Certification Test Report

Hearth & Home Technologies

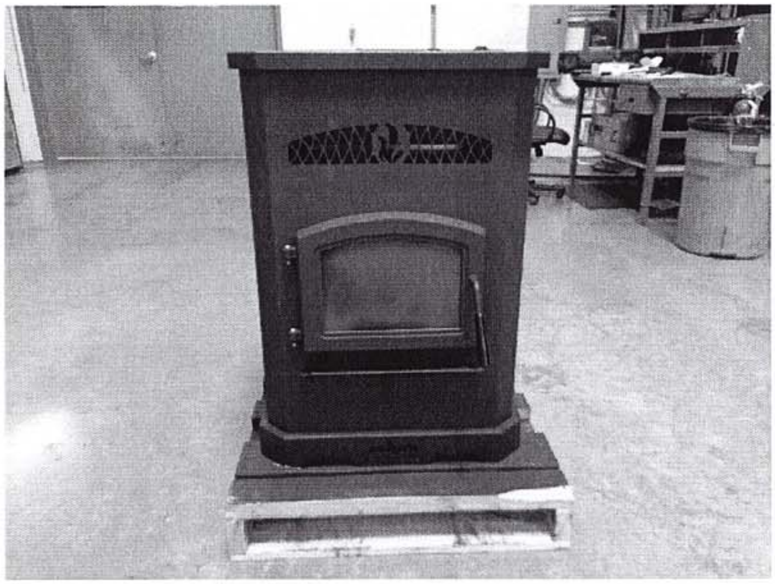
Freestanding Pellet Stove

Model: PP130

(Note: Name changed from PP120 to PP130 subsequent to testing)

Prepared for:	Hearth & Home Technologies 1445 North Highway Colville, WA 99114
Prepared by:	OMNI-Test Laboratories, Inc. 13327 NE Airport Way Portland, OR 97230 (503) 643-3788
Test Period:	4/3/14 – 4/7/14
Report Date:	April 2014
Report Number:	061-S-88-8.3

Hearth & Home Technologies
PP130
Test Dates: 4/3/14 - 4/7/14



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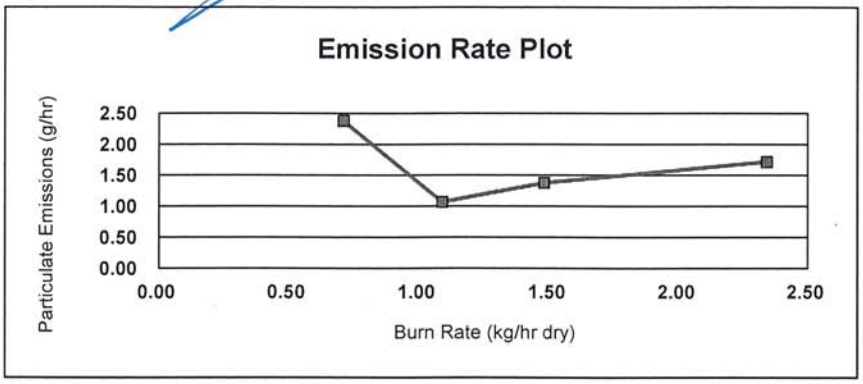
Section 4

Test Data by Run

EPA Weighted Average Emissions
EPA Method 28

Client:	Hearth & Home	Status:	Final
Stove Model:	Pel Pro PP120	Stove Type:	Pellet Stove
Test Dates:	4/3/14 - 4/7/14		
Project Number:	061-S-88-8.3		
Tracking Number:	1953		
Signature/Date:	4/30/14		

Weighted Average (g/hr)
1.6



Run #	4	
Burn Rate (dry kg/hr)	0.71	
Category	1	
Overall Efficiency (%)	78%	
Emissions (g/hr)	2.38	
Cap (g/hr)	15.00	
Weighting Factor	0.449	25.07%
Heat Output (BTU/hr)	10622	
Run #	3	
Burn Rate (dry kg/hr)	1.09	
Category	2	
Overall Efficiency (%)	78%	
Emissions (g/hr)	1.07	
Cap (g/hr)	15.00	
Weighting Factor	0.582	32.45%
Heat Output (BTU/hr)	16307	
Run #	2	
Burn Rate (dry kg/hr)	1.48	
Category	3	
Overall Efficiency (%)	78%	
Emissions (g/hr)	1.38	
Cap (g/hr)	15.00	
Weighting Factor	0.500	27.91%
Heat Output (BTU/hr)	22142	
Run #	1	
Burn Rate (dry kg/hr)	2.34	
Category	4	
Overall Efficiency (%)	78%	
Emissions (g/hr)	1.72	
Cap (g/hr)	18.00	
Weighting Factor	0.261	14.57%
Heat Output (BTU/hr)	35008	

Run 1

Wood Heater Test Data - EPA Method 5G

Manufacturer:	Hearth & Home
Model:	Pel Pro PP120
Project No.:	061-S-88-8.3
Tracking No.:	1952
Run:	1
Test Date:	04/03/14

Burn Rate	**2.34 kg/hr dry**
Average Tunnel Temperature	90 degrees Fahrenheit
Average Gas Velocity in Dilution Tunnel - vs	13.3 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	8655.4 dscf/hour
Average Delta p	0.038 inches H20
Average Delta H	1.26 inches H20
Total Time of Test	120 minutes

	AVERAGE	SAMPLE TRAIN 1	SAMPLE TRAIN 2
Total Sample Volume - Vm	19.91 cubic feet	19.45 cubic feet	20.37 cubic feet
Average Gas Meter Temperature	83 degrees Fahrenheit	83 degrees Fahrenheit	83 degrees Fahrenheit
Total Sample Volume (Standard Conditions) - Vmstd	19.8 dscf	19.3 dscf	20.3 dscf
Total Particulates - mn		2 mg	2.3 mg
Particulate Concentration (dry-standard)	0.00011 grams/dscf	0.00010 grams/dscf	0.00011 grams/dscf
Particulate Emission Rate	0.94 grams/hour	0.90 grams/hour	0.98 grams/hour
Adjusted Emissions	**1.72 grams/hour**	1.66 grams/hour	1.79 grams/hour
Difference from Average		0.06 grams/hour	0.06 grams/hour
7.5% of the average emission rate	0.13		
Weighted Average Emission Rate Limit	4.10 grams/hour		
7.5% of the weighted average emission rate limit	0.31		

Results Are Acceptable

Wood Heater Test Data - EPA Method 5G

Run: 1

Manufacturer: Hearth & Home
Model: Pel Pro PP120
Tracking No.: 1952
Project No.: 061-S-88-8.3
Test Date: 03-Apr-14
Beginning Clock Time: 14:19
Recording Interval: 10 min.
Total Sampling Time: 120 min.

