

TEST REPORT

SCOPE: EMISSIONS, EFFICIENCY AND OUTPUT

FUEL: EPA TEST FUEL (CRIBS)

TEST STANDARD: EPA

MODEL: SAVANNAH WOOD STOVE

Notice to reader: Our Savannah wood stove was tested as part of our 1.6 Series (XTD 1.1) firebox. Therefore, the 1.6 Series (XTD 1.1) is referenced throughout the attached test report.



REPORT NUMBER: 100527551PRT-001 REPORT DATE: February 28, 2012

EVALUATION CENTER Intertek Testing Services NA Inc. 22887 NE Townsend Way Fairview, OR 97024

RENDERED TO

Stove Builder International, Inc 250, rue de Copenhague Saint-Augustin-de-Desmaures Québec (Canada), G3A 2H3

PRODUCT EVALUATED: Series 1.6 SOLID FUEL ROOM HEATERS

Report of Testing Model XTD 1.1 which represents the 1.6 Series Wood Fuel 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".

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REPORT

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I. INTRODUCTION

Intertek Testing Services NA (Intertek) has conducted testing for Stove Builder's International (SBI) on model line Series 1.6 with the model XTD 1.1 Solid Fuel Room Heater, to evaluate all applicable performance requirements included in EPA Method 28 "Certification and auditing of wood heaters" and Method 5G "Determination of particulate matter emissions from wood heaters."

I.A PURPOSE OF TEST

The testing was conducted to determine if the unit is in accordance with U.S EPA requirements under 40 CGR 60 SUBPART AAA, NSPS for Residential Wood Heaters. This evaluation was conducted from October 17-24, 2011.

I.B LABORATORY

The testing on the XTD 1.1 Solid Fuel Room Heater was conducted at the client's facility located in St-Augustine-de-Desmaures, Quebec under Intertek's mobile-testing accreditation by the U.S. EPA, Certificate Number 8. The elevation of SBI's laboratory is 190 feet above sea level. The testing was conducted by Intertek engineers Ken Morgan and Florin Anghel.

I.C DESCRIPTION OF UNIT

The model XTD 1.1 Solid Fuel Room Heater is constructed of carbon steel. The outer dimensions are 22.25 -inches deep, 27.50 -inches high and 23.50 -inches wide. The unit has a door located on the front with a viewing glass for loading the fuel. The XTD 1.1 represents the basic design features found in all of the 1.6 Series Wood Stoves.

(See product drawings.)

Proprietary drawings and manufacturing methods are on file at Intertek's Portland Oregon facility.

I.D REPORT ORGANIZATION

This report includes summaries of all data necessary to determine compliance with the regulations. Raw data, calibration records, intermediate calculations, drawings, specifications and other supporting information are contained in appendices to this report.



II. SUMMARIZATION

II.A PRETEST INFORMATION

A sample was submitted to Intertek directly from the client. The sample was not independently selected for testing. The unit was inspected on October 17, 2011 immediately prior to the commencement of testing and found to be in good condition. The unit was set up by the manufacturer.

The unit was placed on the test stand and instrumented with thermocouples in the specified locations. Prior to beginning the emissions tests the unit was operated for a minimum of 10 hours at high-to-medium burn rates to break in the stove. The unit was found to be operating satisfactory during this break-in. The 10 plus hours of pre-burning were conducted on 25 consecutive R&D runs performed by the manufacturer immediately preceding the dates of the testing reflected in this report. The fuel used for the break-in process was dimensional Douglas fir lumber.

Following the pre-burn break-in process, the unit's chimney system and laboratory dilution tunnels were cleaned using standard wire brush chimney cleaning equipment. Cleaning of the dilution tunnel and chimney were conducted by the manufacture on October 13, 2011 and documented with photographs. Visual inspection was performed by Intertek staff on October 17, 2011.

II.B INFORMATION LOG

TEST STANDARD

From October 17, 2011 to October 24, 2011, the unit was tested for EPA emissions.

Deviation from Standard Method

No deviations from the standards were performed, however, only the applicable sections from each standard were used during all testing.



II.C SUMMARY OF TEST RESULTS

RUN #1 October 18, 2011. Air control set at full closed position (fixed 0.469 in. diameter hole in shutter), burn time was 280 minutes with a category 2 burn rate of 0.90 kg/hr. The door open for 90 seconds, and then closed. The air control was open for 5 minutes, and then fully closed. The fan was off for the first 30 minutes, and then turned on low for the duration thereafter.

RUN #2 October 19, 2011. Air control set at 3/16" from full closed position. Burn time was 210 minutes with a category 2 burn rate of 1.19 kg/hr. The door open for 90 seconds, and then closed. The air control was open for 5 minutes, and then set with a 3/16 drill gauge from fully closed. The fan was off for the first 30 minutes, and then turned on low for the duration thereafter.

RUN #3 October 20, 2011. Air control set at 3/4" from full closed position. Burn time was 160 minutes with a category 3 burn rate of 1.56 kg/hr. The door open for 75 seconds, and then closed. The air control was open for 5 minutes, and then set with a ³/₄" drill gauge from fully closed. The fan was off for the first 30 minutes, and then turned on low for the duration thereafter.

RUN #4 October 21, 2011. Air control set to fully open position. Burn time was 130 minutes with a category 4 burn rate of 1.93 kg/hr. The door open for 90 seconds, and then closed. The air control was fully open for the duration of the test. The fan was off for the first 30 minutes, and then turned on low for the duration thereafter.

RUN #5 October 24, 2011. Air control set at full closed position (fixed 0.469 in. diameter hole in shutter), burn time was 260 minutes with a category 2 burn rate of 0.95 kg/hr. The door open for 90 seconds, and then closed. The air control was open for 5 minutes, and then fully closed. The fan was off for the duration of the test (fan confirmation test).



II.D SUMMARY OF OTHER DATA

	LINIOC	JOND				
Run Number	Test Date	Burn Rate (kg/hr)	Emission Rate (g/hr)	Adjusted Emission Rate (g/hr	Heating Efficiency (% HHV)	Heating Efficiency (% LHV)
1	10-18-11	0.90	3.37	4.99	**	**
2	10-19-11	1.19	2.91	4.42	67.2	72.7
3	10-20-11	1.56	1.00	1.82	66.4	71.7
4	10-21-11	1.93	2.88	4.38	69.7	75.3
*5	10-24-11	0.95	3.73	5.42	63.9	69.0

EMISSIONS

* Run 5 was conducted as a fan-confirmation test and is therefore not included in the weighted average.

** Flue gas concentrations were not recorded for Run 1

WEIGHTED AVERAGE CALCULATION

Test No.	Burn Rate	(E) Average Emission Rate g/hr	Heat Output (Btu/hr)	Probability	(K) Weighting Factor	(KxE)
1	0.90	4.99	10852.38	0.3000	0.5380	2.6846
2	1.19	4.42	14349.26	0.5380	0.4832	2.1357
3	1.56	1.82	18810.79	0.7832	0.3636	0.6618
4	1.93	4.38	23272.33	0.9016	0.2168	0.9496
				Totals:	1.6016	6.4317
			Weighted	average emi	ission rate:	4.0158

TEST FACILITY CONDITIONS

Run	Room Temp. °F before	Room Temp °F after	Baro. Pres. In. Hg before	Baro. Pres. In. Hg after	R.H. % before	R.H. % after	Air Vel. Ft/min before	Air Vel. Ft/min after
1	79	82	29.69	29.74	49.0	49.0	<50	<50
2	80	78	30.11	30.07	33.7	32.0	<50	<50
3	83	85	29.72	29.60	49.0	49.0	<50	<50
4	83	85	29.65	26.67	38.0	39.0	<50	<50
5	85	84	30.08	29.92	30.0	34.0	<50	<50

DILUTION TUNNEL FLOW RATE MEASUREMENTS AND SAMPLING DATA

Run No.	Burn Time	Velocity	Volumetric Flow Rate	Total Temp.	1.	ume nple		culate n (mg)
INO.	(min)	(ft/sec)	(dscf/min)	(°R)	1	2	1	2
1	280	7.36437	141.77	547.453	29.965	30.036	11.6	12.2
2	210	7.96986	153.24	555.060	22.456	23.326	7.2	7.3
3	160	7.32338	133.39	577.548	17.019	17.489	2.2	2.1
4	130	8.16901	142.39	603.529	13.238	13.447	4.6	4.4
5	260	7.43603	142.53	555.106	26.638	26.386	11.6	11.5

DILUTION TUNNEL DUAL TRAIN PRECISION

Run No.	Sample	Ratios	Total Emi	ssions (g)	%	% Deviation of 7.5% of 7.5 grams*	
	Train 1	Train 2	Train 1	Train 2	Deviation		
1	1324.8	1321.6	15.37	16.12	1.99	2.65	
2	1433.0	1379.6	10.32	10.07	1.00	1.18	
3	1254.0	1220.4	2.76	2.56	3.06	1.48	
4	1398.3	1376.5	6.43	6.06	2.49	2.91	
5	1391.2	1404.5	16.14	16.15	0.03	0.05	

*= As described in Method 5G-3 section 16.2.5

GENERAL SUMMARY OF RESULTS

Run No.	Burn Rate (kg/hr)	Change In Surface Temp (°F)	Initial Draft (in/H ₂ O)	Run Time (min)	Average Draft (in/H ₂ O)
1	0.90	-86.32	035	280	041
2	1.19	-42.44	045	210	048
3	1.56	-53.36	035	160	064
4	1.93	-79.50	035	130	068
5	0.95	-93.68	055	260	051

III. PROCESS DESCRIPTION

III.A TEST SET-UP DESCRIPTON

A standard 6" diameter single wall pipe and insulated chimney system was installed to 15' above floor level. The unit controls were set to the lowest setting during the test.



III.B AIR SUPPLY SYSTEM

Combustion air enters at front of the firebox through an opening at the bottom of the firebox. This air is controlled by a sliding damper, which covers the inlet hole. The lever is located under the ash lip. All gases exit through the 6" flue

IV. SAMPLING SYSTEMS

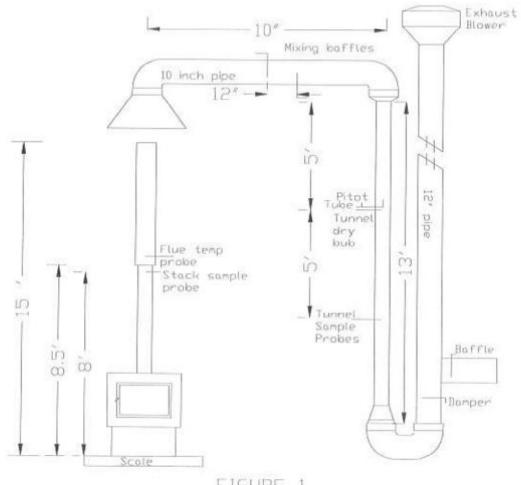
IV.A. SAMPLING LOCATIONS

Particulate samples are collected from the dilution tunnel at a point 20 feet from the tunnel entrance. The tunnel has two elbows and two mixing baffles in the system ahead of the sampling section. (See Figure 3.) The sampling section is a continuous 13 foot section of 6 inch diameter pipe straight over its entire length. Tunnel velocity pressure is determined by a standard Pitot tube located 60 inches from the beginning of the sampling section. The dry bulb thermocouple is located six inches downstream from the Pitot tube. Tunnel samplers are located 60 inches downstream of the Pitot tube and 36 inches upstream from the end of this section. (See Figure 1.)

Stack gas samples are collected from the steel chimney section 8 feet \pm 6 inches above the scale platform. (See Figure 2.)



IV.A.(1) DILUTION TUNNEL

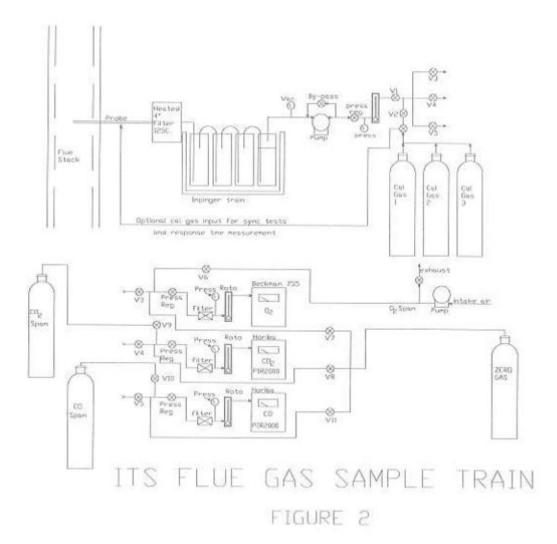






IV.B.OPERATIONAL DRAWINGS

IV.B.(1) STACK GAS SAMPLE TRAIN





IV.B.(2). DILUTION TUNNEL SAMPLE SYSTEMS

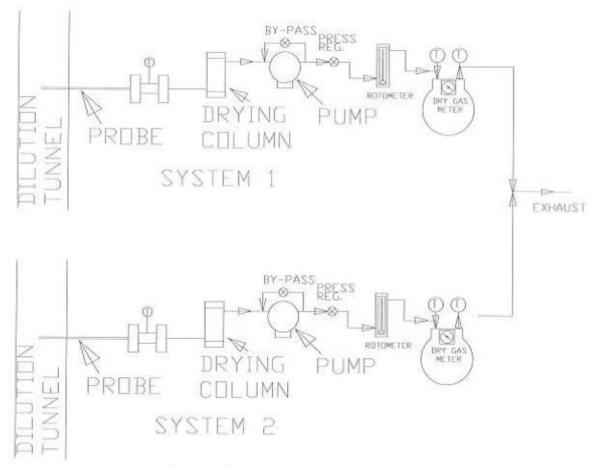


Figure 3



V. SAMPLING METHODS

V.A. PARTICULATE SAMPLING

Particulates were sampled in strict accordance with EPA Method 5G-3. This method uses two identical sampling systems with binder free 47-mm diameter glass filters. The dryers used in the sample systems are filled with "Drierite" before each test run.

VI. QUALITY ASSURANCE

VI.A. INSTRUMENT CALIBRATION

VI.A. (1). DRY GAS METERS

At the conclusion of each test program the dry gas meters are checked against a standard dry gas meter. Three runs are made on each dry gas meter used during the test program. The average calibration factors obtained are then compared with the six-month calibration factor and, if within 5%, the sixmonth factor is used to calculate standard volumes. Results of this calibration are contained in Appendix D.

An integral part of the post test calibration procedure is a leak check of the pressure side by plugging the system exhaust and pressurizing the system to 10" W.C. The system is judged to be leak free if it retains the pressure for at least 10 minutes.

The standard dry gas meter is calibrated every 6 months by a third-party accredited calibration laboratory. The process involves sampling the train operation for 1 cubic foot of volume. With readings made to .001 ft³, the resolution is .1%, giving accuracy higher than the $\pm 2\%$ required by the standard.

VI.A.(2). STACK SAMPLE ROTAMETER

The stack sample rotometer is checked by running three tests at each flow rate used during the test program. The flow rate is checked by running the rotometer in series with one of the dry gas meters for 10 minutes with the rotometer at a constant setting. The dry gas meter volume measured is then corrected to standard temperature and pressure conditions. Rotometers were used to monitor the flow-rates during the tests in order to ensure proportionality, but the inline dry gas meters were used to determine the actual sampled volumes.



VI.A.(3). GAS ANALYZERS

The continuous analyzers are zeroed and spanned before each test with appropriate gases. A mid-scale multi-component calibration gas is then analyzed (values are recorded). At the conclusion of a test, the instruments are checked again with zero, span and calibration gases (values are recorded only). The drift in each meter is then calculated and must not exceed 5% of the scale used for the test.

At the conclusion of each unit test program, a five-point calibration check is made. This calibration check must meet accuracy requirements of the applicable standards. Consistent deviations between analyzer readings and calibration gas concentrations are used to correct data before computer processing. Data is also corrected for interferences as prescribed by the instrument manufacturer's instructions.

VI.B. TEST METHOD PROCEDURES

VI.B.(1). LEAK CHECK PROCEDURES

Before and after each test, each sample train is tested for leaks. Leakage rates are measured and must not exceed 0.02 CFM or 4% of the sampling rate. Leak checks are performed checking the entire sampling train, not just the dry gas meters. Pre-test and post-test leak checks are conducted with a vacuum of 10 inches of mercury. Vacuum is monitored during each test and the highest vacuum reached is then used for the post test vacuum value. If leakage limits are not met, the test run is rejected. During, these tests the vacuum was typically less than 2 inches of mercury. Thus, leakage rates reported are expected to be much higher than actual leakage during the tests.

VI.B.(2). TUNNEL VELOCITY/FLOW MEASUREMENT

The tunnel velocity is calculated from a center point Pitot tube signal multiplied by an adjustment factor. This factor is determined by a traverse of the tunnel as prescribed in EPA Method 1. Final tunnel velocities and flow rates are calculated from EPA Method 2, Equation 6.9 and 6.10. (Tunnel cross sectional area is the average from both lines of traverse.)

Pitot tubes are cleaned before each test and leak checks are conducted after each test.

VI.B.(3). PM SAMPLING PROPORTIONALITY (5G-3)

Proportionality was calculated in accordance with EPA Method 5G-3. The data and results are included in Appendix C.



VII. CONCLUSION

These tests demonstrate that this unit is an affected facility under the definition given in the regulation. The weighted average emission rate of 4.02 g/hr meets the current Federal requirements..

