308	446	447	388	554	303	428
154	5.29	306	446	446	389	551	304	427
155	5.25	304	447	444	389	547	304	426
156	5.2	302	448	443	390	543	305	426
157	5.15	299	452	441	389	540	306	426
158	5.14	297	451	440	391	535	307	425
159	5.07	294	447	438	392	531	307	423
160	5.06	292	448	437	392	527	308	423
161	5.02	289	452	436	391	522	309	422
162	4.98	286	452	435	393	518	310	422
163	4.94	284	453	434	392	512	310	420
164	4.91	281	453	433	393	508	311	419
165	4.89	279	452	432	392	502	312	418
166	4.86	277	451	430	391	498	313	417
167	4.84	275	451	429	392	494	314	416
168	4.79	273	452	428	391	489	314	415
169	4.77	270	449	427	390	485	315	413
170	4.74	268	449	426	390	481	316	412
171	4.71	267	449	425	390	477	317	412
172	4.68	265	443	424	389	472	317	409
173	4.64	263	451	423	389	470	318	410
174	4.64	262	445	422	389	465	319	408
175	4.6	260	448	421	388	462	319	408
176	4.55	259	447	420	387	458	320	406
177	4.54	258	446	420	387	455	321	406
178	4.51	257	447	419	386	453	321	405
179	4.49	255	448	418	385	449	322	404
180	4.45	254	442	417	385	447	323	403
181	4.42	253	441	416	384	444	323	402
182	4.4	252	444	415	382	442	324	402
183	4.37	251	436	414	383	440	325	399
184	4.37	250	437	413	382	437	325	399
185	4.33	249	435	412	381	435	326	398
186	4.31	248	436	410	380	433	326	397

F3500B-1 Conditioning Data

187	4.3	246	438	409	377	430	327	396
188	4.29	245	435	408	376	427	327	395
189	4.26	244	434	406	375	425	328	394
190	4.24	243	434	405	373	423	328	393
191	4.22	241	429	404	373	420	329	391
192	4.21	240	430	403	372	418	329	390
193	4.19	239	429	402	372	416	330	390
194	4.17	238	426	401	370	413	330	388
195	4.16	237	425	400	370	412	331	388
196	4.12	235	423	399	367	409	331	386
197	4.1	234	421	398	367	407	331	385
198	4.09	233	418	397	365	405	332	383
199	4.05	232	416	396	366	403	332	382
200	4.07	231	419	395	364	401	332	382
201	4.02	230	419	395	363	399	333	382
202	4.02	230	420	394	362	397	333	381
203	3.98	229	416	393	362	395	333	380
204	3.97	228	415	393	360	393	334	379
205	3.95	227	413	392	359	391	334	378
206	3.95	227	413	391	359	390	334	378
207	3.92	226	414	391	358	389	334	377
208	3.91	225	411	390	357	387	335	376
209	3.87	225	414	390	357	386	335	376
210	3.86	224	412	389	355	385	335	375
211	3.84	224	410	389	353	384	335	374
212	3.83	224	410	388	353	384	335	374
213	3.8	223	416	387	352	382	335	375
214	3.79	223	413	387	350	381	335	373
215	3.78	223	411	387	349	380	336	372
216	3.77	222	412	386	349	380	336	373
217	3.73	222	413	385	347	379	336	372
218	3.72	222	409	385	348	379	336	372
219	3.7	222	413	384	346	378	336	371
220	3.69	221	409	384	345	377	336	370
221	3.67	221	409	383	344	377	336	370
222	3.65	221	406	383	344	376	336	369
223	3.63	220	407	382	343	376	336	369
224	3.63	220	409	381	341	375	336	368
225	3.6	220	405	381	341	375	336	368
226	3.58	220	404	380	341	374	336	367
227	3.57	219	403	380	340	373	336	366
228	3.56	219	402	379	339	373	336	366
229	3.53	219	402	378	338	373	336	366
230	3.53	219	404	378	339	372	336	366
231	3.51	219	404	377	337	372	336	365
232	3.5	219	401	376	336	371	336	364
233	3.48	218	398	376	335	370	336	363

F3500B-1 Conditioning Data

234	3.45	218	402	375	335	370	336	364
235	3.44	218	401	374	333	371	336	363
236	3.41	218	403	374	333	370	335	363
237	3.39	218	399	373	332	370	335	362
238	3.39	218	401	372	331	370	335	362
239	3.38	218	401	372	331	369	335	362
240	3.34	218	398	371	331	369	335	361
241	3.34	218	400	371	329	369	335	361
242	3.33	217	397	370	330	368	335	360
243	3.31	217	397	370	329	368	334	360
244	3.31	217	397	369	328	368	334	359
245	3.29	217	399	369	328	368	334	360
246	3.26	217	401	368	326	368	334	360
247	3.26	217	400	368	326	367	333	359
248	3.24	217	403	367	325	367	333	359
249	3.21	217	398	367	324	367	333	358
250	3.2	217	396	366	325	368	333	358
251	3.18	217	399	366	324	367	333	358
252	3.18	217	399	366	323	367	332	358
253	3.14	217	399	365	323	367	332	357
254	3.15	217	398	365	323	367	332	357
255	3.12	217	403	364	323	367	332	357
256	3.1	217	398	364	322	367	331	356
257	3.09	217	397	363	321	366	331	356
258	3.09	217	397	363	321	367	331	356
259	3.07	217	398	363	321	367	331	356
260	3.03	217	397	362	319	367	330	355
261	3.02	217	396	362	318	366	330	354
262	3.01	217	398	361	317	366	330	355
263	3	217	397	361	319	366	329	354
264	2.96	217	398	361	318	366	329	354
265	2.97	217	400	360	318	366	329	354
266	2.95	216	397	360	318	366	329	354
267	2.94	216	401	360	317	365	328	354
268	2.91	216	394	360	316	365	328	352
269	2.9	216	400	359	318	365	328	354
270	2.88	216	397	359	318	364	327	353
271	2.87	216	397	359	317	365	327	353
272	2.84	216	397	359	318	364	327	353
273	2.84	216	400	359	317	364	327	353
274	2.81	216	401	359	317	364	326	353
275	2.79	215	398	359	317	363	326	353
276	2.78	215	397	359	315	363	326	352
277	2.75	215	397	359	316	363	326	352
278	2.75	215	399	359	316	363	326	353
279	2.72	215	399	359	316	362	326	352
280	2.71	215	397	359	317	362	325	352

F3500B-1 Conditioning Data

281	2.7	215	398	359	316	362	325	352
282	2.67	215	399	359	315	362	325	352
283	2.66	215	400	359	316	362	325	352
284	2.66	215	399	360	315	361	325	352
285	2.63	215	401	360	315	361	325	352
286	2.6	214	401	360	314	361	325	352
287	2.61	215	398	360	315	360	325	352
288	2.56	215	396	360	314	360	325	351
289	2.59	214	399	360	315	360	325	352
290	2.56	214	402	360	313	360	325	352
291	2.55	214	395	361	314	360	324	351
292	2.52	214	397	361	314	360	324	351
293	2.5	214	397	360	313	359	324	351
294	2.48	214	394	361	314	359	324	350
295	2.48	214	399	361	313	359	324	351
296	2.45	214	395	361	312	359	324	350
297	2.44	214	397	361	313	359	324	351
298	2.43	214	394	361	311	360	324	350
299	2.42	214	396	361	310	360	324	350
300	2.4	215	394	360	311	360	324	350
301	2.36	215	394	360	310	359	324	349
302	2.36	215	392	360	311	358	324	349
303	2.34	215	390	359	309	358	324	348
304	2.32	215	387	359	309	358	324	347
305	2.31	214	390	358	311	359	324	348
306	2.3	214	389	358	310	357	324	348
307	2.26	214	387	358	308	357	324	347
308	2.25	214	392	357	308	356	324	348
309	2.24	214	389	357	309	356	324	347
310	2.24	214	389	357	308	355	324	347
311	2.2	213	389	357	307	355	324	346
312	2.2	213	388	356	307	354	324	346
313	2.18	213	388	356	307	354	324	346
314	2.16	212	389	356	308	353	324	346
315	2.16	212	388	356	307	352	324	345
316	2.13	212	385	355	306	351	324	344
317	2.12	212	388	355	306	350	324	345
318	2.12	211	385	355	306	350	324	344
319	2.09	211	384	355	306	349	324	343
320	2.08	211	384	354	305	348	324	343
321	2.07	210	383	354	305	347	323	343
322	2.04	210	385	354	305	347	323	343
323	2.04	210	383	354	304	347	323	342
324	2.03	210	383	353	303	346	323	341
325	2.01	209	383	353	304	345	323	342
326	2	209	380	353	303	344	323	341
327	1.98	208	380	352	303	344	323	341

F3500B-1 Conditioning Data

328	1.97	208	381	352	302	343	323	340
329	1.96	208	379	352	304	343	323	340
330	1.93	208	381	352	302	342	323	340
331	1.92	208	380	352	302	342	323	340
332	1.91	208	379	351	301	341	323	339
333	1.87	207	376	351	302	341	322	338
334	1.88	207	381	351	301	341	322	339
335	1.87	207	376	350	300	339	322	338
336	1.85	207	378	350	300	340	322	338
337	1.83	207	377	350	300	339	322	338
338	1.82	206	375	349	299	339	322	337
339	1.8	206	374	349	300	338	322	337
340	1.8	206	376	349	299	338	322	337
341	1.76	206	372	348	299	337	322	336
342	1.75	206	374	348	298	337	322	336
343	1.74	206	372	348	298	336	322	335
344	1.73	205	371	347	297	336	322	335
345	1.7	205	373	347	297	335	322	335
346	1.69	204	372	347	295	334	322	334
347	1.69	204	371	346	296	334	322	334
348	1.65	203	369	347	295	333	322	333
349	1.65	203	369	346	295	332	322	333
350	1.63	203	371	346	295	331	322	333
351	1.61	203	376	347	294	331	322	334
352	1.57	202	373	347	293	331	322	333
353	1.56	202	367	347	293	330	322	332
354	1.55	201	367	347	293	329	322	332
355	1.53	201	365	347	294	329	322	331
356	1.52	201	369	347	293	328	322	332
357	1.5	200	367	347	292	328	322	331
358	1.49	200	368	347	292	327	322	331
359	1.47	200	368	347	292	327	322	331
360	1.44	199	365	347	293	327	322	331
361	1.43	199	366	347	292	326	322	331
362	1.43	199	366	347	292	326	322	331
363	1.41	199	368	348	292	326	322	331
364	1.38	199	365	348	291	326	322	330
365	1.36	199	365	348	290	326	322	330
366	1.35	199	363	348	291	326	323	330
367	1.34	199	366	347	289	326	323	330
368	1.32	199	364	347	291	326	323	330
369	1.32	199	367	347	289	325	323	330
370	1.29	198	366	347	291	326	323	330
371	1.27	199	363	347	290	325	323	330
372	1.27	198	366	347	290	325	323	330
373	1.26	198	365	347	289	325	323	330
374	1.23	198	361	346	289	325	323	329

F3500B-1 Conditioning Data

375	1.22	198	364	346	288	325	324	329
376	1.2	198	359	346	288	324	324	328
377	1.2	197	362	346	288	324	324	329
378	1.18	197	361	346	287	324	324	328
379	1.15	197	364	345	288	324	324	329
380	1.15	197	362	345	287	324	324	328
381	1.12	197	363	345	287	323	324	329
382	1.12	197	365	345	287	324	324	329
383	1.11	197	362	345	286	323	324	328
384	1.09	197	363	344	287	323	324	328
385	1.07	197	361	344	288	322	324	328
386	1.06	197	364	344	287	322	325	328
387	1.05	197	360	344	286	322	325	327
388	1.03	197	365	344	286	321	325	328
389	1.01	197	362	344	286	322	325	328
390	1	197	361	343	286	321	325	328
391	0.99	197	362	343	286	322	325	328
392	0.95	196	363	343	287	321	325	328
393	0.95	196	368	343	286	320	325	328
394	0.94	196	363	343	286	321	325	328
395	0.92	196	363	343	286	321	325	327
396	0.92	196	365	343	287	320	325	328
397	0.88	196	364	343	285	320	325	327
398	0.88	196	363	343	286	320	325	327
399	0.86	196	360	342	286	320	325	327
400	0.85	196	361	342	286	320	325	327
401	0.85	196	364	342	286	320	325	327
402	0.82	196	363	343	286	320	325	327
403	0.81	196	366	343	286	320	325	328
404	0.79	196	363	343	285	320	325	327
405	0.79	196	363	343	285	320	325	327
406	0.75	196	365	342	285	320	325	327
407	0.75	196	362	343	286	320	325	327
408	0.72	196	360	342	285	320	325	326
409	0.72	196	364	342	285	320	325	327
410	0.7	197	362	342	285	320	325	327
411	0.69	197	360	341	285	320	325	326
412	0.67	197	360	341	284	319	325	326
413	0.65	197	356	340	284	319	325	325
414	0.66	197	358	340	283	319	325	325
415	0.61	197	358	339	284	319	325	325
416	0.61	196	359	339	283	318	325	325
417	0.6	196	358	338	283	319	325	324
418	0.59	197	354	338	283	319	325	324
419	0.57	196	357	337	283	318	325	324
420	0.56	196	354	337	283	318	325	323
421	0.53	196	352	337	283	318	325	323

F3500B-1 Conditioning Data

422	0.54	196	353	336	283	318	325	323
423	0.52	196	350	336	282	318	326	322
424	0.5	196	351	336	283	318	326	323
425	0.49	196	349	335	283	318	326	322
426	0.47	196	349	335	284	317	326	322
427	0.46	196	346	335	283	317	326	321
428	0.45	196	346	335	283	317	327	321
429	0.43	195	350	334	283	317	327	322
430	0.41	195	346	334	283	317	327	322
431	0.41	195	348	334	283	316	327	322
432	0.39	195	346	334	283	316	327	321
433	0.37	195	345	334	282	316	328	321
434	0.34	195	344	334	282	316	328	321
435	0.35	195	343	334	283	316	328	321
436	0.33	195	346	334	281	315	328	321
437	0.32	195	343	334	282	315	328	320
438	0.3	194	344	333	283	315	328	321
439	0.29	194	343	333	281	314	328	320
440	0.26	194	342	333	282	314	329	320
441	0.27	194	344	333	282	314	329	320
442	0.25	194	341	333	282	314	329	320
443	0.23	194	340	333	283	314	329	320
444	0.23	194	341	333	282	314	329	320
445	0.21	194	340	333	282	313	329	319
446	0.19	194	337	333	282	313	329	319
447	0.18	194	338	332	282	313	329	319
448	0.17	194	340	333	282	313	329	319
449	0.15	194	335	332	282	313	329	318
450	0.13	194	336	332	281	313	329	318
451	0.1	194	338	332	281	312	329	318
452	0.11	194	335	332	282	312	329	318
453	0.09	194	334	332	282	312	329	318
454	0.09	193	334	332	281	312	329	317
455	0.08	193	330	332	282	311	329	317
456	0	193	331	331	282	312	329	317

Tests were done at a medium low air setting

Test load average moisture content -21.8%

F3500B-1 Conditioning Data

AVG T	CAT
73	769
74	706
74	688
74	677
74	688
74	731
74	752
74	770
74	787
74	795
74	794
73	785
74	774
73	760
73	749
73	740
73	734
73	735
73	740
73	756
73	784
73	819
73	854
73	882
73	903
73	915
73	919
73	921
73	924
73	928
73	933
73	937
73	944
73	952
73	967
73	990
73	1013
73	1030
73	1037
73	1039
73	1039
74	1040
74	1043
74	1048
74	1054
74	1062

F3500B-1 Conditioning Data

74	1072
74	1084
74	1098
74	1112
74	1124
74	1132
74	1138
75	1140
75	1141
75	1141
75	1141
75	1140
75	1138
75	1135
75	1130
75	1127
75	1124
75	1120
75	1118
75	1115
75	1112
75	1110
75	1108
75	1106
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76	1107
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76	1109
76	1108

F3500B-1 Conditioning Data

76	1108
76	1109
76	1109
76	1110
76	1111
76	1112
76	1112
76	1112
76	1111
76	1112
76	1113
76	1114
76	1116
76	1116
76	1115
76	1112
76	1109
76	1106
76	1104
76	1102
76	1101
76	1100
76	1100
76	1099
76	1098
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77	1083
77	1082
77	1080
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77	1075
77	1074
77	1072
77	1069
77	1066
77	1063
77	1059

F3500B-1 Conditioning Data

77	1055
77	1052
77	1049
77	1048
77	1048
77	1051
77	1062
77	1074
77	1078
77	1077
77	1073
77	1065
77	1054
77	1043
77	1030
77	1017
77	1004
77	990
78	977
78	963
78	950
78	937
78	924
78	912
78	901
78	891
78	881
78	873
78	865
78	858
78	852
78	847
78	842
78	837
78	834
78	831
78	828
78	826
78	824
78	822
78	820
78	817
78	815
78	811
78	807
77	803
77	798

F3500B-1 Conditioning Data

77	793
78	788
77	783
77	778
77	773
77	768
77	764
77	760
77	756
77	752
77	749
77	746
77	744
77	741
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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

75	732
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74	729
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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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F3500B-1 Conditioning Data

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590

LISTED ROOM HEATER, SOLID FUEL TYPE, ALSO APPROVED FOR USE IN MOBILE HOMES (US) AND IN TRANS-PORTABLE BUILDINGS (CAN) / APPAREIL DE CHAUFFAGE HOMOLOGUÉ, À COMBUSTIBLE SOLIDE, CONVENANT POUR INSTALLATION DANS UNE MAISON MOBILE OU UN BÂTIMENT TRANSPORTABLE

DO NOT REMOVE THIS LABEL/
NE PAS RETIRER L'ÉTIQUETTE

590

MODEL: REGENCY FREESTANDING STOVE - F3500B-1

TESTED TO: UL627-2023 / UL 1482-2022

U.S. ENVIRONMENTAL PROTECTION AGENCY CERTIFIED TO COMPLY WITH 2020 PARTICULATE EMISSION STANDARDS USING CRIB WOOD." TESTED TO METHOD 28R, E2780-10, E2515-11. MODEL REGENCY F3500B-1 – 1.1 G /HR. THIS WOOD HEATER NEEDS PERIODIC INSPECTION AND REPAIR FOR PROPER OPERATION. CONSULT THE OWNER'S MANUAL FOR FURTHER INFORMATION. IT IS AGAINST FEDERAL REGULATIONS TO OPERATE THIS WOOD HEATER IN A MANNER IN-CONSISTENT WITH THE OPERATING INSTRUCTIONS IN THE OWNER'S MANUAL.

CERTIFIÉ CONFORME AUX NORMES 2020 DU U.S. ENVIRONMENTAL PROTECTION AGENCY EN MATIÈRE D'ÉMISSION DE PARTICULES DE BOIS AVEC DU BOIS D'ESSAI NORMALISÉ (CRIB WOOD)". APPROUVÉ SELON LA MÉTHODE 28R, E2780-10, E2515-11. MODÈLE REGENCY F3500B-1 – 1,1 G /H. CET APPAREIL DE CHAUFFAGE AU BOIS DOIT ÊTRE INSPECTÉ PÉRIODIQUEMENT ET RÉPARÉ POUR FONCTIONNER CORRECTEMENT. CONSULTER LE MANUEL D'INSTALLATION POUR PLUS D'INFORMATION. LA RÉGLEMENTATION FÉDÉRALE INTERDIT DE FAIRE FONCTIONNER UN TEL APPAREIL SI LES CONSIGNES D'UTILISATION CONTENUES DANS LE PRÉSENT MANUEL NE SONT PAS RESPECTÉES.

INSTALL AND USE ONLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA. USE 6"(152MM) DIAMETER MINIMUM 24 MSG BLACK OR 26 MSG BLUED STEEL CONNECTOR WITH LISTED UL103 HT or ULCS629 FACTORY-BUILT CHIMNEY SUITABLE FOR USE WITH SOLID FUELS OR MASONRY CHIMNEY.

SEE LOCAL BUILDING CODE AND MANUFACTURER'S INSTRUCTIONS FOR PRECAUTIONS REQUIRED FOR PASSING A CHIMNEY THROUGH A COMBUSTIBLE WALL OR CEILING. DO NOT PASS CHIMNEY CONNECTOR THROUGH COMBUSTIBLE WALL OR CEILING. DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.

CAUTION: BURNING OF MATERIAL OTHER THAN THE SPECIFIED FUELS MAY MAKE THE CATALYST IN THE COMBUSTOR INACTIVE. THE COMBUS-TOR IS FRAGILE, HANDLE CAREFULLY.

THE PERFORMANCE OF THE CATALYTIC DEVICE OR ITS' DURABILITY HAS NOT BEEN EVALUATED AS PART OF THE CERTIFICATION.

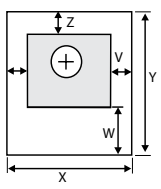
INSTALLER ET UTILISER SEULEMENT SELON LES INSTRUCTIONS D'INSTALLATION ET D'UTILISATION DU FABRICANT.

CONTACTER LES RESPONSABLES DU BÂTIMENT OU DU SERVICE-INCENDIE DE VOTRE RÉGION POUR CONNAÎTRE LES RESTRICTIONS ET EXI-GENCES D'INSPECTION DANS VOTRE RÉGION. UTILISER UN CONNECTEUR D'UN DIAMÈTRE MINIMAL DE 152 MM (6 PO) 24 MSG EN ACIER NOIR OU 26 MSG EN ACIER BRONZÉ AVEC CHEMINÉE PRÉFABRIQUÉE HOMOLOGUÉE CONÇUE POUR UTILISATION AVEC COMBUSTIBLES SOLIDES OU UNE CHEMINÉE DE MAÇONNERIE.

VOIR LE CODE DU BÂTIMENT LOCAL ET LES INSTRUCTIONS DU FABRICANT CONCERNANT LES PRÉCAUTIONS EXIGÉES POUR INSTALLER UNE CHEMINÉE TRAVERSANT UN MUR OU PLAFOND EN MATÉRIAUX COMBUSTIBLES. NE FAITES PAS TRAVERSER LE CONNECTEUR DE CHEMINÉE DANS UN MUR OU PLAFOND EN MATÉRIAUX COMBUSTIBLES. NE RACCORDEZ PAS CE POÊLE À BOIS À UN CONDUIT DE CHEMINÉE DESSERVANT UN AUTRE APPAREIL.

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS	
INSTALLATION USING 6" SINGLE WALL OR LISTED DOUBLE WALL CONNECTOR ONLY: RESIDENTIAL, ALCOVE, MOBILE HOME	
To Top of stove: A) 279mm / 11"	To Flue Centre Line: E) 406mm / 16"
To Rear Shield: B) 241mm / 9.5"	To Flue Centre Line: F) 521mm / 20-1/2"
To Corner of Stove: C) 203mm / 8"	Alcove width: G) 1524mm / 60"
To Flue Centre Line: D) 610mm / 24"	To Top of Flue: H) 152mm / 6"

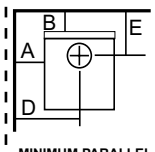
FLOOR PROTECTION*

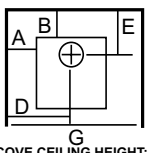


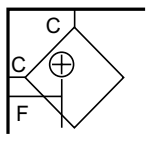
In USA:
V 203 mm / 8"
W 406 mm / 16"
X 838 mm / 33"
Y 1181 mm / 46-1/2"
Z 203 mm / 8"

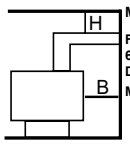
In Canada:
V 203 mm / 8"
W 450 mm / 18"
X 838 mm / 33"
Y 1232 mm / 48-1/2"
Z 203 mm / 8"

REGENCY FIREPLACE PRODUCTS









MANUFACTURED BY:
FPI FIREPLACE PRODUCTS INTERNATIONAL LTD.
6988 VENTURE ST.
DELTA, BC V4G 1H4
MADE IN CANADA

MINIMUM PARALLEL / ALCOVE CEILING HEIGHT: 2.1 M / 83" MAXIMUM ALCOVE DEPTH 1219 MM / 48 IN.
HAUTEUR MINIMALE DU PLAFOND DE L'ALCÔVE : 2,1 M / 83PO. PROFONDEUR MAXIMALE DE L'ALCÔVE : 1219 MM / 48 PO.

WARNING: THE SPACE BENEATH THE HEATER MUST NOT BE OBSTRUCTED. OPERATE ONLY WITH FIREBRICKS IN PLACE.
FOR USE WITH SOLID WOOD FUEL ONLY. USE OF OTHER FUELS MAY DAMAGE HEATER AND CREATE A HAZARDOUS CONDITION. DO NOT OBSTRUCT COMBUSTION AIR OPENINGS. OPERATE ONLY WITH FIREBRICKS IN PLACE. RISK OF SMOKE AND FLAME SPILLAGE, OPERATE ONLY WITH DOORS FULLY CLOSED. DO NOT USE GRATE OR ELEVATE FIRE. BUILD WOOD FIRE DIRECTLY ON HEARTH. DO NOT OVERFIRE - IF HEATER OR CHIMNEY CONNECTOR GLOWS YOU ARE OVERFIRING. INSPECT AND CLEAN CHIMNEY AND CONNECTOR FREQUENTLY. UNDER CERTAIN CONDITIONS OF USE CREOSOTE BUILDUP MAY OCCUR RAPIDLY. KEEP FURNISHINGS AND OTHER COMBUSTIBLE MATERIAL AWAY FROM HEATER. REPLACE GLASS ONLY WITH NEOCERAM GLASS. COMBUSTIBLE FLOOR MUST BE PROTECTED BY NON-COMBUSTIBLE MATERIAL EXTENDING BENEATH THE HEATER AND TO THE FRONT AND SIDES AS INDICATED OR TO THE NEAREST PERMITTED COMBUSTIBLE MATERIAL.
OPTIONAL COMPONENTS: FAN (846-515), ELECTRICAL RATING: VOLTS 115, 60 HZ, 2 AMPS., AIRMATE, OUTSIDE AIR KIT, ASH DRAWER, COMBUSTOR PART #051-530
THIS WOOD HEATER CONTAIN A CATALYTIC COMBUSTOR WHICH REQUIRES PERIODIC INSPECTION AND REPLACEMENT FOR PROPER OPERATION. IT IS AGAINST THE LAW TO OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN INSTRUCTION MANUAL, OR IF THE CATALYTIC ELEMENT IS DEACTIVATED OR REMOVED.
DANGER: RISK OF ELECTRIC SHOCK. DISCONNECT POWER BEFORE SERVICING UNIT. DO NOT ROUTE POWER CORD UNDER OR IN FRONT OF APPLIANCE.
CAUTION: MOVING PARTS MAY CAUSE INJURY. DO NOT OPERATE UNIT WITH FAN HOSING REMOVED.
CAUTION: HOT PARTS. DO NOT OPERATE UNIT WITH DOOR OR GLASS REMOVED.
COMPONENTS REQUIRED FOR MOBILE HOME INSTALLATION IN THE US AND TRANSPORTABLE BUILDINGS IN CANADA: OUTSIDE AIR KIT AND ONE OF THE FOLLOWING DOUBLE WALL CONNECTOR IN CANADA: LISTED SECURITY MODEL DP, OR OLIVER MACLEOD PRO-VENT PV DOUBLE WALLED CONNECTOR WITH LISTED CHIMNEY SYSTEM: LISTED SECURITY MODEL SECURITY S2100+, ICC EXCEL 2100, SIMPSON DURA-PLUS HTC, SELKIRK SENTINAL CF.
IN USA: LISTED DOUBLE WALL CONNECTORS SECURITY MODEL DP, SELKIRK MODEL DS, OLIVER MACLEOD PRO VENT PV, SIMPSON DURA VENT MODEL DVL, METAL-FAB DOUBLE WALL. CONNECTED TO ONE OF THE FOLLOWING COMPATIBLE CHIMNEY SYSTEMS SELKIRK SURE-TEMP, PROJET Nova Temp, SECURITY SECURE TEMP ASH+, SECURITY SECURE TEMP S-2100+, METAL-FAB TEMP/GUARD 2100, AMERI-TEC HS, ICC EXCEL 2100 . USE CHIMNEY COMPONENTS AS SPECIFIED IN INSTALLATION INSTRUCTIONS.
TO BE INSTALLED AS A FREESTANDING ROOM HEATER WITH THE CLEARANCES IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. NOT TO BE INSTALLED IN ANY FIREPLACE.