	Velocity Traverse Data								
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP	0.032	0.044	0.046	0.026	0.028	0.048	0.046	0.036	"H2O
Initial Temp.	90	90	90	90	90	90	90	90	oF

OMNI Equipment Numbers: 23, 131, 132, 185, 209, 335, 336, 343, 378, 410, 420

PM Control Module: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.56 lb/lb-mole
Dilution Tunnel H2O: 4.00 percent
Dilution Tunnel Static: -0.560 "H2O
Pitot Tube Cp: 0.99
Meter Box Y Factor: 1.015 (1) 1.02 (2)
Barometric Pressure: Begin 30.02 Middle 30.02 End 30.02 Average 30.02 "Hg

Signature/Date: [signature] 4/4/14
Tunnel Velocity: 13.27 ft/sec.
Intial Tunnel Flow: 143.4 scfm
Average Tunnel Flow: 144.3 scfm
Tunnel Area: 0.1963 ft2
Post-Test Leak Check (1): 0.001 cfm@"Hg
Post-Test Leak Check (2): 0.004 cfm@"Hg
Fuel Moisture (dry basis %): 5.75
Total Particulate (1): 2.0
Total Particulate (2): 2.3

	Particulate Sampling Data													
Elapsed Time	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Meter oF (1)	Meter oF (2)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%) (1)	Pro. Rate (10%) (2)
0	0.000	0.000			0.70	0.70	74	75	1.49	1.4	90	0.038		
10	1.605	1.690	0.16	0.17	1.33	1.21	76	76	1.52	1.4	90	0.038	101	102
20	3.218	3.380	0.16	0.17	1.31	1.20	78	78	1.53	1.4	90	0.038	101	101
30	4.833	5.072	0.16	0.17	1.31	1.20	80	80	1.53	1.4	90	0.038	101	101
40	6.450	6.767	0.16	0.17	1.31	1.20	82	82	1.53	1.4	90	0.038	101	101
50	8.071	8.463	0.16	0.17	1.31	1.20	83	83	1.54	1.4	91	0.038	101	101
60	9.695	10.162	0.16	0.17	1.30	1.20	85	85	1.52	1.4	91	0.038	101	101
70	11.320	11.863	0.16	0.17	1.31	1.21	86	85	1.53	1.4	90	0.038	100	101
80	12.947	13.565	0.16	0.17	1.31	1.21	86	86	1.53	1.4	90	0.038	101	100
90	14.574	15.268	0.16	0.17	1.32	1.20	87	86	1.54	1.4	91	0.038	100	101
100	16.202	16.970	0.16	0.17	1.31	1.20	87	87	1.55	1.4	90	0.038	100	100
110	17.828	18.673	0.16	0.17	1.31	1.20	87	87	1.55	1.4	90	0.038	100	100
120	19.455	20.374	0.16	0.17	1.30	1.20	88	87	1.56	1.4	90	0.038	100	100
Avg/Total	19.455	20.374	0.16	0.17	1.26	1.16	83.00	82.85			90.23	0.038	100.63	100.65

	Fuel Weight, lb		Wood Heater Temperature Data, oF													Stack
Elapsed Time	Scale Reading	Weight Change	Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Catalyst Exit	Average Surface	Stack	Filter (1)	Filter (2)	Impinger exit (1)	Impinger exit (2)	Ambient	Draft In. H2O
0	10.9		788	566	565	608	603	N/A	626.0	338	72	73	N/A	N/A	72	-0.088
10	10.1	-0.8	730	518	537	569	564	N/A	583.6	329	73	75	N/A	N/A	73	-0.087
20	9.2	-0.9	792	563	556	605	604	N/A	624.0	337	74	75	N/A	N/A	73	-0.088
30	8.3	-0.9	780	574	562	605	605	N/A	625.2	338	74	75	N/A	N/A	73	-0.088
40	7.4	-0.9	675	516	537	548	542	N/A	563.6	325	75	76	N/A	N/A	73	-0.087
50	6.4	-1	786	578	558	609	609	N/A	628.0	337	74	76	N/A	N/A	73	-0.088
60	5.5	-0.9	797	579	566	615	611	N/A	633.6	339	75	76	N/A	N/A	73	-0.089
70	4.6	-0.9	661	550	557	554	550	N/A	574.4	329	75	76	N/A	N/A	73	-0.088
80	3.7	-0.9	784	560	535	600	598	N/A	615.4	334	75	76	N/A	N/A	73	-0.088
90	2.8	-0.9	792	581	552	612	613	N/A	630.0	336	75	76	N/A	N/A	73	-0.089
100	1.8	-1	726	574	555	587	585	N/A	605.4	334	75	76	N/A	N/A	74	-0.088
110	0.9	-0.9	800	569	530	605	607	N/A	622.2	331	75	76	N/A	N/A	74	-0.088
120	0.0	-0.9	814	593	554	622	624	N/A	641.4	337	75	76	N/A	N/A	74	-0.089
Avg/Total									15		74.38	75.54	N/A	N/A		-0.088

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OMNI-Test Laboratories, Inc.