VII.A RESULTS AND OBSERVATIONS

The Model XTD 1.1 Solid Fuel Room Heater has been found to be in compliance with the applicable performance and construction 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."

INTERTEK TESTING SERVICES NA

Reported by:

Test Engineer

Reviewed by: Band

Reviewer



Appendix C

Sample Analysis

Intertek

CLIENT: SBI

MODEL: XTD 1.1 PROJECT #: G100527551

DATE: 10/26/2011

RUN #: 1

SAMPLE ID #: PRT1110121353-001

INTERTEK EQUIPMENT #'s: SBI-206, SBI-121, 180-195, 180-110

Sample Train A					
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	33	247.3	118.9	10.3
REAR FILTER CATCH	FILTER	35	241.3	118.1	
PROBE & FILTER HOLDER	PROBE	30	135904.2	135902.9	1.3
			Total Pa	rticulate, mg	11.6

Sample Train A					
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	31	240.7	119.0	10.0
REAR FILTER CATCH	FILTER	32	249.7	119.8	10.9
PROBE & FILTER HOLDER	PROBE	32	136020.6	136019.3	1.3
			Total Pa	rticulate, mg	12.2

ENGINEER: /A.I. DATE: 11-21-11

Intertek

CLIENT: SBI

MODEL: XTD 1.1 PROJECT #: G100527551

DATE: 10/26/2011

RUN #: 2

SAMPLE ID #: PRT1110121353-001

INTERTEK EQUIPMENT #'s:

Sample Train A FINAL WEIGHTS FILTER # OR PARTICULATE, mg SAMPLE COMPONENT REAGENT TARE, mg PROBE # (Filters Combined) (Final Weight - Tare) FRONT FILTER CATCH FILTER 36 118.4 244.6 6.5 REAR FILTER CATCH FILTER 37 119.7 PROBE & FILTER HOLDER PROBE 135995.4 33 135994.7 0.7 Total Particulate, mg 7.2

SBI-206, SBI-121, 180-195, 180-110

Sample Train A					
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	38	0.00	118.5	
REAR FILTER CATCH	FILTER	39	245.8	120.1	7.2
PROBE & FILTER HOLDER	PROBE	34	108411.6	108411.5	0.1
			Total Pa	rticulate, mg	7.3

ENGINEER: 16 1. Margan DATE: 11-21-11

Intertek

CLIENT: SBI

MODEL: XTD 1.1 PROJECT #: G100527551

DATE: 10/26/2011

RUN #: 3

SAMPLE ID #: PRT1110121353-001

INTERTEK EQUIPMENT #'s: _____ SBI-206, SBI-121, 180-195, 180-110

Sample Train A					
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	40	240.4	119.4	1.9
REAR FILTER CATCH	FILTER	41	240.1	118.8	
PROBE & FILTER HOLDER	PROBE	35	107838.3	107838.0	0.3
			Total Pa	rticulate, mg	2.2

Sample Train A					
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	42	242.0	121.0	
REAR FILTER CATCH	FILTER	43	242.8	119.8	2.0
PROBE & FILTER HOLDER	PROBE	36	108503.3	108503.2	0.1
			Total Pa	rticulate, mg	2.1

ENGINEER: 1/2. Marga DATE: 11-21-11

Intertek

CLIENT: SBI MODEL: XTD 1.1 PROJECT #: G100527551

DATE: 10/26/2011

RUN #: _____4

SAMPLE ID #: PRT1110121353-001

INTERTEK EQUIPMENT #'s: SBI-206, SBI-121, 180-195, 180-110

Sample Train A	1				
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	44	0.00.4	118.8	
REAR FILTER CATCH	FILTER	45	243.1	120.5	3.8
PROBE & FILTER HOLDER	PROBE	37	108384.5	108383.7	0.8
			Total Pa	rticulate, mg	4.6

Sample Train A					
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	46		118.6	
REAR FILTER CATCH	FILTER	47	241.4	119.3	3.5
PROBE & FILTER HOLDER	PROBE	22	139580.3	139579.4	0.9
			Total Pa	rticulate, mg	4.4

ENGINEER: 16. 1. Marga DATE: 11-21-11

Intertek

CLIENT: SBI

MODEL: XTD 1.1 PROJECT #: G100527551

DATE: 10/26/2011

RUN #: 5

SAMPLE ID #: PRT1110121353-001

INTERTEK EQUIPMENT #'s:

Sample Train A FINAL WEIGHTS FILTER # OR PARTICULATE, mg SAMPLE COMPONENT REAGENT TARE, mg PROBE # (Filters Combined) (Final Weight - Tare) FRONT FILTER CATCH FILTER 1 122.5 254.4 9.5 REAR FILTER CATCH FILTER 2 122.4 PROBE & FILTER HOLDER PROBE 17 139749.7 139747.6 2.1 Total Particulate, mg 11.6

SBI-206, SBI-121, 180-195, 180-110

Sample Train A					
SAMPLE COMPONENT	REAGENT	FILTER # OR PROBE #	FINAL WEIGHTS (Filters Combined)	TARE, mg	PARTICULATE, mg (Final Weight - Tare)
FRONT FILTER CATCH	FILTER	3	054.7	122.8	100
REAR FILTER CATCH	FILTER	4	254.7	122.0	9.9
PROBE & FILTER HOLDER	PROBE	18	147892.0	147890.4	1.6
			Total Pa	rticulate, mg	11.5

1h f. Marg ENGINEER: DATE: 11-21-11

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	30.12.28			0.1228 1						
4	40.12.13		0.1220	0.1220 ~						
	50.12.23		0.1225	_						
9	60.1234			0.1234~						
-	70.1218		0.1219	-0.1218 V						
00	80.1228		0.1227	-0.1227V						
5	90.1231		0.12.31	0.1231 4						
10	10 0.1213		0.1220	0.1220 4						
11	11 0.1229		0.1223	0.1223 -0.12304						
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Standard:				
	8	184 30	124.15	13:00

	2011-08-23	201-08-25 2011-08-26 201-08-26 2011-08-2	2011-08-26	2011-08-26	2011-08-26	2011-08-26 201-03-12 2011-0913 2011-10-07 2011-10-12 2011-10-17	2011-0943	201-10-0	1-01-1102 1	1-01-1102 7
ld. Fätres	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
	1 0.1336	0.1336								
	20.1228									
	3 0.1330	0.1330								
	40,12.31									
	50.1287	0.1289								
	60.1229	0.1229								
	70.1302	40EV.0								
	80.1228	0.1228								
	6	0.1248		6,1247						
10	0	0.1222		01224						
11	1	0.12.38		O.1234 B						
12	2	0.1233		0.1233						
13		0.1311			0.1308	0.1306				
14	st	0.4232			0.1231	0.1231				
15	10	0.1325			0.1322	0.1322				
16	10	0.1236			0.1237	0.1238				
17	0.1225		0.1230	24210		9.1248		0,1246	0,1244	0.1246
18	18 0.1224		01223	£221.0		0.12269		0.12.24	0.1224	01226
11	19 0. (223		0.1222	0.1239		0.1240		0.12.39	0.1238	0.1240
2(FP11.002		SEW.0	0.1173		SEN.0	St11.0	0,1175	0, 11 74	SFILO
21	21 0.1224									
22	0.1228									
23	S D.11 85									
24	10.1230									

XTD 1.9 Projet: Date: Tech: Standard:

V. Pelletier 7 /?

									-	
Id. Probes	Date	Date	Date	Date	Date	Date	Date		Date	Date
1	17 439,7496									
-	18 14- 8517									
1	19/140,1233			140,1231						
2	20 135,0688	139,0691		133,0690						
2	21/39,2433	32432 139, 2435 139, 2435		4642, 661						
2	22 139,57-95									
2	23	136,1831		136,1830						
2	24	136,0420		136,0412						
2	25/136,8331				136,8340	136,8336				
2	26 133, 8289				125,8298	135,8253				
2	27/136,3017		136,3020	136,9023		139,9027	136.9020	136,9021	136,9028	
2	28 136,2235		136,2238	136,2238		136,2240 136,2233	136.2233	1362233	136,2245	
2	29			-						
ŝ	30									
31	1									
32	2									
33	m									
34	4									
35	2									
36	9									
37	7									
38	60									

Projet: Date: Tech: Standard:

V. Pelletier

200000=0.2000%

AUDIT 0.1339 3

ld. Filtres	Date	04:40	Date	II: 33 Date	3 Date 41:00 Date	Date	Date	Date	Date	Date	Date	Date
	2011	-10-12	2011-10-13	0-13	201-10-13		2011-10-18	2-01-112				
25	0.	1188		87	0.1187-	RUN A						
26	0	196	0.11	94	0.11961	RUDIA						-
27	0	180	0.11	80	0. M82 -	81218						
28	0	184	0.11	5	- 28 IV.O	RUNID						
29	0	204	0.12	203	0.12.03 1	SCRAP	0.1202					
30	0.1	201	0 12	10	0.12000	SCRAP						
31	0.	184	0.11	16	0.M30V	RUNI 15		0.1232				
32	0	199	0.11	9.8	~ 86W.0	RUNIG		0.1206				
33	0	1188	0.11	89	1 6311.0	RUNI A		F821.0				
34	0	191	0.11	191	2223							
35	0	181	0.11	18	0.1181 L	RUN 1 A		F811.0				
36	0.	184	0.11	84	0.1184 V	RUN 2A						
37	0	198	0.11	97	240W.0	RUN ZA						
38	0.	185	0.11	85	N. 28 M.O	RUN 2 R						
39	0	102	0.12	10	0.1201-							
40	0	194	0.11	93	0.1194 V							
41	0.	188	0.11	88	0.1188 -							
42	0	2610	0.12	01	0.1240 -							
43	0.	198	0.11		~ 80W.O							
44	0.1	187	0,11		0.1188 -							
45	0.1	206	0.12	06	0.1205 1							
46	0.1	187	0.11	1185	0.M86 ~							
47	0.1	193	0.11		0.M335							
48	<	1196	E C		ALLON I							

Date: Tech: Standard: Projet:

V. Pelletier

V. Pelletier AUNT AUNT Zoog=200.001 & 200913 %. SB1-206 100.0012 %. 100.0012 %.

Id. Probes	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
					201-10-18		2011-10-20			
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										_
29	135, 1828	35,1831	135,1834	RUNI RA					c	
30		135,9027	155 3033		135, 3023	Kuta X				
31	137.0992	137.0995	137,1000	RU/11 (00)						
32	136,0189	136,0188	136,0136		136,0193	KUHA L				
33		135.9944	135,3950		135,3347	RUNZA				
34	108.	108.4111			108,4115	Row 2B				
35	107.8376	107 8376		RUHJA	107,8380					
36	108.	108 5027		RUH 35	108,5032			1		
37	-	-			108,3833	シキャー	PUN 4A 108,3837			
38										



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DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: PRTILIOI 2/353-00/

Date: 10-18-11 Engineer: K. Morgan / F. Anghel Run #: 1 Sample Train #: 1

Balance Equipment #: 581-206Thermo/Hygro meter Equipment #: 581-212

Audit weight Equipment #: 180-195 (Balance audit mfr. std: 500 ± 0.72 mg)

No. of Street,		1					
Front Filter #	33 3	3	Tare:	0.1203	Preliminary	Wt: O	.1288
Rear Filter #	35 3	5	Tare:	0.1181	Preliminary	Wt: 🖸	F811.5
Seal Set #	N/A		Tare:	N/A	Preliminary	Wt: N/	/A
Date/Time in de	essicator:	0	T. 18,	2011/16:20	Preliminary	Wt:	
Date	Time		R/H %	Temp. (F)	Weight (grams)	Audit (grams	Initials
2011-10-20	5:20		29	74	0.2474	0.189	=
201(-10-21	5:10		28	74	0.2473	0.200 :	and the second sec
						0.2 =	
Probe #:	30		Tare:	135,3023	Preliminary	Nt: 13	5,3036
Date/Time in de	essicator:	00	T. 18,2	2011/16:20			,
Date	Time		R/H %	Temp. (F)	Weight (grams)	Audit (grams	alcitio
2011-20-20	9:20		29	74	135,9040	200 =	
2011-10-21	9:00		28	74	135,9042	200 =	-14
						2000 = Q. 2000	

Date: 0000BCR 25, 2011 Engineer signature:





DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: PRT 1101 21353-001

Date: 10-18-11 Engineer: K. Morgan / F. Anghel

Run #: _ A __ Sample Train #: _ 2___

Balance Equipment #: SB1-204 Thermo/Hygro meter Equipment #: SB1-212 Audit weight Equipment #: 180-195 (Balance audit mfr. std: 500 ± 0.72 mg)

Front Filter #	31	Ta	are:	0.11.00	Preliminary \	Nt:	9.	1293
Rear Filter #	32	Ta	are:	0.1158	Preliminary \	Nt:	0.)	LOG
Seal Set #	N/A	Та	are:	N/A	Preliminary \	Nt:	N/A	
Date/Time in de	essicator:	oor.	78	2011/46:20	Preliminary \	Nt:		
Date	Time	R/H	%	Temp. (F)	Weight (grams)	11,000	udit rams)	Initials
2011-10-20	9:20	20	3	74	0.2498		200 = 389	AF
2011-10-21	al: Lo	4	%	74	0.12.51	0.3	200 =	本
Probe #:	32	Та	re:	136,0193	Preliminary V	/vt:	136	,0133
Date/Time in de	ssicator:	OCT. 1	8,2	011/16:20				-
Date	Time	R/H		Temp. (F)	Weight (grams)		udit ams)	Initials
2011-10-20	3:20	29		74	136,0203	200	0021	TA
2011-10-21	9:00	4%	2	74	136,0206	200	0 = 0.0021	A

Date: OCTOBER 25, 2011 Engineer signature:

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DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: PRTINOIZ1353-001

Date: 10-19-11 Engineer: K. Morgan / F. Anghel Run #: Z____ Sample Train #: _A___ Balance Equipment #: 5B1-206 Thermo/Hygro meter Equipment #: 5B1-212_ Audit weight Equipment #: 180-110 (Balance audit mfr. std: 500 ± 0.72 mg)

addit froight Equip	strictly and the	(Dalance addit	mm. atu. 000 2 0.	iz my/		
Front Filter #	36	Tare:	0,1184	Preliminary \	Nt: C	1,1246
Rear Filter #	37	Tare:	0,1197	Preliminary \	Nt: 0	. 1203
Seal Set #	N/A	Tare:	N/A	Preliminary \	Nt: N/A	
Date/Time in de	ssicator.	10-19-14	15:40	Preliminary \	Nt:	,2449
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials
2011-10-21	5:00	4%	74	0.2448	0.200=	A
2041-10-25	8:50	4%	74	0,2446	0.2 =	TA
Probe #:		Tare:	125024	Preliminary	Alt: 1.0	
	33	T	135,9947	Preaminary	WC /3	5.9946
Date/Time in de	ssicator:	10-19-11	15:40			
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials
2011-10-21	9:00	4	74	135,9959	200=	AF ,
2011-10-25	8:50	4	73	135,9954	200 200,0018	#

Date: OCTOBER 25, 2011

Engineer signature:

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DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: PRTI10121353-001

Run #: 2_ Sample Train #: B

Date: 10-19-11 Engineer: K. Morgan / F. Anghel Balance Equipment #: 581-206 Thermo/Hygro meter Equipment #: SBi-242

Audit weight Equipment #: 1 20 - 195 (Balance audit mfr. std: 500 ± 0.72 mg)

Front Filter #	38	Tare:	0,1185	Preliminary V	Wt: 0	1252	
Rear Filter #	39	Tare:	0,1201			1207	
Seal Set #	N/A	Tare:	N/A	Preliminary V	Wt: N/A	: N/A	
Date/Time in de	essicator:	10 -19 -11	15:140	Preliminary V	Wt:	2459	
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials	
1-10-21	D:00	4%	74	0.2460	0,200=	TA	
2011-10-25	8:20	4%	73	0.2458	0.2=	+A+	
	and to be						
Probe #:	34	Tare:	108,4115	Preliminary \	Nt: 108	1,4110	
Date/Time in de	ssicator:	10-19-11	15:40				
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials	
2011-10-21	3:00	4	74	108,4120	200 =	AF	
2011-10.2.5	62:8	4	73	108,4116	200 = 200,0018	Æ	
			-				

Date: 0000002 25, 2011 Engineer signature:



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DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: _____

Date: 10-20-11 Engineer: K. Morgan / F. Anghel

Run #: 3 Sample Train #: A

Balance Equipment #: 581-24 Thermo/Hygro meter Equipment #: 581-212

Audit weight Equipment #: 120-13 (Balance audit mfr. std: 500 ± 0.72 mg)

North Street Str	State of the second second							
Front Filter #	40		Tare:	.1194	Preliminary \	/Vt:	0	1212
Rear Filter #	41		Tare:	.1188	Preliminary Wt:		AC ALO IT	
Seal Set #	N/A		Tare:	N/A	Preliminary Wt:		t: N/A	
Date/Time in de	essicator:	20/20	/AN	13:20	Preliminary \	Nt:		
Date	Time	R/	Н%	Temp. (F)	Weight (grams)	Au (gra		Initials
2011-10-24	00:C	4	-	72	.1212 0.2403	0.20	2=	TA
2011-10-24	17:00	4	-	92	0.2401	0.2		AF
Probe #:	35	1	Tare:	107.8380	Preliminary	Vt:	107	8383
Date/Time in de		10/2	0/11 .					1
Date	Time	1	Н%	Temp. (F)	Weight (grams)	Au (grai		Initials
201-10-24	8:50	4	F	72	107,8380	200.0	18	TA
2011-10-24	17:00	4	-	72	107,8383	200	2011 A.	AF
							_	
		-						

