HQ-FOI: 2015-007773

Manufacturer	Model	(1) Avg. Weight Emissions (g/hr)	(2) Avg. B415.1 Efficiency	(3) Emission Rate: Category 1 (g/hr)	Emission Rate: Category 2 (g/hr)	Emission Rate: Category 3 (g/hr)	Emission Rate: Category 4 (g/hr)	(4) Test Method: Method 28 or ASTM E2779-10 & 5G or 5H	(5) Lab	(6) Test Date	(7) Pellet Fuel Name/ Moisture/ Ash Content
England Stove Works, Inc.	PDVC55	3.1	N/A*	5.65	2.19	2.36, 2.62	N/A*	Method 28 & 5G-3	Intertek	02/13-15/2001	Moisture: Dry: 7.38% Wet: 6.88% Ash: N/A*
Gruppo Piazzetta S.P.A.	Sabrina	2.3	N/A*	1.57	2.19	2.77	3.20	Method 28 & 5G	Intertek	08/6-7/2012	Moisture: Dry: 3.6% Wet: 3.5% Ash: N/A*
Hearth & Home Technologies	Mt. Vernon E2	2.7	N/A*	N/A*	1.70, 1.81	3.13	5.88	Method 28 & 5G	OMNI	09/17-18/2013	Moisture: Dry: 4.51% Wet: N/A* Ash: N/A*
Hearth & Home Technologies	Mt. Vernon E2	0.5	CBI**	N/A*	0.39, 0.44	0.58	0.98	Method 28 & 5G	Intertek	10/21-22/2014	Moisture: Dry: 2.39% Wet: 2.33% Ash: N/A*
Hearth & Home Technologies	Mt. Vernon AE	1.1	CBI**	1.06	0.89	1.13	1.97	Method 28 & 5G2	Intertek	08/5-6/2014	Moisture: Dry: 5.44% Wet: 5.16% Ash: N/A*
Hearth & Home Technologies	Accentra 52i insert	1.5	CBI**	1.02	0.80	1.21	5.61	Method 28 & 5G	OMNI	11/11-13/2014	Moisture: Dry: 5.63% Wet: 5.33% Ash: 0.50%

Manufacturer	Model	Avg. Weight Emissions (g/hr)	Avg. B415.1 Efficiency	Emission Rate: Category 1 (g/hr)	Emission Rate: Category 2 (g/hr)	Emission Rate: Category 3 (g/hr)	Emission Rate: Category 4 (g/hr)	Test Method: Method 28 or ASTM E2779-10 & 5G or 5H	Lab	Test Date	Pellet Fuel Name/ Moisture/ Ash Content
Hearth & Home Technologies	Absolute 43	1.8	N/A*	1.41	1.42	2.22	2.54	Method 28 & 5G	OMNI	08/12-14/2014	Moisture: Dry: 5.98% Wet: N/A* Ash: N/A*
Ravelli	RV 80	3.0	CBI**	N/A*	3.00, 3.53	2.40, 2.81	N/A*	Method 28 & 5G-3	PolyTests	05/6-8/2013	Moisture: Dry: 6.53% Wet: 6.13% Ash: N/A*
Ravelli	RV 100	2.9	CBI**	3.41	2.80	2.58, 3.13	N/A*	Method 28 & 5G-3	PolyTests	05/9, 13, 14/ 2013	Moisture: Dry: 6.53% Wet: 6.13% Ash: N/A*

Manufacturer	Model	Avg. Weight Emissions (g/hr)	Avg. B415.1 Efficiency	Emission Rate: Category 1 (g/hr)	Emission Rate: Category 2 (g/hr)	Emission Rate: Category 3 (g/hr)	Emission Rate: Category 4 (g/hr)	Test Method: Method 28 or ASTM E2779-10 & 5G or 5H	Lab	Test Date	Pellet Fuel Name/ Moisture/ Ash Content
Sherwood Industries, Ltd.	M55	1.0	N/A*	1.12	1.14	0.92	0.91	Method 28 & 5H	OMNI	10/15, 18/2010	Moisture: Dry: Run 1: 2.97% Run 2: 2.98% Run 3: 2.975% Run 4: 2.98% Wet: Run 1: 2.88% Run 2: 2.89% Run 3: 2.89% Run 4: N/A* Ash: N/A*

Manufacturer	Model	Avg. Weight Emissions (g/hr)	Avg. B415.1 Efficiency	Emission Rate: Category 1 (g/hr)	Emission Rate: Category 2 (g/hr)	Emission Rate: Category 3 (g/hr)	Emission Rate: Category 4 (g/hr)	Test Method: Method 28 or ASTM E2779-10 & 5G or 5H	Lab	Test Date	Pellet Fuel Name/ Moisture/ Ash Content
Travis Industries, Inc.	AGP Insert	0.67	N/A*	0.55	0.36	0.52	2.37	Method 28 & 5G-2	Intertek	05/5-6/ 2014	Moisture: Dry: 6.5% Wet: 6.1% Ash: N/A*