AVERTISSEMENT : L'ESPACE SITUÉ SOUS L'APPAREIL DE CHAUFFAGE NE DOIT PAS ÊTRE OBSTRUÉ. FAIRE FONCTIONNER SEULEMENT LORSQUE LES BRIQUES SONT EN PLACE.
À UTILISER SEULEMENT AVEC UN COMBUSTIBLE DE BOIS SOLIDE. L'UTILISATION D'AUTRES COMBUSTIBLES PEUT ENDOMMAGER L'APPAREIL DE CHAUFFAGE ET PRÉSENTER UN DANGER. NE PAS OBSTRUER LES OUVERTURES DE L'AIR DE COMBUSTION. FAIRE FONCTIONNER SEULEMENT LORSQUE LES BRIQUES SONT EN PLACE. RISQUE DE FUMÉE ET DE DÉBORDEMENT DES FLAMMES. FAIRE FONCTIONNER SEULEMENT AVEC LES PORTES COMPLÈTEMENT FERMÉES. NE PAS UTILISER DE GRILLE NI SURÉLEVER LE FOYER. FAIRE LE FEU DIRECTEMENT SUR L'ÂTRE. NE PAS SURCHAUFFER - SI LE POÊLE OU LE CONNECTEUR DE CHEMINÉE ROUGEOIE, IL Y A SURCHAUFFE. INSPECTER ET FAIRE RAMONER FRÉQUEMMENT LA CHEMINÉE ET LE CONNECTEUR. DANS CERTAINES CONDITIONS D'UTILISATION, UN DÉPÔT DE CRÉOSOTE PEUT SE FORMER RAPIDEMENT. TENIR LES MEUBLES ET TOUT AUTRE MATÉRIAU COMBUSTIBLE À DISTANCE DU FEU. REMPLACER LA VITRE SEULEMENT PAR UNE VITRE NÉOCÉRAM. LE PLANCHER COMBUSTIBLE DOIT ÊTRE PROTÉGÉ PAR UN MATÉRIAU NON COMBUSTIBLE SE PROLONGEANT SOUS L'APPAREIL, À L'AVANT ET SUR LES CÔTÉS, TEL QU'INDIQUÉ, OU JUSQU'AU MATÉRIAU COMBUSTIBLE LE PLUS PROCHE PERMIS.
PIÈCES EN OPTION : VENTILATEUR (846-515), ALIMENTATION ÉLECTRIQUE : VOLTS 115,60 HZ, 2 AMPS; DIFFUSEUR AIRMATE, DISPOSITIF D'AIR EXTÉRIEUR, TIROIR À CENDRES, CATALYSEUR PIÈCE NO051-530.
CET APPAREIL AU BOIS COMPREND UN CATALYSEUR DE POSTCOMBUSTION QUI A BESOIN D'ÊTRE INSPECTÉ ET REMPLACÉ RÉGULIÈREMENT POUR UN FONCTIONNEMENT ADÉQUAT. LA RÉGLEMENTATION INTERDIT DE FAIRE FONCTIONNER CET APPAREIL DE CHAUFFAGE AU BOIS SI LES CONSIGNES D'UTILISATION CONTENUES DANS LE PRÉSENT MANUEL NE SONT PAS RESPECTÉES OU SI L'ÉLÉMENT CATALYTIQUE EST DÉSACTIVÉ OU RETIRÉ.
DANGER : RISQUE D'ÉLECTROCUTION. DÉBRANCHER L'ALIMENTATION ÉLECTRIQUE AVANT L'ENTRETIEN DE L'APPAREIL. NE PAS PLACER LE CORDON D'ALIMENTATION ÉLECTRIQUE AU-DESSOUS OU DEVANT L'APPAREIL.
ATTENTION : LE DÉPLACEMENT DES PIÈCES PEUT CAUSER DES BLESSURES. NE PAS FAIRE FONCTIONNER L'APPAREIL SANS LE VENTILATEUR.
ATTENTION : PIÈCES CHAUDES, NE PAS FAIRE FONCTIONNER L'APPAREIL SANS LA PORTE OU LA VITRE.
COMPOSANTS REQUIS POUR UNE INSTALLATION DANS UNE MAISON MOBILE AUX É-U ET POUR CONSTRUCTIONS TRANSPORTABLES AU CANADA :
DISPOSITIF D'AIR EXTÉRIEUR ET UN DES CONNECTEURS À DOUBLE PAROI SUIVANTS.
AU CANADA : CONNECTEUR À DOUBLE PAROI HOMOLOGUÉ MODÈLES SECURITY DP, OU OLIVER MACLEOD PRO-VENT PV AVEC SYSTÈME DE CHEMINÉE HOMOLOGUÉ : MODÈLE DE SÉCURITÉ HOMOLOGUÉ SECURITY S2100+, ICC EXCEL 2100, SIMPSON DURA-PLUS HTC, SELKIRK SENTINAL CF.
AUX ÉTATS-UNIS : CONNECTEURS À DOUBLE PAROI HOMOLOGUÉS MODÈLES SECURITY DP, SELKIRK DS, OLIVER MCLEOD PRO VENT PV, SIMPSON DURANT VENT DVL, METAL FAB. RELIÉS À L'UN DES SYSTÈMES DE CHEMINÉE COMPATIBLES SUIVANTS : SELKIRK SURE-TEMP, PROJET NOVA TEMP, SECURITY SECURE TEMP ASH+, SECURITY SECURE TEMP S-2100+, METAL-FAB TEMP/GUARD 2100, AMERI-TECH HS, ICC EXCEL 2100. UTILISER LES PIÈCES DE CHEMINÉE COMME SPÉCIFIÉ DANS LES CONSIGNES D'INSTALLATION.
À INSTALLER COMME APPAREIL DE CHAUFFAGE AUTOPORTANT AVEC LES DÉGAGEMENTS INDIQUÉS DANS LE MANUEL. À NE PAS INSTALLER DANS UNE CHEMINÉE.

DATE OF MANUFACTURE

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
2023	2024	2025	2026	2027							

CAUTION

HOT WHILE IN OPERATION DO NOT TOUCH. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. READ NAMEPLATE AND INSTRUCTIONS.

ATTENTION

CHAUD EN COURS DE FONCTIONNEMENT.
NE PAS TOUCHER. ÉLOIGNER LES ENFANTS, LES VÊTEMENTS ET LES MEU-BLES DE L'APPAREIL. LE CONTACT AVEC L'APPAREIL PEUT OCCA-SIONNER DES BRÛLURES. LIRE CETTE ÉTIQUETTE ET LES CONSIGNES.

920-665

Part #: 920-665
Size: 12-5/8" H x 5-3/4" W (File at 100%)
Color: Everything printed black on grey except what is indicated is printed red on grey.
Material: 2 ml silver matt polyester (DPM SMS)

March 09/23: Created draft.
May 04/23: Updated draft.

REGENCY
FIREPLACE PRODUCTS

Pro Series Freestanding Woodstove

Owners & Installation Manual



French Manual Download: https://bit.ly/3qvWvSf
Manuel en Français : https://bit.ly/3qvWvSf

www.regency-fire.com

MODEL: F3500B-1

Tested by:

Installer: Please complete the details on the back cover and leave this manual with the homeowner.
Homeowner: Please keep these instructions for future reference.

Thank you for purchasing a
REGENCY FIREPLACE PRODUCT.

The pride of workmanship that goes into each of our products will give you years of trouble-free enjoyment. Should you have any questions about your product that are not covered in this manual, please contact the **REGENCY DEALER** in your area.

"This wood heater 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." Failure to follow the manual details can lead to smoke and CO emissions spilling into the home. It is recommended to have monitors in areas that are expected to generate CO such as heater fueling areas.

"U.S. ENVIRONMENTAL PROTECTION AGENCY Certified to comply with 2020 particulate emission standards using crib wood." Method 28R, E2780 - 10 E2515 - 11. Model Regency F3500B-1 – 1.1 g/hr.

"This manual describes the installation and operation of the Regency F3500B-1 catalytic equipped wood heater. This heater meets the 2020 U.S. Environmental Protection Agency's crib wood emission limits for wood heaters. Under specific test conditions this heater has been shown to deliver heat at rates ranging from 13650 BTU/hr. to 30659 BTU/hr." Efficiency is determined using the B415 method resulting in lower and higher heat values. This heater generates the best efficiency when operated using well-seasoned wood and installed in the main living areas where the majority of the chimney is within the building envelope. "This wood heater contains a catalytic combustor, which needs periodic inspection and replacement for proper operation.

It is against federal regulation to operate this wood heater in a manner inconsistent with operating instructions in this manual, or if the catalytic element is deactivated or removed."

CAUTION: BURN UNTREATED WOOD ONLY. OTHER MATERIALS SUCH AS WOOD PRESERVATIVES, METAL FOILS, COAL, PLASTIC,GARBAGE, SULPHUR OR OIL MAY DAMAGE THE CATALYST

"This heater is designed to burn natural wood only. Higher efficiencies and lower emissions generally result when burning air dried seasoned hardwoods, as compared to softwoods or to green or freshly cut hardwoods."

DO NOT BURN:

- Treated wood
- Coal
- Garbage
- Cardboard
- Solvents
- Colored Paper
- Bio Bricks
- Trash
- Lawn clippings or yard waste
- Materials containing rubber including tires
- Materials containing plastic
- Waste petroleum products , paints or paint thinners or asphalt products
- Materials containing asbestos
- Construction or demolition debris
- Railroad ties
- Manure or animal remains
- Saltwater driftwood or other previously salt water saturated materials
- Unseasoned wood
- Paper products, cardboard, plywood or particle board. The prohibition against burning these materials does not prohibit the use of fire starters made from paper, cardboard, saw dust, wax and similar substances for the purpose of starting a fire in a wood heater.

Burning these materials may result in release of toxic fumes or render the heater ineffective and cause smoke.

The authority having jurisdiction (such as Municipal Building Department, Fire Department, Fire Prevention Bureau, etc.) should be consulted before installation to determine the need to obtain a permit.

Note: Due to the high efficiency of the F3500B-1 unit. **Double wall pipe** is recommended from the stove top to either wall or roof exit. A minimum of 36" vertical rise is required prior to using any elbows.

This unit must be connected to either a listed factory built chimney suitable for use with solid fuels and conforming to, ULC629 in Canada or UL-103HT in the United States of America. or code approved masonry chimney with flue liner.

F3500B-1 is tested and certified to ULC-S627-2023 and UL1482-2022.

SAVE THESE INSTRUCTIONS

NATIONAL FIREPLACE INSTITUTE NFI CERTIFIED www.nficertified.org
We recommend that our products be installed and serviced by professionals who are certified in the U.S. by the National Fireplace Institute® (NFI) or in Canada by Wood Energy Technical Training (WETT).
Wood Energy Technical Training

WARNING: Cancer and Reproductive Harm
www.P65Warnings.ca.gov
919-874

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CAUTION: To avoid burns or wood splinters, when opening/closing the fuel door or adding wood to the fire, You should always wear appropriate protective gloves to protect your hands from the heat being emitted from this fireplace.

safety decal

This is a copy of the label that accompanies each Regency Freestanding Woodstove (F3500B-1). We have printed a copy of the contents here for your review.

NOTE: Regency units are constantly being improved. Check the label on the unit and if there is a difference, the label on the unit is the correct one.

The serial # label will be affixed to the rear heat-shield and will be located on the right hand side if facing the unit from the front.

SAFETY LABEL FOR F3500B-1

590

LISTED ROOM HEATER, SOLID FUEL TYPE, ALSO APPROVED FOR USE IN MOBILE HOMES (US) AND IN TRANS-PORTABLE BUILDINGS (CAN) / APPAREIL DE CHAUFFAGE HOMOLOGUÉ, À COMBUSTIBLE SOLIDE, CONVENANT POUR INSTALLATION DANS UNE MAISON MOBILE OU UN BÂTIMENT TRANSPORTABLE

DO NOT REMOVE THIS LABEL/
NE PAS RETIRER L'ÉTIQUETTE
590

MODEL: REGENCY FREESTANDING STOVE - F3500B-1

TESTED TO: UL627-2023 / UL 1482-2022

U.S. ENVIRONMENTAL PROTECTION AGENCY CERTIFIED TO COMPLY WITH 2020 PARTICULATE EMISSION STANDARDS USING CRIB WOOD." TESTED TO METHOD 28R, E2780-10, E2515-11. MODEL REGENCY F3500B-1 – 1.1 G /HR. THIS WOOD HEATER NEEDS PERIODIC INSPECTION AND REPAIR FOR PROPER OPERATION. CONSULT THE OWNER'S MANUAL FOR FURTHER INFORMATION. IT IS AGAINST FEDERAL REGULATIONS TO OPERATE THIS WOOD HEATER IN A MANNER IN-CONSISTENT WITH THE OPERATING INSTRUCTIONS IN THE OWNER'S MANUAL.

CERTIFIÉ CONFORME AUX NORMES 2020 DU U.S. ENVIRONMENTAL PROTECTION AGENCY EN MATIÈRE D'ÉMISSION DE PARTICULES DE BOIS AVEC DU BOIS D'ESSAI NORMALISÉ (CRIB WOOD)". APPROUVÉ SELON LA MÉTHODE 28R, E2780-10, E2515-11. MODÈLE REGENCY F3500B-1 – 1,1 G /H. CET APPAREIL DE CHAUFFAGE AU BOIS DOIT ÊTRE INSPECTÉ PÉRIODIQUEMENT ET RÉPARÉ POUR FONCTIONNER CORRECTEMENT. CONSULTER LE MANUEL D'INSTALLATION POUR PLUS D'INFORMATION. LA RÉGLEMENTATION FÉDÉRALE INTERDIT DE FAIRE FONCTIONNER UN TEL APPAREIL SI LES CONSIGNES D'UTILISATION CONTENUES DANS LE PRÉSENT MANUEL NE SONT PAS RESPECTÉES.

INSTALL AND USE ONLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION IN YOUR AREA. USE 6"(152MM) DIAMETER MINIMUM 24 MSG BLACK OR 26 MSG BLUED STEEL CONNECTOR WITH LISTED UL103 HT or ULCS629 FACTORY-BUILT CHIMNEY SUITABLE FOR USE WITH SOLID FUELS OR MASONRY CHIMNEY.
SEE LOCAL BUILDING CODE AND MANUFACTURER'S INSTRUCTIONS FOR PRECAUTIONS REQUIRED FOR PASSING A CHIMNEY THROUGH A COMBUSTIBLE WALL OR CEILING. DO NOT PASS CHIMNEY CONNECTOR THROUGH COMBUSTIBLE WALL OR CEILING. DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVING ANOTHER APPLIANCE.
CAUTION: BURNING OF MATERIAL OTHER THAN THE SPECIFIED FUELS MAY MAKE THE CATALYST IN THE COMBUSTOR INACTIVE. THE COMBUS-TOR IS FRAGILE, HANDLE CAREFULLY.
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INSTALLATION USING 6" SINGLE WALL OR LISTED DOUBLE WALL CONNECTOR ONLY: RESIDENTIAL, ALCOVE, MOBILE HOME	
To Top of stove: A) 279mm / 11"	To Flue Centre Line: E) 406mm / 16"
To Rear Shield: B) 241mm / 9.5"	To Flue Centre Line: F) 521mm / 20-1/2"
To Corner of Stove: C) 203mm / 8"	Alcove width: G) 1524mm / 60"
To Flue Centre Line: D) 610mm / 24"	To Top of Flue: H) 152mm / 6"

FLOOR PROTECTION*

In USA:
V 203 mm / 8"
W 406 mm / 16"
X 838 mm / 33"
Y 1181 mm / 46-1/2"
Z 203 mm / 8"
In Canada:
V 203 mm / 8"
W 450 mm / 18"
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REGENCY FIREPLACE PRODUCTS

MANUFACTURED BY:
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MADE IN CANADA

MINIMUM PARALLEL / ALCOVE CEILING HEIGHT: 2.1 M / 83" MAXIMUM ALCOVE DEPTH 1219 MM / 48 IN.
HAUTEUR MINIMALE DU PLAFOND DE L'ALCÔVE : 2,1 M / 83PO. PROFONDEUR MAXIMALE DE L'ALCÔVE : 1219 MM / 48 PO.

WARNING: THE SPACE BENEATH THE HEATER MUST NOT BE OBSTRUCTED. OPERATE ONLY WITH FIREBRICKS IN PLACE.
FOR USE WITH SOLID WOOD FUEL ONLY. USE OF OTHER FUELS MAY DAMAGE HEATER AND CREATE A HAZARDOUS CONDITION. DO NOT OBSTRUCT COMBUSTION AIR OPENINGS. OPERATE ONLY WITH FIREBRICKS IN PLACE. RISK OF SMOKE AND FLAME SPILLAGE, OPERATE ONLY WITH DOORS FULLY CLOSED. DO NOT USE GRATE OR ELEVATE FIRE. BUILD WOOD FIRE DIRECTLY ON HEARTH. DO NOT OVERFIRE - IF HEATER OR CHIMNEY CONNECTOR GLOWS YOU ARE OVERFIRING. INSPECT AND CLEAN CHIMNEY AND CONNECTOR FREQUENTLY. UNDER CERTAIN CONDITIONS OF USE CREOSOTE BUILDUP MAY OCCUR RAPIDLY. KEEP FURNISHINGS AND OTHER COMBUSTIBLE MATERIAL AWAY FROM HEATER. REPLACE GLASS ONLY WITH NEOCERAM GLASS. COMBUSTIBLE FLOOR MUST BE PROTECTED BY NON-COMBUSTIBLE MATERIAL EXTENDING BENEATH THE HEATER AND TO THE FRONT AND SIDES AS INDICATED OR TO THE NEAREST PERMITTED COMBUSTIBLE MATERIAL.
OPTIONAL COMPONENTS: FAN (846-515), ELECTRICAL RATING: VOLTS 115, 60 HZ, 2 AMPS., AIRMATE, OUTSIDE AIR KIT, ASH DRAWER, COMBUSTOR PART #051-530
THIS WOOD HEATER CONTAIN A CATALYTIC COMBUSTOR WHICH REQUIRES PERIODIC INSPECTION AND REPLACEMENT FOR PROPER OPERATION. IT IS AGAINST THE LAW TO OPERATE THIS WOOD HEATER IN A MANNER INCONSISTENT WITH OPERATING INSTRUCTIONS IN INSTRUCTION MANUAL, OR IF THE CATALYTIC ELEMENT IS DEACTIVATED OR REMOVED.
DANGER: RISK OF ELECTRIC SHOCK. DISCONNECT POWER BEFORE SERVICING UNIT. DO NOT ROUTE POWER CORD UNDER OR IN FRONT OF APPLIANCE.
CAUTION: MOVING PARTS MAY CAUSE INJURY. DO NOT OPERATE UNIT WITH FAN HOSING REMOVED.
CAUTION: HOT PARTS. DO NOT OPERATE UNIT WITH DOOR OR GLASS REMOVED.
COMPONENTS REQUIRED FOR MOBILE HOME INSTALLATION IN THE US AND TRANSPORTABLE BUILDINGS IN CANADA: OUTSIDE AIR KIT AND ONE OF THE FOLLOWING DOUBLE WALL CONNECTOR IN CANADA: LISTED SECURITY MODEL DP, OR OLIVER MACLEOD PRO-VENT PV DOUBLE WALLED CONNECTOR WITH LISTED CHIMNEY SYSTEM: LISTED SECURITY MODEL SECURITY S2100+, ICC EXCEL 2100, SIMPSON DURA-PLUS HTC, SELKIRK SENTINAL CF.
IN USA: LISTED DOUBLE WALL CONNECTORS SECURITY MODEL DP, SELKIRK MODEL DS, OLIVER MACLEOD PRO VENT PV, SIMPSON DURA VENT MODEL DVL, METAL-FAB DOUBLE WALL. CONNECTED TO ONE OF THE FOLLOWING COMPATIBLE CHIMNEY SYSTEMS SELKIRK SURE-TEMP, PROJET Nova Temp, SECURITY SECURE TEMP ASH+, SECURITY SECURE TEMP S-2100+, METAL-FAB TEMP/GUARD 2100, AMERI-TEC HS, ICC EXCEL 2100 . USE CHIMNEY COMPONENTS AS SPECIFIED IN INSTALLATION INSTRUCTIONS.
TO BE INSTALLED AS A FREESTANDING ROOM HEATER WITH THE CLEARANCES IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. NOT TO BE INSTALLED IN ANY FIREPLACE.
AVERTISSEMENT : L'ESPACE SITUÉ SOUS L'APPAREIL DE CHAUFFAGE NE DOIT PAS ÊTRE OBSTRUÉ. FAIRE FONCTIONNER SEULEMENT LORSQUE LES BRIQUES SONT EN PLACE.
À UTILISER SEULEMENT AVEC UN COMBUSTIBLE DE BOIS SOLIDE. L'UTILISATION D'AUTRES COMBUSTIBLES PEUT ENDOMMAGER L'APPAREIL DE CHAUFFAGE ET PRÉSENTER UN DANGER. NE PAS OBSTRUER LES OUVERTURES DE L'AIR DE COMBUSTION. FAIRE FONCTIONNER SEULEMENT LORSQUE LES BRIQUES SONT EN PLACE. RISQUE DE FUMÉE ET DE DÉBORDEMENT DES FLAMMES. FAIRE FONCTIONNER SEULEMENT AVEC LES PORTES COMPLÈTEMENT FERMÉES. NE PAS UTILISER DE GRILLE NI SURÉLEVER LE FOYER. FAIRE LE FEU DIRECTEMENT SUR L'ÂTRE. NE PAS SURCHAUFFER - SI LE POÊLE OU LE CONNECTEUR DE CHEMINÉE ROUGEOIE, IL Y A SURCHAUFFE. INSPECTER ET FAIRE RAMONER FRÉQUEMMENT LA CHEMINÉE ET LE CONNECTEUR. DANS CERTAINES CONDITIONS D'UTILISATION, UN DÉPÔT DE CRÉOSOTE PEUT SE FORMER RAPIDEMENT. TENIR LES MEUBLES ET TOUT AUTRE MATÉRIAU COMBUSTIBLE À DISTANCE DU FEU. REMPLACER LA VITRE SEULEMENT PAR UNE VITRE NÉOCÉRAM. LE PLANCHER COMBUSTIBLE DOIT ÊTRE PROTÉGÉ PAR UN MATÉRIAU NON COMBUSTIBLE SE PROLONGEANT SOUS L'APPAREIL, À L'AVANT ET SUR LES CÔTÉS, TEL QU'INDIQUÉ, OU JUSQU'AU MATÉRIAU COMBUSTIBLE LE PLUS PROCHE PERMIS.
PIÈCES EN OPTION : VENTILATEUR (846-515), ALIMENTATION ÉLECTRIQUE : VOLTS 115,60 HZ, 2 AMPS; DIFFUSEUR AIRMATE, DISPOSITIF D'AIR EXTÉRIEUR, TIROIR À CENDRES, CATALYSEUR PIÈCE NO051-530.
CET APPAREIL AU BOIS COMPREND UN CATALYSEUR DE POSTCOMBUSTION QUI A BESOIN D'ÊTRE INSPECTÉ ET REMPLACÉ RÉGULIÈREMENT POUR UN FONCTIONNEMENT ADÉQUAT. LA RÉGLEMENTATION INTERDIT DE FAIRE FONCTIONNER CET APPAREIL DE CHAUFFAGE AU BOIS SI LES CONSIGNES D'UTILISATION CONTENUES DANS LE PRÉSENT MANUEL NE SONT PAS RESPECTÉES OU SI L'ÉLÉMENT CATALYTIQUE EST DÉSACTIVÉ OU RETIRÉ.
DANGER : RISQUE D'ÉLECTROCUTION. DÉBRANCHER L'ALIMENTATION ÉLECTRIQUE AVANT L'ENTRETIEN DE L'APPAREIL. NE PAS PLACER LE CORDON D'ALIMENTATION ÉLECTRIQUE AU-DESSOUS OU DEVANT L'APPAREIL.
ATTENTION : LE DÉPLACEMENT DES PIÈCES PEUT CAUSER DES BLESSURES. NE PAS FAIRE FONCTIONNER L'APPAREIL SANS LE VENTILATEUR.
ATTENTION : PIÈCES CHAUDES, NE PAS FAIRE FONCTIONNER L'APPAREIL SANS LA PORTE OU LA VITRE.
COMPOSANTS REQUIS POUR UNE INSTALLATION DANS UNE MAISON MOBILE AUX É-U ET POUR CONSTRUCTIONS TRANSPORTABLES AU CANADA : DISPOSITIF D'AIR EXTÉRIEUR ET UN DES CONNECTEURS À DOUBLE PAROI SUIVANTS.
AU CANADA : CONNECTEUR À DOUBLE PAROI HOMOLOGUÉ MODÈLES SECURITY DP, OU OLIVER MACLEOD PRO-VENT PV AVEC SYSTÈME DE CHEMINÉE HOMOLOGUÉ : MODÈLE DE SÉCURITÉ HOMOLOGUÉ SECURITY S2100+, ICC EXCEL 2100, SIMPSON DURA-PLUS HTC, SELKIRK SENTINAL CF.
AUX ÉTATS-UNIS : CONNECTEURS À DOUBLE PAROI HOMOLOGUÉS MODÈLES SECURITY DP, SELKIRK DS, OLIVER MCLEOD PRO VENT PV, SIMPSON DURANT VENT DVL, METAL FAB. RELIÉS À L'UN DES SYSTÈMES DE CHEMINÉE COMPATIBLES SUIVANTS : SELKIRK SURE-TEMP, PROJET NOVA TEMP, SECURITY SECURE TEMP ASH+, SECURITY SECURE TEMP S-2100+, METAL-FAB TEMP/GUARD 2100, AMERI-TECH HS, ICC EXCEL 2100. UTILISER LES PIÈCES DE CHEMINÉE COMME SPÉCIFIÉ DANS LES CONSIGNES D'INSTALLATION.
À INSTALLER COMME APPAREIL DE CHAUFFAGE AUTOPORTANT AVEC LES DÉGAGEMENTS INDIQUÉS DANS LE MANUEL. À NE PAS INSTALLER DANS UNE CHEMINÉE.

DATE OF MANUFACTURE

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
2023 ○	2024 ○	2025 ○	2026 ○	2027 ○							

CAUTION

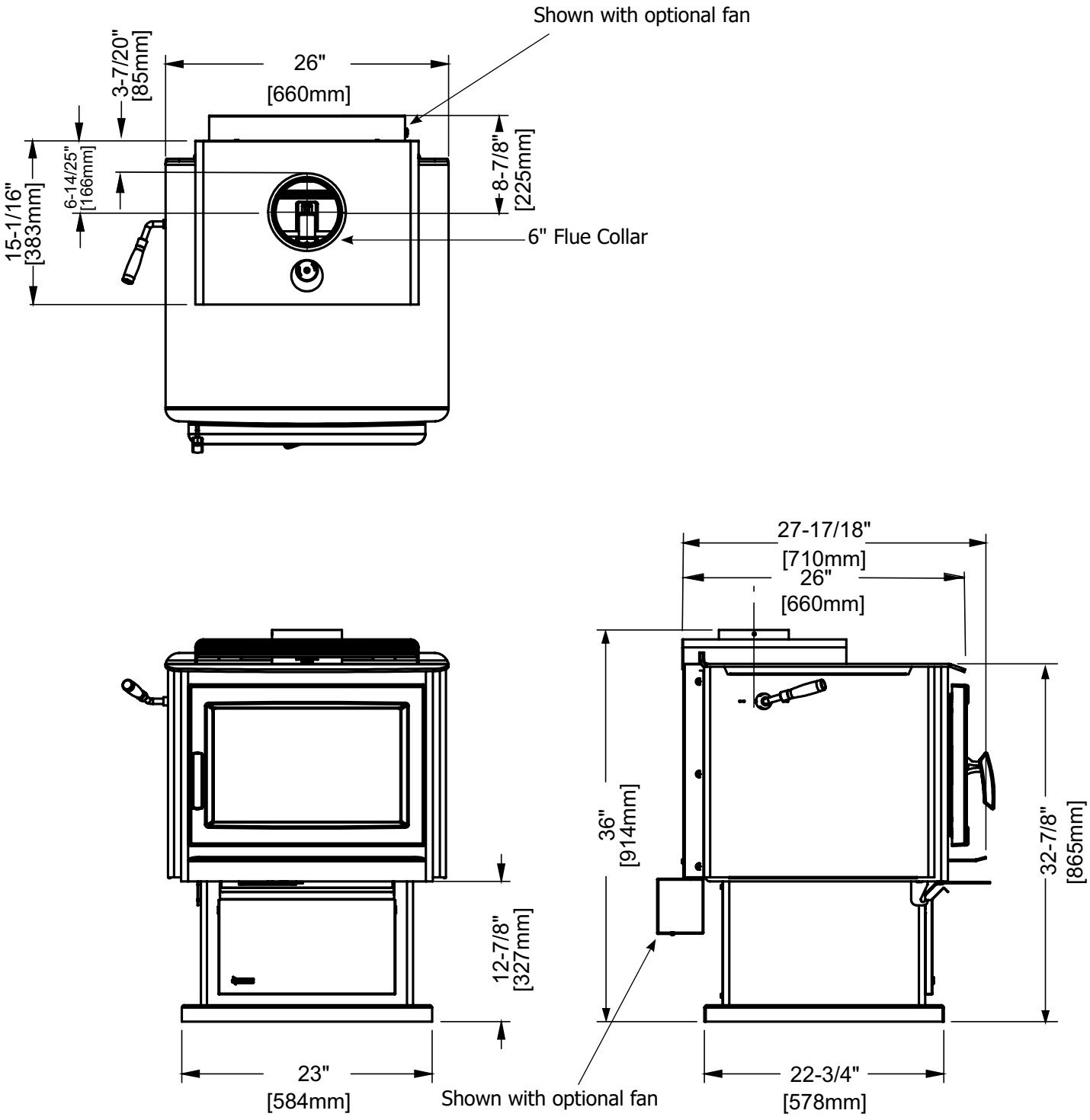
HOT WHILE IN OPERATION DO NOT TOUCH. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS. READ NAMEPLATE AND INSTRUCTIONS.

ATTENTION

CHAUD EN COURS DE FONCTIONNEMENT.
NE PAS TOUCHER. ÉLOIGNER LES ENFANTS, LES VÊTEMENTS ET LES MEU-BLES DE L'APPAREIL. LE CONTACT AVEC L'APPAREIL PEUT OCCA-SIONNER DES BRÛLURES. LIRE CETTE ÉTIQUETTE ET LES CONSIGNES.

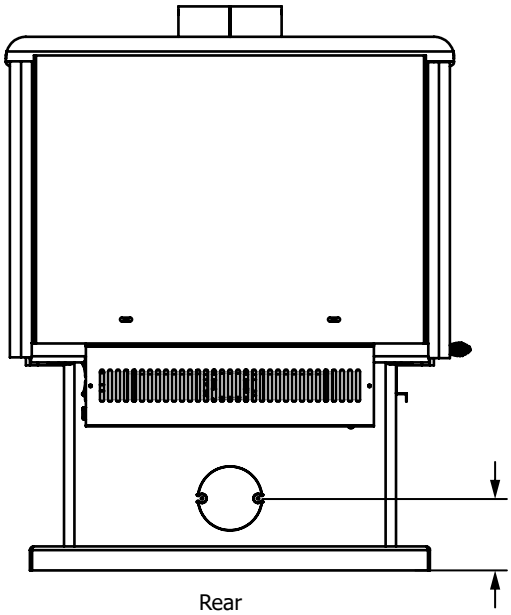
920-665

UNIT DIMENSIONS



ALL PICTURES / DIAGRAMS SHOWN THROUGHOUT THIS MANUAL ARE FOR ILLUSTRATION PURPOSES ONLY. ACTUAL PRODUCT MAY VARY DUE TO PRODUCT ENHANCEMENTS.

WOOD STOVE OUTSIDE AIR DIMENSIONS



Rear

With pedestal from base of unit to centerline
5-1/2" (138mm)

RESIDENTIAL INSTALLATION

1. Please read this entire manual before you install and use your new woodstove. Failure to follow instructions may result in property damage, bodily injury or even death. Be aware that local Codes and Regulations may override some items in this manual. Check with your local inspector.

⚠ WARNING

DO NOT INSTALL THE FREESTANDING WOODSTOVE IN ANY FIREPLACE.