Date: DetoBER 25, 20 11 Engineer signature:



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DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: _____

Date: 10 - 20 - 11 Engineer: K. Morgan / F. Anghel

Run #: 3 Sample Train #: B

Balance Equipment #: SB1-26 Thermo/Hygro meter Equipment #: SB1-212

Audit weight Equipment #: 180-195 (Balance audit mfr. std: 500 ± 0.72 mg)

and the second se	the second se			or manage			
Front Filter #	42	Tare		Preliminary	Wt: 0	1226	
Rear Filter #	43	Tare	. 1198	Preliminary	Wt: 0. 1201		
Seal Set #	N/A	Tare	100 Car	Preliminary	Wt: N/A	: N/A	
Date/Time in de	essicator:	20/10/11	; 13:20	Preliminary	Wt:		
Date	Time	R/H %		Weight (grams)	Audit (grams)	Initials	
2011-10-24	3:00	3.5	63.8	0. 2.428	0.2 =	AF	
2011-10-24	17:00	3.5	63.8	0.2428	0.2 =	AF	
Probe #:	36	Tare	108 5032	Preliminary	Wt: 10	8,2038	
Date/Time in de	ssicator:	20/10/11				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials	
2011-10-24	8:20	4	69.8	108.5032	200 = 200,0018	A	
2011-10-24	17:00	4	70	108 2033	200.001	AF	

Date: OCTOBER 25, 2011 Engineer signature:



DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: TRT 110121353-001

Date: 04.21, 24 Engineer: K. Morgan / F. Anghel

Run #: 4 Sample Train #: A

Balance Equipment #: 581-206 Thermo/Hygro meter Equipment #: 581-212

Audit weight Equipment #: _____ (Balance audit mfr. std: 500 ± 0.72 mg)

	and the second se	The second of the second second					
Front Filter #	44	Tare:	. 1188	Preliminary	wt: O	1223	
Rear Filter #	45	Tare:	. 1205	Preliminary	Wt: 🔊	Vt: 10.1210	
Seal Set #	N/A	Tare:	N/A	Preliminary	Wt: N/A		
Date/Time in de	essicator:	12:30	0-21-11	Preliminary	Wt:		
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials	
2011-10-24	3:00	4.1	71.5	0.2433	0.2 =	TA	
2011-10-24	17:00	4.2	72	0.2431	0.2 = 0.2000	TA	
Probe #:	37	Tare:	108,3837	Preliminary	Wt: 108	3,3845	
Date/Time in de	ssicator:	10-21-1	1/12:30				
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials	
2011-10-24	8:50	4.1	71.5	108,3844		TA	
2011-10-24	17:00	4.2	72	108,3845	200-	AF 8	

Date: 10-25-11

Engineer signature:



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DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: PRT 4410121353-004

Date: 10-21-11 Engineer: K. Morgan / F. Anghel

Run #: 4 Sample Train #: B

Balance Equipment #: 581-206 Thermo/Hygro meter Equipment #: 581-212

Audit weight Equipment #: _____ (Balance audit mfr. std: 500 ± 0.72 mg)

and thoight Equi	princin m.	(Dalarice audit	1111. Stu. 500 ± 0	./ 2 mg)			
Front Filter #	46	Tare:	. 1186	Preliminary	Wt:	.1218	
Rear Filter #	47	Tare:	. 1193	Preliminary	Wt:	Wt: . 1197	
Seal Set #	N/A	Tare:	N/A	Preliminary	Wt:		
Date/Time in de	essicator:	10-21-11	/12:30	Preliminary	Wt:		
Date	Time	R/H %	Temp. (F)	Weight (grams)	Au (gra		Initials
2011-10-24	9:00	4.1	63.8	0.2414	0.2	2	AF
2011-10-24	17:00	4.2	72	0.2414	0.2		TA
Probe #;	22	Tare:	139,5794	Preliminary	Wt: 4	39,	5803
Date/Time in de	ssicator:	10-21-11	12:30				
Date	Time	R/H %	Temp. (F)	Weight (grams)	Aud (gran		Initials
2011-10-24	8:20	4.1	63.8	2082, CEI	200,0	10.0 million	TA
2011-10-24	17:00	4.2	72	139,5803	200.0		=TA
					1	-	
					-		

Date: 10-25-11

Engineer signature:

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DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: PRT M10121353-001 Date: 10-20-11 Engineer: K. Morgan / F. Anghel

Run #: 5 Sample Train #: 🛧

 Date: 10-28-11
 Engineer: K. Morgan / F. Anghel
 Run #: 5
 San

 Balance Equipment #: 50-36
 Thermo/Hygro meter Equipment #: 51-212
 Audit weight Equipment #: 50-136
 (Balance audit mfr. std: 500 ± 0.72 mg)

Front Filter #	1	Tare:	0.1225	Preliminary	Wt: C	0.1315	
Rear Filter #	2	Tare:	0.1224	Preliminary	Wt:	0. 1234	
Seal Set #	N/A	Tare:	N/A	Preliminary	Wt: N/A	4	
Date/Time in de	essicator:	081.24,2	011/16:00	Preliminary	Wt:		
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials	
10-25-11	16:15	4%	63.9	1315 1235 0.2550	0.2=	-14	
10-27-11	11:00	4%	70.0	0.2543	0.2=	TA	1
10-2.8-11	11:00	4%	70.0	0.2544	0.2=	Æ	HIT
10-31-11	13:30	4%	700	0.2542	0.2.= 0.2000	AF	
Probe #:	17	Tare:	139,7476	Preliminary	Wt. 13	3,7487	
Date/Time in de	essicator:	OCT. 24,2	011/16:00				
Date	Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams)	Initials	
10-25-11	16:15	4%	63.3	139,7497	200.0=	AF	1
M-27-0	M:00	4%	70.0	1397497	200,0 =	AF	Fin
0-28-11	11:00	4%	90.0	1397504	200.00	AF-	
10-31-11	13:30	4%	70.0	1397507	2.00.0 = 200.002	AF	

Date: OCTOBER 31, 2011 Engineer signature:

Intertek

DILUTION TUNNEL WORKSHEET - METHOD 5G3

Client: S.B.I Model: XTD 1.1

Project #: G100527551 Sample ID #: TRTALOI21353-001

 Date: 10/25/11
 Engineer: K. Morgan / F. Anghel
 Run #: 5
 Sample Train #: B

 Balance Equipment #: 581-204 hermo/Hygro meter Equipment #: 581-212
 Audit weight Equipment #: 581-212
 Sample Train #: 5

		0.1228	Preliminary		1.1322	
4	Tare:	0.1220	Preliminary	Wt: C	1229	
N/A	Tare:	N/A	Preliminary			
ssicator:	007. 25,20	16:00	Preliminary	Wt:		
Time	R/H %	Temp. (F)	Weight (grams)		Initiale	1
16:15	4%	63.3	1324	0.2=		
11:00	4%	70.0	0.2547	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		THUAL
11:00	4%	70.0	0.2545	0.2	77	
12:30	4%	70.0	0.2546			
18	Tare:	147,8304	Preliminary V	Nt: 14	7,8911	-
sicator.	007.24,2	011/16:00				
Time	R/H %	Temp. (F)	Weight (grams)	Audit (grams) Initials	1
16:15	4%	63.3	1478389	200,00	2 7	
11:00	4%	70.0		2000-		FINAL
11:00	4%	70.0	1478928	200 #	AF	
13:30	4%	70.0	1478923	200 =	AF s	7
	Time $16: 15$ $14: 00$ $14: 00$ $12: 30$ $12: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $13: 30$ $14: 30$ $16: 15$ $11: 30$ $14: 30$	Sisteator: $0 < \pi$. $24^{-}_{3} < 26^{-}_{3}$ Time R/H % $16: 15$ 4°_{6} $14: 00$ 4°_{6} $14: 00$ 4°_{6} $13: 30$ 4°_{6} $13: 30$ 4°_{6} $13: 30$ 4°_{6} $13: 30$ 4°_{6} Image: sicator: $0 < \pi \cdot 24^{\circ}_{5} Time R/H % 16: 15 4^{\circ}_{6} 14: 00 4^{\circ}_{6} $	ssicator: $\circ < < : 24'_{,2} < > > /16:00 Time R/H % Temp. (F) 16:15 4% 69.9 14:00 4% 70.0 14:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 13:00 4% 70.0 147,8904 70.0 16:15 4% 70.0 16:15 4% 70.0 16:15 4% 70.0 16:15 4% 70.0 11:00 4% 70.0 14:00 4% 70.0 $	Intermediate Intermediate Intermediate Intermediate ssicator: $0 \propto . 24, 20 \times / 16: 00$ Preliminary Time R/H % Temp. (F) Weight (grams) $16: 15$ $4^{\circ}/_{0}$ 65.9 0.2549 $1A: 00$ $4^{\circ}/_{0}$ 70.0 0.2549 $1A: 00$ $4^{\circ}/_{0}$ 70.0 0.2549 $1A: 00$ $4^{\circ}/_{0}$ 70.0 0.2545 $13: 30$ $4^{\circ}/_{0}$ 70.0 0.2546 $13: 30$ 50 $147, 8304$ Preliminary sicator: $005. 24^{\circ}, 201/_{16:00}$ Image: 149, 1600 Image: 149, 1000 $16: 15$ $4^{\circ}/_{0}$ $69. 3$ $147, 8949$ Image: 149, 1000 $1:00$ $4^{\circ}/_{0}$ 70.0	Alexandrom Preliminary WI: Preliminary WI: Sisicator: $OCT. 24, 20 \text{ m}/16:00$ Preliminary WI: Auditi (grams) Time R/H % Temp. (F) Weight (grams) Auditi (grams) 16: 15 4% GS.9 0.2549 0.2000 A1: 00 4% 70.0 0.2549 0.2000 A1: 00 4% 70.0 0.2547 0.2000 A1: 00 4% 70.0 0.2545 0.2000 A1: 00 4% 70.0 0.2546 0.2000 A1: 00 4% 70.0 0.2546 0.2000 A2 Tare: $147, 8304$ Preliminary WI: 14 sicator: $0CT. 24, 201/16:00$ 0.2546 0.2000 Time R/H % Temp. (F) Weight (grams) 20000 I6: 15 4% G.9.3 147.8949 200.000 A1: 00 4% Fo.0 147.8928 200.000 A1: 00 4% Fo.0 147.8928 200.000 A1: 00 4% Fo.0	Siscator: $0 ext{cr.} frac{2}{3} ext{201} / 16:00$ Preliminary Wt: Initials Time R/H % Temp. (F) Weight (grams) Audit (grams) Initials 16:15 4% 65.9 $0.25+9$ 0.2000 T 11:00 4% 70.0 $0.25+9$ 0.2000 T 12:30 4% 70.0 $0.25+5$ 0.2000 T 13:30 4% 70.0 $0.25+6$ 0.2000 T 13:30 4% 70.0 $0.25+6$ 0.2000 T 14:00 4% 70.0 $0.25+6$ 0.2000 T 13:30 4% 70.0 $0.25+6$ 0.2000 T 13:00 147,8904 Preliminary Wt: 147,8914 Initials 16:15 4% G.9.3 147,8929 200.002 T

Date: OCTOBER 31, 2011

Engineer signature:

Page 1 of 1

Appendix D

Calibrations

Thermal Metering System Calibration Y factor for Method 5G sampling

				P	revious Calibra	ation Comparisio	n
Manufacturer:	American Meter Co	mpany		Date	2011-03-01	Acceptable	
Model:	DTM-200A					Deviation (5%)	Deviation
Serial Number:	90R0	54300		y Factor	1,003	0,05015	0,003
				Acceptance	Acc	eptable	
		Average Gas Meter y Factor			Current Calibra	ation	
		1,006		Acceptable y	Deviation	0,020	
Calibration Date:	09-2			Maximum y D	Deviation	0,001	
Calibrated by:	Claude Paré	Carla-					
Calibration Frequency:	6-m	onth					
Next Calibration Due:	03-29-12	2		Acceptance	Ace	eptable	
Instrument Range:	1,000	0 cfm					
Standard Temp.:	77	,4 oF			Reference	Standard *	
Standard Press .:	29,9	2 "Hg		Standard	Model	Standard Test M	leter
Barometric Press.:	29,6	63 "Hg		Calibrator	S/N	07J264834	
Signature/Date:		2011-09-29			Calib. Date	21-mars-11	
					Calib. Value	0,9992	y factor (rel
Calibration Paramo	eters	Run I	Run 2	Run 3	1		
Vacuum ("Hg)		0,00	0,00	0,00			
dH ("H2O)		0,00	0,00	0,00	1		
Initial Reference Meter	r .	760,2	765,5	771,1	1		
Final Reference Meter		765,2	770,6	776,9			
Initial DGM		698,092	703,412	709,07	1		
Final DGM		703,059	708,484	714,848	1		
Temp. Ref. Meter (°F)	, Tr	76,9	77,2	77,2			
Temperature DGM (°F	'), Td	77,5	78,2	78,6			
Time (Minutes)		77,0	28,0	17,0	1		
Net Volume Ref. Mete	r, Vr	5,000	5,100	5,800	1		
Net Volume DGM, Vd	Ľ	4,967	5,072	5,778	1		
Gas Meter y Factor		1,007	1,007	1,006	1		
and the second se			Contract Constitution of Contractor	and the second se	1		

where:

Orifice dH@ Deviation (from avg.)

Gas Meter y Factor Deviation (from avg.)

Orifice dH@

0,064506494

0,001

0,00

0,000

1. Deviation = [Average value for all runs - current run value]

2. y = [Vr x (y factor (ref)) x (Pb) x (Td + 460) / [Vd x (Pb + (dH / 13.6)) x (Tr + 460]

0,000

0,00

0,000

100,0

0,00

0,000

3. dH@ = 0.0317 x dH / (Pb (Td + 460)) x [(Tr + 460) x time) / Vr]^2

* Reference calibration is traceable to NIST through NIST Test # 40674, Kimble ASTM E1272

Thermal Metering System Calibration Y factor for Method 5G sampling

				P	revious Calibra	ation Comparisio	n
Manufacturer;	American Meter Co	ompany		Date	2011-03-01	Acceptable	
Model:	DTM-200A					Deviation (5%)	Deviation
Serial Number:	98Z3	32226		y Factor	0,996	0,0498	0,007
				Acceptance	Ace	eptable	
		Average Gas Meter y Factor			Current Calibra	ation	
		1,003		Acceptable y	Deviation	0,020	
Calibration Date:	09-2	9-11		Maximum y I	Deviation	0,001	
Calibrated by:	Claude Paré	Conta-					
Calibration Frequency:	6-m	onth					
Next Calibration Due:	03-29-1	2		Acceptance	Aco	eptable	
Instrument Range:	1,00	0 cfm					
Standard Temp.:	78	,3 oF			Reference	Standard *	
Standard Press .:	29,9	92 "Hg		Standard	Model	Standard Test M	leter
Barometric Press.;	29,5	59 "Hg		Calibrator	S/N	07J264834	
Signature/Date:		2011-09-29			Calib. Date	21-mars-11	
					Calib. Value	0,9992	y factor (ref
					1		
Calibration Parame	eters	Run 1	Run 2	Run 3			
Vacuum ("Hg)		0,00	0,00	0,00	1		
dH ("H2O)		00,0	0,00	0,00	1		
Initial Reference Meter	E.	777,8	783,1	789,7			
Final Reference Meter		782,8	789,2	799,€			
Initial DGM		515,021	520,372	527,019			
Final DGM		520,014	526,465	536,898			
Temp. Ref. Meter (°F)	, Tr	77,6	78,0	78,1	1		
Temperature DGM (°F), Td	78,6	79,1	79,5]		
Time (Minutes)		60,0	30,0	32,0			
Net Volume Ref. Mete	r, Vr	5,000	6,100	9,900]		
Net Volume DGM, Vd	1	4,993	6,093	9,879]		
Gas Meter y Factor	-	1,002	1,002	1,004]		
	and the second se	0.000	0.001	0.001	1		

where:

Orifice dH@ Deviation (from avg.)

Gas Meter y Factor Deviation (from avg.)