Legend

1. Average weighted grams per hour Particulate Matter (PM) emissions.
2. Average B415.1 efficiency per wood heater.
3. Grams per hour PM emissions for individual burn categories for all the test runs that are reported on the summary sheet from the EPA accredited test labs. These stoves will have a minimum of 4 test runs at 4 burn rates.
4. Test method used: Method 28 or ASTM E2779-10 and 5G or 5H.
5. The name of the EPA accredited lab that performed the testing for each of the stoves.
6. Date of the testing at the EPA accredited lab.
7. Moisture and Ash Content of the pellet fuel used during testing.

* N/A- Not provided by Lab.

** CBI- Further inquiry to determine if listed as Confidential Business Information.

PDVC.55 1/2

ITS Intertek Testing Services

TEST OF A WOOD BURNING PELLET STOVE
FOR

EMISSIONS

PER

EPA METHODS 28 AND 5G-3

FOR

ENGLAND STOVE WORKS, INC

M

TESTED BY:

INTERTEK

TEST DATES: FEBRUARY 13-15, 2001

PDVC 55 2/2

ITS Intertek Testing Services

Report Date: February 22, 2001 [redacted]
Client: ENGLAND STOVE WORKS, INC Model: 25-PDVC/55-SHP10/55-TRP10 PELLET STOVE

II. SUMMARY OF TEST RESULTS

II.A. EMISSIONS

Run Number	Test Date	Burn Rate (kg/hr)	Emission Rate (g/hr)	Adjusted Emission Rate (g/hr)
1	2/13/01	[redacted]	[redacted]	5.647
2	2/14/01	[redacted]	[redacted]	2.193
3	2/14/01	[redacted]	[redacted]	2.358
4	2/15/01	[redacted]	[redacted]	2.623

II.B. WEIGHTED AVERAGE CALCULATION

Run Number	Burn Rate	(E) Adjusted Emission Rate g/hr	Output (BTU/HR)	Prob	(K) Weighting Factor	(KxE)	(KxOHE)
1	[redacted]	5.647	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	2.193	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	2.358	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	2.623	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
				Sums:	[redacted]	[redacted]	[redacted]

Weighted Average Emissions Rate: [redacted] = 3.0818

II.D. FUEL QUALITIES

Moisture content wet basis: 6.88%
Moisture content dry basis: 7.38%

Sabrina 1/3.

Intertek

TEST REPORT

PRODUCT EVALUATED:
Sabrina Pellet-Fuel Room Heater

Report of Testing Model Sabrina Pellet-Fuel Room Heater for compliance with the applicable requirements of the following criteria: EPA Method 28 "Certification and auditing of wood heaters" and Method 5G Determination of particulate matter emissions from wood heaters."

Sabrina 2/3

II. SUMMARIZATION

[redacted]

II.C SUMMARY OF TEST RESULTS

Run #1, category 4, August 6, 2012.

Run #2 category 2, August 6, 2012.

Run #3, category 1, August 7, 2012.

Run #4, category 3, August 7, 2012.

III.C TEST FUEL PROPERTIES

The pellets used had a moisture content of 3.5 % using the wet basis and 3.6 % on the dry basis.

II.D SUMMARY OF OTHER DATA

[redacted]

Pacific Energy Fireplace Products, Ltd.
Project No: [redacted]

Date: [redacted]

WEIGHTED AVERAGE CALCULATION

Test No.	Burn Rate	(E) Average Emission Rate g/hr	Heat Output (Btu/hr)	Probability	(K) Weighting Factor	(KxE)
3	[redacted]	1.566	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	2.188	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	2.769	[redacted]	[redacted]	[redacted]	[redacted]
1	[redacted]	3.201	[redacted]	[redacted]	[redacted]	[redacted]
				Totals:	[redacted]	[redacted]
				Weighted average emission rate:		2.305

Section 4

Test Data by Run

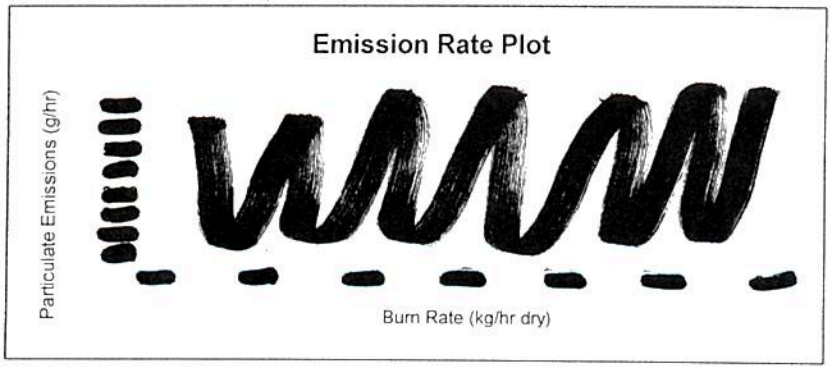
Mt. Vernon E2 2/3

OMNI-Test Laboratories, Inc.