Run Notes

Client: Hearth & Home
Model: PP120
Project #: 061-S-88-8.3
Tracking #: 1952
Run #: 1 Date: 4/3/14
Test Crew: A. Kravitz
OMNI Equipment ID #(s): 335, 336, 185

PREBURN

DESCRIBE OR SKETCH AIR OR THERMOMSTAT SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCABLE)

PRIMARY:

Main Dial @ Hi
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

PREBURN SETTINGS AND ACTIVITIES

TIME	AIR (THERMO) CHANGES PRIMARY/SECONDARY/TERTIARY	FAN SETTING CHANGE	ADD FUEL + WT.	ADD FUEL - WT.	RAKE COAL	COMMENT
	None					

TEST

TEST FUEL CONFIGURATION SKETCH
(INDICATE VIEW ANGLE)

Pellets

START UP PROCEDURES

BYPASS: N/A
FUEL LOADING: N/A
DOOR: N/A
PRIMARY AIR: N/A

OTHER: N/A

DESCRIBE OR SKETCH TEST SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCIBLE)
PRIMARY:

Main Dial @ Hi
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

Technician signature: [signature] Date: 4/3/14

Supplemental Data EPA 5G/5H

Client: Hearth & Home

Model: PP120 Project #: 061-S-88-8.3 Tracking #: 1952

Date: 4/3/14 Run #: 1 Booth: E1

Test Crew: A. Kravitz Start Time: 14:19 Stop Time: 16:19

OMNI Equipment #(s): 132, 335, 336, 378, 410, 420, 209

Stack Gas Leak Check:
Initial: Ø
Final: Ø

Dilution Tunnel Gas Leak Check (5H only):
Initial: N/A
Final: N/A

Calibrations: Span Gas CO_2: 16.83 O_2: N/A CO: 4.183 CO_2 (DT): N/A
Mid Gas CO_2: 9.87 O_2: N/A CO: 2.493 CO_2 (DT): N/A

A: 0.001
S: 0.004

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	14:12	14:13	14:14	16:24	16:23	16:22
O_2	N/A			N/A		
CO_2	0.00	16.83	10.35	0.10	16.71	10.12
CO	0.000	4.184	2.468	-0.203	4.108	2.429
CO_2 (DT)	N/A			N/A		

Air Velocity (ft/min): Initial: 250 Final: 250
Scale Audit (lbs): Initial: 10.0 Final: 10.0
Pitot Tube Leak Test: Initial: Ø Final: Ø
Stack Diameter (inches): 6
Induced Draft: Ø
% Smoke Capture: 100
Flue Pipe Cleaned Prior to First Test in Series:
Date: 3/31/14 Initials: AK

Tunnel Traverse	
dP (in H_2O)	T(°F)
.032	90
.044	
.046	
.026	
.028	
.048	
.046	
.036	
N/A	N/A
Static P:	-.56

	Initial	Middle	Ending
P_b (in/Hg)	30.02	30.02	30.02
Ambient (°F)	72	73	74

Technician signature: [signature]

Date: 4/3/14

Method 28 Preburn Data

Run Data

Client:	Hearth & Home	Test Run:	1
Model:	Pel Pro PP120	Date:	4/3/2014
Project Number:	061-S-88-8.3	Test Crew:	A. Kravitz
Tracking Number:	1953	Equipment:	335, 336, 185
Coal Bed Range (lb):	N/A (pellet)		

Logged Data

			Temperatures (F)								
Elapsed Time (min)	Scale (lb)	Stack Draft (in H2O)	Stack	Ambient	FB Top	FB Bottom	FB Back	FB Left	FB Right	Cat. In	Cat. Out
0	50.6	-0.054	76	68	94	72	72	77	76		
10	50	-0.077	219	68	528	310	221	354	356		
20	49.1	-0.086	307	68	758	514	478	560	563		
30	48.1	-0.088	329	70	787	565	559	606	602		
40	47.2	-0.087	322	71	745	515	526	572	563		
50	46.2	-0.088	331	72	768	558	560	596	595		
60	45.3	-0.088	338	72	789	566	564	610	604		
	Averages:	-0.081	274.57	69.86	638.43	442.86	425.71	482.14	479.86		

4/9/14

Run 2

Wood Heater Test Data - EPA Method 5G

Manufacturer:	Hearth & Home
Model:	Pel Pro PP120
Project No.:	061-S-88-8.3
Tracking No.:	1952
Run:	2
Test Date:	04/04/14

Burn Rate	**1.48 kg/hr dry**
Average Tunnel Temperature	87 degrees Fahrenheit
Average Gas Velocity in Dilution Tunnel - vs	12.8 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	8424.0 dscf/hour
Average Delta p	0.036 inches H20
Average Delta H	1.29 inches H20
Total Time of Test	120 minutes

	AVERAGE	SAMPLE TRAIN 1	SAMPLE TRAIN 2
Total Sample Volume - Vm	20.01 cubic feet	19.66 cubic feet	20.36 cubic feet
Average Gas Meter Temperature	81 degrees Fahrenheit	82 degrees Fahrenheit	81 degrees Fahrenheit
Total Sample Volume (Standard Conditions) - Vmstd	20.0 dscf	19.6 dscf	20.4 dscf
Total Particulates - mn		1.6 mg	1.8 mg
Particulate Concentration (dry-standard)	0.00008 grams/dscf	0.00008 grams/dscf	0.00009 grams/dscf
Particulate Emission Rate	0.72 grams/hour	0.69 grams/hour	0.74 grams/hour
Adjusted Emissions	**1.38 grams/hour**	1.33 grams/hour	1.42 grams/hour
Difference from Average		0.04 grams/hour	0.04 grams/hour
7.5% of the average emission rate	0.10		
Weighted Average Emission Rate Limit	4.10 grams/hour		
7.5% of the weighted average emission rate limit	0.31		

Results Are Acceptable

Wood Heater Test Data - EPA Method 5G

Signature/Date: AW 4/9/14

Run:	2
Manufacturer:	Hearth & Home
Model:	Pel Pro PP120
Tracking No.:	1952
Project No.:	061-S-88-8.3
Test Date:	04-Apr-14
Beginning Clock Time:	10:53
Recording Interval:	10 min.
Total Sampling Time:	120 min.