2. Select a position for your Regency Stove. Consult the minimum clearance chart for your model and set the stove in place. For installation use listed double wall connector systems only.

3. To insure vertical alignment, suspend a plumb bob from the ceiling over the exact center of your stove flue and mark a spot on the ceiling to indicate the center of the chimney.

4. Check that the area above the ceiling is clear for cutting. Re-confirm the clearance from the stove to combustibles to ensure that they are within the prescribed limits.

5. This woodstove must be connected to a UL 103 HT (ULC S629) listed chimney or a code approved masonry chimney with a flue liner.

   Space heater is to be connected to a factory built chimney conforming to CAN/ULC-5629 standard for 650C factory built chimneys. The chimney requirement is 6" (152 mm), refer to appropriate sections in this manual for specifics.

6. Install chimney according to chimney manufacturers instructions. The performance of your woodstove is governed to a very large part by the chimney system. Too short a chimney can cause difficult start-up, dirty glass, back smoking when door is open, and even reduced heat output.

WHEN THIS ROOM HEATER IS NOT PROPERLY INSTALLED, A HOUSE FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THE INSTALLATION INSTRUCTIONS. CONTACT LOCAL BUILDING OR FIRE OFFICIALS ABOUT RESTRICTIONS AND INSTALLATION INSPECTION REQUIREMENTS IN YOUR AREA.

Too tall a chimney may prompt excessive draft which can result in very short burn times and excessive heat output. The use of an inexpensive flue pipe damper may be helpful in reducing excessive draft.

CAUTION: The chimney should be the same size as the 6" (152 mm) flue outlet on the stove. The chimney must be listed as suitable for use with solid fuels. For other types of chimneys check with your local building code officials. Do not confuse a chimney with a type "B" Venting System used for gas appliances as suitable for a wood burning appliance. For Mobile Home installations refer to that section within this manual.

7. Mark the location of the pedestal base or legs on the floor, then move the stove aside and mark the position of the floor protector.

8. The floor protector must be of Type 1 non-combustible material and must extend 16" (406mm) (USA), 18"(457 mm) (Canada) in front of the door opening and 8" (203mm) to the sides and rear of the unit (Canada/USA). Some areas may require a larger size floor protector. See your local inspector. For outside air installation refer to Mobile Home installation instructions within this manual.

NOTE: In Canada, floor protection must extend 18" (457mm) to the front and 8" (203mm) to each side and back of the stove.

9. When the floor protection is complete, position the stove with the flue collar centered under the installed chimney.

10. In areas with frequent seismic activity, Regency recommends that your unit is secured to the floor by using the bolt down holes inside the pedestal (the same ones used in Mobile Home installations).

NOTE: Do not install the chimney directly at the outlet of the appliance. A chimney connector (flue pipe) is required unless the appliance is specifically approved for that type of installation.

NOTE: In Canada installation shall be in accordance with CSA B365, Installation Code for Solid-Fuel-Burning Appliances and Equipment, building codes, and standards that apply to the structure where the space heater is installed.

11. For residential installations 6" (152 mm) (single wall OK) double wall chimney, the chimney connector must be at least 24 gauge steel. Do not use galvanized pipe. For Mobile Home installation refer to the Mobile Home installation instructions within this manual.

12. **DO NOT CONNECT THIS UNIT TO A CHIMNEY SERVING ANOTHER APPLIANCE.**

13. A chimney connector cannot pass through an attic or roof space, closet or similar concealed space, or a floor, ceiling, wall or partition of combustible construction. In Canada, if passage through a wall, or partition of combustible construction is desired, the installation shall conform to CAN/CSA-B365, Installation Code for Solid-Fuel-Burning Appliances and Equipment.

14. Your Regency Woodstove is not to be connected to any air distribution duct.

15. To be installed as a freestanding space heater with the clearances in the manufacturer's installation instructions. "Not to be installed in any fireplace."

NOTE: In Canada, chimney must be removed for transportation of a transportable building.

CAUTION:
Do not alter or makeshift chimney or install. Install as per Manual.

IMPORTANT:
Smoke and CO Detectors:
Make sure your home has a working smoke and CO detector, especially near any bedrooms. We recommend having a smoke and CO detector in the same room as the wood appliance for additional safety. Location of both detectors should be chosen wisely to avoid false alarms when reloading the appliance.
Fire Extinguisher:
A fire extinguisher should be installed in the home. The location of the fire extinguisher should be known by all family members.

MODULAR INSTALLATION OPTIONS WARNING: ONLY USE SPECIFIED COMPONENTS. The following items are required when assembling your Regency Stove. F3500B-1 unit - the Rear Heat Deflector is supplied with the stove, but if you choose not to use it you must use the Airmate instead.	
Modular Part	See the Minimum Clearance to Combustible Materials chart in the Installation section of this manual
F3500B-1 Airmate OR Rear Heat Deflector	Convection heat with Airmate vs. Radiant Heat with Rear Heat Deflector. The Airmate pushes heat forward out into the room, the Rear Heat Deflector deflects the heat upward. Refer to the Installation sections within this manual.
OPTIONS: These can be installed at time of installation or added later:	
Blower/Fan	Adding the blower will increase the area heated by the stove, it can move warm air beyond the room where the stove
Ash Drawer Kit	Adding the Ash Drawer Kit makes cleaning ashes out of the stove easier and cleaner (refer to Bottom Shield Ash Drawer Kit, Installation section).
Airmate	The Airmate pushes heat forward out into the room.
Outside Air Kit	Draw combustion air from the outside of dwelling.

STOVE ASSEMBLY PRIOR TO INSTALLATION

The F3500B-1 unit requires the pedestal attached to the base. The F3500B-1 stove requires either the Airmate or Rear Heat Deflector on top of the stove. Clearances to combustible materials vary depending on whether the Airmate or rear heat deflector is installed, so be sure to check the Minimum Clearances, Installation section.

Airmate Assembly for F3500B-1

1) The Airmate sits on top of the stove with the slots in the sides fitting over the curved deflector on the rear stove top. See diagram 1. Discard the Rear Heat Deflector that is supplied with the unit, it is not required if the Airmate is installed.

2) Center the Airmate and push it forward to the front of the stove. The back of the Airmate should be level with the back and sides of the rear heat shield. See Diagrams 2 & 3.

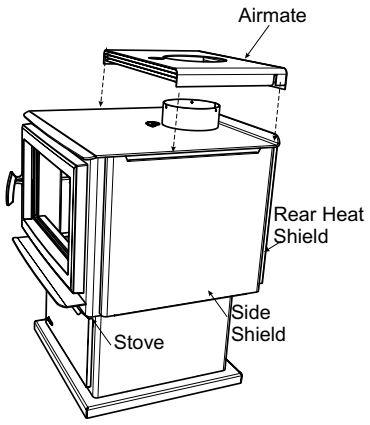


Diagram 1

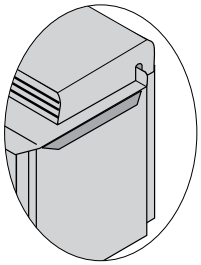


Diagram 2

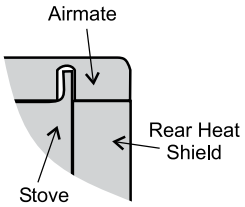


Diagram 3

Rear Heat Deflector Assembly for F3500B-1

The rear heat deflector is supplied with the stove and must be installed unless the optional Airmate has been selected. It stops the heat radiated from the flue collar from overheating the rear wall. The rear heat deflector is installed on top of the rear heat shield, as shown in Diagram 4.

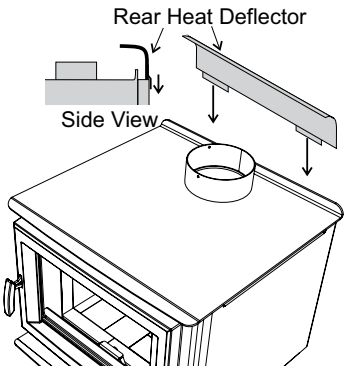
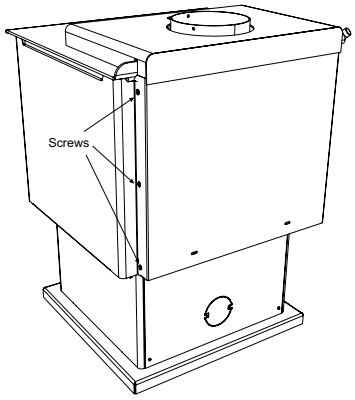


Diagram 4

Side Shield Adjustment

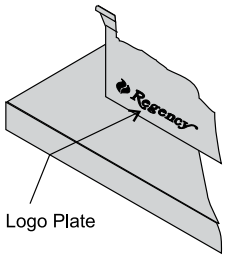
The left and right side shields are lowered for shipping and handling. It allows for a handhold on the top of the stove. Before placing in the Step Stove in its final position, the side shields must be raised.

Loosen the screws on the rear on the stove (3 per side), slide the side panel up as far as possible and then secure by tightening the screws.



Logo Installation

1) Push the Regency logo into the two holes in the front bottom left corner of the pedestal cover plate.



Note: Any paint touch up should be done prior to placing logo on pedestal.

2) If not using ash drawer, then cover plate must be installed.

Pedestal Assembly Installation (Part # 042-915)

1) For easier assembly, tip the stove on its back (onto a soft surface such as a blanket to prevent scratching).

Hint: If you have chosen the Ash Drawer option, remove the ash dump cover plates (knockout) before attaching the pedestal. See instruction manual "Ashdrawer Kit Installation".

2) Remove the blanking plate if:
a) you are not installing outside combustion air or
b) outside air is to be brought in from the rear of the stove.

3) Unscrew the 4 bolts in the under-side of the stove. Align the holes in the corners of the pedestal top with the corresponding holes in the base of the stove. Fasten using a bolt and washer for each corner.

4) Push the Regency logo into the two holes in the front bottom left corner of the pedestal cover plate. Note: the Regency logo comes with the manual package. See Diagram 2.

Note: Any paint touch up should be done prior to placing logo on pedestal.

5) If not using ash drawer, cover plate must be in place. If using ash drawer, then remove cover plate. The cover plate can be removed by knocking it out using a rubber mallet and can be recycled once removed.

OUTSIDE AIR INSTALLATIONS

1) Remove the blanking plate if outside air is to be brought in from the rear of the stove.

2) If you are installing outside combustion air from the rear, bend the remaining 2 tabs out 90 degrees and attach the pipe to the 2 tabs with screws. Pipe fresh air into the pedestal by using a minimum 4" duct pipe with a mesh grill at the outside termination.

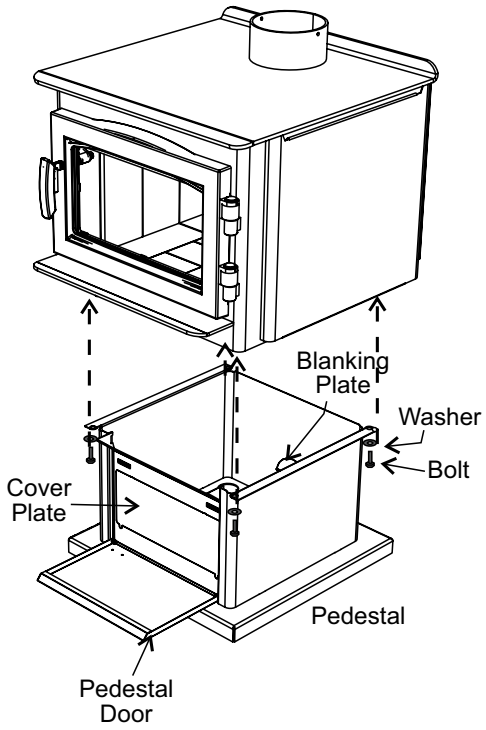


Diagram 1

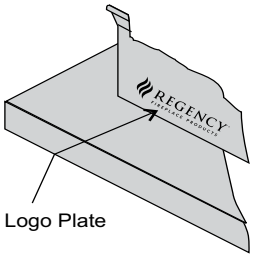


Diagram 2

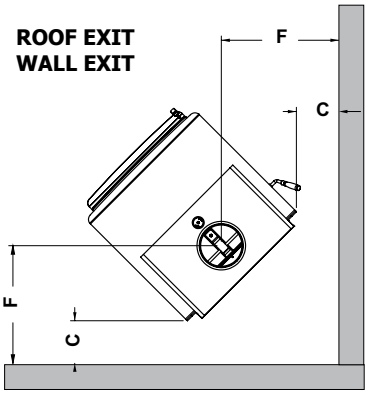
MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS

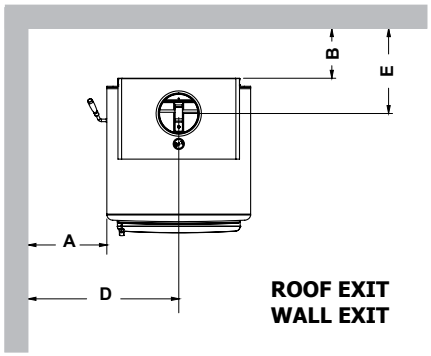
Please read the section below carefully as clearances depend on whether the Airmate or the Rear Heat Deflector is installed on the stove. Measurements "From Unit" are from the top plate of the stove to a side wall or to a corner, and from the rear heat shield to a back wall.

Clearances may only be reduced by means approved by the regulatory authority.

Note: Minimum ceiling height - 83" (2108mm)

NOTE: This clearance is also required for air space between the appliance and wall/ceiling.





NOTE: Be aware that local Codes and Regulations may override some clearances listed in this manual. Check with your local inspector.

NOTE: Clearances to combustibles are for the safety of the property. To avoid overheating and damaging the appliance these clearances should be maintained for non-combustibles also.

Residential Installation "C" Vent (Single Wall Pipe)

		A	B	C	D	E	F
F3500B-1	with Airmate or Rear Deflector	11" 279mm	9-1/2" 241mm	8" 203mm	24" 610mm	16" 406mm	20-1/2" 521mm

Residential Close Clearance (To be installed with required pipe components) Listed Double Wall Pipe

When the stove is installed as a close clearance residential unit, a listed double wall connector is required from the stove collar to the ceiling level.

		A	B	C	D	E	F
F3500B-1	with Airmate or Rear Deflector	11" 279mm	9-1/2" 241mm	8" 203mm	24" 610mm	16" 406mm	20-1/2" 521mm

Mobile Home Close Clearance (To be installed with required pipe components) Listed Double Wall Pipe

When the stove is installed as a close clearance residential unit, a listed double wall connector is required from the stove collar to the ceiling level. Refer to Mobile Home Installation in this manual.

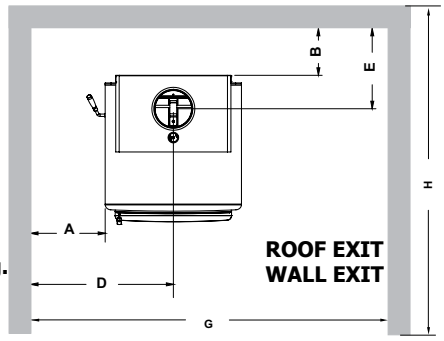
		A	B	C	D	E	F
F3500B-1	with Airmate or Rear Deflector	11" 279mm	9-1/2" 241mm	8" 203mm	24" 610mm	16" 406mm	20-1/2" 521mm

Minimum Alcove Clearance to Combustible Materials

The Regency Freestanding models have been alcove approved and must be installed with a listed double wall connector to the ceiling level.

Note: Minimum alcove ceiling height - 83" (2108 mm) Vertical Termination}
H = Maximum depth of alcove - 48" (1219mm)
G= Minimum width of alcove - 60" (1524mm)

NOTE: This clearance is also required for air space between the appliance and wall/ceiling.



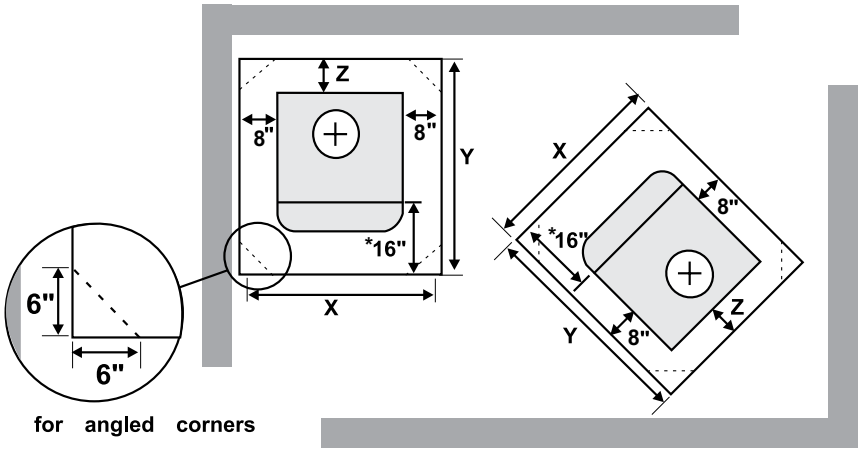
FLOOR PROTECTION (Ember Protection Only Required)

A combustible floor must be protected by a non-combustible material (like tile, concrete board, or certified to UL-1618 Type 1 or as defined by local codes). Type 1 Hearth Pads typically provide protection from embers only, but won't provide thermal protection from the heat of the appliance.
Canada: Beneath the heater and extending to at least 18" (457 mm) on the fuel loading side and at least 8" (203 mm) on the sides and back.
USA: Beneath the heater and extending to at least 16" (406 mm) beyond the fuel loading side and ash removal opening and at least 8" (203 mm) on the sides and back and under the chimney connector extending 2" (51 mm) beyond each side for horizontal applications.
Note: The measurements for floor protection for front are taken from fuel door opening & sides are taken from the unit heat shield. Where the appliance is installed less than 8" (203 mm) from a rear wall, the ember pad only needs to extend to the base of the wall based on the clearances noted in this manual.

Minimum Overall Width (X) of Floor Protector for all installations:

Stove	F3500B-1	41-5/8" (1057mm)

Note: Side & Rear measurements are taken from unit heat shield.
*Front measurement is taken from fuel door opening.



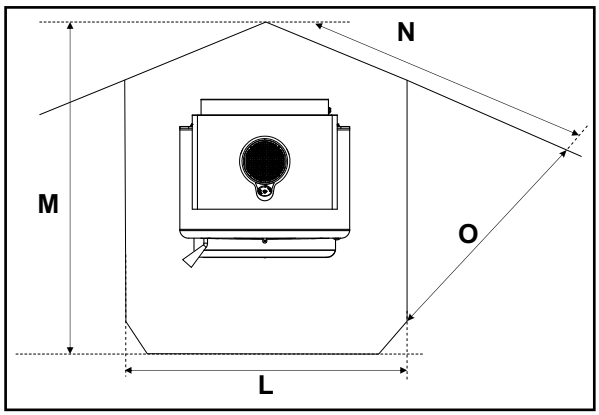
NOTE: USA clearances shown above.

NOTE: In Canada, floor protection must extend 18" (450mm) to the front and 8" (203mm) to each side and back of the stove.

Minimum Overall Depth (Y) of Floor Protector						
Unit	**Residential Close Clearance**		**Mobile Home Close Clearance**		**Alcove**	
F3500B-1	**Y**	**Z**	Y	**Z**	Y	**Z**
USA	46-1/2"	8"	46-1/2	8"	46-1/2	8"
Canada	48-1/2"	8"	48-1/2"	8"	48-1/2"	8"

The rear clearance to combustibles is less than 6" (for corner installations the rear corners may be angled to take advantage of the closer clearances.

Minimum Overall Depth (Y) of Floor Protector - Corner Hearth Reference only when hearth pad is installed to rear wall at minimum pipe clearances.				
	Hearth Depth			
F3500B-1	**L**	**M**	**N**	**O**
Residential Installation "C" Vent (Single Wall)				
Canada	41-5/8" (1057mm)	65" (1651mm)	55" (1397mm)	25-5/8" (650mm)
USA	41-5/8" (1057mm)	63" (1600mm)	53-5/8" (1362mm)	24-3/16" (614mm)
Residential Close Clearance (To be installed with required pipe components)				
Canada	41-5/8" (1057mm)	65" (1651mm)	55" (1397mm)	25-5/8" (650mm)
USA	41-5/8" (1057mm)	63" (1600mm)	53-5/8" (1362mm)	24-3/16" (614mm)



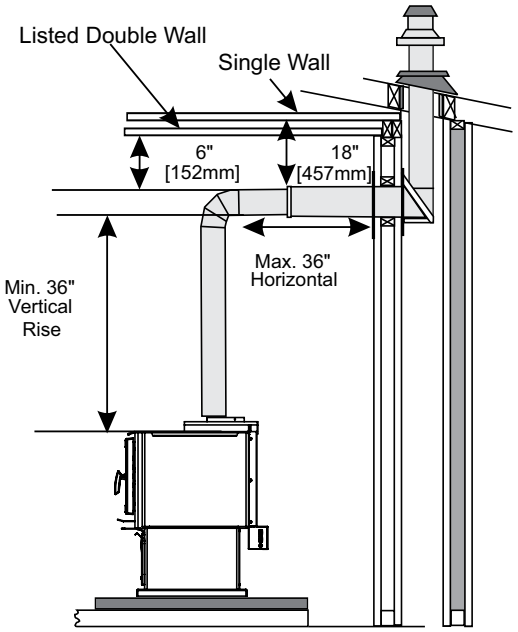
WALL EXIT CLEARANCE FACTORY BUILT CHIMNEY

When a metal prefabricated chimney is used, the manufacturer's installation instructions must be followed. You must also purchase and install the ceiling support package or wall pass-through and "T" section package, firestops (where needed), insulation shield, roof flashing, chimney cap, etc. Maintain proper clearance to the structure as recommended by the manufacturer. The chimney must be the required height above the roof or other obstructions for safety and proper draft operation.

Minimum vertical of 36" before any offset.
Horizontal Maximum of 36" with 1/4" rise per foot.

NOTE: Recommend using 2-45º instead of 90º to improve draft and performance.

Note: Minimum ceiling height roof - 83" (2108mm)

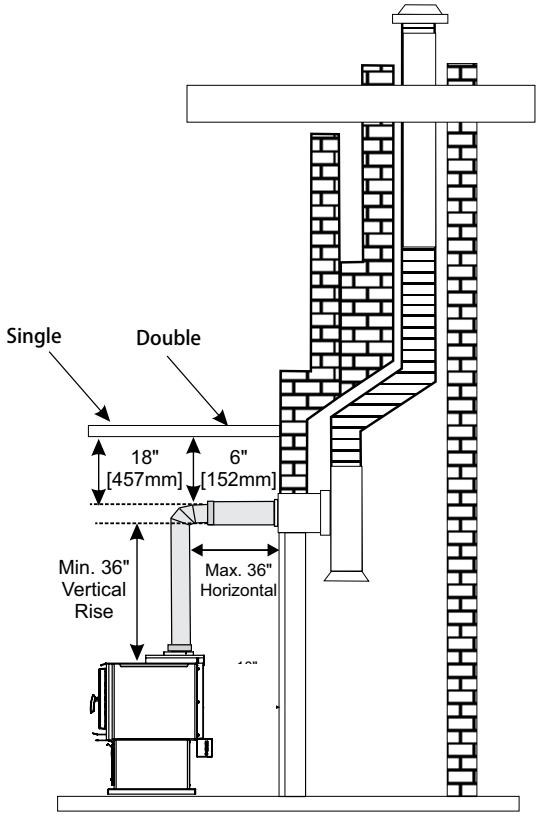


MASONRY FIREPLACE

There are listed kits available to connect a stove to a masonry fireplace. The kit is an adapter that is installed at the location of the fireplace damper. The existing damper may have to be removed to allow installation.

Minimum vertical of 36" before any offset.
Horizontal Maximum of 36" with 1/4" rise per foot.

NOTE: Recommend using 2-45º instead of 90º to improve draft and performance.



NOTE: Only a 6" and or 5.5" liner may be used when relining the masonry chimney. Do not increase/decrease size of the liner as this could result in poor performance, over firing and or dangerous operating conditions which may void your warranty.

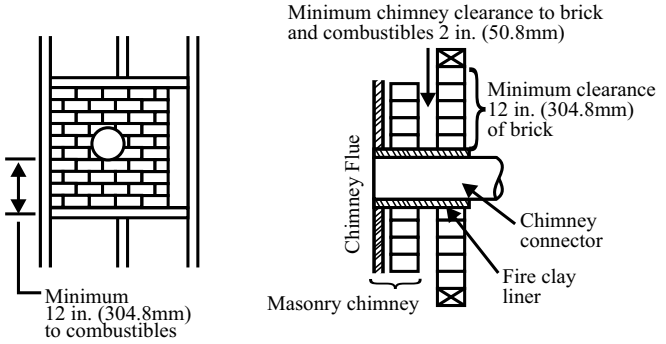
Do not use or add a pipe damper as this will result in poor performance, over firing and or dangerous operating conditions which may void your warranty. This appliance already has a bypass damper in place.

A minimum vertical rise of 36 inches is required from top of stove collar prior to having any offset. It is recommended that 45º elbows be used instead of a 90º elbow to improve draft and performance. If not adhered to this, it will result in poor performance overfiring and or dangerous operating conditions which may void your warranty.

COMBUSTIBLE WALL CHIMNEY CONNECTOR PASS-THROUGHS

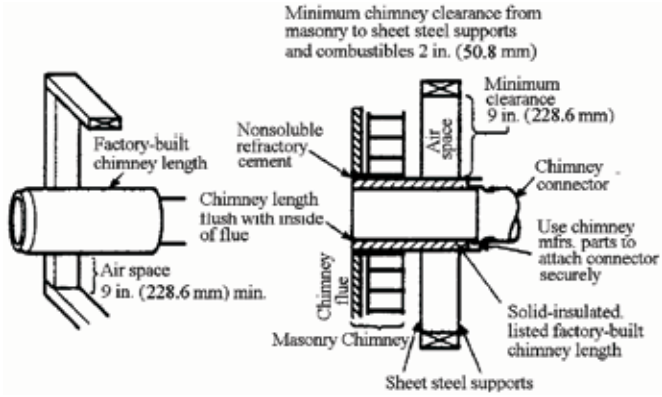
Method A: 12" (304.8 mm) Clearance to Combustible Wall Member:

Using a minimum thickness 3.5" (89 mm) brick and a 5/8" (15.9 mm) minimum wall thickness clay liner, construct a wall pass-through. The clay liner must conform to ASTM C315 (Standard Specification for Clay Fire Linings) or its equivalent. Keep a minimum of 12" (304.8 mm) of brick masonry between the clay liner and wall combustibles. The clay liner shall run from the brick masonry outer surface to the inner surface of the chimney flue liner but not past the inner surface. Firmly grout or cement the clay liner in place to the chimney flue liner.



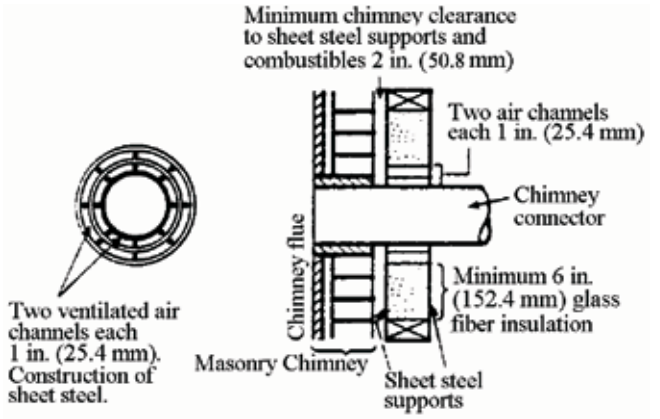
Method B: 9" (228.6 mm) Clearance to Combustible Wall Member:

Using a 6" (152.4 mm) inside diameter, listed, factory-built Solid-Pak chimney section with insulation of 1" (25.4 mm) or more, build a wall pass-through with a minimum 9" (228.6 mm) air space between the outer wall of the chimney length and wall combustibles. Use sheet metal supports fastened securely to wall surfaces on all sides, to maintain the 9" (228.6 mm) air space. When fastening supports to chimney length, do not penetrate the chimney liner (the inside wall of the Solid-Pak chimney). The inner end of the Solid-Pak chimney section shall be flush with the inside of the masonry chimney flue, and sealed with a non-water soluble refractory cement. Use this cement to also seal to the brick masonry penetration.



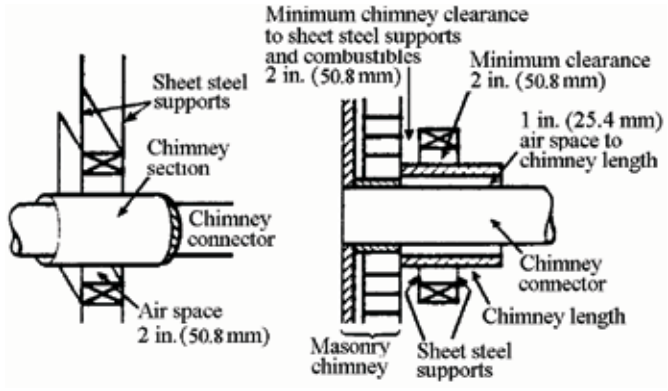
Method C: 6" (152.4 mm) Clearance to Combustible Wall Member:

Starting with a minimum 24 gage (.024" [.61 mm]) 6" (152.4 mm) metal chimney connector, and a minimum 24 gage ventilated wall thimble which has two air channels of 1" (25.4 mm) each, construct a wall pass-through. There shall be a minimum 6" (152.4) mm separation area containing fiberglass insulation, from the outer surface of the wall thimble to wall combustibles. Support the wall thimble, and cover its opening with a 24-gage minimum sheet metal support. Maintain the 6" (152.4 mm) space. There should also be a support sized to fit and hold the metal chimney connector. See that the supports are fastened securely to wall surfaces on all sides. Make sure fasteners used to secure the metal chimney connector do not penetrate chimney flue liner.



Method D: 2" (50.8 mm) Clearance to Combustible Wall Member:

Start with a solid-pak listed factory built chimney section at least 12" (304 mm) long, with insulation of 1" (25.4 mm) or more, and an inside diameter of 6" (2 inches [51 mm] larger than the 6" [152.4 mm] chimney connector). Use this as a pass-through for a minimum 24-gage single wall steel chimney connector. Keep solid-pak section concentric with and spaced 1" (25.4 mm) off the chimney connector by way of sheet metal support plates at both ends of chimney section. Cover opening with and support chimney section on both sides with 24 gage minimum sheet metal supports. See that the supports are fastened securely to wall surfaces on all sides. Make sure fasteners used to secure chimney flue liner.