Orifice dH@

0,083216667

1. Deviation = [Average value for all runs - current run value]

0.000

0,00

0,000

2. y = [Vr x (y factor (ref)) x (Pb) x (Td + 460) / [Vd x (Pb + (dH / 13.6)) x (Tr + 460]

0,001

0,00

0,000

0,001

0,00

0,000

3. dH@ = 0.0317 x dH / (Pb (Td + 460)) x [(Tr + 460) x time) / Vr]^2

* Reference calibration is traceable to NIST through NIST Test # 40674, Kimble ASTM E1272

Date	2011-03-01	Acceptable	
		Deviation (5%)	Deviation
y Factor	0,996	0,0498	0,007
Acceptance	Acco	ptable	

	Reference	e Standard *	
Standard	Model	Standard Test	Meter
Calibrator	S/N	07J264834	
	Calib. Date	21-mars-11	
	Calib. Value	0,9992	y factor (ref)

CERTIFICATE OF NIST TRACEABLE CALIBRATION

Calibration Certificate No: 24648

Customer Information

Customer: SBI St-Augustin

Address : 250, De Copenhague Doors 11-12 St-Augustin-de-Desmaures

Calibration Procedure Information

Procedure ID: GTP FLOW_INDI

Revision #: 3

Revision Date: 7/21/2008

Calibration Standards Information

Graftel ID	Manufacturer	Model #	Description	CAL Duc
10159	HOBO	U12-011	Environment Monitor System	6/22/2011
60030	Paroscientific	760-100A	Pressure, 100 psia	8/24/2011
10128	Furness	FCO352	Diff Pressure	8/24/2011
10062	Graftel	9202	5-Channel Temperature Sensor	8/28/2012
10075	Meriam	50MJ10-9	Laminar Flowmeter	6/23/2011
51202	Paroscientific	760-100A	Pressure, 100 Psia	2/24/2012

Sector Sector	Information
SCHNOL	10101101000

Manufacturer: American Meter	Descripti	on: Gas Me	ter	Method Used: Laminar
Model #: DTM-200A	Rated Ac	curacy: ± 1	% of Reading	Accuracy Specified By: American Met.
Instrument ID#: SBI-103	Range:	0 to 250	scfh	Condition: Functional
Serial #: 07J264834				condition i includini

Comments: Calibration Date: 03-21-2011

The instruments(s) listed on this certificate have been calibrated against standards traceable to the National Institue of Standards and Technology (NIST) or compared to nationally or internationally recognized consensus standards. The reported calibration uncertainty has a confidence level of 95% (K=2). A calibration uncertainty ratio of 4.1 was maintained unless required uncertainty support by analysis. Graftel, Inc. Quality Assurance System complies with applicable requirements of ISO/IEC-17025-2005, ANSI/NCSL Z540-I-1994 and ISO 9002, 1994(E). All results contained within this certification relate only to item(s) calibrated. This certificate shall not be reproduced except in full and with the written consent of Graftel, Inc.

Performed By:

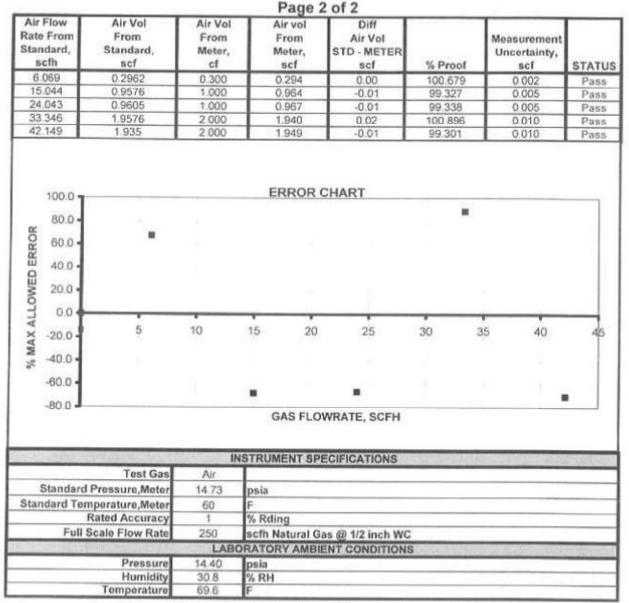
M. Rodriguez

Date: 3/21/11

Page 1 of 2



ATTACHMENT TO CALIBRATION CERTIFICATE 24648 AS FOUND DATA



Flow - Humidity - Temperature - Pressure - Design - Consulting - Engineering

NIST Traceable Calibration Data Sheet

www.graftel.com

Graftel, LLC, 870 Cambridge Drive, Els Grave Village, 11.60007 P. 847-354-2600 F. 847-354-2855

Intertek

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Portland, Oregon

Dry Gas Meter Post Series Calibration Data

			DEV
Tech: F. Anghel	~I		Cal Factor
	0.9992	SBI-103	Std Ft.3
Date: 10/25/2011	1#3: W#3:	SB	Temp ^o F
- Date	Std.Meter DGI	Std Meter No.	System # 1 Std. Ft3 Final Ft.3 Change Ft.3 Temp ^o F Std Ft.3 Cal Factor
SBI-046			Final Ft3
Equipment No. SBI-04	Calibration ractors		System # 1 Initial Ft.3
Ed	Callora 1		Std. Ft3
Aodel: DTM-200A	DGM#1:		inal Ft3 Change FTemp ^a F
Model			Final Ft3
Amer.Meter Co.	30.06		s Initial FL3
Manufacturer:	c Press:		Std Meter # 3 Press Drop
	Barometri		Trial No.

stem # 1	Syster				2
I FL3 Final FL3 Change FL3	Initial FL3	Std. Ft3	Std.		Ft3 Change FTemp ^a F Std.
25.180 930.175	925.	4	4	5.000 70.800 4	806.600 5.000 70.800 4
935.797 940.798	93	4.989	5.000 71.200 4.989	71.200 4	5.000 71.200 4
195	941.	4.986	4	822.600 5.000 71.500 4	5.000 71.500 4

AL IN

0.0449 %

Max Deviation

Intertek

Portland, Oregon

Post Series Dry Gas Meter Calibration Data

			DE
Tech: F Anghel	2	Т	Cal Factor
11 Tech	0.999	SBI-103	Std Ft 3
Date: 10/25/2011	A#3:	SB	Temp [°] F
Date	Std.Meter DGI	Std Meter No.	Change Ft.3
SBI-047			Final Ft.3
Equipment No. SBI-047	Jalibration Factors		System # 1 Initial Ft.3
Eq	Calibra		Std. F13
Model: DTM-200A	DGM#1:		Final Ft3 Change FTemp ^o F Std. Ft3 Initial Ft.3 Final Ft.3 Change Ft.3 Temp ^o F Std Ft.3 Cal Factor
Model			Final Ft3
eter Co.	30.06		
r. Amer. M			3 Initial Ft.3
Manufacturer: Amer. Meter Co.	tric Press:		Std Meter # 3 Press Drop 1
	Barometri		Trial No. F

0.000 0.0000 > 1.003 1.004 1.003 1.003 4.968 4.968 Average: 72.000 72.500 72.300 4.985 4.987 4.985 869,458 874,933 880.020 864.473 869.946 875.035 4.986 4.986 4.984 71.500 71.500 71.800 5.000 5.000 5.000 825.900 830.900 831.400 836.400 836.500 841.500 000 NO -

0.0359 %

Max Deviation



NVLAP LAB CODE 200886-0

CERTIFICATE OF CALIBRATION

Customer: INTERTEK 22887 NE TOWNSEND WAY FAIRVIEW, OR 97024

Cert/80 Nbr: 2-BK1C7-424-1 Manufacturer: Delmhorst Instrument Co. Model Nbr: MCS-1

Description: Moisture Content Standard

Serial Nbr: None

ID Nbr: 19701

Unit Barcode: 900B0011669

Customer Nbr: 1-556813-000 PO Nbr: USA20-0000208799 Date Received: September 19, 2011

Date Completed: September 23, 2011 Due Date: September 23, 2012

Calibrated To: Manufacturer Specification Calibration Proc: 1-AC32637-0 Item Received: In Tolerance Item Returned: In Tolerance

For calibration data, see Supplemental Report for SO Nbr 2-BK1C7-424-1

Transat Calibration Laboratories have been audited and found in compliance with ISOEC 17025/2005. Accredited calibrations performed within the Labs Scope of Accreditation are indicated by the peasance of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Labs Scope are listed in the notes section of the certificate This report must not be used to chain product certification, approval, or endorsement by NYLAP, NIST, or any agency of the Federal Government

Transcet calibrations as applicable are performed in compliance with the requirements of ISO9001:2008, ISO T\$16949, ANSUNCSL 2540-1994, and ISO 10012-1992. When specified contractually the requirements of IOCFR21, IOCFR30 App. B and NQA-1 are also covered.

Traceability includes no less than An unbroken chain of comparison realization of SI units, measurement uncertainty, documentation, competence, periodic recalibration, and measurement assurance. Transcat documents the transcatility of measurements to the SI units through the National Bushine of Standards and Technology(NET) or the National Research Council of Canady(NEC), or other recognized national measurement instantes (NNII's) or international standards bodies, or to measurable conditions created in our laboratory, or accepted fundamental and/or matural physical constants, ratio type of calibration, or by comparison to constenues standards. The specific path of traceoability for the reported measurement results is maintained at the Transcat fieldly and is available there for review.

Complete seconds of work performed are maintained by Transcat and are available for inspection Laboratory standards used in the performance of this calibration are shown on the Supplemental Report

The sends in this report relate only to the item calibrated or tessed and the determination of in or out of tolerance is specific to the modaliserial no. referenced above based on the tolerances shown on the supplemental report, these tolerances are either the original equipment manufactureh (OEM's) warranted specifications or the client's requested specifications.

The applied uncertainty is the uncertainty of the calibration processThe Test Uncertainty Ratio (TUR) is calculated as per NCSL International RP-9, section 8.2. All calibrations have been performed using processes having a TUR of 4:1 or better, unless otherwise noted on the Supplemental Report. Uncertainty is the un

Any number of factors can cause a unit to drift dut of tolerance at any time following its collibration: on the uses of this instrument are detailed in the OEM's operating instructions

Notes:

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Calibrated Ats 14058 SW Milton Ct Portland, OR 97224 By: David Cordell Alg. Digitally Signed On September 23, 2011 Facility Responsible; 14058 SW Milton Ct Portland, OR 97224 503-598-8700 Digitally Signed By Mare Jaso for Date: September 23, 2011

> Tony Kutch Lab Manager

Revision 0

This certificate may not be reproduced except in full without the waittes approval of Transcat. Additional information if applicable may be included on separate reports)

Certificate - Page I of 1

	SUP	SUPPLEMENTAL REPORT FOR BK1C7-424-1	LEPOR	I FOF	RBK1C7-4	:24-1		
	0	CALIBRATION LAB DATA AS FOUND / AS LEFT	DATA A	S FOUT	VD / AS LEF	Γ		1
Service Order Nbr:					Mfg: Delmhorst Instrument Co.	Instrument Co.		Γ
Description:	Moisture Content Standard None	tandard			Model: MCS-1			
Customer								_
Calibrated:	9/23/2011				PO Nbr: USA20-0000208799	00208799		
Date Due:	9/23/2012				ID Nbr: 19701			-
Service Type:	R6			Calibra	Calibration Proc. 1-AC32637-0	2-0		
Description	Setpoints	Accuracy	Low, Limit	High Limit	Low Limit High Limit As Found / As Left	Uncertainty (k=2; ≠)		TUR
Resistance 4 Wire Comp Source	mp Source							Γ
Resistance Source	1.100MOhm	±(10% Rdg)	0:990	1.210	1.095 MOhm			
	120.0McOhm	±(10% Rdg)	108.0	132.0	120.7 MOhm			and the second
As Found and As Left Data recorded on 9/23/2011	a recorded on 9/23/2011							
Temperature: 69,7°F / 20.9°C	9°C Relative Humidity: 51%	hidity: 51% Temp/RH Asset 1012W	012W					
Asset	Manufacturer	Model	Description		Cal Date	Due Date	Traceability Numbers	29
368W	НР	3458A Opt 002	Digital Multimeter, 8.5 Digit	tter. 8.5 Digit	1/31/2011	1/31/2012	S-BA380-2-1	
The reporter	d uncertainty is the uncertainty of th	The reported uncertainty is the uncertainty of the calification process for meanwing instrument and 0.6 of the learn significant digit to the reported uncertainty is the uncertainty of the unit under test at the specificant point.	the least significant & git to oss not represent adibratio	o the reported uncertain in uncertainty of social	inty its obtain the measurement uncert service UUT	tainty of the unit under test at the spec	fier poin.	
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Calibration Lab Data Report - Page 1 of 1

Service Order Nbr. BKIC7-424-1

Field not applicable.



TABLE OF CONTENTS

- .2 J-2000 Features
- 3 Before You Begin
- 3 Check Callbration
- 4 Set Species
- 5 Species Code Chart
- 6 Set Temperaturo
- 7 Set Pin Calibration
- 7 Taking a Reading
- 8 Information About Your Readings
- 8 To Check Accumulated Readings
 - 8 To Reset Meter
 - 9 Pin Talk

9 Care of Your Meter

10 Service For Your Meter

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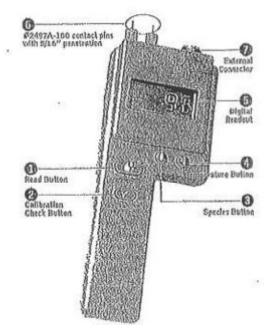
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11 Warranty

DELMHORST J-2000

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J-2000 FEATURES

Resistance technology recognized worldwide as the most accurate method for measuring moisture

- ▶ 6% to 40% molsture range
- ► Digital readout
- > Averages up to 100 accumulated readings
- Bullt-In correction for 48 different species
- Built-In temperature compensation both Fahrenheit and Celsius
- Proven microcontroller circuit for increased reliability and accuracy
- Easy one-hand operation
- ▶ Includes (1) 9-Volt Battery
- ▶ Includes sturdy carrying case
- ► One-year warranty
- Diver fifty years of proven quality, accuracy and service
- 2

BEFORE YOU BEGIN

Button Functions

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- READ BUTTON Reads the Percent Molsture Content value (%MC), corrected for temperature and species.
- CALIBRATION CHECK BUTTON Checks meter calibration. It also displays the average of up to 100 accumulated readings; displays the maximum stored reading; erases the readings.
- SPECIES BUTTON Sets the species code for the wood you are using. Species are numbered from 1 to 48 and are listed on the Species Code Chart. This button also acts as a scroll key, depending on the function.

YEMPERATURE BUTTON - Sets the wood temperature and changes the temperature mode (Fahrenhelt or Celslus). This button also acts as a scroll key, depending on the function.

CHECK CALIBRATION

Press the calibration check button (2) and read builton (1) simultaneously, Meter is in calibration if it displays 12% (-f- or - .2).

If you check the calibration and the meter does not display 12% It is likely an indication of a low hattery. If this occurs, change the battery immediately. Continued use with a low battery may cause the meter to go out of calibration. If you have a fresh battery and the instrument still does not indicato a proper calibration, return it to DEL.MHORST for service. . See Service for your Meter section.

When the battery is removed and then reconnected, the meter displays its software version for one second and then turns itself off. After replacing the battery, you must reset the meter as described in Resetting the Meter section.

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CODE	SPECIES	CODE	/ SPECIES
1	Fir, Douglas	25	Magnolla
2	Pino, Southern	26	Mahogany, African (also Khaya
1	SPF *	27	Maliogany, Honduras
4	Alder	28	Mohogany, Philippins
5	Apitong	2.9	Maple, Hard/Soft
6	Aspea	30	Meranti, Dark Red
7	Ash, White	31	Oak, Red
8	Basswood	32	Oak, White
9	Birch	33	Pecan
10	Cedar, Eastern Red	34	Pins, Longleaf
11	Cedar, Incenso	35	Pine, Pondarosa
12	Chorry	36	Plac, Shortleaf
13	Cottonwood	37	Pine, Sugar
14	Cypross	38	Pin», White
15	Elm, American	32.	Poplar, Yelfow
16	Fir, Red	10	Remin
17	Pir, White .	41	Radiata Pine
18	Gum, Black	42	Redwood
19	Gum, Red	43	Spruce, Slika
20	Hemlock, Western	44	SPF, COFI*
21	Hackberry	45	Teak
22	Hickory	46	Virola
23	Kerulng	47	Walnut, Black
24	Larch	48	Western Hemlock - COFI*

.

Species Code Chart

*Species and temperature correction data for both Western Hemlack-COFI (code #48) and SPF-COFI (code #44) were developed by GOFI. When comparing readings between the model RDM-2/COFI or the RDM-2S/COFI, used with type 26-E electrode with insulated pins, and the J-2000, be sure both motors are set to 2-pin electrode (insulated pins).

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SET PIN CALIBRATION

The basic factory calibration of the J-2000 is for use with uninsulated pins - either the integral pins or with an optional external electrode, such as the #4-E. The difference in readings between insulated and uninsulated pins is small below 10% moisture content. The difference increases as moisture content increases above 10%. When using an electrode with insulated pins, such as the 26-ES, you can change the calibration to compensate for this difference.

- To change the pin setting, press and release the species hutton (2), then press the calibration check hutton (2) within one second.
- The meter will display the current pin calibration as either 222 for insulated or 444 for uninsulated pins.
- If you continue to hold the calibration check button ②, the meter will change pin calibration. The new calibration will remain in "memory" until you change it again, or you remove the battery.

TAKING A READING

The contact pins () provided are best for stock up to 6/4. On stock over 6/4 or for hardwoods over 4/4 we recommend using a remote probe such as the 26-ES ram-type electrode. Mount the 26-ES directly to the external connector (). See additional information under the Pin Talk section.

- Remove the protective cover to expose the pins. Check that the contact pins () are firmly hand tightened.
- To take a reading, night the contact pins is parallel to the grain and push liten to their full penetration into the wood, if possible. Insulated pins read only at the tip and can be driven to the desired depth.
- Press the read button (1) and read the moisture content on the meter scale. The meter displays the %MC for two seconds.
- To add a reading to the sum of all the previously stored readings, release the read button W within 2 seconds.

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INFORMATION ABOUT YOUR READINGS

Readings below 6% will be displayed as a numeric value, (-##.#), and will not be added to accumulation. A reading below 6% which is due to temperature and species adjustments will be shown as a numeric value with no minus sign and this reading will be added to the accumulation.

Readings above 40% are always displayed as 999 and are not added to the accumulation.

The meter will accumulate up to 100 readings. After all 100 readings are stored it will not add new readings until the memory has been cleared. It will also continue to display the average of all 100 readings as a reminder that the memory is full.