Velocity Traverse Data	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP	0.032	0.044	0.042	0.022	0.044	0.030	0.042	0.032	"H2O
Initial Temp.	86	86	86	86	86	86	86	86	oF

OMNI Equipment Numbers: 23, 131, 132, 185, 209, 335, 336, 343, 378, 410, 420

PM Control Module:	335/336	
Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.56	lb/lb-mole
Dilution Tunnel H2O:	4.00	percent
Dilution Tunnel Static:	-0.530	"H2O
Pitot Tube Cp:	0.99	
Meter Box Y Factor:	1.015 (1)	1.02 (2)

Barometric Pressure:	Begin	Middle	End	Average
	30.05	30.04	30.03	30.04 "Hg

Tunnel Velocity:	12.83	ft/sec.
Intial Tunnel Flow:	139.6	scfm
Average Tunnel Flow:	140.4	scfm
Tunnel Area:	0.1963	ft2
Post-Test Leak Check (1):	0	cfm@"Hg
Post-Test Leak Check (2):	0	cfm@"Hg
Fuel Moisture (dry basis %):	5.75	
Total Particulate (1):	1.6	
Total Particulate (2):	1.8	

	Particulate Sampling Data														Fuel Weight, lb		Wood Heater Temperature Data, oF													Stack
Elapsed Time	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Meter oF (1)	Meter oF (2)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%) (1)	Pro. Rate (10%) (2)	Scale Reading	Weight Change	Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Catalyst Exit	Average Surface	Stack	Filter (1)	Filter (2)	Impinger exit (1)	Impinger exit (2)	Ambient	Draft In. H2O
0	0.000	0.000			0.70	0.70	74	74	1.31	-0.4	86	0.036			6.9		556	407	394	432	437	N/A	445.2	277	70	70	N/A	N/A	71	-0.082
10	1.621	1.679	0.16	0.17	1.36	1.21	75	75	1.52	1.4	86	0.036	101	101	6.3	-0.6	537	409	399	429	431	N/A	441.0	278	72	73	N/A	N/A	71	-0.082
20	3.252	3.371	0.16	0.17	1.35	1.21	77	77	1.51	1.4	86	0.036	101	101	5.8	-0.5	511	396	393	413	415	N/A	425.6	275	73	74	N/A	N/A	72	-0.082
30	4.885	5.062	0.16	0.17	1.34	1.20	79	78	1.52	1.4	86	0.036	101	101	5.2	-0.6	552	411	394	433	436	N/A	445.2	278	73	74	N/A	N/A	72	-0.082
40	6.519	6.757	0.16	0.17	1.34	1.20	80	80	1.53	1.4	87	0.036	101	101	4.6	-0.6	562	421	413	441	445	N/A	456.4	281	74	74	N/A	N/A	73	-0.083
50	8.156	8.453	0.16	0.17	1.33	1.20	82	81	1.52	1.4	87	0.036	101	101	4.1	-0.5	502	409	406	418	419	N/A	430.8	279	74	75	N/A	N/A	72	-0.082
60	9.795	10.151	0.16	0.17	1.33	1.20	83	82	1.53	1.4	87	0.036	101	101	3.5	-0.6	570	423	406	445	446	N/A	458.0	280	74	75	N/A	N/A	73	-0.082
70	11.436	11.850	0.16	0.17	1.35	1.20	84	83	1.53	1.4	88	0.036	101	101	2.9	-0.6	565	421	409	446	447	N/A	457.6	283	74	75	N/A	N/A	73	-0.083
80	13.078	13.550	0.16	0.17	1.34	1.21	84	84	1.52	1.4	88	0.036	101	100	2.3	-0.6	563	426	413	447	447	N/A	459.2	284	74	75	N/A	N/A	73	-0.083
90	14.721	15.252	0.16	0.17	1.34	1.20	85	84	1.52	1.4	87	0.036	100	101	1.8	-0.5	554	407	396	435	434	N/A	445.2	276	74	75	N/A	N/A	73	-0.082
100	16.366	16.954	0.16	0.17	1.34	1.20	85	85	1.52	1.4	88	0.036	101	100	1.1	-0.7	575	433	415	453	456	N/A	466.4	286	75	75	N/A	N/A	73	-0.083
110	18.011	18.656	0.16	0.17	1.34	1.20	86	85	1.53	1.4	88	0.036	100	100	0.5	-0.6	555	417	409	440	443	N/A	452.8	281	75	76	N/A	N/A	74	-0.083
120	19.657	20.358	0.16	0.17	1.34	1.20	86	85	1.52	1.4	88	0.036	101	100	0.0	-0.5	574	418	399	445	449	N/A	457.0	283	75	76	N/A	N/A	74	-0.083
Avg/Total	19.657	20.358	0.16	0.17	1.29	1.16	81.54	81.00			87.11	0.036	100.66	100.67									12		73.62	74.38	#DIV/0!	#DIV/0!		-0.082

Run Notes

Client: Hearth & Home
Model: PP120
Project #: 061-S-88-8.3
Tracking #: 1952
Run #: 2 Date: 4/4/14
Test Crew: A. Kravitz
OMNI Equipment ID #(s): 335, 336, 185

PREBURN

DESCRIBE OR SKETCH AIR OR THERMOMSTAT SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCABLE)

PRIMARY:

Main Dial @ 4 3/4
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

PREBURN SETTINGS AND ACTIVITIES

TIME	AIR (THERMO) CHANGES PRIMARY/SECONDARY/TERTIARY	FAN SETTING CHANGE	ADD FUEL + WT.	ADD FUEL - WT.	RAKE COAL	COMMENT
	None					

TEST

TEST FUEL CONFIGURATION SKETCH
(INDICATE VIEW ANGLE)

Pellets

START UP PROCEDURES
BYPASS: N/A
FUEL LOADING N/A
DOOR: N/A
PRIMARY AIR: N/A

OTHER: N/A

DESCRIBE OR SKETCH TEST SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCIBLE)
PRIMARY:

Main Dial @ 4 3/4
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

Technician signature: [signature] Date: 4/4/14

OMNI-Test Laboratories, Inc.
Portland, OR

Supplemental Data EPA 5G/5H

Client: Hearth & Home

Model: PP120 Project #: 061-S-88-8.3 Tracking #: 1952

Date: 4/4/14 Run #: 2 Booth: E1

Test Crew: A. Kravitz Start Time: 10:53 Stop Time: 12:53

OMNI Equipment #(s): 132, 335, 336, 378, 410, 420, 209

Stack Gas Leak Check:
Initial: ø
Final: ø

Dilution Tunnel Gas Leak Check (5H only):
Initial: N/A
Final: N/A

A: 0e76
B: 0e96

Calibrations: Span Gas CO_2: 16.83 O_2: N/A CO: 4.183 CO_2 (DT): N/A
Mid Gas CO_2: 9.87 O_2: N/A CO: 2.493 CO_2 (DT): N/A

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	9:54	9:55	9:56			
O_2	N/A			N/A		
CO_2	0.00	16.83	10.19			
CO	0.000	4.183	2.455			
CO_2 (DT)	N/A			N/A		