STEP-BY-STEP CHIMNEY AND CONNECTOR INSTALLATION

Notes: These are a generic set of chimney installation instructions. Always follow the manufacturers own instructions explicitly. Verify the Minimum Recommended Heights for Woodstove Flue (Table 1 in the Installation section).

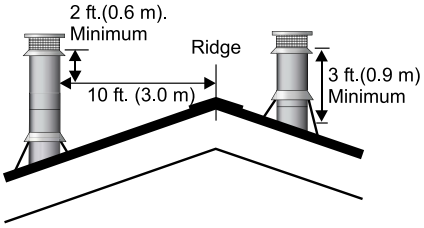
Do not install the chimney directly at the outlet of the appliance. A chimney connector (flue pipe) is required unless the appliance is specifically approved for that type of installation.

1. With your location already established, cut and frame the roof hole. It is recommended that no ceiling support member be cut for chimney and support box installation. If it is necessary to cut them, the members must be made structurally sound.

2. Install radiant shield and support from above.

3. Stack the insulated pipe onto your finish support to a minimum height of 3 feet above the roof penetration, or 2 feet above any point within 10 feet measured horizontally. There must be at least 3 feet of chimney above the roof level.

NOTE: Ensure each section of chimney is positively attached and secured.



Note: Increasing the chimney height above this minimum level will sometimes help your unit to "breathe" better by allowing a greater draft to be created. This greater draft can decrease problems such as, difficult start-ups, back-smoking when door is open, and dirty glass. It might be sufficient to initially try with the minimum required height, and then if problems do arise add additional height at a later date.

4. Slide the roof flashing over your chimney and seal the flashing to the roof with roofing compound. Secure the flashing to your roof with nails or screws.

5. Place the storm collar over the flashing, sealing the joints with a silicone caulking.

6. Fasten the raincap with spark screens (if required) to the top of your chimney.

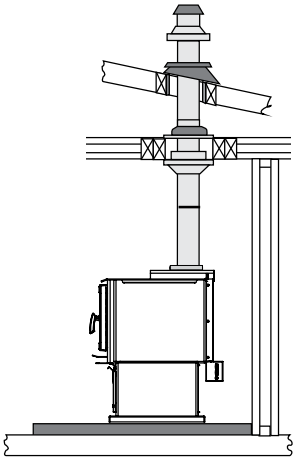
7. To complete your chimney installation, install the single wall or double wall connector pipe from the stove's flue collar to the chimney support device.

NOTE: When attaching the chimney to the appliance, ensure a minimum of two (2) screws are used to establish a snug fit.

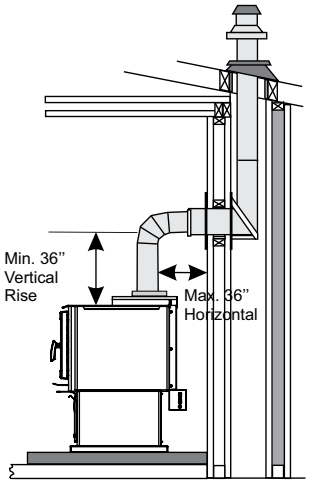
8. If you are using a horizontal connector, the chimney connector should be as high as possible while still maintaining the 18" (457mm) minimum distance from the horizontal connector to the ceiling.

NOTE: Residential Close Clearance and Alcove installations require a listed double wall connector from the stove collar to the ceiling level.

The diagrams below illustrate one way to install your unit into a standard ceiling or with a horizontal connector. Check with your dealer or installer for information on other options available to you.



Standard Ceiling Installation



Horizontal Installation

RECOMMENDED HEIGHTS FOR WOODSTOVE FLUE

Simple rules on draft (refer to Table 1).

1) At sea level minimum height is 12' straight.

2) Add the following vertical height to compensate for:
45 deg. elbow = 1 ft.
90 deg. elbow = 2 ft.
"T" = 3 ft.
Each foot of horizontal run = 2 ft.

3) Add 4% overall for each 1000' above sea level.

Example: a)
1-1/2 ft. of horizontal run = 3 ft.
one "T" = 3 ft.
Total Addition (at sea level) = 6 ft.

Example: b)
One 90 deg. elbow = 2 ft.
2 ft. of horizontal run = 4 ft.
one "T" = 3 ft.
Total Addition (at sea level) = 9 ft.

Recommended Flue Height		
Elevation	**Example a)**	**Example b)**
0'	18'	21'
1000'	18.72'	21.84'
2000'	19.44'	22.68'
5000'	21.60'	25.20'
8000'	23.76'	27.72'

MINIMUM RECOMMENDED FLUE HEIGHTS IN FEET
(Measured from the top of the unit)

ELEVATION (FT) ABOVE SEA LEVEL	**NUMBER OF ELBOWS For listed double wall pipe.**			
	0	2 x 15°	2 x 30°	2 x 45°
0-1000	12.0	13.0	15.0	16.0
1000-2000	12.5	13.5	15.5	16.5
2000-3000	13.0	14.0	16.0	17.0
3000-4000	13.5	14.5	17.0	18.0
4000-5000	14.0	15.0	17.5	18.5
5000-6000	14.5	15.5	18.0	19.0
6000-7000	15.0	16.0	18.5	20.0
7000-8000	15.5	16.5	19.0	20.5
8000-9000	16.0	17.0	20.0	21.0
9000-10000	16.5	17.5	20.5	22.0

NOTE: No more than one offsets (two elbows) allowed. Two 45° elbows equal one 90° elbow.

Table 1

MOBILE HOME INSTALLATION (US ONLY)

Once you have properly marked the position of your unit and the floor protection as outlined in the Residential Installation items #1 through #8, a supply of fresh air has to be supplied to your unit.

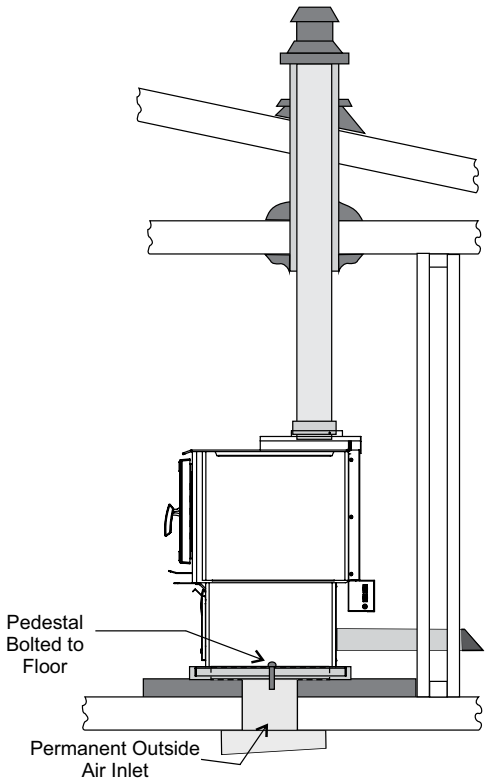
See Optional Outside Air Kit instructions in this manual.

Place your unit in position and secure it to the floor using two lag bolts 3/8" (10mm) x 3-1/2" (89mm) through the two holes inside the pedestal base. It is important to maintain the structural integrity of the Mobile Home floor, walls and roof when installing your unit.

For Mobile Home units installed in the U.S. the unit must be grounded using a #8 ground wire with approved termination and star washer.

CAUTION: At no time use unlabelled parts, or substitute parts made for another chimney system.

Install as per chimney manufacturer's installation instructions.



WARNING: Operate only with door fully closed - open feed door to feed fire only.

1. Identify the position of the outside air damper by the orientation of the metal handle that rests outside the galvanized pipe. The metal handle and the damper disc are in line with each other. This means that if the metal handle is in a horizontal position, the damper is flat and fully open.

2. Open the damper fully whenever you start a fire. This will allow the outside air to be drawn in the pedestal base eliminating any potential smoke escaping the stove and entering the room. (Negative air pressure)

In addition to standard installation instructions the following requirements are mandatory for installation in a mobile home.

1. The stove must be permanently bolted to the floor of the Mobile Home using the floor screws provided.

2. The stove must have a permanent outside air source for combustion.

3. The stove must be electrically grounded to the steel chassis of the Mobile Home.

4. A listed double-wall connector chimney system, roof thimble, spark arrestor and roof flashing kit suitable for use in Mobile Homes must be used.

5. If the chimney exits the Mobile Home at a location other than through the roof, and exits at a point 7ft. (2130mm) or less above the ground level on which the Mobile Home is positioned a guard or method of enclosing the chimney shall be fitted at the point of exit for a height up to 7ft. (2130mm).

6. The chimney shall be attached directly to the room heater and shall extend at least 3 ft. (914mm) above the part of the roof through which it passes. The top of the chimney should project at least 2ft. (610mm) above the highest elevation of any part of the Mobile Home within 10 ft. (3048mm) of the chimney.

7. The chimney system shall comply with Local Requirements.

8. Any openings in a chimney guard where required must not permit the entrance of 3/4" (19mm) diameter rod.

9. CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME ROOF, FLOOR, WALLS AND CEILING MUST BE MAINTAINED.

10. Check any other local building code as other local codes may apply.

11. WARNING: DO NOT INSTALL IN A SLEEPING ROOM OF A MOBILE HOME.

12. Use silicone to create an effective vapour barrier at the location where the chimney or other component penetrates to the exterior of the structure.

OPTIONAL OUTSIDE AIR KIT

The Outside Air Kit is an option for Freestanding Stoves. Outside air for combustion can be brought in either through the bottom of the pedestal or through the rear plate of the pedestal.

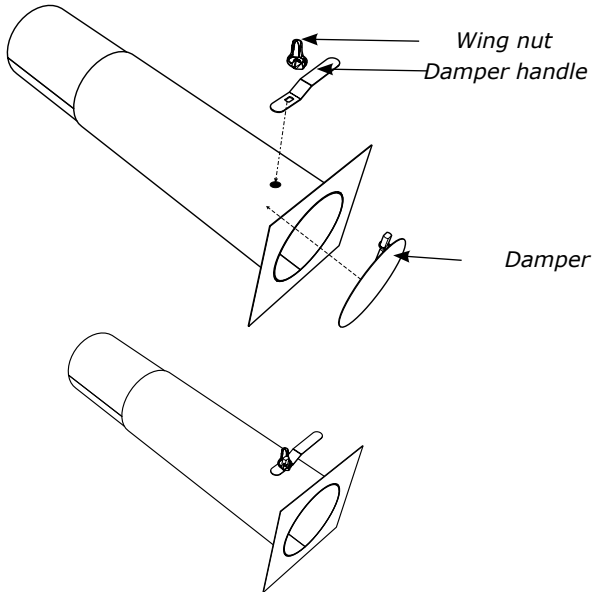
Damper Installation

NOTE: The damper cannot be installed if attaching outside air to the bottom of the appliance.

Supplied damper allows the combustion air to be closed off when unit is not in operation.

Install the damper within the round pipe in an easily accessible location.

1. Drill a 5/16" hole in the desired location.
2. Insert damper with threaded section out.
3. Install damper handle and secure with wing nut.

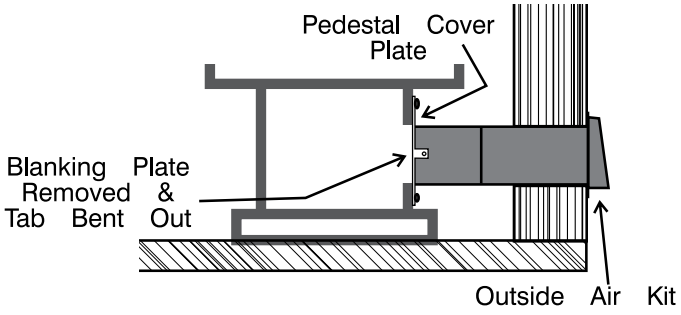


Completed Install

Outside Air Through Pedestal Rear

Remove the blanking plate from the rear of the pedestal and bend the two tabs out 90 degrees. Pipe fresh air into the pedestal area by using a minimum 4" metallic duct pipe with a mesh grill at the outside termination.

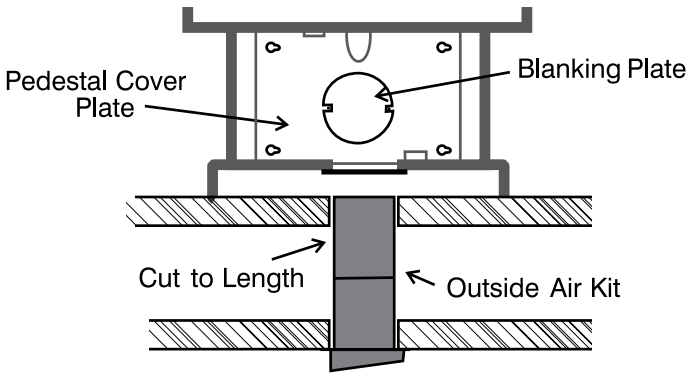
Fasten the pipe to the cover plate using the tabs and 2 screws.



Side View

Outside Air Through Pedestal Bottom

Mark the position of your unit as outlined in the "General Information" and "Clearances to Combustibles" section of the manual. Pipe fresh air into the pedestal area by using a minimum 4" duct pipe with a mesh grill at the outside termination.



Rear View

LISTED COMPONENTS FOR MOBILE HOME INSTALLATION

The Regency F3500B-1 Freestanding pedestal units are approved for installation in a Mobile Home if one of the following pipe systems is used (US only).

U.S. Installation*

METALBESTOS SSII

Qty.	Part #	Description
1	6DS-VK	Connector Kit
1	6TMH	Shield/Support
1	6TAF-6	Flashing
1	6T-36	Chimney Length
1	6T-18	Chimney Length
1	6T-CT	Rain Cap

PRO-JET 3103

Qty.	Part #	Description
1	PV06-TK	Connector
1	CSB	Shield/Support
1	RRS	Radiation Shield
1	LFR03	Flashing
1	SL3	Chimney Length
1	SL1	Chimney Length
1	RCSA	Rain Cap

SECURITY ASHT

Qty.	Part #	Description
1	DL42A-6	Connector Kit
1	6SS	Shield/Support
1	6FAMH	Flashing
1	6L3	Chimney Length
1	6L1	Chimney Length
1	CPE	Rain Cap

SECURITY S2100

Qty.	Part #	Description
1	DL42A-6	Connector Kit
1	6XSF	Support
1	6XFA	Flashing
1	6XL3	Chimney Length
1	6XL18	Chimney Length
1	6XCPE	Rain Cap

METAL-FAB TEMP/GUARD 2100

Qty.	Part #	Description
1	6DWBK	Connector
1	6TGRS	Roof Support
1	6TGG36	Chimney Length
1	6TGG12	Chimney Length
1	6TGF	Flashing
1	6TGC	Rain Cap

AMERI-TEC HS

Qty.	Part #	Description
1	6DCC	Connector
1	6HSRS-12	Roof Support (6PLRS-12-BK)
1	6F	Flashing
1	6HS-36	Chimney Length
1	6HS-18	Chimney Length
1	6HS-RCS	Rain Cap (6PL-MPC)

SIMPSON DURA-PLUS

Qty.	Part #	Description
1	6DVL8693	Connector Kit
1	6DP-MH9096	Mobile Home Kit

ICC EXCEL 2100

Qty.	Part #	Description
1	6CL48	48" Chimney length (also in 12", 18", 24" lengths.
1	6RC	Rain Cap
1	6RCS	Spark Screen (for rain cap)
1	6RDS/SQS	Round/Square support box
1	6VF	Flashing
1	6UBA	"Ultrablack" Close Clearance Connector

CAUTION: At no time use unlabelled parts, or substitute parts made for another chimney system.

Install as per chimney manufacturer's installation instructions.

STAINLESS STEEL SMOKE DEFLECTOR INSTALLATION/REPLACEMENT

1. The stainless smoke deflector is located in the upper front area of the firebox (see diagram below). The deflector is held in place with 2 x 7/16" hex head bolts. Prior to the first fire, ensure deflector is seated properly and secured with 2 hand tightened bolts.



2. To replace the deflector, loosen off both 7/16" bolts and slide deflector upward and out. Install new deflector and hand tighten 7/16" hex head bolts. Ensure positive location of the deflector prior to hand tightening. **WARNING:** Operation of the unit without proper installation of smoke deflector will void warranty.



3. Ensure deflector is seated so bolts are situated at the top of the opening before tightening. Hand tighten bolts only.



3. Correct Install: Ensure return edge of smoke deflector is seated within the backside of the glass wash.



3. Incorrect Install: Return edge of smoke deflector seated under the glass wash.



BRICK INSTALLATION

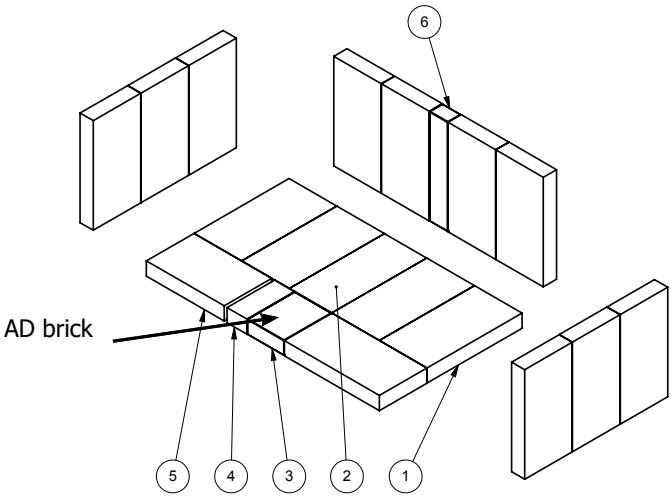
Firebrick is included to extend the life of your stove and radiate heat more evenly. Install all firebricks per the diagram below and place in their correct positions. Do not use a grate.

1. Remove box of firebricks from inside unit.

2. Remove LyTherm sheet from mailer tube and install on base of firebox as shown below.

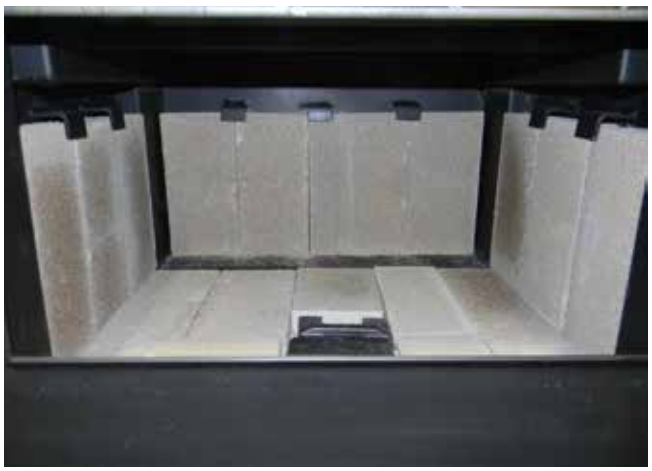


3. Order of firebrick install:
- a) Rear Firebrick
- b) Firebox floor - install brick over LyTherm sheet
- c) Right and left side Firebricks



Fire bricks	
#	Size
1	4-1/2" x 9"
2	4" x 9"
3	3-1/2" x 4-1/2"
4	1-3/4" x 4-1/2"
5	4-1/2" x 7-5/8"
6	1-3/4"" x 9"

NOTE: The "AD" brick covers the Ash Dump hole that is used when the Ash Drawer Kit is installed.



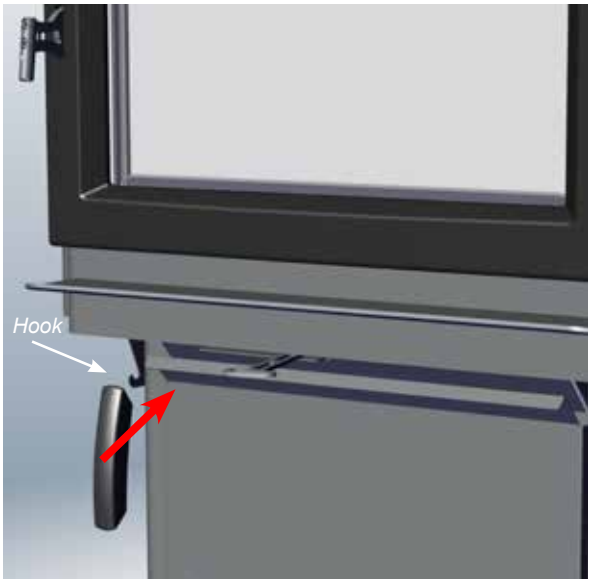
Final Install

REMOVABLE DOOR HANDLE

The F3500B-1 has a removable door handle that can be stored when not in use.



The cool to touch door handle is designed to be inserted from the bottom up and slide off when not held in place. Once in position, the door can be opened. After use, store the door handle on the storage hook located on the left side of the faceplate.



WARNING: FAILURE TO USE REMOVABLE HANDLE AS PER INSTRUCTIONS MAY CAUSE SERIOUS BURNS.

FAN INSTALLATION

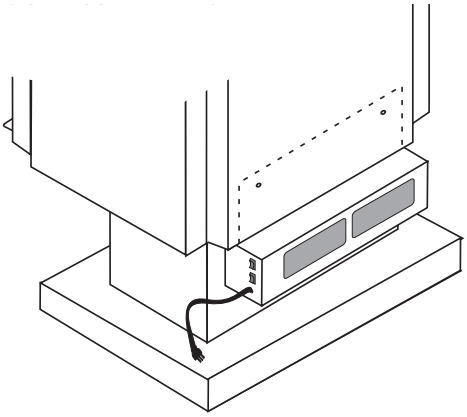
Fan assembly for use only with the room heater marked to indicate such use.

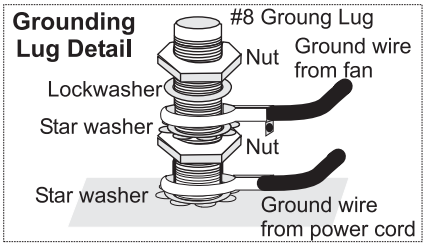
FAN INSTALLATION (120V FAN)

1. Remove the two screws from the top of the fan housing.
2. Slide the fan up into the rear heat shield.
3. After aligning holes, secure the fan to the rear heat shield using the two screws removed earlier.

Note: The connection cord should not be in contact with any hot surfaces.

WARNING: FAN ASSEMBLY MUST BE DISCONNECTED FROM THE SOURCE OF ELECTRICAL SUPPLY BEFORE ATTEMPTING THE INSTALLATION.





FAN OPERATION

AUTOMATIC

To operate the fan automatically, push the bottom switch on the side of the fan housing to "AUTO" and the top switch to either "HIGH" or "LOW" for fan speed.

This will allow the fan to turn on as the stove has come up to operating temperature. It will also shut the fan system off after the fire has gone out and the unit cooled to below a useful heat output range.

If the fan cycles on and off continuously the thermo switch sensor is not making contact with the stove body. Remove the fan, bend the bracket closer to the stove and re-install the fan.

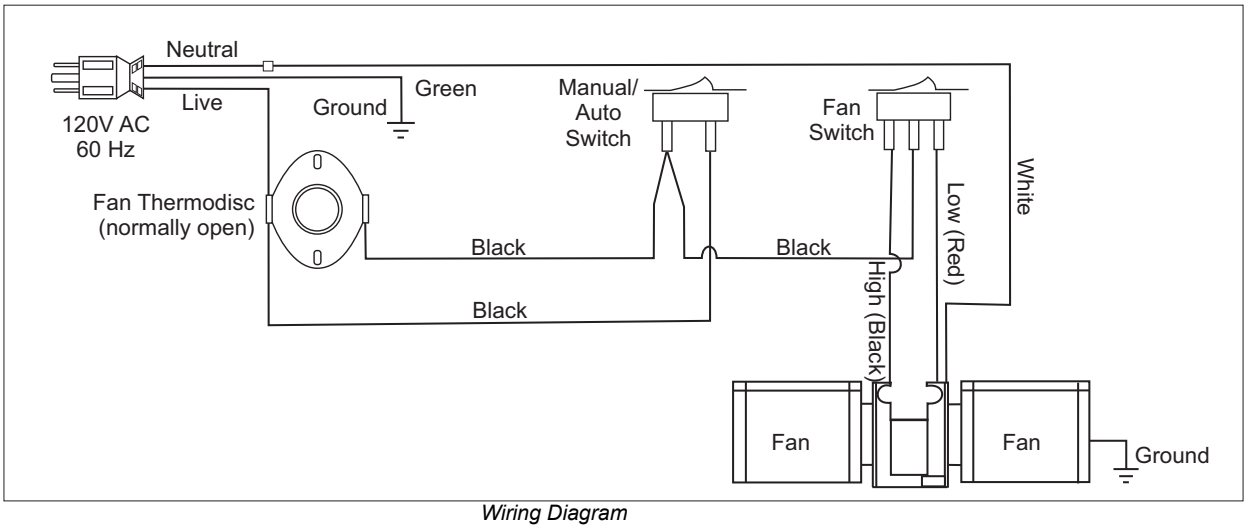
MANUAL

To manually operate the fan system push the bottom switch to "MAN" and the top switch to either "HIGH" or "LOW". This will bypass the sensing device and allow full control of the fan.

Switching from "AUTO" to "MAN" or "HIGH" to "LOW" may be done anytime.

WARNING: Electrical Grounding Instructions
This appliance is equipped with a three pronged (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.



Wiring Diagram

SEASONED FIREWOOD

Whether you burn wood in a fireplace, stove or insert, good quality firewood is the key to convenience, efficiency and safety. Wet wood and pieces that are not the right size and shape for your wood burner can be frustrating, burn inefficiently and deposit creosote that can fuel a dangerous chimney fire. Good planning, seasoning and storage of the firewood supply are essential to successful wood burning.

- Stack the wood in separate rows in an open location where the summer sun can warm it and breezes can carry away the moisture. Do not stack unseasoned wood tightly in an unvented storage area.
- Do not allow firewood to lie on the ground for more than a couple of days before stacking. Mould and rot can set in quickly.
- Stack the wood up off the ground on poles, lumber rails or pallets.
- The top of the pile can be covered to keep off rain, but do not cover the sides.

Softer woods like pine, spruce and poplar/aspen that is cut, split and stacked properly in the early spring maybe be ready for burning in the fall. Extremely hard woods like oak and maple, and large pieces of firewood, may take a minimum of a full year to dry enough. Drying may also take longer in damp climates

There are a few ways to tell if wood is dry enough to burn efficiently. Use as many indicators as possible to judge the dryness of the firewood your are considering. Here are ways to judge firewood moisture.

- Using a moisture meter, select the species of fuel and then penetrate the pins into a split piece. Ideal moisture and seasoned firewood should be less than 20% moisture content.
- Checks or cracks in the end grain can be an indication of dryness, but may not be a reliable indicator. Some wet wood has checks and some dry wood has no checks.
- The wood tends to darken from white or cream colour to grey or yellow as it dries.
- Two dry pieces banged together sound hollow; wet pieces sound solid and dull.
- Dry wood weighs much less than wet wood.
- Split a piece of wood. If the exposed surface feels damp, the wood is too wet to burn.

OPERATING INSTRUCTIONS

With your unit now correctly installed and safety inspected by your local authority, you are now ready to start a fire. Before establishing your first fire, it is important that you fully understand the operation of your Catalytic combustor and draft control.

WARNING
Fireplace Stoves equipped with doors should be operated only with doors fully closed. If doors are left partly open, gas and flame may be drawn out of the fireplace stove opening, creating risks from both fire and smoke.

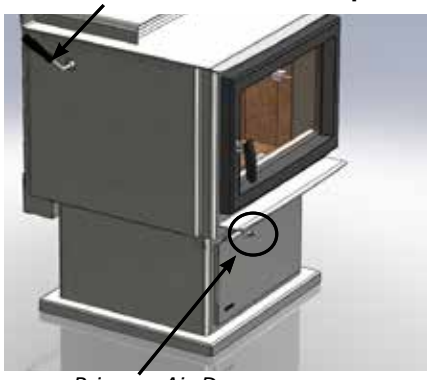
DRAFT CONTROL

Both the primary and air wash drafts are controlled by the control slide located on the front left side of the unit (when facing the unit). To increase your draft - slide to the left to open, and to decrease - slide to the right to close. The F3500B-1 unit has a secondary draft system that continually allows combustion air to the induction ports at the top of the firebox, just in front of the catalytic combustor.

Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other factors. Too much draft may cause excessive temperatures in the appliance and may damage the catalytic combustor. Inadequate draft may cause back puffing into the room and plugging of the chimney or catalyst.

Catalyst Bypass Control

Back - Closed **Front - Open**



Primary Air Damper

Left - Open **Right - Closed**

WARNING: To build a fire in ignorance or to disregard the information contained in this section can cause serious permanent damage to the unit and void your warranty!

FIRST FIRE

When your installation is completed and inspected you are ready for your first fire.

THIS UNIT IS DESIGNED TO BURN SEASONED CORDWOOD ONLY. COAL, BRIQUETTES AND ALL OTHERS LISTED ON PAGE 2 ARE NOT APPROVED. SEASONED CORDWOOD SHOULD BE LESS THAN 20% MOISTURE CONTENT.