When taking and storing readings for a specific wood species, be sure to "clear" the meter before moving on to the next species if you do not want to group all of the readings together.

TO CHECK ACCUMULATED READINGS

This feature allows you to view the total number of all accumulated readings, the average of those readings, and the highest stored reading.

- To view the readings press and release the calibration check button 2. First the meter displays the number of accumulated readings for one second, then the average of those readings for two seconds. Then it displays the highest stored reading for two seconds. The total "cycle" time is five seconds.
- ► To erase readings hold the calibration check button down for 5 seconds. All accumulated readings will be erased and the meter will display "0".

TO RESET METER

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- ▶ Press and rolease the calibration check button 2.
- > Within one second press the species button 3.
- The nucler will reset itself and display "170" to indicated Species #1 (Douplas Fir) at 70%. All of the readings in memory will be cleared.

PIN TALK

There are two types of contact plas - uninsulated, which were provided with your meter, and insulated. When using uninsulated plas, push them in to the wood to their full length, if possible. This will give you the highest measured reading. Insulated plas read only at the tip and can be driven to a desired depth to gather shell and core (gradient) information. Additional types and lengths of both the insulated and uninsulated plas are available for specific applications.

CARE OF YOUR METER

To keep your meter in good working order:

- Store your meter in a clean, dry place. The protective carrying case provided is an ideal storage place when the meter is not in use.
- Change the 9-Volt battery as needed. Continued use with a low battery may cause the meter to go out of calibration.
- Change contact plns as needed. Keep contact plns hand tightened.

Clean the meter and contact pins with any biodegradable cleaner. Use the cleaner sparingly and on external parts only. Keep cleaner out of the external connector .

 Remove the battery if the meter will not be used for one month or longer.

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SERVICE FOR YOUR METER

- Before sending in your meter we recommend you give one of our trained technicians a call. Many times troubleshooting can be taken care of over the phone. Call us at 2-877-DELMHORST.
- Pack your meter securely. Enclose a purchase order or letter with a brief description of the problem.
- There is no need to call us for a return authorization number if you are within the U.S. Customers outside the U.S. must contact us for more specific instructions prior to returning a meter.
- Include your name, address, daytime phone and fax numbers or e-mail address. If you believe the meter is under warranty, please provide the original sales slip or invoice.
- Ship via UPS, Express Mail, Priority Mail, or any overnight courier who provides prompt service. Do not use standard parcel post.
- Insure your Instrument for its full value and ship prepaid. We are not responsible for damage in transit.
- We do not accept COD slipments or cover any Incoming freight or duty charges on returned merchandise
- > Turnaround time on repairs is approximately two weeks.
- We will call you with an estimate if you specifically request one, or if we determine that the meter may be too costly to repair.
- Non-warranty repairs will be returned via UPS/COD unless you have already established other payment terms. There is no COD service outside the U.S. To pay by credit card, include the card number and expiration date with your repair. We accept Visa/MusterCard and American Express.
- Warranty repairs will be returned at no charge if shipped within the U.S. via UPS Ground Service. Freight charges for expedited services (i.e., Fadoral Express, UPS/2 Day, UPS/1 Day, etc.) are the customer's responsibility and will be charged as per the above terms.

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WARRANTY

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Delationst Instrument Co., referred to hereafter as Delationst, guarantees its J-2000 meter for one year from date of purchase and any optional electrodes against defects in material or workmanship for 90 days. If, within the warranty period, you find any defect in material or workmanship return the meter following the instructions in the Service for Your Meter section. This limited warranty does not cover abuse, alteration, misuse, damage during shipment, improper service, unauthorized or unreasonable use of the meter or electrodes. This warranty does not cover batteries or contact pins. If the meter or any optional electrodes have been tampered with, the warranty shall be vold. At our option we may replace or repair the meter.

Delmhorst shall not be liable for incidental or consequential damages for the breach of any express or implied warranty with respect to this product or its calibration. With proper care and maintenance the meter should stay in calibration; follow the instructions in the Care of Your Meter section.

Under no circumstances shall belimhorst be liable for any incidental, indirect, special, or consequential damages of any type whatsoever, including, but not ilmited to, lost profits or downtime arising out of or related in any respect to its meters or electrodes and no other warranty, written, oral or implied applies. Delmhorst shall in no event be liable for any breach of warranty or defect in this product that exceeds the amount of purchase of this product.

The express warranty set forth above constitutes the entire warranty with respect to Deimhorst meters and electrodes and no other warranty, written, oral, or implied applies. This warranty is personal to the customer purchasing the product and is not transferable.

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For more detailed information about using a wood moisture meter, call us toll-free at 1-877-DELMHORST. Ask for your free copy of "Measuring Wood Moisture Content: Straight Talk from Delmhorst". Or find it on our web site at www.delmhorst.com.

For over 60 years, Delmhorst has been the léading manufacturer of high-quality moisture meters and thermo-hygrometers. Today we offer the innovative KIL-MO-TROL® in-kiln monitoring system. We also offer a wide range of meters for a variety of applications including woodworking/tumber, agriculture, construction, paper, restoration, IAQ and flooring.

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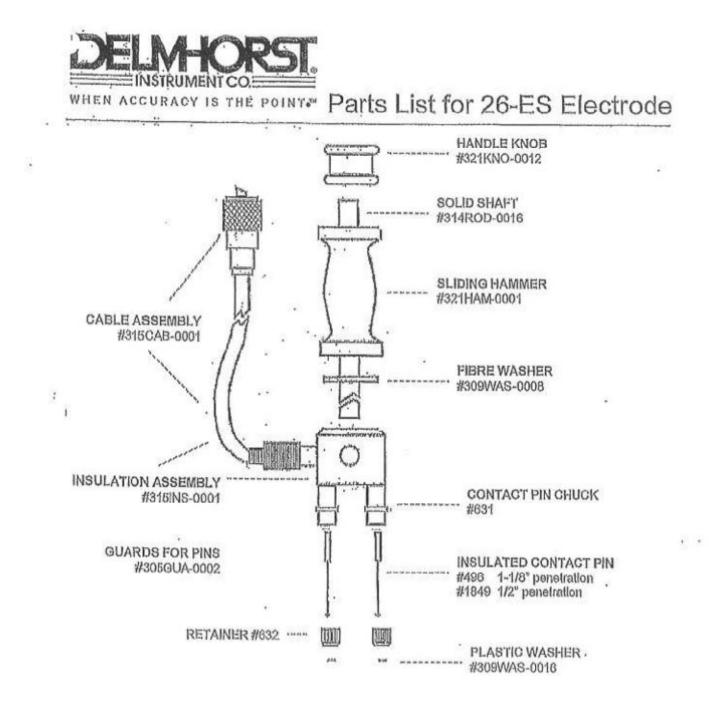


WHEN ACCURACY IS THE POINT." 51 Indian Lane East Yowaco, NJ 07082

(877)-DELMHORST www.definitorst.com e-mail - Info@definitorst.com

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Note: Type 26-ED electrode is fitted with hollow shaft assembly (with depth gauge) #315SHA-0002

Delmhorst Instrument Co. 51 Indian Lano East, Towaco, NJ 07082 Tel: 800,222-0838 Fax: 973,334,2657 www.delmhorst.com 01/08



4850, bd. Gouin est Tél. (514) 328-2550 Montréal-Nord, Qr. 1800 522-1226 Canada H1G 1A2 Fox (514) 327-0604 www.chevrieonstraiments.com Intollic hevrieonstraiments.com Intollic hevrieonstraiments.com

Certificat d'étalonnage

Numéro du certificat: CE1638

Étalonnage effectué par : LA CIE J CHEVRIER INSTRUMENTS INC. 4850 GOUIN EST MONTREAL, QC, CANADA H1G 1A2 Pour : 3424 SBI INC 250, RUE DE COPENHAGUE ST-AUGUSTIN-DE-DESMAURES, OC G3A 2H3

Informations su	ir l'instrument	
Description:	MANOMETRE DIFFERENTIEL ANALOGIQUE	
Manufacturier:	DWYER	
Modèle:	2000-00N	
Plage:	0/0.20 POH2O	
Précision:	±4%P.E.	
Numéro de série	8.1	13
1.D.	SBI-025	(
Etat de l'instrum	ent: BON	
Commentaire :		

Date d'étalonnage : 2011-02-10 Échéance : 2012-02-10

Résultat de l'étalonnage: Conforme Conditions ambiantes 20.9 °C / 29.9%HR Technicien : Pierre Junior Berlus

POINTS D'ÉTALONNAGE

	Valeur Appliquée	Tolérance -	Lectures	Tolérance +	Verdict
Ascendant	0.0000 poH2O	-0.0100	0	0.0100	OK
Ascendant	0.0500 poH2O	0.0400	0.045	0.0600	OK
Ascendant	0.1000 poH2O	0.0900	0.095	0.1100	OK
Ascendant	0.1500 poH2O	0.1400	0.1425	0.1600	OK
Ascendant	0 2000 poH2O	0.1900	0.1925	0.2100	OK
The gall of the state of the	Valeur Appliquée	Tolérance -	Lectures	Tolérance +	Verdict
Descendant	0.2000 poH2O	0.1900	0.1925	0.2100	OK
Descendant	0.1500 ppH2O	0.1400	0.1425	0,1600	OK
Descendant	0.1000 poH2O	0.0900	0.095	0.1100	OK
Descendant	0.0500 poH2O	0.0400	0.045	0.0600	OK
Descendant	0 0000 poH2O	-0.0100	0	0.0100	OK

Étalons utilisés traçable au C.N.R.C/N.I.S.T

I.D.	Certificat No	Description	Étalonné le	Échéance
CHEV175	12688334994	CALIBRATEUR DE PRESSION DH PPC4	2010-03-17	2011-03-17

Verdict * = Point non conforme

Page 1 of 2

Enregistré par le BNQ selon ISO 9001:2008

Certificat d'étalonnage

Page 2 of 2

Numéro du certificat: CE1638

Procédures utilisées pour effectuer cet étalonnage

Procedure Description 3PR500-01-CHE ÉTALONNAGE DE MANOMÈTRE

Verdict * = Point non conforme

Enregistro par le BNQ selon ISO 9001;2008



 4850, bd Gouin est
 Tél. (514) 328-2550

 Montréal-Nord, Qc
 1 800 522-1226

 Canada
 111G 1A2

 www.thevrierinstruments.com
 info@chevrierinstruments.com

 Istraneata de nesure et de régalation pour las procédés industrielas et laborataire d'étalonnage

Certificat d'étalonnage

Numéro du certificat: CE1640

Étalonnage effectué par : Pour : LA CIE J. CHEVRIER INSTRUMENTS INC. 3424 4850 GOUIN EST SBI INC MONTREAL, QC, CANADA H1G 1A2 250, RUE DE COPENHAGUE ST-AUGUSTIN-DE-DESMAURES, QC G3A 2H3 Informations sur l'instrument Description: MANOMETRE DIFFERENTIEL ANALOGIQUE Manufacturier. DWYER Date d'étalonnage : 2011-02-10 Modèle: 2000-00 Échéance : 2012-02-10 Plage 0/0.25 POH2O Précision: ±4%P.E. Numèro de série Résultat de l'étalonnage: Conforme LD.: SBI-101 Conditions ambiantes 20.9 °C / 29.9%HR Etat de l'instrument. BON Pierre Junior Berlus MJB Technicien : Commentaire :

POINTS	D'ÉTAI	ONNAGE	
a hour as a second second second	and the second second second second	and the second se	

And a state of the	Valeur Appliquée	Tolérance -	Lectures	Tolérance +	Verdict
Ascendant	0.0000 poH2O	-0.0100	0	0.0100	OK
Ascendant	0.0500 poH2O	0.0400	0.045	0.0600	OK
Ascendant	0 1000 poH2O	0.0900	0.10	0.1100	OK
Ascendant	0.1500 poH2O	0.1400	0.15	0.1600	OK
Ascendant	0.2000 poH2O	0.1900	0.20	0.2100	OK
Ascendant	0.2500 poH2O	0.2400	0.25	0.2600	OK
	Valeur Appliquée	Tolérance -	Lectures	Tolérance +	Verdict
Descendant	0.2500 poH2O	0.2400	0.25	0 2600	OK
Descendant	0.2000 poH2O	0.1900	0.20	0.2100	OK
escendant)	0.1500 poH2O	0.1400	0.15	0 1600	OK
Descendant	0.1000 poH2O	0.0900	0.10	0.1100	OK
Descendant	0.0500 poH2O	0.0400	0.045	0.0600	OK
Descendant	0.0000 poH2O	-0.0100	0	0.0100	OK

Verdict :	* =	Point	non	conforme
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Certificat d'étalonnage

Numéro du certificat: CE1640

Étalons utilisés traçable au C.N.R.C / N.I.S.T

ID.	Certificat No	Description	Étalonné le	Échéanco
CHEV175	12688334994	CAUBRATEUR DE PRESSION DH PPC4	2010-03-17	2011-03-17

Procédures utilisées pour effectuer cet étalonnage

Procédure Description 3PR500-01-CHE ÉTALONNAGE DE MANOMÈTRE

Page 2 of 2





NVLAP LAB CODE 200886-0

CERTIFICATE OF CALIBRATION

Customer: INTERTEK 22887 NE TOWNSEND WAY FAIRVIEW, OR 97024 Customer Nbr: 1-556813-000 PO Nbr: USA20-0000202108 Date Received: April 13, 2011

Date Completed: April 20, 2011 Due Date: April 20, 2012

Description: Stopwatch Serial Nbr: NONE ID Nbr: 19702

Cert/SO Nbr: 2-BD86O-61-1

Manufacturer: Sportline

Model Nbr: 226

Unit Barcode: 900B0006050

Calibration Proc: 1-AC32646-1 Item Received: In Tolerance Item Returned: In Tolerance

For calibration data, see Supplemental Report for SO Nbr 2-BD86Q-61-1

Transcat Calibration Loboratories have been sufficted and found in compliance with ISOEC 17025/2005. Accredited calibrations performed within the Lab Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab Scope are listed in the notes section of the certificate This report must not be used to claim product certification, approval, or endocement by NVLAP, NIST, or any agency of the Federal Government.

Transcet calibrations as applicable, are performed in compliance with the requirements of ISO2001 (2001, ISO TS16949, ANSUNCSL 2540-1991, and ISO 10012-1992. When specified contractaulty the requirements of ISO2001 (2001, ISO TS16949, ANSUNCSL 2540-1991, and ISO 10012-1992. When specified contractaulty the requirements of ISO2001 (2001, ISO TS16949, ANSUNCSL 2540-1991, and ISO 10012-1992. When specified contractaulty the requirements of ISO2001 (2001, ISO TS16949, ANSUNCSL 2540-1991, and ISO 10012-1992. When specified contractaulty the requirements of ISO2001 (2001, ISO TS16949, ANSUNCSL 2540-1991, and ISO 10012-1992.

Traceability includes no less than An unbroken chain of comparison realization of S1 unles, measurement uncertainty, documentation, competence, periodic recalibration, and measurement assurance. Transcat documents the twocability of measurements to the S1 unles through the National Institute of Standards and Technology(NIST) or the National Research Council of Canada (NRC), or other recognized national measurement institutes (NMPa) or international standard bodies, or to measurable conditions created in our faboratory, or accepted fundamental and/or natural physical constants ratio type of calibration, or by comparison to consensus attendards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review

Complete records of work performed are maintained by Transcat and are available for inspection Laboratory standards used in the performance of this calibration are shown on the Supplemental Report

The results in this report relate only to the item calibrated or tested and the determination of in oc out of tolerance is specific to the modolecrial na referenced above based on the tolerances shown on the supplemental report; these tolerances are either the original equipment manufactures (OEM's) warranted specifications or the ellent's requested specifications.

The applied uncertainty is the uncertainty of the calibration process The Test Uncertainty Ratio (TUR) is calculated as per NCSL International BP9, section 8.2. All calibrations have been performed using processes having a text uncertainty that is four or more times greater than the tolerance of the unit calibrated onless observation on the Supplemental Report. Uncertainties have been estimated at a95 percent confidence level (k-2). Calibration at a4.1 TUR (or greater) provides reasonable coefficient within the statement is within the statement is within the statement is consider the considering consider the considering international and the statement is within the statement is within the statement is units and the statement is units of the unit confidence level (k-2). Calibration at a4.1 TUR (or greater) provides reasonable coefficient within the state to the state to be executed tolerance. For meanwing instruments in order to consider the consider the considering from reproducibility of the unit under test(URT), add 0.6 of the UUT's least significant digit to the reported uncertainty. For mass calibrations Conventional mass referenced to 8.0 g/cm².