EPA Weighted Average Emissions
EPA Method 28

Client:	Hearth & Home Techn	Status:	Preliminary
Stove Model:	Mt. Vernon E2	Stove Type:	Pellet Stove
Test Dates:	9/17/13 - 9/18/13		
Project Number:	[redacted]		
Tracking Number:	[redacted]		
Signature/Date:			

Weighted Average (g/hr)
2.7



Run #	2	
Burn Rate (dry kg/hr)	[redacted]	
Category	2	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	1.700083762	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

Run #	3	
Burn Rate (dry kg/hr)	[redacted]	
Category	2	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	1.806232796	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

Run #	4	
Burn Rate (dry kg/hr)	[redacted]	
Category	3	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	3.128093263	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

Run #	1	
Burn Rate (dry kg/hr)	[redacted]	
Category	4	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	5.875848013	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

OMNI-Test Laboratories, Inc.

Fuel Moisture Dry - 4.51%

Wood Heater Test Data - EPA Method 5G

[redacted]

Manufacturer: Hearth and Home Tech.
Model: Mt Vernon FS E2
Tracking No.: [redacted]
Project No.: [redacted]
Test Date: [redacted]
Beginning Clock Time: [redacted]
Recording Interval: [redacted] min.
Total Sampling Time: [redacted] min.

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

OMNI Equipment Numbers:

PM Control Module: [redacted]
Dilution Tunnel MW(dry): [redacted] lb/lb-mole
Dilution Tunnel MW(wet): [redacted] lb/lb-mole
Dilution Tunnel H2O: [redacted] percent
Dilution Tunnel Static: [redacted] "H2O
Pitot Tube Cp: [redacted]
Meter Box Y Factor: [redacted]
Barometric Pressure: Begin [redacted] Middle [redacted] End [redacted] Average [redacted] "Hg

Signature/Date: [redacted]
Tunnel Velocity: [redacted] ft/sec.
Intial Tunnel Flow: [redacted] scfm
Average Tunnel Flow: [redacted] scfm
Tunnel Area: [redacted] ft2
Post-Test Leak Check: [redacted] cfm@"Hg
Fuel Moisture (dry basis): 4.51 %
Total Particulate: [redacted] mg
Filter Holder No.: [redacted]

Elapsed Time	Particulate Sampling Data: Gas Meter Cubic Feet	Sample Rate, cfm	Orifice dH	Meter oF	Meter Vac. In. Hg.	Dilution Tunnel Temp.	Dilution Tunnel dP	Pro. Rate (10%)	Fuel Weight, lb: Scale Reading	Weight Change	Wood Heater Temperature Data, oF: Firebox Top	Firebox Bottom	Firebox Back	Firebox Left	Firebox Right	Firebox Interior	Average Surface	Stack	Filter	Impinger exit	Ambient	Stack: Draft In. H2O	Oxygen	Carbon Monoxide	Carbon Dioxide	Air to Fuel Ratio
0	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
30	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
40	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
50	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
60	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
70	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
80	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
90	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
100	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
110	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
120	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Avg/Total	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	[redacted]	[redacted]									[redacted]		[redacted]	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Mt. Vernon E2 3/

Mt. Vernon E2 1/4

TEST REPORT

Intertek

REPORT NUMBER:
REPORT DATE:

EVALUATION CENTER
Intertek Testing Services NA Inc.

RENDERED TO

Hearth & Home Technologies

PRODUCT EVALUATED:
Model Mt. Vernon E2 Freestanding and Insert pellet Fired Room Heater

Report of Testing Model Mt. Vernon E2 Pellet fired Room Heater for compliance as an "Affected Facility" with the applicable requirements of the following criteria: EPA Method 28 "Certification and Auditing of Wood Heaters" and EPA Method 5G "Determination of Particulate Matter Emissions from Wood Heaters".

Mt. Vernon E2 2/1

EPA NSPS WEIGHTED AVERAGE CALCULATION

Project Numbei
Manufacturer: Hearth & Home
Model: MT. Vernon E2
Sample ID No:

Weighted Average

Type of Stove:
1=cat
2=noncat
3=pellet

II.B INFORMATION LOG

TEST STANDARD

From October 21 through October 22, 2014 the unit was tested for EPA emissions using test method 5G2.