START UP AND OPERATING PROCEDURES:

1. For the first few days, the wood stove will give off an odour from the paint. This is to be expected as the high temperature paint becomes seasoned. Windows and/or doors should be left open to provide adequate ventilation while this temporary condition exists. Burning the wood stove at a very high temperature the first few times may damage the paint. During the first few fires, keep the combustion rate at a moderate level and avoid a large fire. Only after 5 or 6 such fires you can operate the wood stove at its maximum setting, and only after the metal has been warmed.
2. Do not place anything on the wood stove top during the curing process. This may result in damage to your paint finish.
3. When starting the fire, ensure the bypass is in the fully open position and air control is in the fully open position.
   To start a good and clean fire you will need approx. 5 - 5.5 lb kindling and 1 load of start up fuel weighing approximately 7 - 8 lb, wood split slightly larger than kindling, approx. 2 inches thick. Load 5-6 pieces of crumpled paper in the center of the firebox and the kindling on top, stacked in a manner that allows air flow on the firebrick hearth (Criss cross style or other). DO NOT USE A GRATE TO ELEVATE THE FIRE. Light crumpled newspaper and leave the door cracked approx. 1 - 2 inches to establish a good fire and for less smoke roll out. Keep the door in that position for approx. 4 - 5 minutes. Once the door is closed wait until the catalyst thermocouple probe is in the active zone and close the by-pass.
4. Once most of the kindling has burned down but there are still flames, load the start up fuel on top in a criss cross style. When a good fire is established close the door to keep the catalyst from cooling down.
5. **NOTE:** These steps are crucial to ensure proper charcoaling and coal bed prior to loading High, Med and Low fire loads.
6. Once a nice coal bed is established and there are still good sized flames, open the door and the bypass, and rake the coals to create a uniform charcoal bed. Load 5-6 pieces of 17" long cord wood, front to back, North/South orientation Once loaded, and strong flames are established, close the door and the bypass. Burn on high setting (air control to the far left when facing the unit) for at least 15 minutes.
   After 15 minutes, it should be a strong fire and you can adjust the air control to your desired position.
   After at least 20 minutes the fan can be set on high setting for a high and medium high fire and on low for medium-low and low fire.
   High Fire: Air control to far left.
   Low Fire: Air control to far right.
   Med Low Fire: Air control slightly left of low fire setting. Approx. 1/4" to the left of low setting.
   Med High Fire: Approx. 1" from low air setting.
   For low and medium fire, adjust the air gradually from high to the desired position.
7. IMPORTANT: The temperature in the wood stove and the gases entering the combustor must reach between 500°F - 700°F for catalytic activity to start. From the start up of a cold wood stove, a medium to high firing rate must be maintained for 30 min. This ensures that the wood stove, catalyst and fuel are all stabilized at proper operating temperatures. Even though it is possible to have temperatures at 600°F within minutes after a fire has been started, if the fire is allowed to die down immediately it may go out or the combustor may stop working. Once the combustor starts working, heat generated in it by burning the smoke will keep it working. During re-fueling and rekindling of the cool fire, or a fire that has burned down to the charcoal phase, operate the wood stove at a medium to high firing rate for about 10 minutes to ensure that the catalyst reaches operating temperatures.

   WARNING: Never build a roaring fire in a cold wood stove. Always warm your wood stove up slowly!
8. When re-fueling, always open bypass control, and primary air damper, load fuel, then wait for at least 10-15 minutes before closing the by-pass. Reason for the 10-15 min. is the fresh fuel and the opening of the door will cause the catalyst to drop in temperature as well as the moisture within the wood which is the first thing to be released. This will also minimize any smoking (spilling) back into the room.
9. During the first few days it may be more difficult to start the fire. As you dry out your firebrick and your masonry flue, your draft will increase.
10. For those units installed at higher elevations or into sub-standard masonry fireplaces, drafting problems may occur. Consult an experienced dealer or mason on methods of increasing your draft.
11. Some cracking and popping noises may be experienced during the heating up process. These noises will be minimal when your unit reaches temperature.
12. All fuel burning appliances consume oxygen during operation. It is important that you supply a source of fresh air to your unit while burning. A slightly opened window is sufficient for the purpose. If you also have another fireplace in your home, a downdraft may be created by your Regency wood stove causing a draft down your chimney. If this occurs, slightly open a window near your unit.

CAUTION: If the body of your wood stove, or any part of the chimney connector starts to glow, you are over firing. Stop loading fuel immediately and close the draft control until the glow has completely subsided.

How to Light and Maintain a Wood Stove Fire

13. Green or wet wood is not recommended for your unit. If you must add wet or green fuel, open the draft control fully until all moisture has been dispersed by the intense fire. Once all moisture has been removed, the draft control may be adjusted to maintain the fire.
14. If you have been burning your stove on a low draft, use caution when opening the door. After opening the damper, open the door a crack, and allow the fire to adjust before fully opening the door.
15. The controls of your unit or the air supply passages should not be altered to increase firing for any reason.
16. If you burn the unit too slowly or at a too low setting your unit will not be operating as efficiently as it can. An easy rule of thumb says that if your glass is clean, catalytic thermostat is active, then your flue is clean and your exhaust is clean. Burn the stove hot enough to keep your glass clean and catalytic combustor, you won't need to clean your flue as often.

HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

NOTE: You can stir and level the coals before reloading to ensure proper charcoaling and a good start up of the load.

CAUTION: Do not build the fire too close to the glass, unless/otherwise specified.

FAN OPERATION

Automatic
To operate the fan automatically, push the bottom switch on the side of the fan housing to "AUTO" and the top switch to either "HIGH" or "LOW" for fan speed.

This will allow the fan to turn on as the stove has come up to operating temperature. It will also shut the fan system off after the fire has gone out and the unit cooled to below a useful heat output range.

Route power cord to either left or right behind unit.

Manual
To manually operate the fan system push the bottom switch to "MAN" and the top switch to either "HIGH" or "LOW". This will bypass the sensing device and allow full control of the fan.

Switching from "AUTO" to "MAN" or "HIGH" to "LOW" may be done anytime.

ASH DISPOSAL

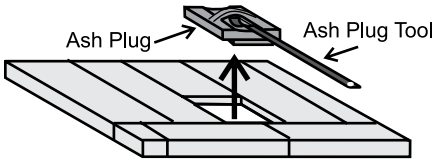
During constant use, ashes should be removed every few days. The Ash Drawer option features a convenient ash dump for easy removal of ash, refer to Modular Installation Options section.

Safety Precautions

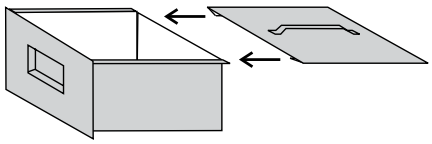
1. Do not allow ashes to build up to the loading doors! Only remove ashes when the fire has died down. Even then, expect to find a few hot embers.
2. Please take care to prevent the build-up of ash around the start-up air housing located inside the stove box, under the loading door lip.
3. Never start a fire if the ash plug and ash drawer are not in place. This will cause over firing which can cause excessive warping of the stove. Evidence of over firing can void the warranty on your stove.
4. The firebricks are brittle and can be damaged if the plug is replaced carelessly or pieces that are too large are forced through the hole.

Ash Drawer Operating Guideline

1. Only clean ashes out of the stove when the unit has cooled down. Remove the plug by lifting on the handle using the tool provided. The plug may still be warm, use caution. Push the ashes down the hole into the ash drawer, the large pieces can be left in the firebox and burned during the next fire or removed through the door opening.
2. Always leave 1/2 to 1 inch of ash in the bottom of the firebox. This helps in easier starting and a more uniform burn of your fire. Replace ash plug when ashes have been removed.



3. **Pedestal Units:**
   To remove the drawer, lift slightly and slide it out. When the drawer is completely out, slide the cover plate over the ash drawer and carry away.



CAUTION: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

4. When emptying the ash drawer, make sure the ashes are cold. Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a non-combustible floor or on the ground, well away from all combustible materials, pending 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. Other waste should not be placed in the ash container.
5. Before putting the ash drawer back into place, make sure the ash plug is back in place.

   Pedestal Units: make sure the cover lid is off.

SAFETY GUIDELINES AND WARNINGS

CAUTION: DO NOT USE CHEMICALS FOR FLUIDS TO START FIRE.

1. **CAUTION:** Never use gasoline, gasoline type lantern fuels, kerosene, charcoal lighter fuel, or similar liquids to start or 'freshen up' a fire in your heater. Keep all such liquids well away from the heater while it is in use.
2. Keep the door closed during operation and maintain all seals in good condition.
3. Do not burn any quantities of paper, garbage, and never burn flammable fluids such as gasoline, naptha or engine oil in your stove.
4. If you have smoke detectors, prevent smoke spillage as this may set off a false alarm.
5. Do not overfire heater. If the chimney connector, flue baffle or the stove top begin to glow, you are over firing. Stop adding fuel and close the draft control. Over firing can cause extensive damage to your stove including warping and premature steel corrosion. Over firing will void your warranty.
6. Do not permit creosote or soot build-up in the chimney system. Check and clean chimney at regular intervals. Failure to do so can result in a serious chimney fire.
7. Your Regency stove can be very hot. You may be seriously burned if you touch the stove while it is operating, keep children, clothing and furniture away. Warn children of the burn hazard.
8. The stove consumes air while operating, provide adequate ventilation with an air duct or open a window while the stove is in use.
9. Do not connect this unit to a chimney flue serving another appliance.
10. Do not use grates or andirons or other methods for supporting fuel. Burn directly on the bricks.
11. Open the draft control fully for 10 to 15 seconds prior to slowly opening the door when refuelling the fire.
12. Do not connect your unit to any air distribution duct.
13. This heater is designed to burn natural wood only. Higher efficiencies and lower emissions generally result when burning air dried seasoned hardwoods, as compared to softwoods or to green or freshly cut hardwoods.

DO NOT BURN:

- Treated wood
- Coal
- Garbage
- Cardboard
- Solvents
- Colored Paper
- Trash
- Salt drift wood
- Cut lumber, plywood, mill ends.

Burning treated wood, garbage, solvents, colored paper or trash may result in release of toxic fumes and may poison or render ineffective the catalytic combustor. Burning coal, cardboard, or loose paper can produce soot, or large flakes of char or fly ash that can coat the combustor, causing smoke spillage into the room, and rendering the combustor ineffective.

14. **CAUTION: Do not store fuel within space heater installation clearances or within the space required for charging and ash removal.**

15. Do not place wood, paper, furniture, drapes or other combustibles near the appliance.

16. **WARNING: Do not operate without either the Ash Plug properly seated or the Ash Dump Plates screwed in place, excessive temperatures will result.**

17. **CAUTION: Do not operate with cracked/ broken, plugged, or glazing catalyst.**

IMPORTANT: It is against federal regulation to operate this wood heater in a manner inconsistent with operating instructions in this manual, or if the catalytic element is deactivated or removed.

CAUTION: DO NOT BURN GARBAGE OR FLAMMABLE LIQUIDS SUCH AS GASOLINE, NAPTHA OR ENGINE OIL. SOME FUELS COULD GENERATE CARBON MONOXIDE AND ARE VERY DANGEROUS.

CAUTION: DO NOT CONNECT TO, OR USE IN CONJUNCTION WITH ANY AIR DISTRIBUTION DUCT WORK UNLESS SPECIFICALLY APPROVED FOR SUCH INSTALLATION.

	Troubleshooting Guide	
PROBLEM	**POSSIBLE CAUSE**	**SOLUTION**
Crumbling Substrate	Extreme Thermal Shock Refueling with Wet Wood High Draft	Bypass combustor when the stove is running Use seasoned, dried wood. Do not exceed .06" of water draft. Install a manual damper and draft gauge or a barometric damper.
Fly-Ash Build-up Fly-Ash Masking Fly-ash Plugging	Combustor has not maintained light-off temperature. Combustor has not maintained light-off temperature. Burning materials that produce a lot of char and fly-ash. Closing the bypass too soon	Brush cold combustor with a soft bristled brush or vacuum lightly. Brush cold combustor with a soft bristled brush or vacuum lightly. Do not burn cardboard, gift wrap or garbage. Follow instructions for proper light-off.
Thermal Cracking	Uneven temperatures, flame impingement and heat spikes.	If cracking causes large pieces to fall out, replace combustor.
Mechanical Cracks	Combustor mishandled or abused. Distortion of combustor holder.	Handle combustor with care. Replace if necessary. Replace combustor is large pieces are missing, replace any warped stove parts as well.
Plugging (Creosote)	Burning wet, pitchy woods or burning large loads of small diameter wood with the combustor in the operating position without light-off ever occurring.	Burn dried seasoned wood. Make sure combustor has light-off before closing the bypass damper. It may be possible to burn off the soot or creosote accumulation by putting the combustor in a partially open and partially closed position after a hot fire has been started.
Masking (Soot)	Combustor has not maintained a light-off. Burning coal will cause a sulfur-based compound to coat the catalyst.	Place combustor in a partially open and partially position after a hot fire has been started to burn off the soot accumulation. Revert to burning wood and fire the combustor to elevated temperatures for one hour.

MAINTENANCE

It is very important to carefully maintain your fireplace stove, including burning seasoned wood and maintaining a clean stove and chimney system. Have the chimney cleaned before the burning season and as necessary during the season, as creosote deposits may build up rapidly. Moving parts of your stove require no lubrication.

THERMOMETER

The catalyst thermometer is only a indication of the flue gas temperature as they pass through the catalyst. The thermostat probe that is inserted into the opening, must be cleaned at least once a year. Use 220 sand paper to clean probe.



CREOSOTE

When wood is burned slowly, it produces tar and other organic vapours combine with moisture to form creosote. The creosote vapours condense in the relatively cool chimney flue of a slow burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote can result in an extremely hot fire.

The chimney connector and chimney should be inspected at least once every two months during the heating season to determine if creosote build up has occurred. If creosote has accumulated it should be removed to reduce the risk of chimney fire.

CAUTION: Things to remember in case of a chimney fire:

1. Close all draft and damper controls.

2. CALL THE FIRE DEPARTMENT.

Ways to Prevent and Keep Unit Free of Creosote

1) Burn stove with the draft control wide open for about 10-15 minutes every morning during burning season.

2) Burn stove with draft control wide open for about 10 - 15 minutes every time you apply fresh wood. This allows the wood to achieve the charcoal stage faster and burns up any unburned gas vapours which might otherwise be deposited within the system.

3) **Only burn seasoned wood!** Avoid burning wet or green wood. Seasoned wood has been dried at least one year.

4) A small hot fire is preferable to a large smouldering one that can deposit creosote within the system.

5) The chimney and chimney connector should be inspected at least once every two months during the heating season to determine is a creosote buildup has occurred.

6) **Have chimney system and unit cleaned by competent chimney sweeps twice a year during the first year of use and at least once a year thereafter or when a significant layer of creosote has accumulated (3mm/1/8" or more) it should be removed to reduce the risk of a chimney fire.**

DOOR GASKET

If the door gasket requires replacement 5/8" diameter material must be used. Regency uses a gasket rope 5/8" Medium Density (Part #846-530). A proper high temperature gasket adhesive is required. See your Regency Dealer.
The door catch may require adjustment as the door gasket compresses after a few fires. The door latch compression may require adjustment to renew seal. Removal of a shim, (see section in this manual), will allow the latch to be moved closer to the door frame, causing a tighter seal.

GLASS MAINTENANCE

Your Regency stove is supplied with 5mm Neoceram ceramic glass (Part #940-416/P) that will withstand the highest heat that your unit will produce. In the event that you break your glass by impact, purchase your replacement from an authorized Regency dealer only, and follow our step-by-step instructions for replacement (refer to Glass Replacement section).

Allow the stove to cool down before cleaning the glass. Cleaning the glass will prevent build up of carbon and allow full view of the fire.
WARNING: Do not clean the glass when it is hot.
WARNING: Do not use abrasive cleaners, a damp cloth and glass cleaner is effective.

WOOD STORAGE

Store wood under cover, such as in a shed, or covered with a tarp, plastic, tar paper, sheets of scrap plywood, etc., as uncovered wood can absorb water from rain or snow, delaying the seasoning process.

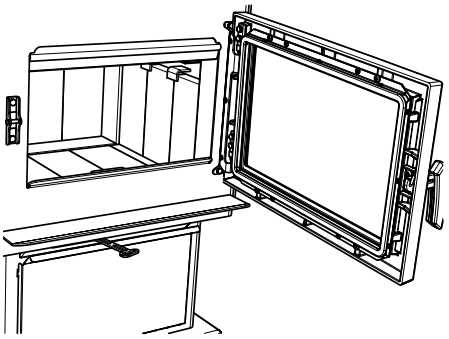


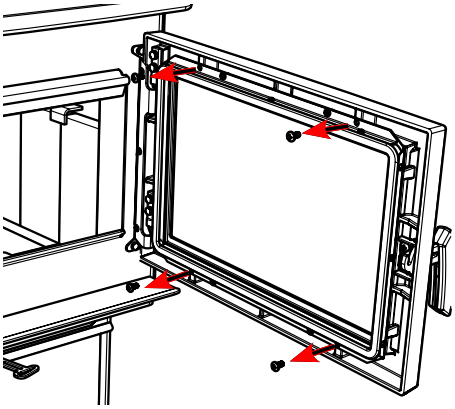
GLASS REPLACEMENT

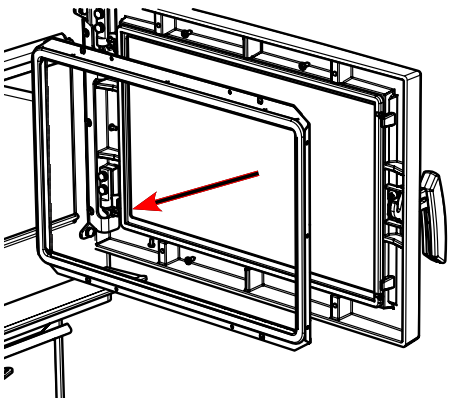
Allow the stove to cool before removing or replacing glass. Remove the door from the stove and remove the glass retainer. To avoid injury use caution when removing broken glass. Wear safety gloves. When placing the replacement glass in the door, make sure that the glass gasketing will properly seal your unit. Replace the retainer, it should rest on the gasket not the glass, and tighten securely with a glass clips and screws. Do not wrench down on the glass as this may cause breakage.

Do not use substitute materials. If your glass does break, do not use your unit until it has been replaced.

WARNING: Do not abuse the door by striking or slamming shut. Cracked glass can cause the heater to overfire.







CATALYTIC COMBUSTOR

ACHIEVING AND MAINTAINING CATALYST LIGHT-OFF:

The temperature in the stove and the gases entering the combustor must be raised to between 500F to 700F for catalytic activity to be initiated. During the start up of a cold stove a medium to high firing rate must be maintained for about 30 minutes. This ensures that the stove, catalyst and fuel are all stabilized at proper operating temperatures. Even though it is possible to have temperatures at 600F within minutes after a fire has been started, if the fire is allowed to die down immediately it may go out or the combustor may stop working. Once the combustor starts working, heat generated in it by burning the smoke will keep it working. During re-fueling and rekindling of the cool fire, or a fire that has burned down to the charcoal phase, operate the stove at a medium to high firing rate for about 10 minutes to ensure that he catalyst reaches operating temperatures.

CATALYST MONITORING: It is important to periodically monitor the operation of the catalytic combustor to ensure that it is functioning properly and to determine when it needs to be replaced. A non-functioning combustor will result in a loss of heating efficiency, and an increase in creosote and emissions. Following is a list of items that should be checked on a periodic basis.

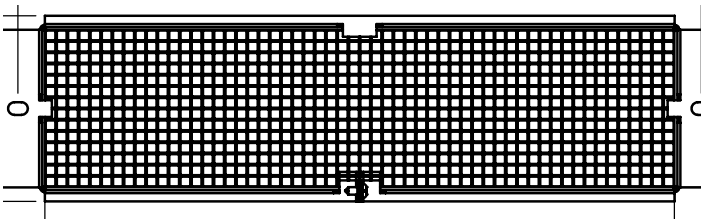
- Combustors should be visually inspected at least three times during the heating season to determine if physical degradation has occurred. Actual removal of the combustor is not recommended unless more detailed inspection is warranted because of decreased performance. If any of these conditions exist, refer to Catalyst trouble shooting section of this owner's manual.
- A good combustor is designed to withstand approximately 12,000 hours of continuous use. This will translate into five to ten years of use, depending on the length of your heating season and how often you use your stove. Proper maintenance will increase the combustor's effectiveness and prevent many problems. Inspect your combustor before each heating season, and during the season if your stove's performance seems to change.
- This catalytic heater is equipped with a temperature probe to monitor catalyst operation. Properly functioning combustors typically maintain temperatures in excess of 500F and often reach temperatures in excess of 1000F. If catalyst temperatures are not in within, refer to Catalyst trouble shooting section of this manual.
- You can get an indication of whether the catalyst is working by comparing the amount of smoke leaving the chimney when the smoke is going through the combustor and catalyst light – off has been achieved, to the amount of smoke leaving the chimney when the smoke is not routed (by-pass open) through the combustor.

Step 1: Light the stove in accordance with instructions within this manual.
Step 2: With smoke routed through the catalyst (by-pass closed) go outside and observe the emissions leaving the chimney.
Step 3: Engage the bypass mechanism and move to by-pass open position. And again observe the emission leaving the chimney. Significantly more smoke should be seen when the smoke is not routed through the combustor (by-pass open). Be careful not to confuse smoke with steam.

ACHIEVING PROPER DRAFT: Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other factors. Too much draft may cause excessive temperatures in the appliance and may damage the catalytic combustor. Inadequate draft may cause back puffing into the room and plugging of the chimney or catalyst.

CATALYTIC COMBUSTOR CLEANING:

Method #1
A vacuum cleaner may be used, but **never use high pressured air** to blow the cells free of any build-up. This can damage the cell walls. Any cell blockage can be removed with the use of a pipe cleaner or a cotton swab as well.
Method #2
Should the combustor's cells become covered with fly-ash, use a paint-brush or soft-bristled brush and dust the combustor gently. Never use anything abrasive to clean the combustor.
Method #3
Normally the catalytic combustor requires little or no maintenance, it generates such high temperatures and therefore is basically self-cleaning. However, should the combustor become covered with soot or creosote, it is possible to burn the accumulation off by opening the bypass and building a hot fire. Once the hot fire is created, close the bypass halfway and burn for 30 to 60 minutes with the bypass left in this position. **Never use cleaning solvents to clean it.** Check and clean the combustor, if necessary, before each burning season and inspect the flue system for any signs of creosote buildup. A clean flue helps prevent chimney flue fires.



F3500B-1 Flameguard & Catalyst

COMBUSTOR ASSEMBLY REMOVAL/REPLACEMENT

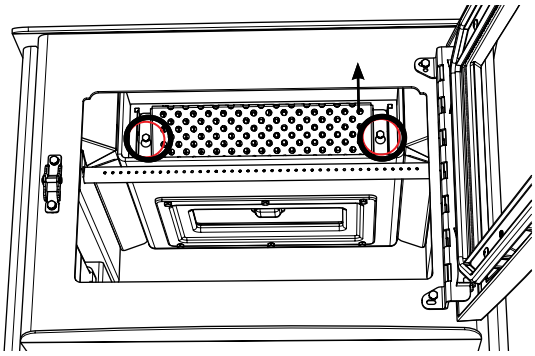
The catalytic thermometer on top of the stove should read in the active zone after the stove has been in operation for several hours. If the thermometer's indicator needle does not stay in the active zone, even with a hot fire, over a period of regular use, the catalyst may need to be cleaned. If this persists it may be necessary to replace it.

If the combustor must be examined or replaced, follow this procedure:

1. Allow the stove to burn out and cool down.

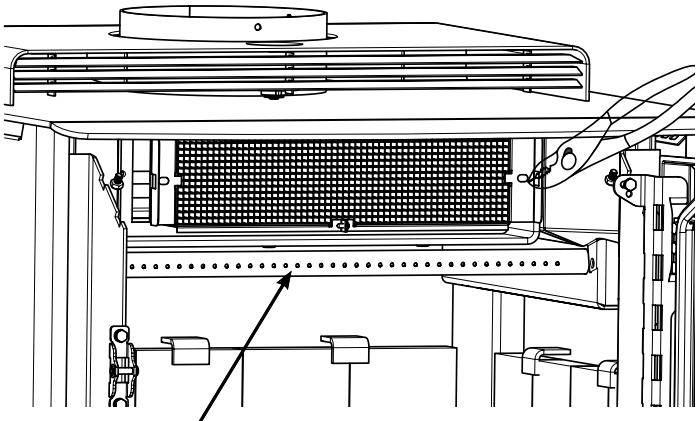
2. Remove stainless steel smoke deflector - See instructions in this manual.

3. Open the door and loosen the two 7/16" bolts -see locations below.



4. Lift flame shield slightly upwards in keyhole slot and pull it forward and down.

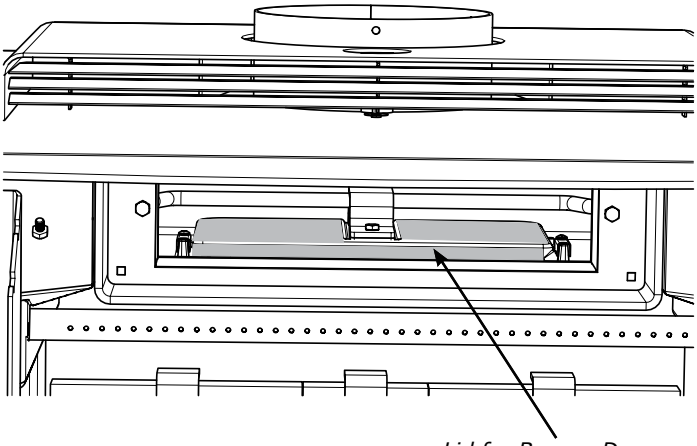
5. Use a pair of pliers and gently slide out the band at each end. The assembly will loosen enough that it can be pulled forward, lowered, and pulled out through the door.



F3500B-1 Airtube

F3500B-1 Airtube Replacement

NOTE: If also replacing the gasket in the bypass door (see next page), remove the lid of the bypass door while it is accessible and complete steps in Bypass Door Gasket Replacement.



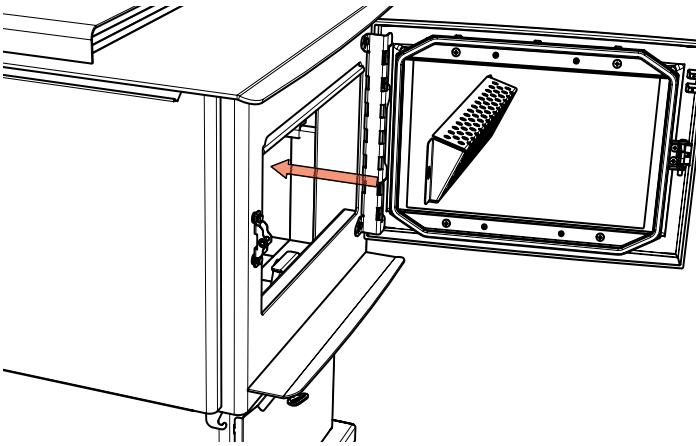
Lid for Bypass Door

TO REPLACE THE COMBUSTOR:

First clean the combustor area and the area around the by-pass,use a vacuum cleaner.

Lift the new combustor into position, with the stainless flanges on each end facing forward.
The combustor should slide easily into position, you may need to pinch down the top center with your finger to start, gently push as far to the back of the stove as possible.

Replace the flame shield in the orientation shown below.



Lift it into position, place the key slot opening over the bolt and push the flame shield down to seat. Tighten the bolt till its SNUG only, do not over tighten. The flame shield should rest at an angle (about 45 degrees) with the thin end at the bottom and the thick end near the top of the stove.

NOTE: Replacement combustors can be retrieved from Applied Ceramics or Contact your local Regency Dealer for details.

DO NOT OPERATE THE APPLIANCE IF COMBUSTOR BECOMES INACTIVE - DO NOT OPERATE WITHOUT COMBUSTOR.

BYPASS DOOR GASKET REPLACEMENT

1. Allow the stove to burn out and cool down, until cool to touch.

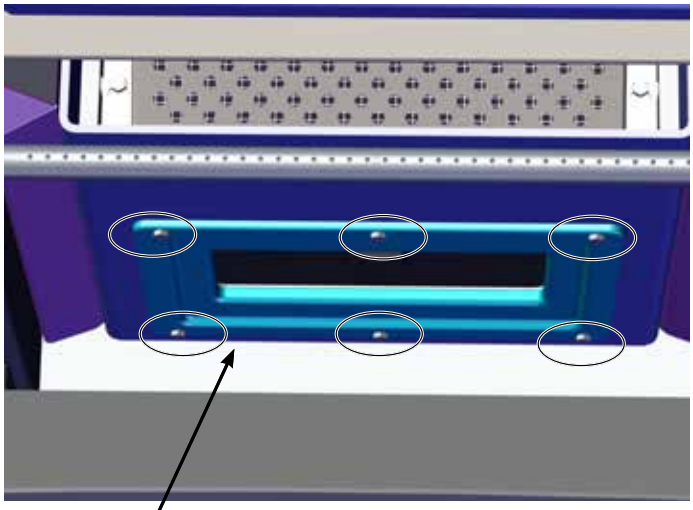
2. Open stove door to access bypass door.



3. Loosen the 3 rear nuts, then remove 3 front nuts. Support the Bypass Door from the front /back and slide forward to remove Bypass Door Assembly.

Note: if any of the bolts become damaged, the bolt bracket assemblies may be replaced—see next page.

Important: Bypass door is very heavy (>18 lbs) - use caution when servicing.



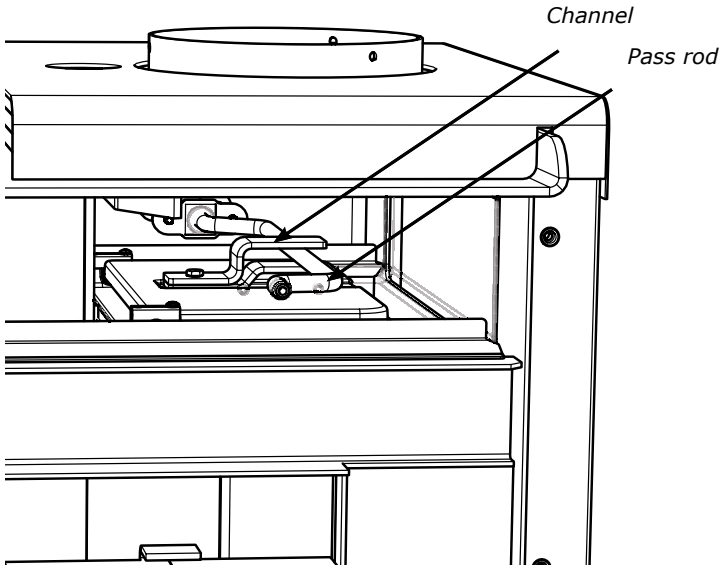
4. Slide bypass door assembly forward, lower complete assembly with care. Lift lid on bypass door assembly to reveal gasket.



5. Remove old gaskets and replace with new ones.



6. Reverse steps to reinstall - ensure the pass rod is seated with the channel on the pass door.
(Unit viewed as transparent to facilitate view)



F3500B-1 Damper Assembly Draft

BYPASS DOOR BOLT BRACKET ASSEMBLY REPLACEMENT

If any of the bolts used to secure the bypass door become damaged - the bypass door bolt bracket assembly can be replaced.