Air Velocity (ft/min): Initial: 550 Final: 550
Scale Audit (lbs): Initial: 10.0 Final: 10.0
Pitot Tube Leak Test: Initial: ø Final: ø
Stack Diameter (inches): 6
Induced Draft: ø
% Smoke Capture: 100
Flue Pipe Cleaned Prior to First Test in Series:
Date: 3/31/14 Initials: AK

Tunnel Traverse	
dP (in H_2O)	T(°F)
0.032	86
0.044	
0.042	
0.022	
0.030	
0.044	
0.042	
0.032	
N/A	N/A
Static P:	-0.53

	Initial	Middle	Ending
P_b (in/Hg)	30.05	30.04	30.03
Ambient (°F)	71	73	74

Technician signature: AK

Date: 4/4/14

Method 28 Preburn Data

Run Data

Client:	Hearth & Home	Test Run:	2
Model:	Pel Pro PP120	Date:	4/4/2014
Project Number:	061-S-88-8.3	Test Crew:	A. Kravitz
Tracking Number:	1953	Equipment:	335, 336, 185
Coal Bed Range (lb):	N/A (pellet)		

Logged Data

			Temperatures (F)								
Elapsed Time (min)	Scale (lb)	Stack Draft (in H2O)	Stack	Ambient	FB Top	FB Bottom	FB Back	FB Left	FB Right	Cat. In	Cat. Out
0	32.5	-0.085	301	70	722	512	433	542	547		
10	31.8	-0.083	288	71	573	440	434	459	463		
20	31.2	-0.082	275	71	538	396	395	423	426		
30	30.6	-0.082	275	71	551	410	402	433	436		
40	30	-0.082	280	71	550	422	410	439	443		
50	29.5	-0.082	273	71	511	394	392	413	416		
60	29.1	-0.082	278	71	546	406	395	428	431		
	Averages:	-0.083	281.43	70.86	570.14	425.71	408.71	448.14	451.71		

4/9/14

Run 3

Wood Heater Test Data - EPA Method 5G

Manufacturer:	Hearth & Home
Model:	Pel Pro PP120
Project No.:	061-S-88-8.3
Tracking No.:	1952
Run:	3
Test Date:	04/04/14

Burn Rate	**1.09 kg/hr dry**
Average Tunnel Temperature	85 degrees Fahrenheit
Average Gas Velocity in Dilution Tunnel - vs	12.8 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	8432.7 dscf/hour
Average Delta p	0.036 inches H20
Average Delta H	1.29 inches H20
Total Time of Test	120 minutes

	AVERAGE	SAMPLE TRAIN 1	SAMPLE TRAIN 2
Total Sample Volume - Vm	20.09 cubic feet	19.74 cubic feet	20.43 cubic feet
Average Gas Meter Temperature	83 degrees Fahrenheit	84 degrees Fahrenheit	83 degrees Fahrenheit
Total Sample Volume (Standard Conditions) - Vmstd	20.0 dscf	19.6 dscf	20.4 dscf
Total Particulates - mn		1.2 mg	1.3 mg
Particulate Concentration (dry-standard)	0.00006 grams/dscf	0.00006 grams/dscf	0.00006 grams/dscf
Particulate Emission Rate	0.53 grams/hour	0.52 grams/hour	0.54 grams/hour
Adjusted Emissions	**1.07 grams/hour**	1.05 grams/hour	1.09 grams/hour
Difference from Average		0.02 grams/hour	0.02 grams/hour
7.5% of the average emission rate	0.08		
Weighted Average Emission Rate Limit	4.10 grams/hour		
7.5% of the weighted average emission rate limit	0.31		

Results Are Acceptable

Wood Heater Test Data - EPA Method 5G

Run:	3
Manufacturer:	Hearth & Home
Model:	Pel Pro PP120
Tracking No.:	1952
Project No.:	061-S-88-8.3
Test Date:	04-Apr-14
Beginning Clock Time:	14:01
Recording Interval:	10 min.
Total Sampling Time:	120 min.

Velocity Traverse Data	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP	0.032	0.044	0.042	0.022	0.044	0.030	0.042	0.032	"H2O
Initial Temp.	86	86	86	86	86	86	86	86	oF

OMNI Equipment Numbers: 23, 131, 132, 185, 209, 335, 336, 343, 378, 410, 420

PM Control Module:	335/336	
Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.56	lb/lb-mole
Dilution Tunnel H2O:	4.00	percent
Dilution Tunnel Static:	-0.530	"H2O
Pitot Tube Cp:	0.99	
Meter Box Y Factor:	1.015 (1)	1.02 (2)

Barometric Pressure:	Begin	Middle	End	Average
	30.03	30.01	30	30.01 "Hg

Signature/Date: 4/9/14

Tunnel Velocity:	12.82	ft/sec.
Intial Tunnel Flow:	139.6	scfm
Average Tunnel Flow:	140.5	scfm
Tunnel Area:	0.1963	ft2
Post-Test Leak Check (1):	0.003	cfm@"Hg
Post-Test Leak Check (2):	0.006	cfm@"Hg
Fuel Moisture (dry basis %):	5.75	
Total Particulate (1):	1.2	
Total Particulate (2):	1.3	