Mt. Vernon E2 3/i

Pellet Fuel Moisture Content Worksheet

Intertek

Client	Hearth & Home
Model	Mt. Vernon E2
Project No.	
Sample Description	

Average Moisture Content, Wet Basis	2.33	%
Average Moisture Content, Dry Basis	2.39	%

Mt. Vernon E2 4/4

Client: Hearth & Home Technology
Project No. [redacted]

[redacted]

II.D SUMMARY OF OTHER DATA

EMISSIONS

Run Number	Test Date	Burn Rate (kg/hr)	Emission Rate (g/hr)	Heating Efficiency* (% HHV)	Heating Efficiency* (% LHV)
1	8/5/14	[redacted]	0.39	[redacted]	[redacted]
2	8/5/14	[redacted]	0.44	[redacted]	[redacted]
3	8/6/14	[redacted]	0.58	[redacted]	[redacted]
4	8/6/14	[redacted]	0.98	[redacted]	[redacted]

[redacted]

WEIGHTED AVERAGE CALCULATION

Test No.	Burn Rate	(E) Average Emission Rate g/hr	Heat Output (Btu/hr)	Probability	(K) Weighting Factor	(KxE)
1	[redacted]	0.39	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	0.44	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	0.58	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	0.98	[redacted]	[redacted]	[redacted]	[redacted]
				Totals:	[redacted]	[redacted]
				Weighted average emission rate:		0.5063

Intertek

Mt. Vernon AE 1/3

TEST REPORT

Intertek

REPORT NUMBER:
REPORT DATE:

EVALUATION CENTER
Intertek Testing Services NA Inc.

RENDERED TO

Hearth & Home Technologies

PRODUCT EVALUATED:
Model Mt. Vernon AE Freestanding and Insert pellet Fired Room Heater

Report of Testing Model Mt. Vernon AE Pellet fired Room Heater for compliance as an "Affected Facility" with the applicable requirements of the following criteria: EPA Method 28 "Certification and Auditing of Wood Heaters" and EPA Method 5G "Determination of Particulate Matter Emissions from Wood Heaters".

Mt. Vernon AE 2/3

[redacted]

II.D SUMMARY OF OTHER DATA

EMISSIONS

Run Number	Test Date	Burn Rate (kg/hr)	Emission Rate (g/hr)	Heating Efficiency* (% HHV)	Heating Efficiency* (% LHV)
1	8/5/14	[redacted]	1.06	[redacted]	[redacted]
2	8/5/14	[redacted]	0.89	[redacted]	[redacted]
3	8/6/14	[redacted]	1.13	[redacted]	[redacted]
4	8/6/14	[redacted]	1.97	[redacted]	[redacted]

*Efficiency determined per CSA B415.1-2010.

WEIGHTED AVERAGE CALCULATION

Test No.	Burn Rate	(E) Average Emission Rate g/hr	Heat Output (Btu/hr)	Probability	(K) Weighting Factor	(KxE)
1	[redacted]	1.06	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	0.89	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	1.13	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	1.97	[redacted]	[redacted]	[redacted]	[redacted]
				Totals:	[redacted]	[redacted]
				Weighted average emission rate:		1.1178

Mt. Vernon AE 3/3

Pellet Fuel Moisture Content Worksheet

Intertek

Client: Hearth & Home Technologies

Model: Mt. Vernin AE

Project No.

Sample Description

Average Moisture Content, Wet Basis	**5.16**	%
Average Moisture Content, Dry Basis	**5.44**	%

Section 4

Test Data by Run

Accentra 52i insert 2/5

OMNI-Test Laboratories, Inc.

Manufacturer: Harman
Model: Accentra 52i
Date: 11/11/14
Run: [redacted]
Control #: [redacted]
Test Duration: [redacted]
Output Category: [redacted]

Technicians: [redacted]

Test Results in Accordance with CSA B415.1-09

	HHV Basis	LHV Basis
Overall Efficiency	[redacted]	[redacted]
Combustion Efficiency	[redacted]	[redacted]
Heat Transfer Efficiency	[redacted]	[redacted]

Output Rate (kJ/h)	[redacted]	[redacted]	(Btu/h)
Burn Rate (kg/h)	[redacted]	[redacted]	(lb/h)
Input (kJ/h)	[redacted]	[redacted]	(Btu/h)

Test Load Weight (dry kg)	[redacted]	[redacted]	dry lb
MC wet (%)	5.332814325		
MC dry (%)	5.63		
Particulate (g)	[redacted]		
CO (g)	[redacted]		
Test Duration (h)	[redacted]		

Emissions	Particulate	CO
g/MJ Output	[redacted]	[redacted]
g/kg Dry Fuel	[redacted]	[redacted]
g/h	[redacted]	[redacted]
lb/MM Btu Output	[redacted]	[redacted]