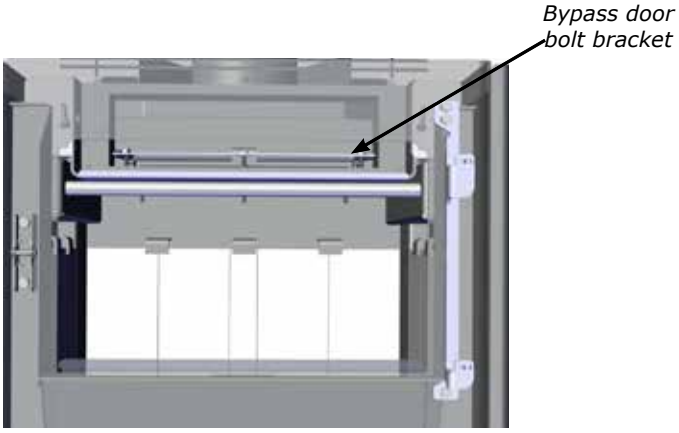
1. Allow the stove to burn out and cool down, until cool to touch.

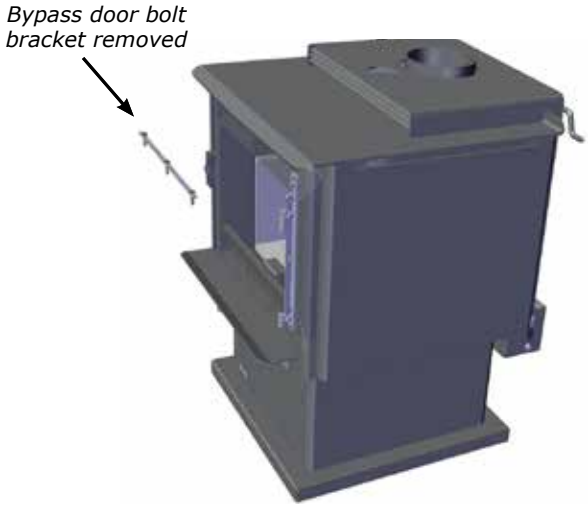
2. Remove bypass door before attempting to remove bolt bracket assembly—see detailed instructions on previous page.

3. Open stove door and remove stainless steel smoke deflector, flame shield and catalytic combustor to access bypass door—see detailed instructions in this manual.

4. Lift out (front or rear) bypass door bolt bracket assembly and replace with a new one.

Note: The rear nuts which are only loosened when removing the by pass door will need to be removed in order to remove the bolt bracket assembly.



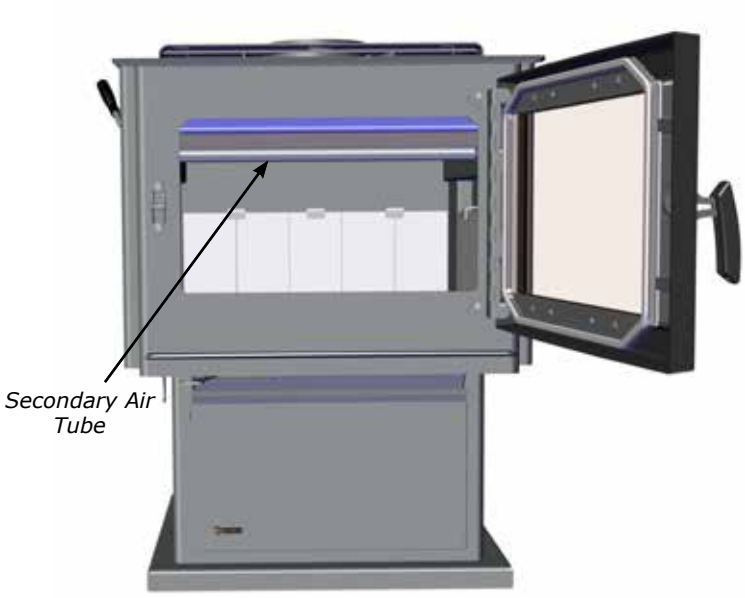


5. Reverse steps to reassemble stove.

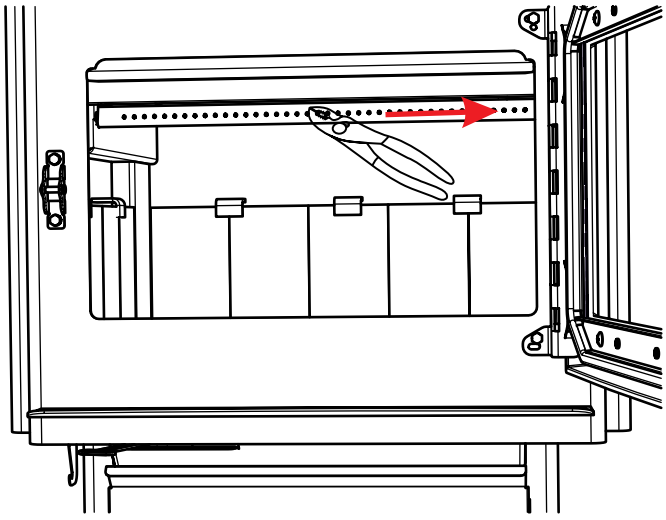
SECONDARY AIR TUBE REMOVAL/ INSTALLATION

1. Allow the stove to burn out and cool down, until cool to touch.

2. Open stove door to access secondary air tube.



3. Grasp secondary air tube firmly with vise grips, using a hammer tap vise grips from right to left until air tube is released from grip. Remove.



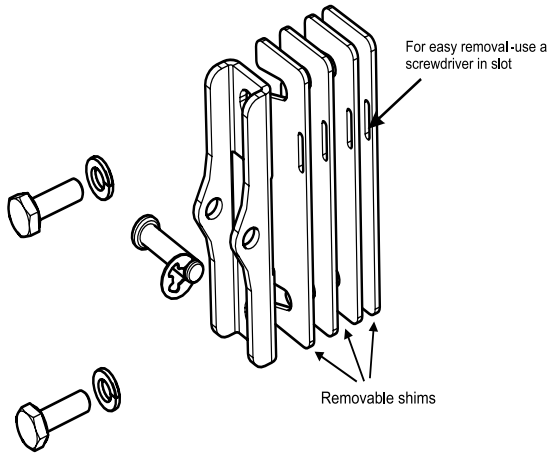
4. To reinstall or replace, first slide left side of tube into hole on left side air channel. Align tab on right side air channel with notch on right hand end of air tube. Firmly grip center of air tube with vise grips, use hammer to tap vise grips from left to right until the tube bottoms out into the air channel on right.

Note: If air tube is locked into place correctly there should be slight movement when moving the air tube back and forth.

DOOR CATCH ADJUSTMENT

After a few fires, the door catch may require adjustment to renew a tight seal, as the door gasket will compress. Removal of a shim, shown in the diagram below, will allow the catch to be moved closer to the door frame, creating a tighter seal.

To remove a shim, loosen the 2 bolts to create clearance behind catch. Place a screwdriver in the slot of the shim and slide out. Retighten bolts.
Note: Keep the shims - they may be required in the future when the gasket is replaced.

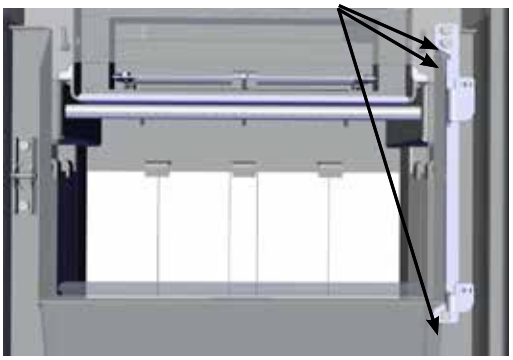


DOOR HINGE ADJUSTMENT

If the door hinge ever requires adjustment, ensure that the bolt is put on hand tight and tightened a further 1/2 turn using a wrench.
Do not overthighten as this can damage the bolt or nutsert.

Note: Some models may only have 1 bolt at the top. This version shows 2 top bolts.

Door Hinge bolts



Annual Maintenance	
Completely clean out entire unit	Annually
Inspect air tube, Catalytic Combustor and bricks	Replace any damaged parts.
Adjust door catch assembly	If unable to obtain a tight seal on the door - replace door gasket seal. Readjust door catch after new gasket installed.
Inspect condition and seal of: Glass Gasket Door Gasket Bypass Door Gasket	Perform paper test - replace gasket if required
Paper Test	Test the seal on the loading door and bypass door with a paper bill. Place a paper bill in the gasket area of the door on a cold stove. Close the door. Try to remove the paper by pulling. The paper should not pull out easily; if it does, try adjusting the door latch (loading door only). If that doesn't solve the problem, replace the door gasket, bypass gasket, or both.
Check and lubricate door hinge + latch	Use only high temperature anti seize lube. (ie. never seize)
Check glass for cracks	Replace if required.
Clean blower motor	Disconnect power supply. Remove and clean blower. ***DO NOT LUBRICATE***
Inspect and clean chimney	Annual professional chimney cleaning recommended.
Thermostat Probe	The thermostat probe that is inserted into the opening, must be cleaned at least once a year. Use 220 sand paper to clean probe.

NOTE:

Chimney Cleaning

When cleaning the chimney system the catalyst should be removed so this can also be cleaned at the same time following the guide lines found in this manual. The bypass should be open so any creosote will fall onto the firebox floor when being cleaned and door closed. The monitor should also be removed when cleaning is being done to prevent damage to the monitor.

We highly recommend that the chimney cleaning be done by a professional as they will have the necessary tools such as a proper sized brush and special vacuum cleaner designed to deal with fine particles.

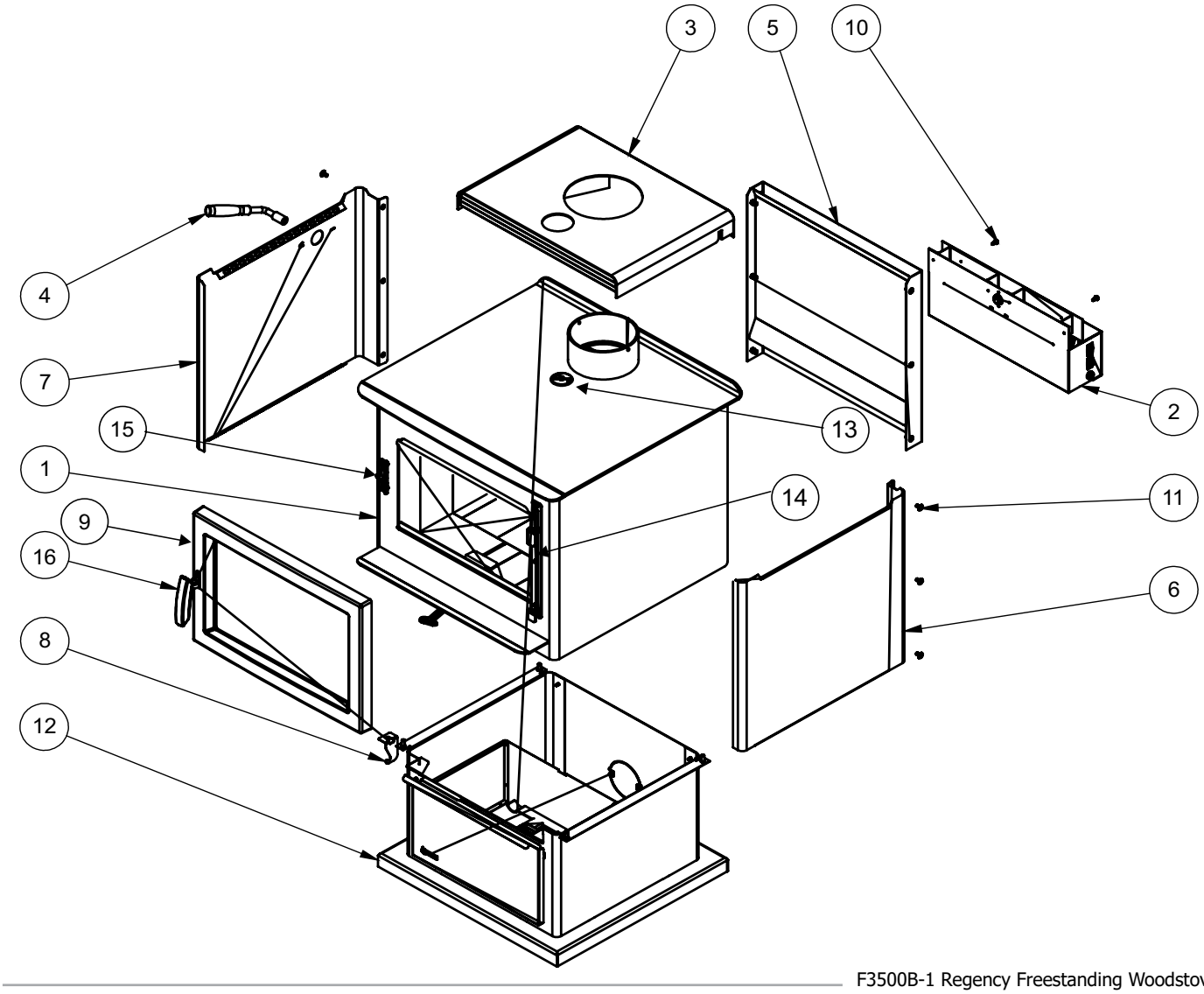
IMPORTANT: Before attempting to loosen or remove any screw, bolt from the interior of a wood stove, insert or factory built fireplace that has had a fire burned in it, we highly recommend to liberally spray the screw/bolt with a good-quality penetrating oil, one that does not have flammable properties contained within the penetrating oil being used. Allow it to set, then tap or vibrate the screw or bolt to help loosen it before attempting to remove it. For best results, follow the instructions that are provided with the penetrating oil.

F3500B-1 STOVE MAIN ASSEMBLY

	Part #	Description
2	846-515	Fan - free standing stove (Optional)
3	042-912	Airmate - medium assembly (Optional)
4	051-538	Removable arm assembly
5	*	Rear Heat Shield Assembly
6	042-029	Classic side heat shield - RH
7	042-028	Classic side heat shield - LH
	910-157/P	Replacement Motor
	910-138	Auto/Manual Switch
	910-140	Hi/Off/Lo switch
	910-142	Fan Thermodisc
	042-035	Flame shield and mixer
	815-557	Rear Deflector
	042-017	Gasket-Firebox Floor
	948-223	Regency Logo Plate

* Not a replacement part

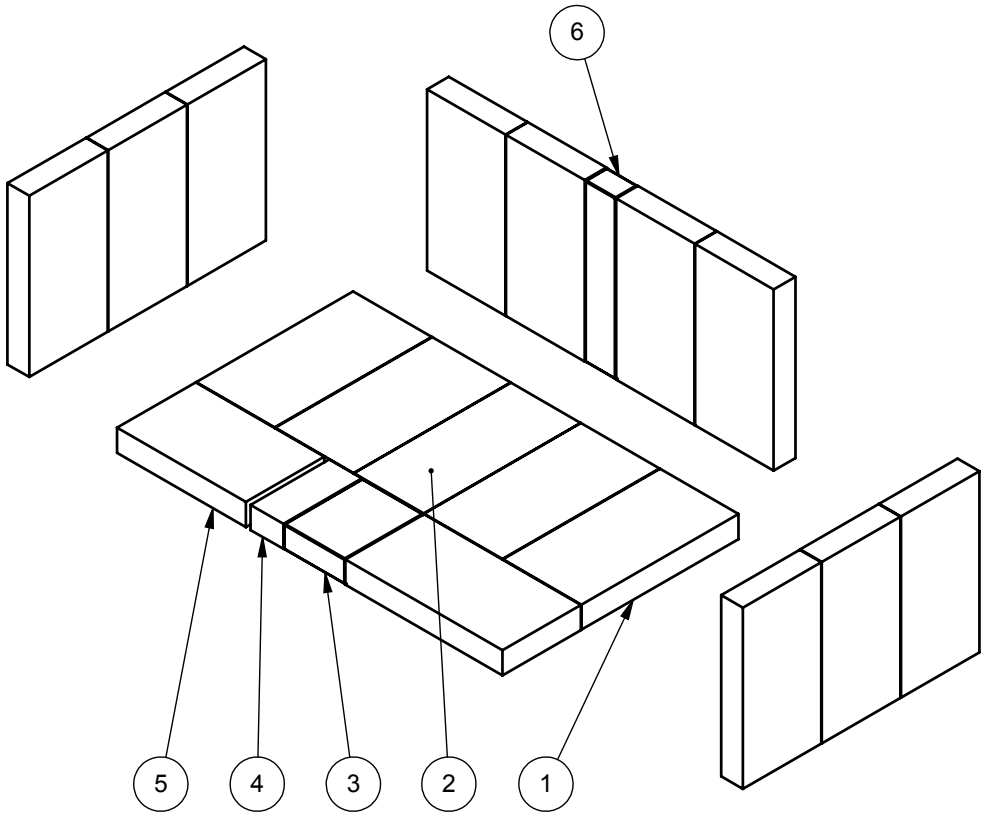
	Part #	Description
8	051-018	Handle holder
9	042-520	Cast door assembly
	051-530	Catalytic Combustor Assembly (not shown)
	033-953	Airtube 1" x 23" long
10	904-245	#10-16 x 1/2" SDS HEX HD
11	904-530	Screw 1/4-20 x 1/2 LG
12	042-915	Pedestal assembly (Required Accessory)
13	051-067	Thermometer
	936-074	Gasket Bypass Door
	042-007	Stainless Steel Smoke Deflector
14	042-509	Door Hinge Assembly
15	156-514	Door Catch assembly
16	156-241	Removable Cast Handle
	042-016	L/R stainless steel firebox filler
	051-085	Gasket Bypass Frame
	051-510	Bypass Frame 3 Bolt Assembly (each)
	919-552	Manual



F3500B-1 STOVE BRICK LAYOUT

042-960 Brick Set Complete

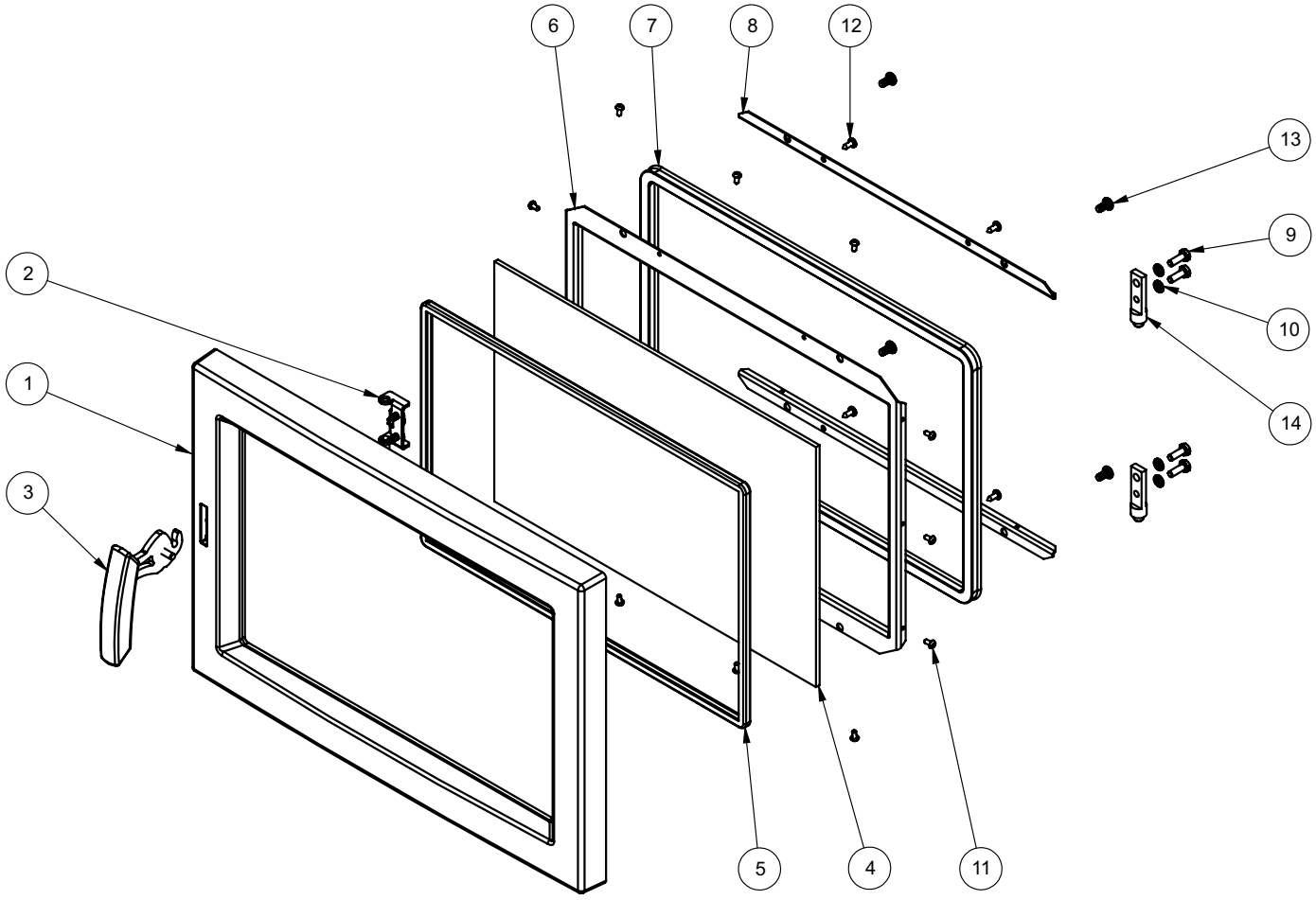
Fire bricks	
#	Size
1	4-1/2" x 9"
2	4" x 9"
3	3-1/2" x 4-1/2"
4	1-3/4" x 4-1/2"
5	4-1/2" x 7-5/8"
6	1-3/4" x 9"



DOOR ASSEMBLY

	Part #	Description
1	042-520	Door cast black (F3500B-1)
2	106-541/P	Aligner assembly
3	156-514	Removable cast handle assembly
4	940-416/P	Door glass (includes glass gasket)
5	846-682	7/8" Window Adhesive Gasket Tape (12') (943-243)
6	042-020	5/8" Gasket Retainer
	106-131F	Door Shims (Each)

	Part #	Description
7	846-530	5/8" Medium Door gasket kit
8	042-021	Gasket bracket
9	904-513	Hex bolt 1/4-20 x 3/4 LG.
10	904-525	Washer 1/4" split lock
11	904-149	SMS #8-18 x 3/8 LG
12	904-146	Screw #10 x 1/2" self tap pan hd philips
13	904-015	1/4-20 x 1/2 pan hd phil
14	948-155	Hinge pin



Limited Lifetime Warranty

FPI Fireplace Products International Ltd. (for Canadian customers) and Fireplace Products U.S., Inc. (for U.S. customers) (collectively referred to herein as "FPI") extends this Limited Lifetime Warranty to the original purchaser of this appliance provided the product remains in the original place of installation. The items covered by this limited warranty and the period of such coverage is set forth in the table below.

Some conditions apply (see below).

The policy is not transferable, amendable, or negotiable under any circumstances.

Wood Products	Component Coverage					Labor Coverage
Components Covered	Limited Lifetime	5 years	2 years	1 year	Warranty	(Years)
Welded Firebox Steel	✓					5
All Stainless Steel Components, Smoke Deflectors, Heat Shields etc.	✓					3
Air Tubes	✓					3
Airmate	✓					3
Door handle and latch assembly, all hardware	✓					3
Glass Thermal Breakage Only	✓					3
Steel Faceplates, Accessory Housings	✓					3
All Plating	✓					3
Ash Drawer, Heatshields, Pedestal	✓					
All Baffles, Steel, Ceramic, Vermiculite C-Baffles	✓					
All castings, firebox, surrounds, doors, panels etc.		✓				3
All Electrical, Blower, wiring, switches etc.			✓			2
Glass - Crazing				✓		1
Catalyst Combustor					*10 Years Prorated	
Venting/Chimney				✓		1
Screens				✓		1

*See specific warranty details in regards to the catalyst combustor in unit manual.

Conditions:

Warranty protects against defect in manufacture or FPI factory assembled components only, unless herein specified otherwise.

Any part(s) found to be defective during the warranty period as outlined above will be repaired or replaced at FPI's option through an accredited distributor, dealer or pre-approved and assigned agent provided that the defective part is returned to the distributor, dealer or agent for inspection if requested by FPI. Alternatively, FPI may at its own discretion fully discharge all of its obligations under the warranty by refunding the verified purchase price of the product to the original purchaser. The purchase price must be confirmed by the original Bill of Sale.

The authorized selling dealer, or an alternative authorized FPI dealer if pre-approved by FPI, is responsible for all in-field diagnosis and service work related to all warranty claims. FPI is not responsible for results or costs of workmanship of unauthorized FPI dealers or agents in the negligence of their service work.
At all times FPI reserves the right to inspect reported complaints on location in the field claimed to be defective prior to processing or authorizing of any claim. Failure to allow this upon request will void the warranty.

All warranty claims must be submitted by the dealer servicing the claim, including a copy of the Bill of Sale (proof of purchase by you). All claims must be complete and provide full details as requested by FPI to receive consideration for evaluation. Incomplete claims may be rejected.

Replacement units are limited to one per warranty term. Airtube and baffle replacements are limited to one replacement per term.

Unit must be installed according to all manufacturers' instructions as per the manual.

All Local and National required codes must be met.

The installer is responsible to ensure the unit is operating as designed at the time of installation.

The original purchaser is responsible for annual maintenance of the unit, as outlined in the owner's manual. As outlined below, the warranty may be voided due to problems caused by lack of maintenance.

Repair/replacement parts purchased by the consumer from FPI after the original coverage has expired on the unit will carry a 90 day warranty, valid with a receipt only. Any item shown to be defective will be repaired or replaced at our discretion. No labor coverage is included with these parts.

Exclusions:
This Limited Lifetime Warranty does not extend to rust or corrosion of any kind due to: a lack of maintenance or improper venting, lack of combustion air provision, or exposure to corrosive chemicals (i.e. chlorine, salt, air, etc.).

This Limited Lifetime Warranty also does not extend to: paint, firebricks (rear, sides, or bottom), door gasketing, glass gasketing (or any other additional factory fitted gasketing), vermiculite floor bricks, andiron assemblies, and flue damper rods.

Malfunction, damage or performance based issues as a result of environmental conditions, location, chemical damages, downdrafts, installation error, installation by an unqualified installer, incorrect chimney components (including but not limited to cap size or type), operator error, abuse, misuse, use of improper fuels (such as unseasoned cordwood, mill-ends, construction lumber or debris, off-cuts, treated or painted lumber, metal or foil, plastics, garbage, solvents, cardboard, coal or coal products, oil based products, waxed cartons, compressed pre-manufactured logs, kiln dried wood), lack of regular maintenance and upkeep, acts of God, weather related problems from hurricanes, tornados, earthquakes, floods, lightning strikes/bolts or acts of terrorism or war, which result in malfunction of the appliance are not covered under the terms of this Limited Lifetime Warranty.

FPI has no obligation to enhance or modify any unit once manufactured (i.e. as products evolve, field modifications or upgrades will not be performed on existing appliances).

This warranty does not cover dealer travel costs for diagnostic or service work. All labor rates paid to authorized dealers are subsidized, pre-determined rates. Dealers may charge homeowner for travel and additional time beyond their subsidy.

Any unit showing signs of neglect or misuse will not be covered under the terms of this warranty policy and may void this warranty. This includes units with rusted or corroded fireboxes which have not been reported as rusted or corroded within three (3) months of installation/purchase.

Units which show evidence of being operated while damaged, or with problems known to the purchaser and causing further damages will void this warranty.

Units where the serial no. has been altered, deleted, removed or made illegible will void this warranty.

Minor movement, expansion and contraction of the steel is normal and is not covered under the terms of this warranty.

FPI is not liable for the removal or replacement of facings or finishing in order to repair or replace any appliance in the field.

Freight damages for products or parts are not covered under the terms of the warranty.

Products made or provided by other manufacturers and used in conjunction with the FPI appliance without prior authorization from FPI may void this warranty.

Limitations of Liability:
The original purchaser's exclusive remedy under this warranty, and FPI's sole obligation under this warranty, express or implied, in contract or in tort, shall be limited to replacement, repair, or refund, as outlined above. IN NO EVENT WILL FPI BE LIABLE UNDER THIS WARRANTY FOR ANY INCIDENTAL OR CONSEQUENTIAL COMMERCIAL DAMAGES OR DAMAGES TO PROPERTY. TO THE EXTENT PERMITTED BY APPLICABLE LAW, FPI MAKES NO EXPRESS WARRANTIES OTHER THAN THE WARRANTY SPECIFIED HEREIN. THE DURATION OF ANY IMPLIED WARRANTY IS LIMITED TO DURATION OF THE EXPRESSED WARRANTY SPECIFIED ABOVE. IF IMPLIED WARRANTIES CANNOT BE DISCLAIMED, THEN SUCH WARRANTIES ARE LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some U.S. states do not allow limitations on how long an implied warranty lasts, or allow exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

Customers located outside the U.S. should consult their local, provincial or national legal codes for additional terms which may be applicable to this warranty.

How to Obtain Warranty Service:
Customers should contact the authorized selling dealer to obtain all warranty and service. In the event the authorized selling dealer is unable to provide warranty / service, please contact FPI by mail at the address listed on the next page. Please include a brief description of the problem and your address, email and telephone contact information. A representative will contact you to make arrangements for an inspection and/or warranty service, by an alternative dealer.

Product Registration and Customer Support:
Thank you for choosing a Regency Fireplace. Regency strives to be a world leader in the design, manufacture, and marketing of hearth products. To provide the best support for your product, we request that you complete a product registration form at http://www.regency-fire.com/Customer-Care/Warranty-Registration.aspx within ninety (90) days of purchase.

REGENCY
FIREPLACE PRODUCTS

Product Registration and Customer Support:

Thank you for choosing a Regency Fireplace. Regency strives to be a world leader in the design, manufacture, and marketing of hearth products. To provide the best support for your product, we request that you complete a product registration form found on our Web Site under Customer Care within ninety (90) days of purchase.

For purchases made in **CANADA or the UNITED STATES**:
http://www.regency-fire.com/Customer-Care/Warranty-Registration.aspx

For purchases made in AUSTRALIA:
http://www.regency-fire.com.au/Customer-Care/Warranty-Registration.aspx

You may also complete the warranty registration form below to register your Regency Fireplace Product and mail and/or fax it back to us, and we will register the warranty for you. It is important you provide us with all the information below in order for us to serve you better.