	Particulate Sampling Data														Fuel Weight, lb		Wood Heater Temperature Data, oF														Stack
Elapsed Time	Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Meter oF (1)	Meter oF (2)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%) (1)	Pro. Rate (10%) (2)	Scale Reading	Weight Change	Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Catalyst Exit	Average Surface	Stack	Filter (1)	Filter (2)	Impinger exit (1)	Impinger exit (2)	Ambient	Draft In. H2O
0	0.000	0.000			0.70	0.70	81	81	1.42	-0.3	86	0.036			5.1		448	348	328	363	365	N/A	370.4	252	73	73	N/A	N/A	72	-0.080
10	1.639	1.696	0.16	0.17	1.35	1.22	81	80	1.53	1.4	86	0.036	101	101	4.7	-0.4	458	356	339	369	372	N/A	378.8	254	74	74	N/A	N/A	73	-0.080
20	3.285	3.398	0.16	0.17	1.35	1.21	81	81	1.51	1.4	86	0.036	101	101	4.3	-0.4	440	334	317	354	354	N/A	359.8	248	74	74	N/A	N/A	73	-0.079
30	4.926	5.098	0.16	0.17	1.34	1.20	82	81	1.51	1.4	85	0.036	101	101	3.8	-0.5	445	344	322	359	359	N/A	365.8	249	74	74	N/A	N/A	73	-0.080
40	6.568	6.798	0.16	0.17	1.34	1.20	83	82	1.52	1.4	86	0.036	101	101	3.4	-0.4	441	343	324	358	359	N/A	365.0	249	74	74	N/A	N/A	73	-0.080
50	8.211	8.499	0.16	0.17	1.34	1.21	84	83	1.51	1.4	86	0.036	101	101	2.9	-0.5	423	343	326	351	353	N/A	359.2	249	75	75	N/A	N/A	73	-0.080
60	9.855	10.202	0.16	0.17	1.33	1.21	84	84	1.52	1.4	85	0.036	101	101	2.5	-0.4	423	338	316	346	349	N/A	354.4	245	75	75	N/A	N/A	73	-0.080
70	11.499	11.905	0.16	0.17	1.35	1.20	85	84	1.52	1.4	86	0.036	101	101	2.1	-0.4	446	343	324	359	363	N/A	367.0	251	75	75	N/A	N/A	73	-0.080
80	13.146	13.609	0.16	0.17	1.35	1.21	85	84	1.52	1.4	85	0.036	101	101	1.7	-0.4	427	339	320	350	350	N/A	357.2	249	75	75	N/A	N/A	72	-0.080
90	14.793	15.315	0.16	0.17	1.34	1.20	86	85	1.53	1.4	85	0.036	100	101	1.3	-0.4	455	336	308	357	361	N/A	363.4	247	75	75	N/A	N/A	72	-0.080
100	16.441	17.021	0.16	0.17	1.35	1.21	86	85	1.51	1.4	85	0.036	101	101	0.9	-0.4	431	341	322	351	353	N/A	359.6	248	75	74	N/A	N/A	73	-0.080
110	18.091	18.727	0.17	0.17	1.34	1.21	86	85	1.52	1.4	85	0.036	101	101	0.4	-0.5	431	341	318	351	352	N/A	358.6	247	74	74	N/A	N/A	72	-0.080
120	19.740	20.432	0.16	0.17	1.35	1.21	86	85	1.52	1.4	85	0.036	101	101	0.0	-0.4	436	337	311	350	353	N/A	357.4	245	74	74	N/A	N/A	72	-0.080
Avg/Total	19.740	20.432	0.16	0.17	1.29	1.17	83.85	83.08			85.50	0.036	100.72	100.73									13		74.38	74.31	N/A	N/A		-0.080

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OMNI-Test Laboratories, Inc.

Run Notes

Client: Hearth & Home
Model: PP120
Project #: 061-S-88-8.3
Tracking #: 1952
Run #: 3 Date: 4/4/14
Test Crew: A. Kravitz
OMNI Equipment ID #(s): 335, 336, 185

PREBURN

DESCRIBE OR SKETCH AIR OR THERMOMSTAT SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCABLE)

PRIMARY:

Main Dial @ 2 3/4
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

PREBURN SETTINGS AND ACTIVITIES

TIME	AIR (THERMO) CHANGES PRIMARY/SECONDARY/TERTIARY	FAN SETTING CHANGE	ADD FUEL + WT.	ADD FUEL - WT.	RAKE COAL	COMMENT
	None					

TEST

TEST FUEL CONFIGURATION SKETCH
(INDICATE VIEW ANGLE)

Pellets

START UP PROCEDURES
BYPASS: N/A
FUEL LOADING N/A
DOOR: N/A
PRIMARY AIR: N/A

OTHER: N/A

DESCRIBE OR SKETCH TEST SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCIBLE)
PRIMARY:

Main Dial @ 2 3/4
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

Technician signature: [signature] Date: 4/4/14

OMNI-Test Laboratories, Inc.
Portland, OR

Supplemental Data EPA 5G/5H

Client: Hearth & Home

Model: PP120 Project #: 061-S-88-8.3 Tracking #: 1952

Date: 4/4/14 Run #: 3 Booth: E1

Test Crew: A. Kravitz Start Time: 14:01 Stop Time: 16:01

OMNI Equipment #(s): 132, 335, 336, 378, 410, 420, 209

Stack Gas Leak Check:
Initial: ∅
Final: ∅

Dilution Tunnel Gas Leak Check (5H only):
Initial: N/A
Final: N/A

Calibrations: Span Gas CO_2: 16.83 O_2: N/A CO: 4.183 CO_2 (DT): N/A

Mid Gas CO_2: 9.87 O_2: N/A CO: 2.493 CO_2 (DT): N/A

0.003 @ 7.6
0.006 @ 9.6

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	9:54	9:55	9:56	16:22	16:24	16:25
O_2	N/A			N/A		
CO_2	0.00	16.83	10.19	0.00	16.62	10.21
CO	0.00	4.183	2.455	0.023	4.236	2.528
CO_2 (DT)	N/A			N/A		

Air Velocity (ft/min): Initial: 250 Final: 250

Scale Audit (lbs): Initial: 10.0 Final: 10.0

Pitot Tube Leak Test: Initial: ∅ Final: ∅

Stack Diameter (inches): 6

Induced Draft: ∅

% Smoke Capture: 100

Flue Pipe Cleaned Prior to First Test in Series:

Date: 3/31/14 Initials: AK

Tunnel Traverse	
dP (in H_2O)	T(°F)
.032	86
.044	
.042	
.022	
.030	
.044	
.042	
.032	
N/A	N/A
Static P:	-.53

	Initial	Middle	Ending
P_b (in/Hg)	30.03	30.01	30.00
Ambient (°F)	74	73	72

Technician signature: [signature]

Date: 4/4/14

Method 28 Preburn Data

Run Data

Client:	Hearth & Home	Test Run:	3
Model:	Pel Pro PP120	Date:	4/4/2014
Project Number:	061-S-88-8.3	Test Crew:	A. Kravitz
Tracking Number:	1953	Equipment:	335, 336, 185
Coal Bed Range (lb):	N/A (pellet)		

Logged Data

			Temperatures (F)								
Elapsed Time (min)	Scale (lb)	Stack Draft (in H2O)	Stack	Ambient	FB Top	FB Bottom	FB Back	FB Left	FB Right	Cat. In	Cat. Out
0	21.8	-0.083	283	74	564	425	411	445	447		
10	21.2	-0.082	269	74	471	383	380	393	394		
20	20.7	-0.08	252	73	441	341	332	361	358		
30	20.3	-0.08	251	73	457	349	329	363	362		
40	19.9	-0.08	250	73	445	343	328	361	360		
50	19.4	-0.079	250	73	458	346	324	362	362		
60	19	-0.08	251	73	448	348	328	363	365		
	Averages:	-0.081	258.00	73.29	469.14	362.14	347.43	378.29	378.29		

AK 4/4/14

Run 4

OMNI-Test Laboratories, Inc.