Air/Fuel Ratio (A/F)	[redacted]

VERSION: 2.3 3/23/2010

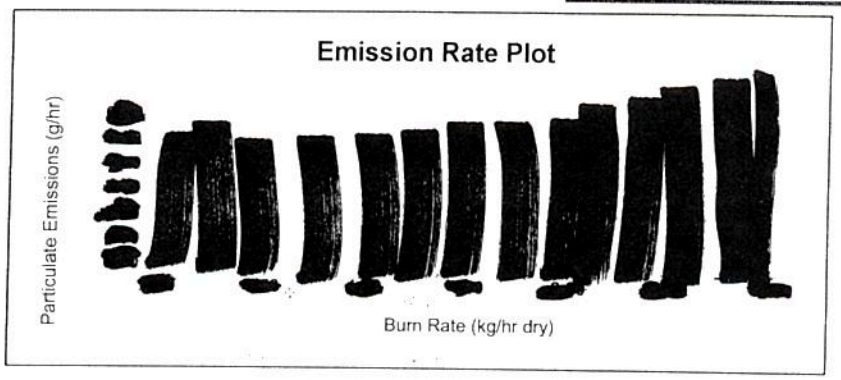
Accentra 52i insert 3/1

EPA Weighted Average Emissions
EPA Method 28

Client: Harman
Stove Model: Accentra 52i
Test Dates: 11/11/14 - 11/13/14
Project Number: [redacted]
Tracking Number: [redacted]

Status: Final
Stove Type: Pellet Stove

Weighted Average (g/hr)
1.5



Run #	4	
Burn Rate (dry kg/hr)	[redacted]	
Category	1	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	1.02	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	
Run #	5	
Burn Rate (dry kg/hr)	[redacted]	
Category	2	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	0.80	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	
Run #	2	
Burn Rate (dry kg/hr)	[redacted]	
Category	3	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	1.21	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	
Run #	1	
Burn Rate (dry kg/hr)	[redacted]	
Category	4	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	5.61	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

Accentra 52i insert 4/5

Manufacturer: Harman
Model: Accentra 52i
Date: 11/11/2014
Run: 3

Appliance Type: Pellet (Cat, Non-Cat, Pellet)

Fuel Data

%Ash 0.5

Accentra 52i insert 5/5

OMNI-Test Laboratories, Inc.

Wood Heater Test Data - EPA Method 5G

Manufacturer:	Harman
Model:	Accentra 52i
Project No.:	
Tracking No.:	
Run:	1
Test Date:	11/11/14

Section 5

Sampling Procedures and Test Results

Absolute 43 2/3

OMNI-Test Laboratories, Inc.

Fuel Moisture
Dry: 5.98%

Wood Heater Test Data - EPA Method 5G

Run: 2

Manufacturer: Harman
Model: Absolute 43
Tracking No: [redacted]
Project No: [redacted]
Test Date: [redacted]
Beginning Clock Time: [redacted]
Recording Interval: [redacted] min
Total Sampling Time: [redacted] min

Velocity Traverse Data

	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Pt 6	Pt 7	Pt 8	
Initial dP	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	"H2O
Initial Temp	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	oF

OMNI Equipment Numbers: [redacted]

PM Control Module: [redacted]
Dilution Tunnel MW(dry): [redacted] lb/lb-mole
Dilution Tunnel MW(wet): [redacted] lb/lb-mole
Dilution Tunnel H2O: [redacted] percent
Dilution Tunnel Static: [redacted] "H2O
Pitot Tube Cp: [redacted]
Meter Box Y Factor: [redacted] (1) [redacted] (2)
Barometric Pressure: Begin [redacted] Middle [redacted] End [redacted] Average 30.04 "Hg

Signature/Date: [redacted]
Tunnel Velocity: [redacted] ft/sec
Initial Tunnel Flow: [redacted] scfm
Average Tunnel Flow: [redacted] scfm
Tunnel Area: [redacted] ft2
Post-Test Leak Check (1): [redacted] cfm@ "Hg
Post-Test Leak Check (2): [redacted] cfm@ "Hg
Fuel Moisture (dry basis %): 5.98
Total Particulate (1): [redacted]
Total Particulate (2): [redacted]

[redacted]