Warranty Registration Form (or Register online immediately at the above Web Site):

Warranty Details	
Serial Number (required):	
Purchase Date (required) (mm/dd/yyyy):	
Product Details	
Product Model (required):	
Dealer Details	
Dealer Name (required):	
Dealer Address:	
Dealer Phone #:	
Installer:	
Date Installed (mm/dd/yyyy):	
Your Contact Details (required)	
Name:	
Address:	
Phone:	
Email:	

For purchases made in CANADA:

FPI Fireplace Products International Ltd.
6988 Venture St.
Delta, British Columbia
Canada, V4G 1H4

Phone: 604-946-5155
Fax: 1-866-393-2806

For purchases made in the UNITED STATES:

Fireplace Products US, Inc.
PO Box 2189 PMB 125
Blaine, WA
United States, 98231

Phone: 604-946-5155
Fax: 1-866-393-2806

For purchases made in AUSTRALIA:

Fireplace Products Australia Pty Ltd
99 Colemans Road
Dandenong South, Vic. 3175
Australia

Phone: +61 3 9799 7277
Fax: +61 3 9799 7822

For fireplace care and tips and answers to most common questions please visit our Customer Care section on our Web Site. Please feel free to contact your selling dealer if you have any questions about your Regency product.

CATALYTIC COMBUSTOR WARRANTY COVERAGE

IMPORTANT WARRANTY INFORMATION FOR CATALYTIC COMBUSTOR
Effective March 1 2019

Any and all claims for catalytic combustor must be filed **by the consumer** directly with their authorized Regency Dealer. FPI/Regency does not handle these claims directly with consumers.

Please follow the instructions below for your catalytic combustor under warranty. To learn more about the care and maintenance or the catalytic combustor, please visit our website: www.firecatcombustors.com.

Any warranty coverage before this date will be covered by the original warranty when the appliance was purchased.

(1) **10-year** coverage from Regency – not the supplier of the catalytic combustor.

(2) All claims must be made through the dealer where the appliance had been purchased.

(3) One no-charge replacement at any time within the **ten (10) year** period.

(4) Second replacement at 50% off retail* within the original **ten (10) years**.

(5) Subsequent replacements or if **ten (10)-year** coverage has expired at full retail* price.

(6) The catalytic combustor must not have been mechanically abused, nor must the wrong fuels have been used in the appliance.

(7) All claims must be accompanied by clear photos of the catalytic combustor showing all damage and also showing existing internal venting from the stove.

The consumer will be responsible for removal, any servicing. This warranty is REGENCY® exclusive warranty and REGENCY® disclaims any other express or implied warranty for the catalytic combustor, including any warranty or merchantability of fitness for a particular use.
NO LABOR WILL APPLY.

All warranty claims must be sent to: Regency Fireplace Products
By Authorized Regency Dealer

* Prices subject to change.
Regency reserves the right to reject any claim if it is determined the damage is a result of misuse, abuse or improper cleaning/ handling.

Installer: Please complete the following information

Dealer Name & Address: _____

_____

Installer: _____

Phone #: _____

Date Installed: _____

Serial #: _____

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Printed in Canada

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: DIRI0182484A0912013i221214

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**
kg	0.01	QC033	12/14/22	1/27/22	12/2023

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:☐	
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	Temperature: 18.6°C

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
200	200.00	200.00	0.005
120	100.00	100.00	0.005
80	80.00	80.00	0.005
40	40.00	40.00	0.005
20	20.00	20.00	0.005
10	10.00	10.00	0.005

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Weight Set	R.L./Troemner	10kg to 1mg	G782	4/14/22	4/2023	20220751
Weight Set	Rice Lake	.001 to 10lb	PW0990	1/19/21	1/2023	20202519

Permanent Information Concerning this Equipment:

Comments/Information Concerning this Calibration

12/22: RH-46.7%

Report prepared/reviewed by: KD **Date:** 12/14/22 **Technician:** Ke Dexter

Signature:

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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.

Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	XC-60
Lab ID #:	53
Serial #:	1902130
Calibration Date:	1/26/2023
Calibration Expiration:	7/26/2023
Barometric Pressure:	30.51 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	Fluke	Aquatech	Dwyer
Model:	SK25DA	52 II	DBX2	475
Lab ID#:	47	196	202	174
Calibration Expiration Date:	3/30/2023	11/29/2023	4/16/2023	3/29/2023
Calibration γ Factor:	0.9978			

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)	149.049	145.786	156.580
Standard DGM Temperature (°F)	64.0	64.0	64.0
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)	5.425	5.311	5.765
DGM Temperature (°F)	89.0	92.0	94.0
DGM Pressure (in H_2O)	2.00	3.50	1.2
Net Volume for Standard DGM (ft^3)	5.264	5.148	5.530
Net Volume for DGM (ft^3)	5.425	5.311	5.765

Dry Gas Meter γ Factor	1.009	1.010	1.009
γ Factor Deviation From Average	1.009	1.010	1.009

Average Gas Meter γ Factor: 1.010

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:

Report and Certificate of Calibration

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Address 5777 SE International Way Milwaukie, OR 97222

Local 503-654-9620

ACCREDITED CERT #4986.01

Report #:	28140-203323-14	**Customer PO#:** 1090	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212 Ste 305		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	Aaron Kravitz		
Service Address:	11785 SE Highway 212 Ste 305	Clackamas, OR 97015	

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
LA-01776 | Pressure Transducer | Fluke | SN: 5956001 | Cal: 11/25/2022 | Due: 11/25/2023 | Range: 10 in H2O | Report #: EVL846346

Instrument Data

Calibration Date:	March 1, 2023	**Reference:**	ASME B40.100
Recommended Due Date:	March 1, 2024	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Unknown	**Temperature:**	69 °F
Type:	Pressure Transducer	**Humidity:**	36% RH
Model Number:	Unknown	**Cal Factor:**	None
Serial #:	Unknown	**Asset #:**	53B
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:** 0.01 **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	0.01	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	0.005
0.50	0.50	0.50	0.00	0.50	0.00	0.01	0.005
0.75	0.75	0.75	0.00	0.75	0.00	0.01	0.005
1.00	1.00	1.00	0.00	1.00	0.00	0.01	0.005
0.75	0.75	0.75	0.00	0.75	0.00	0.01	0.005
0.50	0.50	0.50	0.00	0.50	0.00	0.01	0.005
0.25	0.25	0.25	0.00	0.25	0.00	0.01	0.005
0.10	0.10	0.10	0.00	0.10	0.00	0.01	0.005
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.005

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Manufacturer: Unknown **Type:** Pressure Transducer **Serial #:** Unknown

Remarks:

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Cal-Cert is accredited by A2LA under Calibration Laboratory Code #4986.01.
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Service Engineer: Jon Rau **Date:** March 1, 2023

Technical Manager: Marshall Doyle **Signature:** 

Report #: 28140-203323-14

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A2LA ACCREDITED CERT #4986.01

Report #:	28140-203324-14	**Customer PO#:**	1090		
Customer Name:	PFS TECO				
Customer Address:	11785 SE Highway 212 Ste 305				
City:	Clackamas	**State:**	OR	**Zip:**	97015
Contact:	Aaron Kravitz				
Service Address:	11785 SE Highway 212 Ste 305	Clackamas, OR 97015			

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
LA-01776 | Pressure Transducer | Fluke | SN: 5956001 | Cal: 11/25/2022 | Due: 11/25/2023 | Range: 10 in H2O | Report #: EVL846346

Instrument Data

Calibration Date:	March 1, 2023	**Reference:**	ASME B40.100
Recommended Due Date:	March 1, 2024	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Newport	**Temperature:**	73 °F
Type:	Pressure Transducer	**Humidity:**	30% RH
Model Number:	Unknown	**Cal Factor:**	None
Serial #:	Unknown	**Asset #:**	53C
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	0.50	0.00	0.05	0.005
1.25	1.25	1.25	0.00	1.25	0.00	0.05	0.005
2.50	2.50	2.50	0.00	2.50	0.00	0.05	0.006
3.75	3.75	3.75	0.00	3.75	0.00	0.05	0.007
5.00	5.00	5.00	0.00	5.00	0.00	0.05	0.008
3.75	3.75	3.75	0.00	3.75	0.00	0.05	0.007
2.50	2.50	2.50	0.00	2.50	0.00	0.05	0.006
1.25	1.25	1.25	0.00	1.25	0.00	0.05	0.005
0.50	0.50	0.50	0.00	0.50	0.00	0.05	0.005
0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.005

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Manufacturer: Newport **Type:** Pressure Transducer **Serial #:** Unknown

Remarks:

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Service Engineer: Jon Rau **Date:** March 1, 2023

Technical Manager: Marshall Doyle **Signature:** 

Report #: 28140-203324-14

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Local 503-654-9620

A2LA ACCREDITED CERT #4986.01

Report #: 26398-201253-5 **Customer PO#:** 1079
Customer Name: PFS TECO
Customer Address: 11785 SE Highway 212
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: 11/25/2020 | Due: 11/30/2022 | Vendor: BHD Test and Measurement | Report #: 112520A
LP-01346 | Thermo-Hygrometer | Comark | SN: 06210350198 | Cal: 02/07/2022 | Due: 02/28/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 22748-67215-3486

Instrument Data

Calibration Date:	October 21, 2022	**Reference:**	ASME B89.1.14 2018
Calibration Due Date:	October 21, 2023	**Cal-Cert Procedure:**	CP-008
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Mitutoyo	**Temperature:**	69 °F
Type:	Digital Caliper	**Humidity:**	38% 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	0.0500	0.0500	0.0500	0.0010
0.3000	0.3000	0.3000	0.3000	0.0010
0.6000	0.6005	0.6005	0.6005	0.0010
1.2000	1.2000	1.2000	1.2000	0.0010
2.4000	2.4005	2.4005	2.4005	0.0010
3.5000	3.5000	3.5000	3.5000	0.0010
5.0000	5.0005	5.0005	5.0005	0.0010
6.0000	6.0005	6.0005	6.0005	0.0010

Expanded Uncertainty ± 0.00036 Inches

Verifications (for information only)

	Target	Measured	Tolerance ±
Resolution Check	0.1005	0.10050	N/A
Depth	1.000	1.00000	N/A
Step	1.000	1.00000	N/A
Inside Jaws	1.000	1.00000	N/A

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.
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Service Engineer: Cameron Walling **Date:** October 21, 2022

Technical Manager: Marshall Doyle **Signature:**

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Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	XC-60
Lab ID #:	54
Serial #:	1902133
Calibration Date:	1/26/2023
Calibration Expiration:	7/26/2023
Barometric Pressure:	30.49 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	Fluke	Aquatech	Dwyer
Model:	SK25DA	52 II	DBX2	475
Lab ID#:	47	196	202	174
Calibration Expiration Date:	3/30/2023	11/29/2023	4/16/2023	3/29/2023
Calibration γ Factor:	0.9978			

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)	160.750	154.658	151.064
Standard DGM Temperature (°F)	64.0	65.0	66.0
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)	5.962	5.736	5.621
DGM Temperature (°F)	97.0	96.0	97.0
DGM Pressure (in H_2O)	3.00	2.00	1.0
Net Volume for Standard DGM (ft^3)	5.677	5.462	5.335
Net Volume for DGM (ft^3)	5.962	5.736	5.621

Dry Gas Meter γ Factor	1.003	1.001	1.000
γ Factor Deviation From Average	1.003	1.001	1.000

Average Gas Meter γ Factor: 1.001

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:

Report and Certificate of Calibration

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CERT #4986.01

Report #:	28140-203325-14	**Customer PO#:** 1090	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212 Ste 305		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	Aaron Kravitz		
Service Address:	11785 SE Highway 212 Ste 305	Clackamas, OR 97015	

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
LA-01776 | Pressure Transducer | Fluke | SN: 5956001 | Cal: 11/25/2022 | Due: 11/25/2023 | Range: 10 in H2O | Report #: EVL846346

Instrument Data

Calibration Date:	March 1, 2023	**Reference:**	ASME B40.100
Recommended Due Date:	March 1, 2024	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Newport	**Temperature:**	68 °F
Type:	Pressure Transducer	**Humidity:**	37% RH
Model Number:	Unknown	**Cal Factor:**	None
Serial #:	Unknown	**Asset #:**	54B
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:** 0.01 **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	0.01	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	0.005
0.50	0.50	0.50	0.00	0.50	0.00	0.01	0.005
0.75	0.75	0.75	0.00	0.75	0.00	0.01	0.005
1.00	0.99	0.99	-0.01	0.99	-0.01	0.01	0.005
0.75	0.75	0.75	0.00	0.75	0.00	0.01	0.005
0.50	0.50	0.50	0.00	0.50	0.00	0.01	0.005
0.25	0.25	0.25	0.00	0.25	0.00	0.01	0.005
0.10	0.10	0.10	0.00	0.10	0.00	0.01	0.005
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.005

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Manufacturer: Newport **Type:** Pressure Transducer **Serial #:** Unknown

Remarks:

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Service Engineer: Jon Rau **Date:** March 1, 2023

Technical Manager: Marshall Doyle **Signature:** 

Report #: 28140-203325-14

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Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	XC-50-DIR
Lab ID #:	203
Serial #:	A2204292
Calibration Date:	1/26/2023
Calibration Expiration:	7/26/2023
Barometric Pressure:	30.50 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	Fluke	Aquatech	Dwyer
Model:	SK25DA	52 II	DBX2	475
Lab ID#:	47	196	202	174
Calibration Expiration Date:	3/30/2023	11/29/2023	4/16/2023	3/29/2023
Calibration γ Factor:	0.9978			

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)	230.939	193.894	200.071
Standard DGM Temperature (°F)	66.0	66.0	66.0
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)	8.610	7.251	7.491
DGM Temperature (°F)	92.0	92.0	91.0
DGM Pressure (in H_2O)	2.56	1.30	0.8
Net Volume for Standard DGM (ft^3)	8.156	6.847	7.065
Net Volume for DGM (ft^3)	8.610	7.251	7.491

Dry Gas Meter γ Factor	0.986	0.986	0.984
γ Factor Deviation From Average	0.986	0.986	0.984

Average Gas Meter γ Factor: 0.985

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 800-356-4662

Address 5777 SE International Way Milwaukie, OR 97222

Local 503-654-9620

A2LA ACCREDITED CERT #4986.01

Report #:	28140-203319-14	**Customer PO#:** 1090	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212 Ste 305		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	Aaron Kravitz		
Service Address:	11785 SE Highway 212 Ste 305	Clackamas, OR 97015	

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
LA-01776 | Pressure Transducer | Fluke | SN: 5956001 | Cal: 11/25/2022 | Due: 11/25/2023 | Range: 10 in H2O | Report #: EVL846346

Instrument Data

Calibration Date:	March 1, 2023	**Reference:**	ASME B40.100
Recommended Due Date:	March 1, 2024	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Red Lion	**Temperature:**	69 °F
Type:	Pressure Transducer	**Humidity:**	35% 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	0.100	0.100	0.00	0.100	0.00	0.01	0.0005
0.250	0.250	0.250	0.00	0.250	0.00	0.01	0.0006
0.500	0.500	0.500	0.00	0.500	0.00	0.01	0.0008
0.750	0.750	0.750	0.00	0.750	0.00	0.01	0.001
1.000	1.000	1.000	0.00	1.000	0.00	0.01	0.0012
0.750	0.750	0.750	0.00	0.750	0.00	0.01	0.001
0.500	0.500	0.500	0.00	0.500	0.00	0.01	0.0008
0.250	0.250	0.250	0.00	0.250	0.00	0.01	0.0006
0.100	0.100	0.100	0.00	0.100	0.00	0.01	0.0005
0.000	0.000	0.000	0.00	0.000	0.00	0.01	0.0005

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Manufacturer: Red Lion **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: Jon Rau **Date:** March 1, 2023

Technical Manager: Marshall Doyle **Signature:** 

Report #: 28140-203319-14

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Local 503-654-9620

A2LA ACCREDITED CERT #4986.01

Report #:	28140-203320-14	**Customer PO#:** 1090	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212 Ste 305		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	Aaron Kravitz		
Service Address:	11785 SE Highway 212 Ste 305	Clackamas, OR 97015	

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
LA-01776 | Pressure Transducer | Fluke | SN: 5956001 | Cal: 11/25/2022 | Due: 11/25/2023 | Range: 10 in H2O | Report #: EVL846346

Instrument Data

Calibration Date:	March 1, 2023	**Reference:**	ASME B40.100
Recommended Due Date:	March 1, 2024	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Red Lion	**Temperature:**	73 °F
Type:	Pressure Transducer	**Humidity:**	30% 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	0.50	0.00	0.05	0.005
1.25	1.25	1.25	0.00	1.25	0.00	0.05	0.005
2.50	2.50	2.50	0.00	2.50	0.00	0.05	0.006
3.75	3.75	3.75	0.00	3.75	0.00	0.05	0.007
5.00	5.00	5.00	0.00	5.00	0.00	0.05	0.008
3.75	3.75	3.75	0.00	3.75	0.00	0.05	0.007
2.50	2.50	2.50	0.00	2.50	0.00	0.05	0.006
1.25	1.25	1.25	0.00	1.25	0.00	0.05	0.005
0.50	0.50	0.50	0.00	0.50	0.00	0.05	0.005
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:

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.

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Service Engineer: Jon Rau **Date:** March 1, 2023

Technical Manager: Marshall Doyle **Signature:** 

Report #: 28140-203320-14

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Local 503-654-9620

A2LA ACCREDITED CERT #4986.01

Report #:	28140-203326-14	**Customer PO#:** 1090	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212 Ste 305		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	Aaron Kravitz		
Service Address:	11785 SE Highway 212 Ste 305	Clackamas, OR 97015	

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
LA-01776 | Pressure Transducer | Fluke | SN: 5956001 | Cal: 11/25/2022 | Due: 11/25/2023 | Range: 10 in H2O | Report #: EVL846346

Instrument Data

Calibration Date:	March 1, 2023	**Reference:**	ASME B40.100
Recommended Due Date:	March 1, 2024	**Cal-Cert Procedure:**	CP-003
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Newport	**Temperature:**	73 °F
Type:	Pressure Transducer	**Humidity:**	30% 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	0.50	0.00	0.05	0.005
1.25	1.25	1.25	0.00	1.25	0.00	0.05	0.005
2.50	2.50	2.50	0.00	2.50	0.00	0.05	0.006
3.75	3.75	3.75	0.00	3.75	0.00	0.05	0.007
5.00	5.00	5.00	0.00	5.00	0.00	0.05	0.008
3.75	3.75	3.75	0.00	3.75	0.00	0.05	0.007
2.50	2.50	2.50	0.00	2.50	0.00	0.05	0.006
1.25	1.25	1.25	0.00	1.25	0.00	0.05	0.005
0.50	0.50	0.50	0.00	0.50	0.00	0.05	0.005
0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.005

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Manufacturer: Newport **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.
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Service Engineer: Jon Rau **Date:** March 1, 2023

Technical Manager: Marshall Doyle **Signature:** 

Report #: 28140-203326-14

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Dry Gas Meter Calibration

DUT	
Manufacturer:	APEX
Model:	Apex-AK-600
Lab ID #:	55
Serial #:	810016
Calibration Date:	1/27/2023
Calibration Expiration:	7/27/2023
Barometric Pressure:	30.15 in. Hg

Equipment Used:	Ref. Std. DGM	Thermometer	Barometer	Manometer
Manufacturer:	Apex	Fluke	Aquatech	Dwyer
Model:	SK25DA	52 II	DBX2	475
Lab ID#:	47	196	202	174
Calibration Expiration Date:	3/30/2023	11/29/2023	4/16/2023	3/29/2023
Calibration γ Factor:	0.9978			

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)	155.374	168.471	375.274
Standard DGM Temperature (°F)	65.0	66.0	67.0
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)	5.505	5.830	13.012
DGM Temperature (°F)	73.0	74.0	75.0
DGM Pressure (in H_2O)	0.50	0.50	0.5
Net Volume for Standard DGM (ft^3)	5.487	5.949	13.253
Net Volume for DGM (ft^3)	5.505	5.830	13.012

Dry Gas Meter γ Factor	1.008	1.032	1.030
γ Factor Deviation From Average	1.008	1.032	1.030

Average Gas Meter γ Factor: 1.024

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

Report and Certificate of Calibration

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CALIBRATION CERTIFICATION

Portland Laboratory
5777 SE International Way
Milwaukie, OR 97222
800-356-4662
503-654-9620

Anaheim Laboratory
120 S. Chaparral Ct Suite 110
Anaheim Hills, CA 92808
888-700-4100
714-696-5300

www.Cal-Cert.com

Report #:	25314-28785-47	**Customer PO#:** 1073	
Customer Name:	PFS TECO		
Customer Address:	11785 SE Highway 212		
City:	Clackamas	**State:** OR	**Zip:** 97015
Contact:	John Steinert		
Service Address:	120 S. Chaparral Court, Suite 110	Anaheim Hills, CA 92808	

Calibration Standards

2-01754 | Thermo-Hygrometer | Comark | SN: 06257740553 | Cal: 08/12/2022 | Due: 07/31/2023 | Report #: 25476-198970-3646
ACS318 | Electrical Meter | Fluke | SN: 895650804 | Cal: 06/26/2022 | Due: 06/30/2024 | Vendor: Fluke | Range: Various | Report #: EVL809627
ACS403 | Electrical Meter | Extech | SN: H241956 | Cal: 04/02/2022 | Due: 04/30/2023 | Vendor: Associated Calibration Inc. | Range: 11111110 Ohms | Report #: 23340-70023-1546

Instrument Data

Calibration Date:	August 19, 2022	**Reference:**	Manufactures Tolerances
Recommended Due Date:	August 19, 2023	**Cal-Cert Procedure:**	CP-080
Calibration Frequency:	12 Months	**Indicating System:**	Gauge
Manufacturer:	Delmhorst	**Temperature:**	71.9 °F
Type:	Resistivity Meter	**Humidity:**	48% RH
Model Number:	MCS-1	**Asset #:**	#094
Serial #:	#094	**Service Location:**	Cal-Cert Lab
Capacity:	120 Megaohms	**As Found:**	Pass
Tolerance:	5.00 % of indication	**As Left:**	Pass

Instrument Range: 120 Megaohms **Resolution:** N/A **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
120.000	121.20	121.20	1.200	121.31	1.310
0.000	0.000	0.000	0.000	0.000	0.000
0.000	0.000	0.000	0.000	0.000	0.000

Expanded Uncertainty± **2.50 Megaohms**

Remarks:

We sincerely thank you for your business. Please call us at 714-696-5300 for all your sales and calibration needs.
Cleaning and preventative maintenance were performed as part of this service.

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Service Engineer:	Michael Rondeau	**Date:**	August 19, 2022
Technical Manager:	Marshall Doyle	**Signature:**	

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CERTIFICATE OF CALIBRATION

CUSTOMER:	**PFS-TECO :** CLACKAMAS, OR	**CALIBRATION DATE:**	05/03/2022
PO NUMBER:	1071	**CALIBRATION DUE:**	05/03/2023
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 51% RH 72°F
UNCERTAINTY GIVEN:	± 0.43% RD ; k=2	**CERTIFICATE FILE #:**	490265.2021

NOTES: ± 3% FS (0-500 / 0-1500) *** ± 4% F.S. (0-5000) ***± 5% F.S. (0-15000) *** ± 2 °F

Q.MANUAL IM 2.0 REV 2020.2 DATED 7-27-2020 ** DECISION RULE : NO PFA%**

UUT INDICATED FT/MIN	DM.STD. ACTUAL FT/MIN	UUT INDICATED DEG. F	DM STD. ACTUAL DEG. F
65	68	0 TO 200°F	0 TO 200°F
129	133	45.1	44.2
260	266	71.7	70.9
498	509	99.3	98.5
526	534		
1039	1058		
1484	1517		
523	534		
3076	3151		
4998	5127		
6752	6907		
14679	15068		

STANDARDS USED:		
A24: HART SCIENTIFIC TEMP. STANDARD | ± 0.024 F | TRACE# 1617259390	DUE	04/12/2023
A800: FLOW-DYNE SONIC NOZZLE SYSTEM | 0 – 1086 CFM ± 0.46% RD. | TRACE# 1329407628, 89576, 152043238	DUE	12/10/2022

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: 05/03/2022 Approved By: [signature] Cal. Technician: D.C

Calibrated at: ✓ Lab ___ On-Site (Customer's)

Certificate of Calibration

Certificate Number: 743892

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

PFS TECO
11785 SE Hwy 212
Suite 305
Clackamas, OR 97015

ACCREDITED
0723.01
Calibration

PO: 1033
Order Date: 03/08/2021
Authorized By: N/A

Property #: 097
User: N/A
Department: N/A
Make: Unknown
Model: 10 Lbs.
Serial #: 097
Description: Mass
Procedure: DCN 500901
Accuracy: Raw Data

Calibrated on: 03/18/2021
*Recommended Due: 03/18/2026
Environment: 19 °C 41 % RH
* As Received: Other - See Remarks
* As Returned: Other - See Remarks
Action Taken: Calibrated
Technician: 126

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

Data is provided for your determination of acceptability. Received/returned without accessories.

Standards Used

Std ID	Manufacturer	Model	Nomenclature	Due Date	Trace ID
484A	Rice Lake	1kg-10kg (Class ASTM 1)	Mass Set,	05/28/2021	699197
503A	Rice Lake	1mg-200g (Class 0)	Mass Set,	09/11/2021	729241
550A	And (A&D) Co.	HP-30K	Balance 30 Kg	12/31/2021	739307
723A	Rice Lake	1mg-200g (Class 0)	Mass Set,	06/09/2021	723431

Measurement Data

Parameter / Measurement Description	Range	Unit	Reference	Min	Max	*Error	UUT	Uncertainty
Before/After								Accredited = ü
Mass								
Raw Data		g	4535.92370000	0.0000000	0.0000000	0.1785299	4536.1022299 g	3.5E-01 ü

This instrument has been calibrated in accordance with the JJ Calibrations Quality Assurance Manual and is traceable to either the SI or to National Institute of Standards and Technology (NIST). The quality system and this certificate are in compliance with ANSI/NCSL Z540-1-1994, ISO/IEC 17025-2017, ISO 10012-1, the ISO 9000 family and QS 9000. The expanded uncertainties of measurements for this calibration are based upon 95% (2 sigma) confidence limits. Unless stated in the comments, certificates reflect the "Simple Acceptance Rule" as specified by JCGM 106:2012. Unless otherwise stated, a test accuracy ratio (TAR) of 4:1, if achievable, is maintained. The results reported herein apply only to the calibration of the item described above. This report may not be reproduced, except in full, without written approval of JJ Calibrations.

Reviewer

3 Issued 03/25/2021 Rev # 15

Inspector

Established 1974

QUALITY CONTROL SERVICES

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(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: DIRI0134307497221214

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Balance	Sartorius	ENTRIS224-1S	34307497	#107	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
g	0.0001	QC012	12/14/22	6/9/22	12/2023

FUNCTIONAL CHECKS

ECCENTRICITY
Test Wt: 100 Tol: 0.0003
As-Found: Pass: ☑ Fail: ☐
As-Left: Pass: ☑ Fail: ☐

LINEARITY
Test Wt: 50 x 4 Tol: 0.0002
As-Found: Pass: ☑ Fail: ☐
As-Left: Pass: ☑ Fail: ☐

STANDARD DEVIATION
Test Wt: 100 Tol: 0.0001

1.	100.0002	5.	1000.0003	9.	1000.0003
2.	1000.0001	6.	1000.0002	10.	1000.0002
3.	1000.0002	7.	1000.0002	Result	
4.	1000.0002	8.	1000.0003	284.60499	

ENVIRONMENTAL CONDITIONS
☐ Good ☑ Fair ☐ Poor
Temperature: 20.6°C

A2LA ACCREDITED SECTION OF REPORT

Standard	As-Found	As-Left	Expanded Uncertainty
200	200.0009	200.0004	569.20999
100	100.0005	100.0002	569.20999
50	50.0004	50.0001	569.20999
20	20.0003	20.0000	569.20999
1	1.0001	1.0000	569.20999
0.1	0.1001	0.1000	569.20999

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Weight Set	Rice Lake	20 kg to 1mg	2831W	3/1/22	3/2023	20220382

Permanent Information Concerning this Equipment:
6 month calibration cycle
1/22 Extra checkpoint to encapsulate user range 0.05g.
AF= 0.0500g A/L= 0.0500

Comments/Info Concerning this Calibration:
12/22 RH= 45%. Adjusted span.

Report prepared/reviewed by: JC **Date:** 12/14/22 **Technician:** J. Colacchio

Signature:

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The uncertainty is calculated according to the ISO Guide to the Expression of Uncertainty in Measurement and includes the uncertainty of standards used combined with the observed standard deviation and readability of the unit under test. The uncertainty is expanded with a k factor of 2 for an approximate 95% level of confidence. Instruments listed above were calibrated using standards traceable to the National Institute of Standards and Technology (NIST). Calibration data reflect results at the time and location of calibration. Calibration data should be reviewed to insure that the instrument is performing to its required accuracy. Calibrations comply with ISO/IEC 17025 and ANSI/Z540-1-1994 quality standards.

Established 1974

QUALITY CONTROL SERVICES

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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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Model 1430 Microtector® Electronic Point Gage

Installation and Operating Instructions



Model 1430 Microtector® Portable Electronic Point Gage combines modern, solid-state integrated circuit electronics with a time-proven point gage manometer to provide fast, accurate pressure measurements.