Any number of factors can cause a unit to drift out of tolerance at any time following its calibraticed.Institutions on the uses of this instaument are detailed in the OEM's operating instructional

Notes:

Cellbrated At: 14058 SW Milton Ct Portland, OR 97224 By: David Cordell Encilly Responsible; 14058 SW Milton Ct Portland, OR 97224 503-598-8700 Digitally Signed By Mare Jaso for Date: 4/21/2011

Tony Kutch Lab Manager

Revision 0

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Certificate - Page I of I

TRANSCAT CALIBRATION

SUPPLEMENTAL REPORT FOR BD86Q-61-1

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A REPORT OF A DESCRIPTION OF A DESCRIPTI

CALIBRATION LAB DATA AS FOUND / AS LEFT

Service Order Nbr: BD86Q-61-1	BD86Q-61-1				Mfg: Sportline			
Description	Description: Stopwatch			M	Model: 226			
Serial	Serial: NONE							
Customer	Customer. INTERTEK							
Calibrated	Calibrated: 4/20/2011			PO	PO Nbr: USA20-0000202108	202108		
Date Due	Date Due: 4/20/2012			Ð	ID Nbr: 19702			
Service Type: R6	R6			Calibration	Calibration Proc: 1-AC32646-1			
Description	Setpoints	Accuracy	Low Limit	High Limit	Low Limit High Limit As Found / As Left 8	0 Uncertainty (k=2: ±)	v (k=2:±)	TUR
Time Measurement Error	rror			>				
Seconds/day	0.00sec/day	±(1 sec/day)	-1.00	1.00	0.58 sec/day		時間の日本	and the second s
All Function Test						the proof of the state of the s	A REAL PROPERTY AND A REAL PROPERTY.	
All Function Test			ß.,	G,	d,			の理想の意思の
As Found and As Left Data recorded on 4/20/2011	ta recorded on 4/20/2011							
Temperature 71.8°F/22.1°C	1°C Relative Hamidity: 42%	42% Temp/RH Asset 1012W						
Asset	Manufacturer	Model Desc	Description		Cal Date	Due Date	Traceability Numbers	Numbers
486W	Hewlett Packard	53131A UNIT	UNIVERSAL COUNTER	田	6/2/2010	1102/02/9	2-&1016W-10-1	10-1
The second	And the second se							
a ne report	d uncertainty is the uncertainty of the calibra	The reported uncertainty is the uncertainty of the calibration process For measuring instruments and 0.6 of the least significant digit to the reported uncertainty is the measurement enderminy of the unit under set as the secilic case seine	nificant digit to the repo	nted uncertainty to o	that the measurement appendingly	of the unit under test at th	he specific test point.	

Reported resolution of the UUT does not represent calibration uncertainty or accumacy of the UUT

Calibration Lab Data Report - Page 1 of 1

Field not applicable.

Service Order Nbr: BD86Q-61-1



Certificate of Compliance

It is hereby certified that this article has been tested for functionality. If the article has no testable function it has been inspected and is certified to be the article as described.

Customer: INTERTEK 2595 SOUTHWEST 153RD DRIVE BEAVERTON, OR 97006 Customer Nbr: 1-556813-000 PO Nbr: USA20-0000202108 Date Received: December 13, 2010

Date Completed: February 03, 2011 Due Date: January 21, 2012

Manufacturer:	Troemner
Model Nbr:	UNKNOWN (PM0104)

Cert/SO Nbr: 2-A94VT-88-1

Part Nbr:	Unknown (PM010	14)	
Description:	10 Lb Weight, Sin	gle	
Serial Nbr:			10 0
ID Nbr:	NONE COM	20115	52
	901B0008371	Marcales -	

Transcat Calibration Laboratories have been audited and found in compliance with ISOEC 12025/2003. Accredited calibrations performed within the Labs Scope of Accreditation are indicated by the presence of the Accrediting Budys Logo and Centificate Number on this Centificate of Calibration. Any oneasurements on an accredited calibration net covered by that Labs Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government

Transcat calibrations, at applicable are performed in compliance with the requirements of ISO9001:2000, ISO TS16949, ANSE/NCSL 2540-1993, QS-9000 and ISO 10012-1992. When specified connectually the requirements of IGCFR21, IOCFR30 App, B and NQA-1 are also covered.

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technolog(NIST) or the National Research Council of Canada(NRC), or to other recognized national or international standard bodies(NMIs), or to measurable conditions created in our laboratory, or accepted fundamenial ansion natural physical constants, ratio type of colibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcet facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection Laboratory standards used in the performance of this calibration are shown below

The results in this report relate only to the item calibrated or tested and the determination of in or out of tolerance is specific to the modelacial na referenced above based on the mondacturers published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrationless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level(k-2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacture's published specifications. Limitations on the uses of this instrument are detailed in the manufacture's operating instructions. Any mamber of factors can cause a unit to drift out of tolerance at any time following its calibration/the reported uncertainty is the uncertainty of the calibration process. For reasoning instruments and 6:0 of the least significant digit to the reported uncertainty to obtain the measurement outcortainty of the unit under test at the pecific point. For mass calibrations Conventional mass referenced to8.0 g/cm². For single aided tolerances no TUR will be provided

Notes: This device was certified by Troenner on 21 Jan 2011, (see attached certificate 591491B), as reviewed by Transcat policy P0902R2

Checked for compliance at: 14058 SW Milton Ct Portland, OR 97224 By: Greg Guile Digitally Signed On 2/3/2011 Eachlitz Remonsibles 14058 SW Milton Ct Portland, OR 97224 503-598-8700

Reprinted on 02/08/2011

Digitally Signed By Drake Dunning for Date: 2/3/2011

Tony Kutch Lab Manager

Revision 0

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Certificate - Page 1 of 1

TRANSCAT CALIBRATION

SUPPLEMENTAL REPORT FOR A94VT-88-1

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CALIBRATION LAB DATA AS FOUND / AS LEFT

The second s					Mfg: Troemner				
Description:	10 Lb Weight, Single			N	Model: UNKNOWN (PM0104)	N (PM	(104)		
Serial: NONE	NONE								
Customer: 1	INTERTEK								
Calibrated:	2/3/2011			PO	PO Nbr: USA20-0000202108	02021	38		
Date Due: 1/21/2012	- 1/21/2012			B	ID Nbr. NONE				
Service Type:	6A			Calibration	Calibration Proc. 1-AC10001-1	7			
Description	Setpoints	Accuracy	Low Limit	t High Limit	Low Limit High Limit As Found / As Left		Uncertainty (k=2; ±)	=2; 主)	TUR
Function Check									
Documentation Verification			a.	۵.	4	1931		THE REAL PROPERTY.	STREET, STREET
As Found and As Left Data recorded on 2/3/2011	corded on 2/3/2011								
Temperature: 67.5°F / 19.7°C	C Relative Humidity. 42%	42% Temp/RH Asset 1013W	13W						
Asset Ma	Manufacturer	Model	Description		Cal Date		Due Date	Traceability Numbers	Numbers
None - 02 No	None - Only for Lab Use	NONE	Only for lab use		1/23/2009	11	1/23/2099	NVA	
Remarks									
This device was certified	by Troemner on 21 Jan 2011. (This device was certified by Troemner on 21 Jan 2011, (see attached certificate 591491B), as reviewed by Transcat policy P0902R2	wiewed by Transcat poli-	ley P0902R2					
None - 02 No Remarks This device was certified	one - Only for Lab Use by Troemner on 21 Jan 2011, (NONE [see attached certificate 591491B), as re	Only for lab use wiewed by Transcat poli	tey P0902R2	1/23/2009	11	23/2099	Fa.	NA.

Field not applicable.

Calibration Lab Data Report - Page 1 of 1

The reported utentiality is the uncertainty of the collettions process For measuring instruments add 0.6 of the lexit digit to the reported uncertainty to obtain the measurement uncertainty of the unit under net at the spellic test point.

Reported resolution of the UUT does not represent adilension uncertainty of accuracy of the UUT

Service Order Nbr: A94VT-88-1





201 Wolf Drive + P.O. Box 87 + Thorofare, NJ 08086-0087 + Phone: 856-686-1600 + Fax: 856-686-1601 + www.lroemner.com + e-mail: troemner@troemner.com

Page 1 of 7 Pages Weight

Certificate Number 591491B-1 Date of Calibration 21-JAN-2011

SECTION 1: NAME AND ADDRESS OF CUSTOMER

End user Transcat Inc 14058 SW Milton Ct Portland OR 97224-8025

Joseph-Moran, Metrology Manager

SECTION 3: PERSON PERFORMING WORK

Daniel Foglio

SECTION 4: CERTIFICATE INFORMATION

Description of Masses: Cast Iron

Accuracy Class	: NIST 105-1 Class F	Date Received	: 11-JAN-2011
Order Number	: 304744	Date of Calibration	: 21-JAN-2011
Construction	: Two Piece		: 21-JAN-2011
Material	: Cast Iron		: 10 lb

SECTION 5: ENVIRONMENTAL CONDITIONS DURING TEST

Temperature: 21.73°C

Pressure: 752.79 mm Hg

Relative Humidity: 45%

SECTION 6: PERTINENT INFORMATION

The Weights listed on this calibration report have been compared to reference mass standards that are directly traceable to the National Institute of Standards and Technology under Test No. 822/272103-05.

Reference standards and balances used to perform the calibration are listed in Section 10.

The weights calibrated for this report have been calibrated in accordance with Troemner's calibration process. The calibration performed meets Level III criteria as described in the NIST/NVLAP Technical Guide 150-2.

This calibration also meets specifications as outlined in ISO 9001, ISO/IEC 17025, ANSI/NCSL Z540-1-1994, NRC Document 10CFR50 Appendix B, and applicable documents.

This certificate of calibration shall not be reproduced except in full, without the written approval of Troemner, LLC. This certificate of calibration must not be used by the customer to claim product endorsement by NIST, NVLAP or any agency of the U.S. government.

Client Transcat (Rochester) 35 Vantage Point Drive Rochester NY 14624





201 Wolf Drive + P.O. Box 87 + Thorofare, NJ 08086-0087 + Phone: 856-686-1600 + Fax: 856-686-1601 + www.troemner.com + e-mail: troemner@troemner.com

Page 2 of 7 Pages Weight

Certificate Number 591491B-1 Date of Calibration 21-JAN-2011

NAME AND ADDRESS OF CUSTOMER

End user Transcat Inc 14058 SW Milton Ct Portland OR 97224-8025 <u>Client</u> Transcat (Rochester) 35 Vantage Point Drive Rochester NY 14624

SECTION 7: TRUE MASS (MASS IN VACUUM) CALIBRATION DATA

Nominal Mass Value	Serial Number	As Found	As Left	Density ¹ of Weight	Uncertainty (+or-)	
10 lb		4536.2786 g	4536.2786 g	7.2000 g/cm3	50.0 mg	

1.000





201 Wolf Drive + P.O. Box 87 + Thorofare, NJ 08086-0087 + Phone: 856-686-1600 + Fax: 856-686-1601 + www.traemner.com + e-mail: troemner@troemner.com

Page 3 of 7 Pages Weight

Certificate Number 591491B-1 Date of Calibration 21-JAN-2011

NAME AND ADDRESS OF CUSTOMER

End user Transcat Inc 14058 SW Milton Ct Portland OR 97224-8025 Client Transcat (Rochester) 35 Vantage Point Drive Rochester NY 14624

SECTION 8: MASS IN AIR CALIBRATION VALUE VS. REFERENCE DENSITY 8000 kg m⁻³

Nominal	Serial	Conventional Mass Value		Uncertainty	Tolerance
Mass Value	Number	As Found	As Left	(+ or -)	(+ or -)
10 lb		4536.2030 g	4536.2030 g	50.0 mg	450.0000 mg





201 Wolf Drive + P.O. Box 87 + Thorofare, NJ 08086-0087 + Phone: 858-688-1600 + Fax: 856-686-1601 + www.troamner.com + e-mail: troemner@troemner.com

Page 4 of 7 Pages Weight

Certificate Number 591491B-1 Date of Calibration 21-JAN-2011

NAME AND ADDRESS OF CUSTOMER

End user Transcat Inc 14058 SW Milton Ct Portland OR 97224-8025

<u>Client</u> Transcat (Rochester) 35 Vantage Point Drive Rochester NY 14624

SECTION 9: MASS IN AIR CALIBRATION DATA VS, REFERENCE DENSITY 8000 kg m⁻³

Nominal	Serial	Conventional Mass Correction		Uncertainty	Tolerance
Mass Value	Number	As Found	As Left	(+ or -)	(+ or -)
10 lb		279.3 mg	279.3 mg	50.0 mg	450.0000 mg

2



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NAME AND ADDRESS OF CUSTOMER

End user Transcat Inc 14058 SW Milton Ct Portland OR 97224-8025 Page 6 of 7 Pages Weight Certificate Number 591491B-1 Date Of Calibration 21-JAN-2011

Client Transcat (Rochester) 35 Vantage Point Drive Rochester NY 14624

SECTION 11: GENERAL INFORMATION

This calibration was performed in Troemner's High Precision Level I Mass Metrology Laboratory at 201 Wolf Drive, Thorofare, New Jersey 08086 unless otherwise noted on page one. The internal procedures used are CAL-CLASSI, CAL-MMAP, and NIST HB145.

SECTION 12: DEFINITIONS AND TERMS

MASS IN A VACUUM - The mass of a weight as if it were measured in a vacuum. Also known as True Mass.

MASS IN AIR - The conventional value of the result of weighing in air, in accordance to International Recommendation OIML D 28. For a weight taken at 20° C, the conventional mass is the mass of a reference weight of a density of 8000 kg m⁻³ which it balances in air of a density of 1.2 kg m⁻³.

AS FOUND MASS IN A VACUUM - The measured value of the mass(es) as they were received by Troemner.

AS LEFT MASS IN A VACUUM - The measured value of the mass(es) after they were adjusted, repaired or replaced when necessary. The As Found Mass in a Vacuum will equal the As Left Mass in a Vacuum if the mass(es) did not require adjustment, repair or replacement.

NOMINAL MASS - The mass value as marked on the weight.

CORRECTION - The difference between the mass value of a weight and its nominal value. A positive correction indicates that the mass value is greater than the nominal value by the amount of the correction.

AS FOUND CONVENTIONAL MASS CORRECTION - The conventional correction of the result, as it was received by Troemner, of weighing in air in accordance to International Recommendation D 28. For a weight taken at 20° C, the conventional mass is the mass of a reference weight of density 8000 kg·m⁻³ which it balances in air density of 1.2 kg·m⁻³. If the customer requires cleaning prior to calibration, the after cleaning correction would be reported.

AS LEFT CONVENTIONAL MASS CORRECTION - The conventional correction of the result, after adjust-, ment repair, or replacement of weighing in air in accordance to International Recommendation D 28. For a weight taken at 20° C, the conventional mass is the mass of a reference weight of density 8000 kg·m⁻³ which it balances in air density of 1.2 kg·m⁻³. The As Found will equal the As Left Conventional Mass Correction if the mass(es) did not require adjustment, repair or replacement.

(continued on next page)







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NAME AND ADDRESS OF CUSTOMER

End user Transcat Inc 14058 SW Milton Ct Portland OR 97224-8025 Page 7 of 7 Pages Weight Certificate Number 591491B-1 Date of Calibration 21-JAN-2011

Client Transcat (Rochester) 35 Vantage Point Drive Rochester NY 14624

SECTION 12: DEFINITIONS AND TERMS (continued)

UNCERTAINTY - The standard deviation associated with the result of the measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurand. The uncertainty is calculated in accordance with NIST TechNote 1297 / UKAS M3003 using a coverage factor of k = 2 (k = 2 defines an interval having a level of confidence of approximately 95 percent). The uncertainty does not include possible effects of magnetism,

TOLERANCE - Defines the limits in which the correction value and the uncertainty must fall to meet the tolerance specification for the given Class.

AS FOUND CONVENTIONAL MASS VALUE - The measured value of the mass(es) as they were received by Troemner, of weighing in air in accordance to International Recommendation OIML D 28. For a weight taken at 20° C, the conventional mass is the mass of a reference weight of density 8000 kg·m⁻³ which it balances in air density of 1.2 kg·m⁻³. If the customer requires cleaning prior to calibration, the after cleaning value would be reported. F denotes Out of Tolerance Weight.

AS LEFT CONVENTIONAL MASS VALUE - The measured value of the mass(es) after they were adjusted, repaired or replaced when necessary, of weighing in air in accordance to International Recommendation OIML D 28. For a weight taken at 20° C, the Conventional Mass is the mass of a reference weight of density 8000 kg·m⁻³ which it balances in air density of 1.2 kg·m⁻³. The As Found will equal the As Left Conventional Mass Value if the mass(es) did not require adjustment, repair or replacement.

ASTM E617-97 - Weights meet the tolerance specification for ASTM E617-97. Weights 2kg - 1g screened for magnetism using a Gaussmeter.

SECTION 13: ADDENDUM

Weight(s) Pass Visual Inspection

CERTIFICAT D'ÉTALONNAGE N° W-007466-6373

pour

Services d'essais Intertek Ltée 1829, 32e avenue Lachine, (Québec) H8T 3J1

pour

JEU DE POIDS MÉTRIQUES No.180-110

Le Service d'évaluation des laboratoires d'étalonnage (CLAS) du Conseil national de recherches du Canada (CNRC) a évalué et certifié la capacité d'étalonnage du laboratoire et la traçabilité au Système international d'unités (SI) ou à des étalons acceptables selon le CLAS. Le présent certificat d'étalonnage est délivré conformément aux conditions de certification du CLAS et aux conditions ISO/IEC 17025 d'accréditation du Conseil canadien des normes (CCN). Le CLAS et le CCN ne garantissent pas l'exactitude des étalonnages individuels effectués par les laboratoires accrédités.