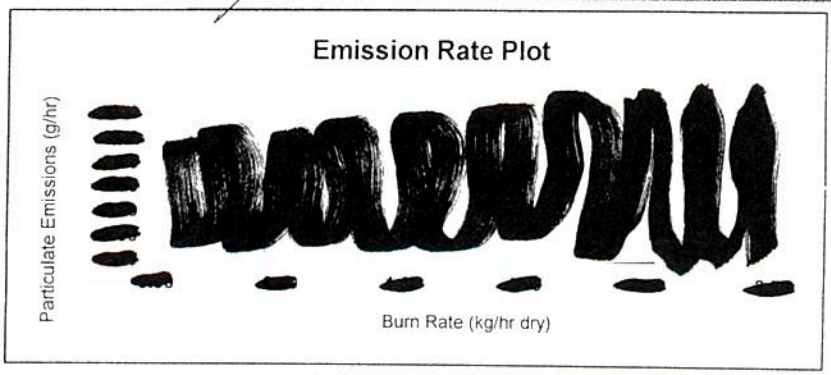
Absolute 43 3/3

EPA Weighted Average Emissions
EPA Method 28

Client: Harman
Stove Model: Absolute 43
Test Dates: August 12-14, 2014
Project Number: [redacted]
Tracking Number: [redacted]
Signature/Date: [redacted]

Status: Final
Stove Type: Pellet Stove

Weighted Average (g/hr)
1.8



Run #	1	2	3	4
Burn Rate (dry kg/hr)	[redacted]	[redacted]	[redacted]	[redacted]
Category	1	2	3	4
Overall Efficiency (%)	[redacted]	[redacted]	[redacted]	[redacted]
Emissions (g/hr)	1.41	1.42	2.22	2.54
Cap (g/hr)	[redacted]	[redacted]	[redacted]	[redacted]
Weighting Factor	[redacted]	[redacted]	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

[redacted]

Ravelli RV80 1/E

Services PolyTests INC.

TEST REPORT

TEST OF A NON CATALYTIC WOOD BURNING STOVE FOR EMISSIONS AND EFFICIENCY

PER EPA METHODS 28 AND 5G-3, FEBRUARY 1988

Client: Ravelli

TESTED BY:

Services Polytests

TEST DATES :

unit model : RV80

Set up

- [redacted]
- [redacted]
- [redacted]

Break in period

- [redacted]
- [redacted]

2 SUMMARY OF TEST RESULTS

2.1 EMISSIONS

Run Number	Test Date	Burn Rate (kg/hr)	Adjusted Emission Rate (g/hr)	Heating Efficiency (% Overall)
1	06-05-2013	[redacted]	3,00	[redacted]
2	07-05-2013	[redacted]	3,53	[redacted]
3	07-05-2013	[redacted]	2,81	[redacted]
4	08-05-2013	[redacted]	2,40	[redacted]

2.2 WEIGHTED AVERAGE CALCULATION

Test No.	Burn Rate	(E) Ave. Emission Rate g/hr	(OHE)	Heat Output (BTU/HR)	Prob.	(K) Weighting Factor
1	[redacted]	3,00	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	3,53	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	2,40	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	2,81	[redacted]	[redacted]	[redacted]	[redacted]
					sum	[redacted]

Weighted Average Emissions Rate: 2.98g/hr
Weighted Average Overall Efficiency: [redacted]

FUEL LOAD DATA SHEET

Average Moisture Content: %

Dry: 6,53

Wet: 6,13

Ravelli RV100 1/2

Services PolyTests INC.

TEST REPORT

TEST OF A NON CATALYTIC WOOD BURNING STOVE FOR EMISSIONS AND EFFICIENCY

PER EPA METHODS 28 AND 5G-3, FEBRUARY 1988

Client: Ravelli

TESTED BY:

Services Polytests

TEST DATES :

unit model : RV100

Ravelli RV 100 2/2

Services PolyTests INC.

Client : Ravelli
Model : RV100

Average Moisture Content: %

Dry: 6,53

Wet: 6,13

2.1 EMISSIONS

Run Number	Test Date	Burn Rate (kg/hr)	Adjusted Emission Rate (g/hr)	Heating Efficiency (% Overall)
1	09-05-2013	[redacted]	3,41	[redacted]
2	09-05-2013	[redacted]	2,58	[redacted]
3	13-05-2013	[redacted]	3,13	[redacted]
4	14-05-2013	[redacted]	2,80	[redacted]

2.2 WEIGHTED AVERAGE CALCULATION

Test No.	Burn Rate	(E) Ave. Emission Rate g/hr	(OHE)	Heat Output (BTU/HR)	Prob.	(K) Weighting Factor
1	[redacted]	3,41	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	2,80	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	2,58	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	3,13	[redacted]	[redacted]	[redacted]	[redacted]
					sum	[redacted]

Weighted Average Emissions Rate: 2.90g/hr

[redacted]

M55 1/6

Certification Test Report

Sherwood Industries Ltd.

Pellet Stove Insert

Model: M55

Prepared for: Sherwood Industries Ltd.

Prepared by: OMNI-Test Laboratories, Inc.