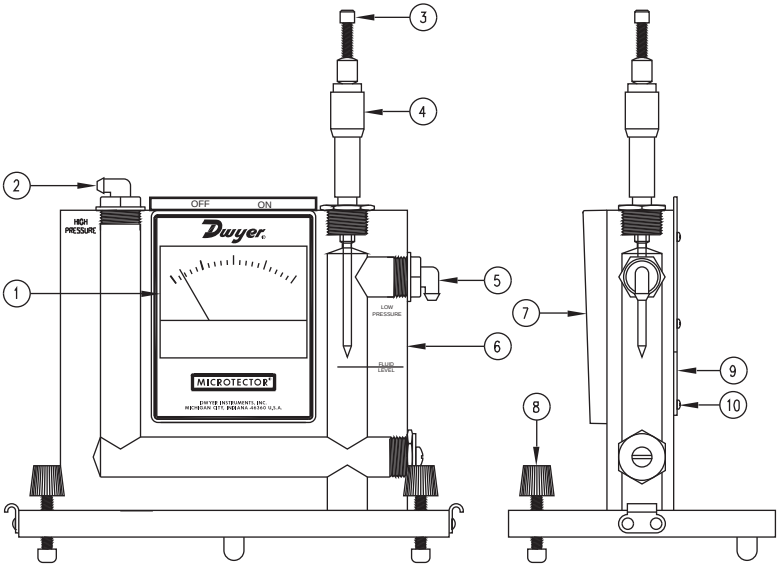
SPECIFICATIONS AND FEATURES

- Accurate and repeatable to ± .00025 inches water column
- Pressure range: 0 - 2″ w.c., positive, negative, or differential pressures
- Non-toxic and inexpensive gage fluid consists of distilled water mixed with a small amount of fluorescein green color concentrate
- Convenient, portable, lightweight and self-contained, the unit requires no external power connections and is operated by a 1.5 volt penlight cell
- A.C. detector current eliminates point plating, fouling and erosion
- Micrometers are manufactured in accordance with ASME B89.1.13-2001, and are traceable to a standard at the National Institute of Standards and Technology
- Three-point mounting, dual leveling adjustment, and circular level vial assure rapid setup
- Durablock® precision-machined acrylic plastic gage body
- Sensitive 0 - 50 microamp D.C. meter acts as a detector and also indicates battery and probe condition
- Heavy 2″ thick steel base plate provides steady mounting
- Top-quality glass epoxy circuit board and solid-state, integrated circuit electronics
- Electronic enclosure of tough, molded styrene acrylonitrile provides maximum protection to components yet allows easy access to battery compartment
- Rugged sheet steel cover and carrying case protects the entire unit when not in use
- Accessories included are (2) 3-foot lengths Tygon® tubing, (2) 1/8″ pipe thread adapters and 3/4 oz. bottle of fluorescein green color concentrate with wetting agent

Maximum pressure: 100 psig with optional pipe thread connections.

Tygon® is a registered trademark of Saint-Gobain Corporation

DWYER INSTRUMENTS, INC.
P.O. BOX 373
MICHIGAN CITY, INDIANA 46361,U.S.A
Phone: 219/879-8000
Fax: 219/872-9057
www.dwyer-inst.com
e-mail: info@dwyer-inst.com



Microtector® Gage

Precision Pressure Measurement

The Microtector® Gage combines the time-proven principles of the Hook Gage type manometer and modern solid-state integrated circuit electronics. It provides an inexpensive means of achieving accuracy and repeatability within ± .00025 inches water column throughout its 0 to 2 inches w.c. range. It is truly a new standard in precision measuring devices.

Principles of Operation

A pressure to be measured is applied to the manometer fluid which is displaced in each leg of the manometer by an amount equal to 1/2 the applied pressure. A micrometer mounted point is then lowered until it contacts the manometer gage fluid. The instant of contact is detected by completion of a low-power A.C. circuit. Current for this circuit is supplied by a 1.5 volt penlight cell feeding two semiconductor amplifiers which act as a free-running multivibrator operating at a frequency of approximately two kilohertz. Completion of the A.C. circuit activates a bridge rectifier which provides the signal for indication on a sensitive (0 to 50 microamps) D.C. microammeter.

On indication of contact, the operator stops lowering the point and reads the micrometer which indicates one half the applied pressure. By interpolating eight divisions (each being .000125″ w.c.) between .001 micrometer graduations, a total accuracy of .00025 can easily be achieved. The micrometer complies with Federal Specification GGG-C-105A and is traceable to a master at the NIST.

Locating and Opening

Stand the Microtector® Gage and case on a firm flat level surface. Remove cover by releasing the latches and lifting it straight up. If it is necessary to move the gage without case, handle only the base plate or clear acrylic block. (**CAUTION:** Do not handle gage by grasping meter-electronic package housing Item 7 on drawing.)

Fluid Level

Level the gage by adjusting the two front leveling screws (Item 8 on drawing) until the bubble in the spirit level is centered in the small circle. After leveling the gage, open both rapid shut-off valve tube connectors (Items 2 and 5). Back off the micrometer (Item 4), if necessary, to make sure that the point is not immersed in the gage fluid. The fluid level in the gage should now coincide with the mark on the right hand bore (Item 6) plus or minus approximately 1/32 inch. If the level of fluid is too high, fluid can be removed with an eye dropper pipette or carefully poured out of the right connection (Item 5).

If the level is too low, remove the top left rapid shut-off valve tube connector (Item 2) and add distilled water pre-mixed with the proper amount of green concentrate. (See maintenance instructions for proportions. After correcting the fluid level, re-install the rapid shut-off connectors and, with these in the open position, re-level the Microtector® Gage. The gage is now ready to be zeroed.

Zeroing

Turn the Micrometer barrel (Item 4) until its lower end just coincides with the zero mark on the scale and the zero on the barrel scale coincides with the vertical line on the internal scale. Note that the internal scale is graduated every .025″ from 0 to 1.00 inch and the barrel scale is graduated in one thousandths from 0 to .025″. Turn the meter circuit switch at the top of gage to the “on” position. While holding the barrel at the zero position (and with gage level), raise or lower the point by turning the knurled knob (Item 3) until the point is above, but near, the fluid.

Check to be sure that the meter registers zero. Watch the meter, hold the barrel, and lower the point slowly by turning the top knurled knob. As the knob is turned, the point will contact the fluid and the meter pointer will move from zero to some upscale position.

After making contact, turn the point out of the fluid by turning the micrometer barrel counterclockwise to a reading of .010 or more. Again, watch the meter and, this time, lower the point by turning the micrometer barrel. The point position where the meter pointer begins to move up scale is the zero position. This position should correspond to the zero reading on the micrometer. Adjust the point in relation to the micrometer barrel by turning the top knob while holding the barrel steady. Repeat lowering the point, watching the meter for contact, and adjusting the point until the zero position and zero reading exactly coincide. The gage is now zeroed and should not be moved.

An alternative method of zeroing and reading can be used wherein, instead of zeroing the gage completely, a zero correction reading is taken and recorded, then subtracted from the final reading. Comparable results can be obtained with either method.

Positive Pressure Measurement

With the fluid at its proper level, a pressure of 2.0″ water column maximum can be measured. Positive pressure should be applied to the top left connection (Item 2) with the micrometer zeroed as described above. This will permit a simple direct reading to be taken.

After an unknown pressure has been applied at the top left connection, the fluid level will drop in the left bore and rise over the point in the right bore. Note that the indicating meter point has moved upscale because the point is immersed in the fluid. Turn the micrometer counter-clockwise until the point leaves the fluid as indicated by the meter pointer dropping to zero on its scale. Then slowly turn the micrometer down until its point just touches the fluid surface, causing movement of the meter pointer. Withdraw the point and repeat several times, noting each time the micrometer reading where the meter pointer begins. The average of these readings multiplied by two is the pressure applied to the gage. (Avg. reading x 2 = pressure applied in inches w.c. The degree of uncertainty for the operator is indicated by the difference in these readings.

When the readings are complete, the pressure should be removed and the zero setting of Microtector® Gage rechecked. Any change in the zero position will indicate inaccurate readings. Should this happen, the zero-set and pressure measurement procedure should be repeated.

Negative Pressure or Vacuum Measurement

Zero the gage. Connect the source of vacuum or negative pressure to the right-side gage connection (Item 5) and proceed as described under Positive Pressure Measurement section. Remember that the pressure measured in this way is negative.

Differential Pressure Measurement

Differential pressures may be measured by connecting the higher (more positive) pressure to the left connection (Item 2) and the lower pressure to the right connection (Item 5).

Storage

Turn meter circuit switch to "off" position and withdraw the point well clear of fluid (by turning micrometer clockwise) when gage is not in use. This will conserve the batteries and minimize build-up of oxides, etc., on the point. Keep the unit covered and in an area free of strong solvent fumes.

Maintenance

When the meter reading becomes reduced or the pointer movement gets sluggish (with the circuit on and the point in fluid), the following should be done:

(1) Remove the point (by unscrewing) and clean the tip lightly using fine crocus cloth. Wipe off all grit and dirt with a clean rag; reassemble and recheck meter operation.

(2) If the meter operation continues to be sluggish, replace the size AA, 1.5 volt battery. (Replace the battery at least once a year to avoid deterioration of battery and damage to gage. Leakproof alkaline battery is recommended.)

To replace the battery, remove center screw (Item 10) located in the back of the electronic enclosure. Cover (Item 9) will come off, exposing the battery. Pull the old battery out and push a new battery into the battery holder with the positive (center) terminal to the right (to the end marked with + on the holder).

If the fluid becomes contaminated and requires replacement: empty old fluid from gage; flush out with clear water and replace with distilled water and A-126 fluorescein green color concentrate mixed with 3/4 oz. concentrate to each quart of water.

CAUTION:

1. Do not substitute other gage fluids, as proper gage operation depends on use of the specified gage fluid to provide proper surface tension, wetting ability and electrolyte capability with unity specific gravity.

If the gage bore is very dirty, a mild soap solution may be used to aid in cleaning prior to flushing with clear water.

2. Do not clean with liquid soaps, special solvent, de-greasers, aromatic hydrocarbons, etc. Such cleaners and solvents may contain chlorine, fluorine, acetone and related compounds that will permanently damage the gage and prevent proper operation.

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DWYER INSTRUMENTS, INC.
P.O. BOX 373
MICHIGAN CITY, INDIANA 46361,U.S.A
Phone: 219/879-8000 **www.dwyer-inst.com**
Fax: 219/872-9057 **e-mail: info@dwyer-inst.com**

J-2000

owner's manual



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A2LA ACCREDITED
CERTIFICATE #1550.01

PFS Teco
11785 SE Hwy 212 STE#305
Clackamas, OR 97015

Report Number: DIRI01C101887027221214

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	12/14/22	1/27/22	12/2023

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: 16.7°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	1000.84	1000.02	0.012
600	600.32	600.00	0.011
400	400.10	400.00	0.011
200	200.00	199.98	0.011
100	100.00	99.98	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

12/14 As-Found Failed Linearity. Performed 3 point Linearity adjustment. As-Left Passed Linearity. Adjusted span.

Report prepared/reviewed by: JC **Date:** 12/14/22 **Technician:** J. Colacchio **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.

Report and Certificate of Calibration

CAL-CERT CALIBRATION CERTIFICATION

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A2LA ACCREDITED CERT #4986.01

Revision to Report #: 26398-201251-5 to correct serial number. Date: 2/20/23

Report #: 26398-201251-5-01 **Customer PO#:** 1079

Customer Name: PFS TECO

Customer Address: 11785 SE Highway 212

City: Clackamas **State:** OR **Zip:** 97015

Contact: Ethan Frederick

Service Address: 5777 SE International Way Milwaukie, OR 97222

Calibration Standards

10-00515 | Steel Rule | SPI | SN: 00515 | Cal: 06/01/2022 | Due: 05/31/2023 | Vendor: Cal-Cert | Range: 24 Inches | Report #: 24589-30769-3616
LP-01346 | Thermo-Hygrometer | Comark | SN: 06210350198 | Cal: 02/07/2022 | Due: 02/28/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 22748-67215-3486

Instrument Data

Calibration Date:	October 21, 2022	**Reference:**	Manufacturer's Spec
Calibration Due Date:	October 21, 2023	**Cal-Cert Procedure:**	CP-115
Calibration Frequency:	12 Months	**Indicating System:**	Scaling
Manufacturer:	Starrett	**Temperature:**	69 °F
Type:	Tape Measure	**Humidity:**	3% 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:** 0.031 Inches

Calibration Standard	As Found Reading	Verification Reading #1	Verification Reading #2
24.000	24.000	24.000	24.000
48.000	48.000	48.000	48.000
96.000	96.000	96.000	96.000
120.000	120.000	120.000	120.000
144.000	144.000	144.000	144.000
168.000	168.000	168.000	168.000
192.000	192.000	192.000	192.000

Expanded Uncertainty ± 0.03580 Inches

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.

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Service Engineer: Cameron Walling **Date:** October 21, 2022

Technical Manager: Marshall Doyle **Signature:** 

Dimensional Measurement CF-115-01

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Revision 7 **7/25/2017**

Report and Certificate of Calibration

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A2LA ACCREDITED CERT #4986.01

Report #: 26398-201253-5 **Customer PO#:** 1079
Customer Name: PFS TECO
Customer Address: 11785 SE Highway 212
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: 11/25/2020 | Due: 11/30/2022 | Vendor: BHD Test and Measurement | Report #: 112520A
LP-01346 | Thermo-Hygrometer | Comark | SN: 06210350198 | Cal: 02/07/2022 | Due: 02/28/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 22748-67215-3486

Instrument Data

Calibration Date:	October 21, 2022	**Reference:**	ASME B89.1.14 2018
Calibration Due Date:	October 21, 2023	**Cal-Cert Procedure:**	CP-008
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	Mitutoyo	**Temperature:**	69 °F
Type:	Digital Caliper	**Humidity:**	38% 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	0.0500	0.0500	0.0500	0.0010
0.3000	0.3000	0.3000	0.3000	0.0010
0.6000	0.6005	0.6005	0.6005	0.0010
1.2000	1.2000	1.2000	1.2000	0.0010
2.4000	2.4005	2.4005	2.4005	0.0010
3.5000	3.5000	3.5000	3.5000	0.0010
5.0000	5.0005	5.0005	5.0005	0.0010
6.0000	6.0005	6.0005	6.0005	0.0010

Expanded Uncertainty ± 0.00036 Inches

Verifications (for information only)

	Target	Measured	Tolerance ±
Resolution Check	0.1005	0.10050	N/A
Depth	1.000	1.00000	N/A
Step	1.000	1.00000	N/A
Inside Jaws	1.000	1.00000	N/A

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).

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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: Cameron Walling **Date:** October 21, 2022

Technical Manager: Marshall Doyle **Signature:**

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Report and Certificate of Calibration

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A2LA ACCREDITED CERT #4986.01

Report #: 28134-206391-14 **Customer PO#:** 1090
Customer Name: PFS TECO
Customer Address: 11785 SE Highway 212 Ste 305
City: Clackamas **State:** OR **Zip:** 97015
Contact: Aaron Kravitz
Service Address: 11785 SE Highway 212 Ste 305 Clackamas, OR 97015

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
19-01135 | Thermocouple Meter | Tegam | SN: T-312250 | Cal: 08/01/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 2,450 °F | Report #: 25315-30977-3646

Instrument Data

Calibration Date:	February 28, 2023	**Reference:**	NAVAIR 17-20.ST-95
Recommended Due Date:	February 28, 2024	**Cal-Cert Procedure:**	CP-013
Calibration Frequency:	12 Months	**Indicating System:**	Digital
Manufacturer:	National Instruments	**Temperature:**	70 °F
Type:	Data Logger	**Humidity:**	31% RH
Model Number:	NI 9213	**Asset #:**	215 Booth 1
Serial #:	1B182FB	**Service Location:**	Service Address
Resolution:	0.1 °F	**As Found:**	Pass
Capacity:	2500 °F	**As Left:**	Pass
Tolerance:	± 3.0 °F		
Additional Error	± - °F		

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	0.20	0.20	0.20	0.20	0.346
	500.00	500.30	500.30	500.30	0.30	
	1000.00	1000.40	1000.40	1000.40	0.40	
	1500.00	1500.40	1500.40	1500.40	0.40	
	2000.00	2000.50	2000.50	2000.50	0.50	
	2400.00	2400.70	2400.70	2400.70	0.70	

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±
Flue	0.00	0.10	0.10	0.10	0.10	0.346
	500.00	500.30	500.30	500.30	0.30	
	1000.00	1000.30	1000.30	1000.30	0.30	
	1500.00	1500.30	1500.30	1500.30	0.30	
	2000.00	2000.50	2000.50	2000.50	0.50	
	2400.00	2400.60	2400.60	2400.60	0.60	

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Manufacturer: National Instruments **Type:** Data Logger **Serial #:** 1B182FB

	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±**
Filter A	0.00	0.10	0.10	0.10	0.10	0.346
	500.00	500.10	500.10	500.10	0.10	
	1000.00	1000.20	1000.20	1000.20	0.20	
	1500.00	1500.30	1500.30	1500.30	0.30	
	2000.00	2000.30	2000.30	2000.30	0.30	
	2400.00	2400.40	2400.40	2400.40	0.40	

	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±**
Back	0.00	0.10	0.10	0.10	0.10	0.346
	500.00	500.00	500.00	500.00	0.00	
	1000.00	1000.20	1000.20	1000.20	0.20	
	1500.00	1500.50	1500.50	1500.50	0.50	
	2000.00	2000.60	2000.60	2000.60	0.60	
	2400.00	2400.70	2400.70	2400.70	0.70	

	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±**
Catgalyst	0.00	-0.30	-0.30	-0.30	-0.30	0.346
	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	
	2000.00	2000.10	2000.10	2000.10	0.10	
	2400.00	2400.20	2400.20	2400.20	0.20	

	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±**
Meter A	0.00	-0.50	-0.50	-0.50	-0.50	0.346
	500.00	499.70	499.70	499.70	-0.30	
	1000.00	999.90	999.90	999.90	-0.10	
	1500.00	1500.00	1500.00	1500.00	0.00	
	2000.00	2000.00	2000.00	2000.00	0.00	
	2400.00	2400.00	2400.00	2400.00	0.00	

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Manufacturer: National Instruments **Type:** Data Logger **Serial #:** 1B182FB

	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±**
Left	0.00	-0.50	-0.50	-0.50	-0.50	0.346
	500.00	499.70	499.70	499.70	-0.30	
	1000.00	999.70	999.70	999.70	-0.30	
	1500.00	1500.00	1500.00	1500.00	0.00	
	2000.00	2000.10	2000.10	2000.10	0.10	
	2400.00	2400.20	2400.20	2400.20	0.20	

	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±**
Right	0.00	-0.60	-0.60	-0.60	-0.60	0.346
	500.00	499.70	499.70	499.70	-0.30	
	1000.00	999.80	999.80	999.80	-0.20	
	1500.00	1499.80	1499.80	1499.80	-0.20	
	2000.00	1999.90	1999.90	1999.90	-0.10	
	2400.00	2400.00	2400.00	2400.00	0.00	

	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±**
Filter B	0.00	0.00	0.00	0.00	0.00	0.346
	500.00	500.80	500.80	500.80	0.80	
	1000.00	1000.60	1000.60	1000.60	0.60	
	1500.00	1500.20	1500.20	1500.20	0.20	
	2000.00	2000.00	2000.00	2000.00	0.00	
	2400.00	2399.70	2399.70	2399.70	-0.30	

	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±**
Top	0.00	-0.80	-0.80	-0.80	-0.80	0.346
	500.00	499.30	499.30	499.30	-0.70	
	1000.00	999.50	999.50	999.50	-0.50	
	1500.00	1499.60	1499.60	1499.60	-0.40	
	2000.00	1999.60	1999.60	1999.60	-0.40	
	2400.00	2399.70	2399.70	2399.70	-0.30	

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Manufacturer: National Instruments **Type:** Data Logger **Serial #:** 1B182FB

	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±**
Bottom	0.00	-1.00	-1.00	-1.00	-1.00	0.346
	500.00	499.20	499.20	499.20	-0.80	
	1000.00	999.50	999.50	999.50	-0.50	
	1500.00	1499.50	1499.50	1499.50	-0.50	
	2000.00	1999.60	1999.60	1999.60	-0.40	
	2400.00	2399.60	2399.60	2399.60	-0.40	

	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±**
Meter B	0.00	-0.80	-0.80	-0.80	-0.80	0.346
	500.00	499.30	499.30	499.30	-0.70	
	1000.00	999.50	999.50	999.50	-0.50	
	1500.00	1499.50	1499.50	1499.50	-0.50	
	2000.00	1999.60	1999.60	1999.60	-0.40	
	2400.00	2399.50	2399.50	2399.50	-0.50	

	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±**
Meter C	0.00	-1.20	-1.20	-1.20	-1.20	0.346
	500.00	499.00	499.00	499.00	-1.00	
	1000.00	999.20	999.20	999.20	-0.80	
	1500.00	1499.30	1499.30	1499.30	-0.70	
	2000.00	1999.30	1999.30	1999.30	-0.70	
	2400.00	2399.30	2399.30	2399.30	-0.70	

	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±**
Filter C	0.00	-1.00	-1.00	-1.00	-1.00	0.346
	500.00	499.20	499.20	499.20	-0.80	
	1000.00	999.40	999.40	999.40	-0.60	
	1500.00	1499.50	1499.50	1499.50	-0.50	
	2000.00	1999.50	1999.50	1999.50	-0.50	
	2400.00	2399.50	2399.50	2399.50	-0.50	

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Manufacturer: National Instruments **Type:** Data Logger **Serial #:** 1B182FB

	Type T Thermocouple METER 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	17.70	17.70	17.70	-2.30	
	40.00	37.80	37.80	37.80	-2.20	
	60.00	57.70	57.70	57.70	-2.30	
	80.00	77.90	77.90	77.90	-2.10	
	100.00	97.90	97.90	97.90	-2.10	

Remarks:

15 Channels tested. Ambient is Type T, tested from 0 to 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.

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Service Engineer: Jon Rau **Date:** February 28, 2023

Technical Manager Marshall Doyle **Signature:** 

Report #: 28134-206391-14

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Report and Certificate of Calibration

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CALIBRATION CERTIFICATION

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Milwaukie, OR 97222

Local
503-654-9620

A2LA ACCREDITED
CERT #4986.01

Report #:	28134-206391-14	**Customer PO#:**	1090		
Customer Name:	PFS TECO				
Customer Address:	11785 SE Highway 212 Ste 305				
City:	Clackamas	**State:**	OR	**Zip:**	97015
Contact:	Aaron Kravitz				
Service Address:	11785 SE Highway 212 Ste 305	Clackamas, OR 97015			

Calibration Standards

19-00269 | Thermo-Hygrometer | Comark | SN: 6237360167 | Cal: 09/14/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 122 °F 95 %RH | Report #: 25699-30694-3486
19-01135 | Thermocouple Meter | Tegam | SN: T-312250 | Cal: 08/01/2022 | Due: 08/31/2023 | Vendor: Cal-Cert | Range: 2,450 °F | Report #: 25315-30977-3646

Instrument Data

Calibration Date:	February 28, 2023		**Reference:**	NAVAIR 17-20.ST-95	
Recommended Due Date:	February 28, 2024		**Cal-Cert Procedure:**	CP-013	
Calibration Frequency:	12 Months		**Indicating System:**	Digital	
Manufacturer:	National Instruments		**Temperature:**	72	°F
Type:	Data Logger		**Humidity:**	30%	RH
Model Number:	NI 9213		**Asset #:**	215 Booth 1	
Serial #:	1B182FB		**Service Location:**	Service Address	
Resolution:	0.1	°F	**As Found:**	Pass	
Capacity:	2500	°F	**As Left:**	Pass	
Tolerance:	± 2.0	°F			
Additional Error	± -	°F			

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	-0.20	-0.20	-0.20	-0.20	0.346
	500.00	499.80	499.80	499.80	-0.20	
	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	

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±
Flue	0.00	-0.40	-0.40	-0.40	-0.40	0.346
	500.00	499.60	499.60	499.60	-0.40	
	1000.00	999.70	999.70	999.70	-0.30	
	1500.00	1499.90	1499.90	1499.90	-0.10	
	2000.00	1999.80	1999.80	1999.80	-0.20	
	2400.00	2400.00	2400.00	2400.00	0.00	

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	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±**
Filter A	0.00	-0.60	-0.60	-0.60	-0.60	0.346
	500.00	499.50	499.50	499.50	-0.50	
	1000.00	999.60	999.60	999.60	-0.40	
	1500.00	1499.70	1499.70	1499.70	-0.30	
	2000.00	1999.80	1999.80	1999.80	-0.20	
	2400.00	2399.80	2399.80	2399.80	-0.20	

	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±**
Back	0.00	-0.70	-0.70	-0.70	-0.70	0.346
	500.00	499.50	499.50	499.50	-0.50	
	1000.00	999.50	999.50	999.50	-0.50	
	1500.00	1499.60	1499.60	1499.60	-0.40	
	2000.00	1999.70	1999.70	1999.70	-0.30	
	2400.00	2399.60	2399.60	2399.60	-0.40	

	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±**
Catgalyst	0.00	-0.70	-0.70	-0.70	-0.70	0.346
	500.00	499.40	499.40	499.40	-0.60	
	1000.00	999.60	999.60	999.60	-0.40	
	1500.00	1499.60	1499.60	1499.60	-0.40	
	2000.00	1999.70	1999.70	1999.70	-0.30	
	2400.00	2399.70	2399.70	2399.70	-0.30	

	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±**
Meter A	0.00	-1.30	-1.30	-1.30	-1.30	0.346
	500.00	498.80	498.80	498.80	-1.20	
	1000.00	999.10	999.10	999.10	-0.90	
	1500.00	1499.10	1499.10	1499.10	-0.90	
	2000.00	1999.10	1999.10	1999.10	-0.90	
	2400.00	2399.10	2399.10	2399.10	-0.90	

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	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±**
Left	0.00	-1.30	-1.30	-1.30	-1.30	0.346
	500.00	498.90	498.90	498.90	-1.10	
	1000.00	999.00	999.00	999.00	-1.00	
	1500.00	1499.20	1499.20	1499.20	-0.80	
	2000.00	1999.20	1999.20	1999.20	-0.80	
	2400.00	2399.20	2399.20	2399.20	-0.80	

	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±**
Right	0.00	-1.40	-1.40	-1.40	-1.40	0.346
	500.00	498.90	498.90	498.90	-1.10	
	1000.00	999.00	999.00	999.00	-1.00	
	1500.00	1499.00	1499.00	1499.00	-1.00	
	2000.00	1999.00	1999.00	1999.00	-1.00	
	2400.00	2399.10	2399.10	2399.10	-0.90	

	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±**
Filter B	0.00	0.00	0.00	0.00	0.00	0.346
	500.00	500.60	500.60	500.60	0.60	
	1000.00	1000.30	1000.30	1000.30	0.30	
	1500.00	1500.10	1500.10	1500.10	0.10	
	2000.00	1999.80	1999.80	1999.80	-0.20	
	2400.00	2399.50	2399.50	2399.50	-0.50	

	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±**
Top	0.00	-1.40	-1.40	-1.40	-1.40	0.346
	500.00	498.90	498.90	498.90	-1.10	
	1000.00	999.00	999.00	999.00	-1.00	
	1500.00	1499.10	1499.10	1499.10	-0.90	
	2000.00	1999.00	1999.00	1999.00	-1.00	
	2400.00	2399.00	2399.00	2399.00	-1.00	

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	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±**
Bottom	0.00	-1.50	-1.50	-1.50	-1.50	0.346
	500.00	498.80	498.80	498.80	-1.20	
	1000.00	999.00	999.00	999.00	-1.00	
	1500.00	1499.00	1499.00	1499.00	-1.00	
	2000.00	1999.00	1999.00	1999.00	-1.00	
	2400.00	2399.00	2399.00	2399.00	-1.00	

	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±**
Meter B	0.00	-1.30	-1.30	-1.30	-1.30	0.346
	500.00	499.00	499.00	499.00	-1.00	
	1000.00	999.00	999.00	999.00	-1.00	
	1500.00	1499.20	1499.20	1499.20	-0.80	
	2000.00	1999.20	1999.20	1999.20	-0.80	
	2400.00	2399.10	2399.10	2399.10	-0.90	

	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±**
Meter C	0.00	-1.20	-1.20	-1.20	-1.20	0.346
	500.00	498.90	498.90	498.90	-1.10	
	1000.00	999.10	999.10	999.10	-0.90	
	1500.00	1499.20	1499.20	1499.20	-0.80	
	2000.00	1999.20	1999.20	1999.20	-0.80	
	2400.00	2399.20	2399.20	2399.20	-0.80	

	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±**
Filter C	0.00	-1.20	-1.20	-1.20	-1.20	0.346
	500.00	499.10	499.10	499.10	-0.90	
	1000.00	999.20	999.20	999.20	-0.80	
	1500.00	1499.30	1499.30	1499.30	-0.70	
	2000.00	1999.30	1999.30	1999.30	-0.70	
	2400.00	2399.20	2399.20	2399.20	-0.80	

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Manufacturer: National Instruments **Type:** Data Logger **Serial #:** 1B182FB

	Type T Thermocouple METER 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	-1.40	-1.40	-1.40	-1.40	0.346
	20.00	18.80	18.80	18.80	-1.20	
	40.00	38.80	38.80	38.80	-1.20	
	60.00	58.70	58.70	58.70	-1.30	
	80.00	78.80	78.80	78.80	-1.20	
	100.00	98.70	98.70	98.70	-1.30	

Remarks:

15 Channels tested. Ambient is Type T, tested from 0 to 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.

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Service Engineer: Jon Rau **Date:** February 28, 2023

Technical Manager Marshall Doyle **Signature:** MDoyle

Report #: 28134-206391-14

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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 06, 2022
SIEMENS OXYMAT 6	PARAMAGNETIC	Sep 12, 2022

Triad Data Available Upon Request

Approved for Release

PRAXAIR
Making our planet more productive

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

PXPKG TUALATIN OR H
10450 SW TUALATIN SHERWOOD ROAD
TUALATIN OR 97062-9547

Certificate Issuance Date: 10/16/2019
Praxair Order Number: 71120745
Part Number: NI CD10CO33E-AS
Customer PO Number: 79106732

Fill Date: 10/08/2019
Lot Number: 70086928102
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

ProSpec EZ Cert

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	

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 % ±0.265%
Expiration Date: 04/16/2027
Traceable to: SRM # / Sample # / Cylinder #: SRM 1675b / 6-F-51 / CAL014538
SRM Concentration / Uncertainty: 13.963% / ±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 UB9UCSYX
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 % ±0.543%
Expiration Date: 04/03/2025
Traceable to: SRM # / Sample # / Cylinder #: SRM 2642a / 51-D-23 / FF23106
SRM Concentration / Uncertainty: 7.859% / ±0.039%
SRM Expiration Date: 07/15/2019

Second Analysis Data:						Date	
Z:	0	R:	0	C:	0	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: 11/18/2022
Traceable to: SRM # / Sample # / Cylinder #: NTRM / 170701 / NTRM DT0010384
SRM Concentration / Uncertainty: 9.875% / ±0.040%
SRM Expiration Date: 11/18/2022

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: Jenna Lockman

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