Wood Heater Test Data - EPA Method 5G

Manufacturer:	Hearth & Home
Model:	Pel Pro PP120
Project No.:	061-S-88-8.3
Tracking No.:	1952
Run:	4
Test Date:	04/07/14

Burn Rate	**0.71 kg/hr dry**
Average Tunnel Temperature	78 degrees Fahrenheit
Average Gas Velocity in Dilution Tunnel - vs	12.6 feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	8469.3 dscf/hour
Average Delta p	0.036 inches H20
Average Delta H	1.30 inches H20
Total Time of Test	120 minutes

	AVERAGE	SAMPLE TRAIN 1	SAMPLE TRAIN 2
Total Sample Volume - Vm	19.97 cubic feet	19.59 cubic feet	20.35 cubic feet
Average Gas Meter Temperature	78 degrees Fahrenheit	78 degrees Fahrenheit	77 degrees Fahrenheit
Total Sample Volume (Standard Conditions) - Vmstd	20.3 dscf	19.8 dscf	20.7 dscf
Total Particulates - mn		3.2 mg	3.4 mg
Particulate Concentration (dry-standard)	0.00016 grams/dscf	0.00016 grams/dscf	0.00016 grams/dscf
Particulate Emission Rate	1.38 grams/hour	1.37 grams/hour	1.39 grams/hour
Adjusted Emissions	**2.38 grams/hour**	2.36 grams/hour	2.39 grams/hour
Difference from Average		0.02 grams/hour	0.02 grams/hour
7.5% of the average emission rate	0.18		
Weighted Average Emission Rate Limit	4.10 grams/hour		
7.5% of the weighted average emission rate limit	0.31		

Results Are Acceptable

Wood Heater Test Data - EPA Method 5G

Run: 4

Manufacturer: Hearth & Home
Model: Pel Pro PP120
Tracking No.: 1952
Project No.: 061-S-88-8.3
Test Date: 07-Apr-14
Beginning Clock Time: 09:48
Recording Interval: 10 min.
Total Sampling Time: 120 min.

Velocity Traverse Data	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
Initial dP	0.026	0.034	0.040	0.034	0.026	0.042	0.044	0.038	"H2O
Initial Temp.	78	78	78	78	78	78	78	78	oF

OMNI Equipment Numbers: 23, 131, 132, 185, 209, 335, 336, 343, 378, 410, 420

PM Control Module: 335/336
Dilution Tunnel MW(dry): 29.00 lb/lb-mole
Dilution Tunnel MW(wet): 28.56 lb/lb-mole
Dilution Tunnel H2O: 4.00 percent
Dilution Tunnel Static: -0.480 "H2O
Pitot Tube Cp: 0.99
Meter Box Y Factor: 1.015 (1) 1.02 (2)
Barometric Pressure: Begin 30.33 Middle 30.29 End 30.27 Average 30.30 "Hg

Signature/Date: AW 4/9/14
Tunnel Velocity: 12.59 ft/sec.
Intial Tunnel Flow: 140.6 scfm
Average Tunnel Flow: 141.2 scfm
Tunnel Area: 0.1963 ft2
Post-Test Leak Check (1): 0 cfm@"Hg
Post-Test Leak Check (2): 0.002 cfm@"Hg
Fuel Moisture (dry basis %): 5.75
Total Particulate (1): 3.2
Total Particulate (2): 3.4

Elapsed Time	Particulate Sampling Data: Gas Meter Cubic Feet (1)	Gas Meter Cubic Feet (2)	Sample Rate, cfm (1)	Sample Rate, cfm (2)	Orifice dH (1)	Orifice dH (2)	Meter oF (1)	Meter oF (2)	Meter Vac. In. Hg. (1)	Meter Vac. In. Hg. (2)	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%) (1)	Pro. Rate (10%) (2)
0	0.000	0.000			0.70	0.70	72	72	0.28	-0.4	78	0.036		
10	1.631	1.687	0.16	0.17	1.36	1.22	72	72	1.62	1.4	78	0.036	102	101
20	3.256	3.377	0.16	0.17	1.36	1.21	74	73	1.61	1.4	78	0.036	101	101
30	4.884	5.067	0.16	0.17	1.36	1.22	75	75	1.62	1.4	78	0.036	101	101
40	6.512	6.761	0.16	0.17	1.35	1.21	77	76	1.62	1.4	78	0.036	101	101
50	8.144	8.455	0.16	0.17	1.35	1.22	78	78	1.62	1.4	79	0.036	101	101
60	9.777	10.152	0.16	0.17	1.36	1.22	79	79	1.63	1.4	78	0.036	101	101
70	11.412	11.850	0.16	0.17	1.35	1.21	80	79	1.64	1.4	78	0.036	100	101
80	13.048	13.550	0.16	0.17	1.35	1.22	80	80	1.64	1.4	78	0.036	101	101
90	14.684	15.250	0.16	0.17	1.34	1.21	81	80	1.63	1.4	79	0.036	100	101
100	16.320	16.950	0.16	0.17	1.35	1.22	81	81	1.63	1.4	79	0.036	100	100
110	17.957	18.650	0.16	0.17	1.34	1.22	81	81	1.63	1.4	79	0.036	100	100
120	19.594	20.349	0.16	0.17	1.34	1.22	82	81	1.63	1.4	79	0.036	100	100
Avg/Total	19.594	20.349	0.16	0.17	1.30	1.18	77.85	77.46			78.38	0.036	100.68	100.69