Test Period: October 15-18, 2010

Report Date:

Report Number:

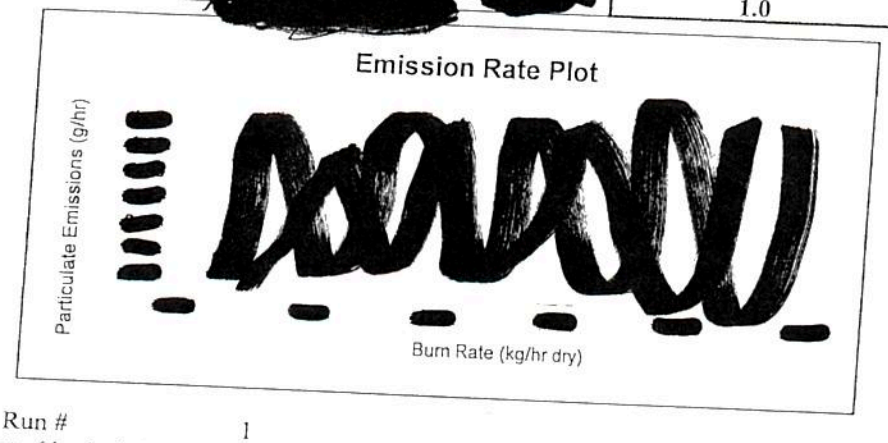
OMNI-Test Laboratories, Inc.

EPA Weighted Average Emissions
EPA Method 28

Client: Sherwood
Stove Model: M55
Test Dates: 10/15/10 & 10/18/10
Project Number: [redacted]
Tracking Number: [redacted]
Signature/Date: [redacted]

Status: Testing Complete
Stove Type: Pellet Stove

Weighted Average (g/hr)
1.0



Run #	1	
Burn Rate (dry kg/hr)	[redacted]	
Category	4	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	0.91	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

Run #	2	
Burn Rate (dry kg/hr)	[redacted]	
Category	1	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	1.12	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

Run #	3	
Burn Rate (dry kg/hr)	[redacted]	
Category	3	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	0.92	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

Run #	4	
Burn Rate (dry kg/hr)	[redacted]	
Category	2	
Overall Efficiency (%)	[redacted]	
Emissions (g/hr)	1.14	
Cap (g/hr)	[redacted]	
Weighting Factor	[redacted]	[redacted]
Heat Output (BTU/hr)	[redacted]	

[redacted]

Wood Heater Calculation Data
EPA Method 5H

Run	1
Manufacturer:	Sherwood
Model/Tracking No.:	M55 Insert
Test Date:	15-Oct-10
Project Number:	

Burn Rate (dry kg/hour) =

Emission Rate (grams/hour) = 0.91

[redacted]

Woodstove Type	
Yhc>1=cat,2=ncat, 3=pellet	
EPA's Hydrocarbon Constant (%)	
Fuel Data	
Test Charge (as fired lbs)	
Average Moisture (% dry basis)	
Average Moisture (% wet basis)	2.97
	2.88
Run Parameters	
DGM initial reading (cf)	
DGM final reading (cf)	
Pb (inches Hg)	
Tm (avg oF)	
dH (avg inches wc)	
Vm (scf)	
Qf by carbon balance (avg dscf/minute)	
Analytical Data	
Probe/Front Wash (mg)	
Front Filter (mg)	
Impinger PM (mg)	
Back Filter (mg)	
Total Weight (mg)	
Emission Results	
Cs (g/dscf)	
ER (g/hour)	

M55 3/6

Wood Heater Calculation Data
EPA Method 5H

Run	2
Manufacturer:	Sherwood
Model/Tracking No.:	M55 Insert
Test Date:	15-Oct-10
Project Number:	

Burn Rate (dry kg/hour) =	
Emission Rate (grams/hour) =	1.12

[redacted]

Woodstove Type	
Yhc>1=cat,2=ncat, 3=pellet	
EPA's Hydrocarbon Constant (%)	
Fuel Data	
Test Charge (as fired lbs)	
Average Moisture (% dry basis)	2.98
Average Moisture (% wet basis)	2.89
Run Parameters	
DGM initial reading (cf)	
DGM final reading (cf)	
Pb (inches Hg)	
Tm (avg oF)	
dH (avg inches wc)	
Vm (scf)	
Qf by carbon balance (avg dscf/minute)	
Analytical Data	
Probe/Front Wash (mg)	
Front Filter (mg)	
Impinger PM (mg)	
Back Filter (mg)	
Total Weight (mg)	
Emission Results	
Cs (g/dscf)	
ER (g/hour)	

M55 4/6

OF 4-26

Wood Heater Calculation Data
EPA Method 5H

Run	3
Manufacturer:	Sherwood
Model/Tracking No.:	M55
Test Date:	18-Oct-10
Project Number:	