Numéro de Laboratoire Accrédité : 279

Certificat CLAS/NRC : 98-01

VERIFIÉ PAR:

Adrian Rosu, Technologue en Étalonnage

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Page 1 de 3

FISHER SCIENTIFIC Part of Thermo Fisher Scientific / Une partie de Thermo Fisher Scientific Metrology Laboratory / Laboratoire de métrologie

112 chemin Colonnade Road, Nepean, Ontario, K2E 7L6 Toll free: 1-877-MASS CAL, Local: (613) 228-6570, Fax: (613) 226-1460, metrology.canada@thermofisher.com

Client: Services d'essais Intertek Ltée Contact: Eric Lafontaine Client P.O. No.: SC-633594-MTL Page 2 de 3

Le ou les poids indiqués en rubrique et ci-dessous ont été étalonnés selon les étalons de masse de Laboratoire de métrologie, qui assurent le rattachement aux étalons nationaux de mesure du Canada, au moyen d'une suite ininterrompue de comparaisons ayant toutes des limites d'incertitude spécifiées. Les étalons nationaux de mesure du Canada sont conservés par le Conseil national de recherches du Canada (CNRC). Les limites d'incertitude peuvent être considerées comme des écarts-types statistiquement indépendants. Les incertitudes sont étargies au moyen d'un coefficient de couverture k=2 afin d'obtenir un niveau de confiance d'environ 95 %, en supposant une distribution normale. Les valeurs qui suivent représentent la masse apparente correspondant à une densité de 8000 kg/m3, à une température de 20° C, et à une densité de l'air de 1,2kg/m3 (masse conventionnelle). Les résultats de l'étalonnage s'appliquent uniquement aux poids indiqués au moment de l'étalonnage.

Identification du poids	Correction * "é la réception en (mg)" **	Correction * "au refour en (mg)"	Limites d'incertitude "en (±mg)"	Tolérances *** [ANSI/ASTM 4] "en (mg)"
500 g		+4.32	0.75	10
200 g		+2.73	0.25	4.0
·200 g		+1.42	0.25	4.0
100 g		+1.46	0.20	2.0
			_	
	11-2/52.34			

Une correction positive signifie que le poids est plus élevé que la quantité indiquée.
 Une correction négative signifie que le poids est moins élevé que la quantité indiquée.



** Lorsque aucune valeur n'apparait dans cette colonne, les chiffres des colonnes «à la reception» et «au retour» sont identiques.

*** Pour déterminer si un poids respecte sa tolérance requise. Les valeurs combinées des colonnes << Correction au retour >> et << Limites d'incertitude >> doivent être inférieur ou égal à la valeur de tolérance.

FISHER SCIENTIFIC

Part of Thermo Fisher Scientific / Une partie de Thermo Fisher Scientific Metrology Laboratory/ Laboratoire de métrologie 112 chemin Colonnade Road, Nepean, Ontario, K2E 7L6 Toll free: 1-877-MASS CAL, Local: (613) 228-6570, Fax: (613) 226-1460, metrology.canada@thermofisher.com No. de certificat: W-007466-6373 Date reçue: November 17, 2006 Date étalonnée: November 20, 2006 Date de réetalonnage: November 20, 2007 Client: Services d'essais Intertek Ltée Contact: Eric Lafontaine Client P.O. No.: SC-633594-MTL Page 3 de 3

Fourchette d'utilisation: 500g - 100g

État à la réception: Bon

DESCRIPTION DES POIDS

Valeur nominale	Matériel	Manufacturier	Forme	Туре	Classe
500g - 100g	Acier inoxydable	Ohaus Scale Corp.	Cyl. rainure/cavitée	11	ANSI/ASTM 4

MÉTHODE D'ÉTALONNAGE

Méthode Employée	No. du Formulaire	
Substitution double	F43	Manuel 145, manuel de NIST/NBS pour la garantie de la qualité des mesures métrologiques, Novembre 1986

DÉROGATION À LA PROCÉDURE: Aucun

BALANCE(S) UTILISÉE(S)

Les balances sont étalonées avant leurs utilisation initiale. Un rapport d'entretien et d'inspection (M&I) est effectué annuellement pour chaque balance. Si une déviation se produit, la balance est réétalonnée.

Balances	No. de certificat.	Numéo M & I	Date inspectée	
AT1005 Mettler No. 1115341792	B-1024B	MIR801	September 13, 2006	
AX106 Mettler No. 1122403024	B-1043-1	MIR828	November 02, 2006	

RATTACHEMENT / ÉTALON(S) UTILISÉ(S): NRC

L'étalon de référence de Fisher Scientifique est comparé à des intervalles prédéterminés à des étalons nationaux. Les étalons de Fisher Scientifique utilisés pour l'obtention des résultats sont comparés à intervalles prédéterminés à l'étalon de référence de Fisher Scientifique.

Étalons	No. de certificat.	Étalonné par:	Date étalonnée:	
SS-P-2	MS-2005-0001	NRC	January 25, 2005	
95-4	W-007371-5962	FSML	August 23, 2006	
M2US	W-006938-5962	FSML	August 23, 2006	

CONDITIONS ENVIRONNEMENTALES

Température 19.2°C Date étalonnée: 11/20/2006 Humidité: 40%

Pression Barométrique: 1011mBar Étalonné par: Adrian Rosu

FISHER SCIENTIFIC

Part of Thermo Fisher Scientific / Une partie de Thermo Fisher Scientific Metrology Laboratory / Laboratolre de métrologie 112 chemin Colonnade Road, Nepean, Ontario, K2E 7L6 Toll free: 1-877-MASS CAL, Local: (613) 228-6570, Fax: (613) 228-1460, metrology canada@thermofisher.com

<u>TECHN</u>ISOL

2000-0

325, rue de l'Espinay Québec (Québec) G1L 2J2

Tel. : (418) 647-1402 Télec. : (418) 648-9288

CERTIFICAT D'ÉTALONNAGE

Client :	Services d'essais Intertek AN Itée	N° du certificat :	1775
Adresse :	1829, 32 ^e Avenue	N° projet client :	IN061551-1061
	Lachine (Québec) H8T 3J1	Accréditation CCN nº :	24
		Certification CLAS nº :	2000-01
		Classe d'exactitude :	ASTM E-617, classe 1
Masse :	500 mg à 10 mg	Date d'étalonnage :	1er décembre 2006
Fabricant :	Rice Lake	Date du prochain étalonnage :	Décembre 2011
Condition d'	essai : Temp. °C : 20,4	Pression kPa : 101,8 Hu	nidité % : 36

Valeur nominale	N° de série	N° d'inventaire	Masse conventionnelle telle que reçue Correction (mg)	Masse conventionnelle correction après étalonnage (mg)	Tolérance (+ ou -) (mg)	Incertitudes (+ ou -) (mg)
≠ 500 mg	5864	180-195	0,0156	0,0026	0,0100	0,0033
≠200 mg	5864	180-195	0,0145	- 0,0003	0,0100	0,0033
≠200 mg ●	5864	180-195	0,0191	0,0006	0,0100	0,0033
50 mg	5864	180-195	0,0048		0,0100	0,0033
20 mg	5864	180-195	0,0063		0,0100	0,0033
20 mg •	5864	180-195	0,0059		0,0100	0,0033
10 mg	5864	180-195	0,0054		0,0100	0,0033
					-	

S'applique seulement pour les masses qui ont été ajustées * Ajusté

** Hors tolérance pour la classe spécifiée

Date :

Pour l'étalonnage des masses, nous utilisons la procédure « Comparaison individuelle » IES 902 et la procédure « Détermination des incertitudes » IES 903. Nos étalons de référence sont étalonnés chaque année par le CNRC. Ce certificat ne peut être reproduit sans la permission écrite de Technisol inc.

Remarques :

Effectué par :

J. Adey

50 Approuvé par : S. Hamel, resp. SMM

F-903 - Révision 03

Page 1 de 2

19 décembre 2006

No du rapport d'étalonnag CA0003-068-032111 Mettler Toledo Service Business Unit Industrial 1900 Polaris Parkway Columbus, Ohio 43240 1-800-METTLER Accrédité par l'American Association of

METTLER TOLEDO

ISO 9001 Registered ANSI/NCSL Z540 Accrédité

) Laboratory Accreditation (A2LA) GERT.CALIBRATION #1902.02

Certificat d'étalonnage

Client

Sociélé :	SBI Fabricant de poêles Intern	ational inc.	
Adresse :	250, rue Copenhague		
Ville ;	St-Augustin	État/Province :	Québec
Code postal :	G3A 2V1	Astea Customer ID:	C037689001001

Instrument

Constructeur :	Rice Lake	Modèle de terminal :	IND560
Modèle ;	Roughdeck	No do sário du termin	00927396KL
No de série :	B00927395KL	No. Sório Impr.	N/A
Capacitó :	625 kg	Service/Pléce :	Lab
Résolution :	0.02 kg	Nbre de Divisions	31250
Classe :	Ш	Procédure utilisée :	Canadien
Numéro/ID d'actif du clie	SBI-013		
Procédure:	l'A2LA, en vertu de la norme	conformément aux conditions de ISO/IEC 17025, A2LA a évalué la as normes nationales reconnues.	
Date de calibrage :	21-mars-2011	Le prochain Cel Date	31-mars-2012

Date de calibrage :	21-mars-2011	Le prochain Cal Date	31-mars-2012
Signataire autorisé (A2LA) :	Dany Careau	Signature:	ELECTRONIC SIGNATURE
Signature du client :			

Étalons de travail

raçebliită	Les poids de test utilisés se référent au National Institute of Standards and Technology.					
Jeu de poids no :	Traçabilité NIST No.:	Classe ASTM/OIML	Date d'étalonnage :	Date proch. étalonnage		
42268	M10-0278	M1	5-août-2010	5-août-2011		
MTP1	MT0015626	E1	17-sept2010	17-sept2011		
KILS	1356103	M1	5-oct2010	5-oct2011		

Version Logiciel : 4.3.0.7

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No du rapport d'étalonnag CA0003-088-032111

METTLER TOLEDO

Résultats de mesure

La température :

70 °F

Les conditions ambiantes ont été vérifiées afin d'assurer l'exactitude de l'étalonnage.

Test de variation

٦,	2	<u>.</u>		Avant Réglage	Après Réglage
+		Les poids Appliqués	Position	Valeur lue	Valeur lue
a ⁴	3	1: 125 kg	Position 1	125.02 kg	124.96 kg
		2: 125 kg	Position 2	125.16 kg	125.02 kg
		3: 125 kg	Position 3	125.16 kg	125.02 kg
		4: 125 kg	Position 4	125.26 kg	125.00 kg
		Errour maximum :		0.26 kg	0.04 kg
		Max Erreur Admissiblo :	M	0.10 kg	0.1 kg

Linéarité

			Avant réglag	90		
	Les poids Appliqués	Valeur lue	Em	ur .	Erreur ødmissible	Dans la Tolérance
Zero 1	0.00 kg	0.00 kg	0.00 kg	b 0	1 d	OUI
2	20.00 kg	20.02 kg	0.02 kg	1 d	2 d	OUI
3	40.00 kg	40.04 kg	0.04 kg	2 d	2 d	OUI
4	100.00 kg	100.12 kg	0.12 kg	6 d	5 d	NON
Max 5	200.00 kg	200.24 kg	0.24 kg	12 d	5 d	NON
6	100.00 kg	100.12 kg	0.12 kg	6 d	5 d	NON
7	40.00 kg	40.04 kg	0.04 kg	2 d	2 d	OUI
8	20.00 kg	20.02 kg	0.02 kg	1 d	2 d	oui
Zero 9	0.00 kg	0.00 kg	0.00 kg	0 d	10	OUI

Méthode de substitution utilisée

Version Logiciel : 4.3.0.7 No du rapport d'étalonnag CA0003-088-032111

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METTLER TOLEDO

			Après réglag	70			
	Los polds Appliqués	Valeur lue Errour		ur	Erreur admissible	Dans la Tolérance	
Zero 1	0.00 kg	0.00 kg	kg 0.00 kg 0 d		1 d	OUI	
2	20.00 kg	20.00 kg	0.00 kg	0 d	2 d	OUI	
3	40.00 kg	40.00 kg	0.00 kg	0 d	2 d	oui	
4	100.00 kg	100.02 kg	0.02 kg	1 d	5 d	OUI	
Max 5	200.00 kg	200.02 kg	0.02 kg	1 d	5 d	OUI	
6	100.00 kg	100.02 kg	0.02 kg	1 d	5 d	OUI	
7	40.00 kg	40.00 kg	0.00 kg	0 d	* 2 d	OUI	
8	20.00 kg	20.00 kg	0.00 kg	0 d	2 d	OUI	
Zero 9	0.00 kg	0.00 kg	0.00 kg	0 d	1 d	OUI	

Méthode de substitution utilisée

Un réglage de la balance a été reguis

Si NON, les résultats retallés à l'état du système avant la prestation de service correspondent à l'état de

Ø OUI □ NON

Répétabilité

bid	s appliqués ; 100.00 kg	l	17
	Chargé	Vide	Différence
1	100.00 kg	0.00 kg	100 kg
2	100.02 kg	0.00 kg	100.02 kg
3	100.02 kg	0.00 kg	100.02 kg
	Erreur maximale :	0.02 kg	1.0 d
	Tolérance ;	0.10 kg	5 d

Incertitude

Mesure de l'incortitude = 0.0

0.022 kg

Les mellieures incertitudes représentent les incertitudes étendues selon un facteur de sécurité K=2 générant un niveau de conflance approximatif de 95 %. Des dispositions doivent être prises en matière d'environnement au lieu d'étaionnage, d'incertitude induite par l'article en étaionnage et d'effets indésirables causés par le transport du matériet d'étaionnage. Ces facteurs pourraient entraîner une incertitude plus grande que le BMC,

Remarques

Aucune.

Version Logiciel : 4.3.0.7

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No du rapport d'étalonnag CA0003-086-032111 Mettler Toledo Service Business Unit Industrial 1900 Polaris Parkway Columbus, Ohio 43240 1-800-METTLER

METTLER TOLEDO

ISO 9001 Registered ANSI/NCSL Z540 Accrédité



Accrédité par l'American Association of Laboratory Accreditation (A2LA) CERT.CALIBRATION #1902.02

Certificat d'étalonnage

Client

Société :	SBI Fabricant de poêtes In	SBI Fabricant de poêtes International Inc.				
Adresse :	250, rue Copenhague					
Ville :	St-Augustin	État/Province :	Québec			
Code postal :	G3A 2V1	Astea Customer ID:	C037589001001			

Instrument

Constructeur :	Weightronix	Modèle de terminal :	IND560
Modèle :	DSL-6060	No de série du termin	00927386KI.
No de série :	B00927386KL	No. Sărie Impr.	N/A
Capacitá :	500 kg	Service/Pièce :	LAB
Résolution :	0.02 kg	Nbre de Divisions	25000
Glasse :	111	Procédure utilisée :	Canadlen
Numéro/ID d'actif du clie	SBI-014		
Procédure:	Le présent certificat est émis conform l'A2LA, en vertu de la norme ISO/IEc laboratoire et la traçabilité des norme	C 17025. A2LA a évalué la	STATE PRODUCES AND A SECOND STATE AND A SECOND STATE

Date de calibrage ;	· 21-mars-2011	Le prochain Cal Date	31-mars-2012
Signətaire autorisé (A2LA) :	Dany Careau	Signature:	ELECTRONIC SIGNATURE
Signature du client :			

Étalons de travail

raçabilité	Los polds de test utilisés	se réfèrent au National h	nstitute of Standards and	Technology.
Jeu de poids no :	Traçabilité NIST No.:	Classe ASTM/OIML	Date d'étalonnage :	Doto proch. étalonnago
42268	M10-0278	M1	5-ao01-2010	5-août-2011
MTP1	MT0015626	F1	17-sept2010	17-sept2011
KII S	1356103	M1	5-ocl2010	5-oct2011

Version Logiciel : 4.3.0.7

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No du rapport d'étalonnag CA0003-086-032111

70 °F

METTLER TOLEDO

Résultats de mesure

La température :

Les conditions ambiantes ont été vérifiées afin d'assurer l'exactitude de l'étalonnage.

Test de variation

1, 0			Avant Réglage	Après Réglage
4 3	Les polds Appliqués	Position	Valeur lue	Valeur lue
) ⁴ ³	1: 125.00 kg	Position 1	125.00 kg	125.00 kg
	2: 125.00 kg	Position 2	125.04 kg	125.00 kg
	3: 125.00 kg	Position 3	125.00 kg	125.00 kg
	4: 125.00 kg	Position 4	124.96 kg	125.00 kg
	Errour maximum :		0.08 kg	0.00 kg
	Max Erreur Admissible .		0.10 kg	0.1 kg

Linéarité

			Avant régleç	70					
	Los poids Appliqués	Valeur lue	Erre	ur	Erreur admissible	Dans la Tolérance			
Zero 1	0.00 kg	0.00 kg	0.00 kg	0 d	1 d	OUI			
2	20.00 kg	20.00 kg	0.00 kg	0 đ	2 d	OUI			
3	40.00 kg	40.00 kg	0.00 kg	0 d	2 d	OUI			
4	100.00 kg	100.02 kg	0.02 kg	1 d	5 d	OUI			
Max 5	200.00 kg	200.04 kg	0.04 kg	2 d	5 d	OUI			
6	100.00 kg	100.02 kg	0.02 kg	1 d	5 d	OUI			
7	40.00 kg	40.00 kg	0.00 kg	0 d	2 d	OUI			
8	20.00 kg	20.00 kg	0.00 kg	0 d	2 d	OUI			
Zero 9	0.00 kg	0.00 kg	0.00 kg	0 d	1 d	OUI			

Méthode de substitution utilisée

Version Logicief : 4.3.0.7

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No du rapport d'étalonnag CA0003-086-032111

METTLER TOLEDO

	Après réglage							
Zero 1	Les polds Appliqués Valeur lue		Errour		Erreur edmissible	Dans la Tolérance		
	0.00 kg	0.00 kg	0.00 kg	0 d	1 đ	OUI		
2	20.00 kg	20.00 kg	0.00 kg	0 d	2 d	OUI		
3	40.00 kg	40.00 kg	0.00 kg	0 d	2 d	OUI		
4	100.00 kg	100.00 kg	0.00 kg	6 O	5 d	OUI		
Max 5	200.00 kg	200.00 kg	0.00 kg	0 d	5 d	OUI		
6	100.00 kg	100.00 kg	0.00 kg	0 d	6 d	OUI		
7	40.00 kg	40.00 kg	0.00 kg	0 d	2 d	OUI		
8	20.00 kg	20.00 kg	0.00 kg	0 d	2 d	OUI		
Zero 9	0.00 kg	0.00 kg	0.00 kg	0 d	1 d	OUI		

Móthode de substitution utilisée

Un réglage de la balance a été reguls

SI NON, les résultats refatifs à l'état du système avant la prestation de service correspondent à l'état de

V OUI NON

Répétabilité

old	s appliqués : 100.00 kg	1	
	Chargé	Vide	Différence
1	100.00 kg	0.00 kg	100 kg
2	100.02 kg	0.00 kg	100.02 kg
3	100.00 kg	0.00 kg	100 kg
	Erreur maximala :	0.02 kg	1.0 đ
	Tolérance :	0.10 kg	5 d

Incertitude

Mosuro de l'incertitude «

0.022 kg

Les meilleures incertitudes représentent les incertitudes étendues seton un facteur de sécurité K=2 générant un niveau de confiance approximatif de 95 %. Des dispositions doivent être prises en matière d'environnement au lieu d'étalonnage, d'incertitude Induite par l'article en étalonnage et d'effets indésirables causés par le transport du matériel d'étalonnage. Ces facteurs pourralent entraîner une incertitude plus grande que le BMC.