Elapsed Time	Fuel Weight, lb: Scale Reading	Weight Change	Wood Heater Temperature Data, oF: Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Catalyst Exit	Average Surface	Stack	Filter (1)	Filter (2)	Impinger exit (1)	Impinger exit (2)	Ambient	Stack: Draft In. H2O
0	3.3		277	240	208	240	238	N/A	240.6	196	68	68	N/A	N/A	68	-0.073
10	3.0	-0.3	296	242	205	245	247	N/A	247.0	199	70	69	N/A	N/A	68	-0.074
20	2.7	-0.3	304	240	202	248	252	N/A	249.2	197	70	69	N/A	N/A	68	-0.073
30	2.5	-0.2	295	243	205	242	249	N/A	246.8	197	70	70	N/A	N/A	68	-0.073
40	2.2	-0.3	294	243	207	246	248	N/A	247.6	199	71	70	N/A	N/A	69	-0.073
50	1.9	-0.3	299	244	210	249	251	N/A	250.6	200	71	70	N/A	N/A	69	-0.074
60	1.7	-0.2	299	240	203	245	248	N/A	247.0	197	71	70	N/A	N/A	69	-0.073
70	1.4	-0.3	293	241	207	243	247	N/A	246.2	197	71	70	N/A	N/A	69	-0.073
80	1.1	-0.3	295	244	211	246	249	N/A	249.0	198	71	70	N/A	N/A	69	-0.073
90	0.9	-0.2	294	243	209	246	246	N/A	247.6	197	71	71	N/A	N/A	69	-0.074
100	0.6	-0.3	301	248	213	249	254	N/A	253.0	201	71	71	N/A	N/A	69	-0.073
110	0.3	-0.3	292	249	215	247	249	N/A	250.4	198	72	71	N/A	N/A	69	-0.073
120	0.0	-0.3	299	247	208	250	253	N/A	251.4	200	72	71	N/A	N/A	70	-0.073
Avg/Total									11		70.69	70.00	N/A	N/A		-0.073

OMNI-Test Laboratories, Inc.

Run Notes

Client: Hearth & Home
Model: PP120
Project #: 061-S-88-8.3
Tracking #: 1952
Run #: 4 Date: 4/7/14
Test Crew: A. Kravitz
OMNI Equipment ID #(s): 335, 336, 185

PREBURN

DESCRIBE OR SKETCH AIR OR THERMOMSTAT SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCABLE)

PRIMARY:

Main Dial @ 1½
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

PREBURN SETTINGS AND ACTIVITIES

TIME	AIR (THERMO) CHANGES PRIMARY/SECONDARY/TERTIARY	FAN SETTING CHANGE	ADD FUEL + WT.	ADD FUEL - WT.	RAKE COAL	COMMENT
	None					

TEST

TEST FUEL CONFIGURATION SKETCH
(INDICATE VIEW ANGLE)

Pellets

START UP PROCEDURES
BYPASS: N/A
FUEL LOADING N/A
DOOR: N/A
PRIMARY AIR: N/A

OTHER: N/A

DESCRIBE OR SKETCH TEST SETTINGS BELOW:
(SETTINGS MUST BE ACCURATE AND REPRODUCIBLE)
PRIMARY:

Main Dial @ 1½
Trim Dial @ +4

SECONDARY: N/A

TERTIARY: N/A

FAN: Auto

Technician signature: [signature] Date: 4/7/14

OMNI-Test Laboratories, Inc.
Portland, OR

Supplemental Data EPA 5G/5H

Client: Hearth & Home

Model: PP120 Project #: 061-S-88-8.3 Tracking #: 1952

Date: 4/7/14 Run #: 4 Booth: E1

Test Crew: A. Kravitz Start Time: 0948 Stop Time: 1148

OMNI Equipment #(s): 132, 335, 336, 378, 410, 420, 209

Stack Gas Leak Check:
Initial: Ø
Final: Ø

Dilution Tunnel Gas Leak Check (5H only):
Initial: N/A
Final: N/A

A: 0.000
B: 0.002

Calibrations:					
Span Gas	CO_2: 16.83	O_2: N/A	CO: 4.183	CO_2 (DT): N/A
Mid Gas	CO_2: 9.87	O_2: N/A	CO: 2.493	CO_2 (DT): N/A

	Pre Test			Post Test		
	Zero	Span	Mid	Zero	Span	Mid
Time	0921	0922	0927	1155	1156	11:57
O_2	N/A			N/A		
CO_2	0.00	16.83	10.07	0.00	16.84	10.08
CO	0.000	4.183	2.440	0.009	4.205	2.452
CO_2 (DT)	N/A			N/A		

Air Velocity (ft/min): Initial: 250 Final: 256

Scale Audit (lbs): Initial: 10.0 Final: 10.0

Pitot Tube Leak Test: Initial: Ø Final: Ø

Stack Diameter (inches): 6

Induced Draft: Ø

% Smoke Capture: 100

Flue Pipe Cleaned Prior to First Test in Series:

Date: 3/31/14 Initials: AK

Tunnel Traverse	
dP (in H_2O)	T(°F)
.026	78
.034	
.040	
.034	
.026	
.042	
.044	
.038	
N/A	N/A
Static P:	-.48

	Initial	Middle	Ending
P_b (in/Hg)	30.33	30.29	30.27
Ambient (°F)	68	69	76

Technician signature: [signature]

Date: 4/7/14

Method 28 Preburn Data

Run Data

Client:	Hearth & Home	Test Run:	4
Model:	Pel Pro PP120	Date:	4/7/2014
Project Number:	061-S-88-8.3	Test Crew:	A. Kravitz
Tracking Number:	1953	Equipment:	335, 336, 185
Coal Bed Range (lb):	N/A (pellet)		

Logged Data

			Temperatures (F)								
Elapsed Time (min)	Scale (lb)	Stack Draft (in H2O)	Stack	Ambient	FB Top	FB Bottom	FB Back	FB Left	FB Right	Cat. In	Cat. Out
0	12.5	-0.076	219	69	337	282	257	289	288	113	
10	12.2	-0.074	204	69	299	252	220	257	256	106	
20	11.9	-0.074	199	68	307	246	210	255	255	104	
30	11.7	-0.073	196	68	287	242	208	245	247	103	
40	11.4	-0.074	200	68	321	249	202	257	254	102	
50	11.2	-0.073	193	68	290	241	206	242	243	103	
60	11.1	-0.073	197	68	289	244	209	244	244	103	
	Averages:	-0.074	201.14	68.29	304.29	250.86	216.00	255.57	255.29	104.86	

AK 4/9/14