Burn Rate (dry kg/hour) =

Emission Rate (grams/hour) = 0.92

Woodstove Type	
Yhc>1=cat,2=ncat, 3=pellet	
EPA's Hydrocarbon Constant (%)	
Fuel Data	
Test Charge (as fired lbs)	
Average Moisture (% dry basis)	2.975
Average Moisture (% wet basis)	2.89
Run Parameters	
DGM initial reading (cf)	
DGM final reading (cf)	
Pb (inches Hg)	
Tm (avg oF)	
dH (avg inches wc)	
Vm (scf)	
Qf by carbon balance (avg dscf/minute)	
Analytical Data	
Probe/Front Wash (mg)	
Front Filter (mg)	
Impinger PM (mg)	
Back Filter (mg)	
Total Weight (mg)	
Emission Results	
Cs (g/dscf)	
ER (g/hour)	

M55 5/6

M55 6/6

Wood Heater Test Data
EPA Method 5H

Run Number 4

Manufacturer:	Sherwood	Sample Rate Control Module Number:	
Stove Model, Tracking Number:	M55	Test Meter 'Y':	
Stove Type (cat, ncat, or pellet):	[redacted]	Orifice dH@:	
Project Number:		Pitot Tube Cp:	
Test Date:	18-Oct-10	Average Barometric Pressure:	
Test Start Time:		Average Fuel Moisture (dry basis %):	2.98
Recording Interval (minutes):		OMNI Equipment Number:	
Total Sampling Time (minutes):			

AGP Insert 1/3

Intertek

TEST REPORT

REPORT NUMBER:
REPORT DATE:

EVALUATION CENTER
Intertek Testing Services NA Inc.

RENDERED TO
Travis Industries Inc.

PRODUCT EVALUATED:
APG FREESTANDING PELLET FIRED ROOM HEATER

Report of Testing Model APG Pellet fired Room Heater for compliance as an "Affected Facility" with the applicable requirements of the following criteria: EPA Method 28 "Certification and Auditing of Wood Heaters" and EPA Method 5G "Determination of Particulate Matter Emissions from Wood Heaters".

AGP Insert 2/3

Client Travis Industries
Project No. [redacted]

Date: [redacted]
Page [redacted]

[redacted]

II.D SUMMARY OF OTHER DATA

EMISSIONS

Run Number	Test Date	Burn Rate (kg/hr)	Emission Rate (g/hr)
1	5/5/14	[redacted]	2.37
2	5/5/14	[redacted]	0.52
3	5/6/14	[redacted]	0.36
4	5/6/14	[redacted]	0.55
5	5/6/14	[redacted]	1.30

[redacted]

WEIGHTED AVERAGE CALCULATION

Test No.	Burn Rate	(E) Emission Rate g/hr	Heat Output (Btu/hr)	Probability	(K) Weighting Factor	(KxE)
4	[redacted]	0.55	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	0.36	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	0.52	[redacted]	[redacted]	[redacted]	[redacted]
1	[redacted]	2.37	[redacted]	[redacted]	[redacted]	[redacted]
					Totals:	[redacted]
					Weighted average emission rate:	0.6713

[redacted]

TEST FACILITY CONDITIONS

Run	Room Temp. °F before	Room Temp °F after	Baro. Pres. In. Hg before	Baro. Pres. In. Hg after	Air Vel. Ft/min before	Air Vel. Ft/min after
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

AGP Insert 3/3

Intertek

TEST FUEL DATA
EPA METHOD 5G-3

[redacted]	[redacted]
Manufacturer:	Travis Industries
Model:	AGP Freestanding
[redacted]	[redacted]

Firebox Volume, ft^3:	[redacted]

Calibration Reference ID		
[redacted]	[redacted]	[redacted]

PRE-BURN FUEL PROPERTIES

Eq. ID No.:		Time:		Temp.,°F:	
Piece No.	Length, In.	Weight, Lb.	Moisture, %, Dry Basis		
1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
5	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
9	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
11	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Weight		[redacted]	Average, %db		[redacted]

Allowable Fuel Load Range: [redacted]

TEST FUEL LOAD PROPERTIES

Eq. ID No.:			Time:	[redacted]	Temp.,°F:	[redacted]
Piece No.	Length, In.	Weight, Lb.		Moisture, %, Dry Basis		
		[redacted]	[redacted]			
1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
2						
3						
4						
5						
6						
7						
8						
Totals		[redacted]	[redacted]			
% of Weight		[redacted]	[redacted]			
Total weight, wet, lb.		[redacted]		Average Moisture, dry		6.50
Total weight, dry, kg		[redacted]		Average Moisture, wet		6.10

Test Engineer: [signature]

Date: [redacted]