Remarques

Aucune.

Version Logiciel : 4.3.0.7

Page 3 sur 3 © METTLER TOLEDO

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Ulrich Métrologie inc. Ulrich Metrology Inc. 9912, Côte-de-Liesse Montréal (Guébec) H8T 1A1 Tot. (514) 631-6653 Fax (514) 631-6122 info@ulrich.ca www.ulrich.ca

CALIBRATION CERTIFICATE

Certificate no.:	228051	Calibration date	August 09, 2010
Identification:	SBI-096	Certificate issued	August 09, 2010
Description:	CALIBRATOR, OMEGA CL23A	Interval:	12 months
Size:	TC K/J/T	Due date:	August 9, 2011
Manufacturer:	OMEGA	Procedure no.:	MET/CAL
Model no.:	CL23A	Environment:	CLAS Type 2 Laboratory
Serial no.:	T-256137	Temperature:	23 ± 2°C
		Humidity:	35 - 55% RH
		Metrologist:	NFS

Property of:	SBI
	250 RUE DE COPENHAGUE
	ST-AUGUSTIN-DE-DESMAURES, QC G3A 2H3

Approved by:

Worken (Lipperere

Nuccio Mercuri, Lab Manager

This calibration certificate is issued in accordance with the applicable requirement of ISO/IEX_17025 and QM-68. Measurement readic provided are traceable to either the National Research Connell Canada (NRC), the National Institute of Standards and Technology (NIST), a national Informative of another constructions segments to the UPM Manual Recognition Arrangement (MRA), or a cabbination laboratory accepted by an accepting hole with which Canada has an equivalence agreement.

CALIBRATION STANDARDS

See notes below.

MEASUREMENT UNCERTAINTY

The above listed instrument meets or exceeds all specifications as stated in the reference procedure, unless noted otherwise. For measurement results associated with the conformance to a tolerance, the uncertainty in the measurement system did not exceed 25% (4.1 test uncertainty ratio) of the acceptable tolerance for each characteristic calibrated, unless otherwise noted in the report

CALIBRATION DATA

See next page for measurement results.

Notes:

9V battery replaced.



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CALIBRATION DATA

Certificate No.228051

Instrument ID:	SBI-096	Result:	PASS
Type:	CALIBRATOR THERMOMETER		FOUND-LEFT
Serial no.:	T-256137	oonation.	TOONDELEFT
Procedure:	Omega CL23A: 5520A-M		

Standard ID	Туре		Manufacturer		Model no.	Cal. Date	Due Date
						out, prite	Due Dau
7870009	CALIBRATOR		FLUKE		5520A	2010/04/23	2011/04/23
MEASUREMENT	RESULTS (Per METIC	AL)					
Balds 172704 kork m. 1		TRUE	TEST	ACCEPTANCE	LIMITS	PASS/	
PARAMETER		VALUE	RESULT	LOW	HIGH	FAIL	TUR
DISPLAY CALIB	RATION						
Did all negme	nts of the display	illuminate?					
Result of Ope	rator Evaluation					PASS	
THERMOMETER C	ALTERATION						
K Type Thermon							
-200.0degF	a college		-200,8	-201.0	7.0.7	1000000	
-60.0degF			-60.6	-61.0	-199.0	PASS	1.7
40.0degF			-40.5	-40.5	-39.5	PASS	3.1
32.0degF			31.6	31.5	32.5	PASS	1.5
1240.0degF			1239.6	1239.5	1240.5	PASS	1.7
1260.0degF			1259.6	1259.5	1260.5	PASS	1.1
2500.0degF			2499.5	2499.0	2501.0		1.1
Type Thermod	couple		1.1.2.2.2	4425.0	230110	PASS	1.4
200,0degF			-200.6	-201.0	-199.0	PASS	
60.0degF			-60.4	-61.0	-59.0	PASS	2.1
40.0degF			-40.4	- 90.5	- 39.5	PASS	3.5
32.DdegF			31.6	31.5	32.5	PASS	1.7
1240.0degF			1239.5	1239.5	1240.5	PASS	2.0
1260.0degF			1259.5	1259.5	1260.5	PASS	1.6
1400.0degF			1399.5	1399.4	1400.6	PASS	1.6
Type Thermoe	ouple			122214	1400.0	PADD	3.8
200.0degF			-200.3	-201.0	-199.0	PASS	2.3
60.0degF			- 60.0	-61.0	-59.0	PASS	2.3
40.0degF			-40.1	-40.5	-39.5	PASS	
32.0degF			31.6	31.5	32.5	PASS	1.2
750,8degF			749.8	749.5	750.5	PASS	2,0
ALIBRATOR CAL	IBRATION						
Type Thermor							
200.0degF	9.54 (5.C)		-199.3	-201.0	100.0		
60.0degP			- 59.7	-61.0	-199.0	PASS	1.7
10.0degF			.39.7	-40.5	- 59.0	PASS	3.1
32.0degF			2212	-4.0 + 0	-39,5	PASS	1.5

Calibration Data for Certificate No 228051

Rivit01



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	TRUE	TEST	ACCEPTANCE	LIMITS	PASS/	
PARAMETER	VALUE	RESULT	LOW	HIGH	FAIL	TUN
1240.0degF		1239.6	1239.5	1240.5	PASS	1.1
1260.0degF		1259.6	1259.5	1260.5	PASS	1.1
2500.0degP		2499.3	2499.0	2501.0	PASS	1.4
J Type Thermocouple						2.3.3
-200.0degF		-199.9	-201.0	-199.0	PASS	2,1
-60.0degF		-60.1	-61.0	-59.0	PASS	3.5
-40.0degP		-39.9	-40.5	-39.5	PASS	1.7
32.0degF		31.9	31.5	32.5	PASS	2.0
1240.0degF		1239.5	1239.5	1240.5	PASS	1.6
1260.0degP		1259.6	1259.5	1260.5	PASS	1.6
1400.0degF		1399.3	1399.4	1400.6	FAIL	1.8
1400.0degF		1399.5	1399.4	1400.6	PASS	1.0
F Type Thermocouple						2.00
20D.OdegF		-199.8	-201.0	-199.0	PASS	2,3
60.0degP		-60.0	-61.0	-59.0	PASS	2.3
40.0degF		-39.8	-40.5	-39.5	PASS	1.2
32.0degF		31.9	31.5	32,5	PASS	1.7
750.0degF		749.6	749.5	750.5	PASS	2.0

End of Test Data

12/8/2010 Date:

Equipment: 581-135 (T1) Accuracy: 0.1 Reference: 581-096

Temperature: 69 F R.H.: 41%

S.D.	0.02		
R.M.U.	0.14	%	
D.M.U	2.49		
	Ave A.D.	1,24	38
Standard	Reading	A.D.	
70.0	69.1	1.29	
70.0	1.69	1.29	
70.0	69.2	1.14	

	1	ŝ	k	í		
2	1	9	ļ	ì		
2	1	1		ŀ		
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C	0.01	2	
		2	
M.U.	0.05	%	
0.M.U	0.81	%	
	Ave A.D.	0.40	26
candard	Reading	A.D.	
200.0	199.2	0,40	
200.0	199.2	0,40	
200.0	199.2	0.40	

S.D.	00.0	ĸ	
R.M.U.	0.02	8	
0.M.U	0.22	%	
	Ave A.D.	0.11	×
Standard	Reading	A.D.	
600.0	599.3	0.12	
600.0	599.4	0.10	
600.0	599.3	0.12	

	0,00	%		
R.M.U.	0.01	%		
0.M.U	0.02	%		
	Ave A.D.	0.00	R	
Standard	Reading	A.D.		П
0.0001	999.9	0.01		Т
0.0001	1000.0	0,00		
0.00	1000.0	00:00		Γ

Technician: Claude Paré

S.D.	0.00	%	
R.M.U.	0.01	%	
0.M.U	60.0	%	
	Ave A.D.	0.05	36
Standard	Reading	A.D.	
1400.0	1399.3	0.05	
1400.0	1399.4	0.04	
1400.0	1399.4	0.04	

12/8/2010 Date:

Equipment: SBI-135 (T2) Accuracy: 0.1 Reference: SBI-096

Temperature: 69 F R.H.: 41%

2

Γ			22				
25	96	%	-	A.D.	1.14	1.14	1.00
0.02	0.14	2.21	Ave A.D.		69.2	69.2	69.3
S.D.	R.M.U.	D.M.U		Standard	70.0	70.0	70.0

10	
-	
4.5	

S.D.	10.0	%	
R.M.U.	0.05	×	
O.M.U	0.71	*	
	Ave A.D.	0.35	22
Standard	Reading	A.D.	
200.0	199.3	0.35	
200.0	199.2	0.40	
200.0	199.4	0.30	

S.D.	00:00	*	
R.M.U.	0.02	*	
O.M.U	0.16	×	
	Ave A.D.	0.08	<u>%</u>
Standard	Reading	A.D.	
600.0	599.5	0.08	
600.0	599.5	0.08	
600.0	599.6	0.07	

	0.00	26		
-	0.01	8		
0.M.U	0.02	%		
	Ave A.D.	0.01	%	
tandard	Reading	A.D.		П
1000.0	1000.0	0.00		Т
0.000	1.0001	0,01		
0.000.	1000.1	0.01		

Technician: Claude Paré

S.D.	0.00	*		
R.M.U.	10.0	K.		
D.M.U	0.07	*		
	Ave A.D.	0.04	96	Г
Standard	Reading	A.D.		
1400.0	1399.4	0.04		Т
1400.0	1399.6	0.03		
1400.0	1399.5	0.04		Г



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 Fax (514) 327-0604

 www.chevrierinstruments.com
 info@chevrierinstruments.com

 Instruments de mesure et de régulation pour les procédés industriels et laborateure d'étalonnes

Certificat d'Étalonnage

Numéro du certificat: CE509

Étalonnage effectué par : LA CIE J. CHEVRIER INSTRUMENTS INC. 4850 GOUIN EST MONTREAL, QC, CANADA H1G 1A2

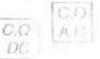
Informations sur l'instrument

Description	TUBE DE PITOT EN S
Manufacturier	DWYER
Modèle:	160S-24
Numéro de série	
LD SBI-203	
État de l'instrume	int BON

Pour : 3424 SBI INC 250, RUE DE COPENHAGUE ST-AUGUSTIN-DE-DESMAURES, QC G3A 2H3

Dâte d'étalonnage : 2010-12-15 Échéance : 2011-12-15 Résultat de l'étalonnage : Conforme Conditions ambiantes : 21.1 °C / 39 %hr Technicien : Abdennour Hocini : A.H

Commentaire :



Points d'étalonnage

Valeur Appliquée pi/min	Pitot standard "Ce	Pitot Uut "Ce	ratio
298 pi-min	0.0055 poH2O	0 0074 poH2O	0.86
499 pi-min	0 0154 poH2O	0.0231 poH2O	0.82
802 pi-min	0 0398 poH2O	0.0577 poH2O	0.83
1002 pi-min	0.0622 poH2O	0.0920 poH2O	0.82
2004 pi-min	0.2485 poH2O	0 3614 poH2O	0.83
3008 pi-min	0.5592 poH2O	0 8208 poH2O	0.83
4014 pi-min	0.9940 poH2O	1.4596 ppH2O	0.83
5022 pi-min	1,5535 poH2O	2.2827 poH2O	0 82



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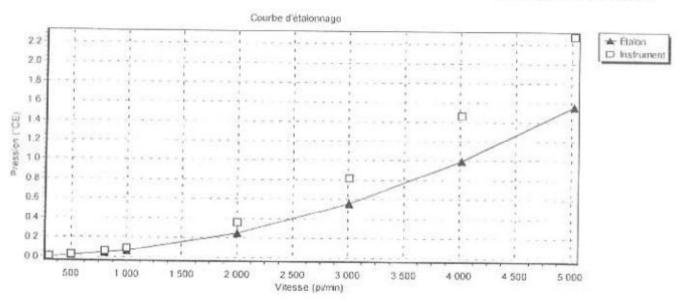
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 Instruments de mesore et de régelation peur lus procédés industriois et laboratoire d'étalonnage

Certificat d'Étalonnage

Numéro du certificat: CE509



Fait conformément à l'Échelle International de Température EIT90.

LD.	Certificat No	Description	Étalonné le	Échéance
CHEV029	091210-960294	MANOMETRE NUMERIQUE FURNESS PPC500	2009-12-16	2010 12-16
CHEV031	CHEV121-100830	TUYÉRE AIRFLOW DEVELOPMENTS	2010-08-30	2011-02-28
Procedures	s utilisées dans cet ét	alonnage		
Procédure Description		otion	Date de l	révision
		NNAGE TUBE DE PITOT		C TISTON

Fisher Scientifique

Certificat d'Étalonnage

Groupe de service des instru	ments 1-	800-267-6633	# 724396	- 01	
Client: SBI Stove Builder Inte	ernational		Local: Metrok	ogie	
St-Augustin de Desm	aurés		Modèle : TE2	145	
Balance			# Série : 2585	51066	
Liste des Vérification	codes		Spécific	ations : Fabricant: 🖂	Client:
Câble d'alimentation	OK	Capacité : 210) g		
Sélecteurs, clavier, commandes	OK	Résolution : 0.1	mg	Tolérance : 0.2 n	ng
Circuits imprimés	OK			🗆 Linéarité 🛛	Charge Maximale
Mécanisme de pesée	OK		Relevées	des vérifications	
Polds d'étalonnage interne	N/A		Référence	Tel que trouvé	Tel que laissé
Horizontalitó	OK		0.0500	0.0500	0.0500
Plateau et support de plateau	OK	⊠g □mg _	5.0000	5.0056	5.0000
Bottier et housse	OK	$\boxtimes g \square mg$	50.0000	50.0564	50.0001
Vitres	OK	⊠g □mg	200.0000	200.2254	200.0000
Fonction de tarage	ОК	Répond aux spécifi	cations : Tel que tro	ouvé : 🗌 Oul 🛛 Non	
Fonction Auto-Calibration	OK	Répond aux spécifi	cations : Tel que lai	issé : 🖾 Oui 📋 Non	
Hysteresis	OK				
Charges excentrées Tolérance : ± 0.5 mg		4 1 2	1 2	Charges excentre Polds d'essal: 100 🛛 🖸	ées]g □kg
Commentaires :	Tel que trouvé : Centre: 0.0000	Tel que laissé : Centre: <u>0.000</u>	10		
		1: 0.0000 2: 0.0000 3: 0.0000 4: 0.0000	1: 0.0000 2: 0.0000 3: 0.0000 4: 0.0000		
Codes : OK = , vérifié , éte	lonné, nettové			gé Déf = défectueux I	Remp = Remplacer
Étalons certifiés eu de poids QUE014		Représentant Date d'étalon	t de service :	Daniel Toulouse Daniel Daniel Toulouse Daniel 15 Novembre 2010 30 Novembre 2011	Digitally spreadly
		Approbation of Date:	du client :		

Appendix E

Sample Calculations

Equations and Sample Calculations - Method 5G

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.

BR Dry burn rate, kg/hr

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- ma Total particulate matter collected, mg
- $V_{\mu(td)}$ Volume of gas sampled corrected to standard conditions, dscf
- v. Average dilution tunnel gas velocity, ft/sec
- C. Particulate concentration, g/dsef
- Que Average dilution tunnel gas flow rate, dscf/min
- E Particulate emission rate, lbs/hr
- PR Proportional rate variation, %

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Dry Burn Rate

Using equation 28-3:

$$BR = \frac{60 \times W_{wd}}{\Theta} \times \frac{100 - \% M_{w}}{100}$$

Where,

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BR	aut .	Dry burn rate, lb/hr
W_{wd}	=	Mass of wood burned (wet basis) during test run, lb
Θ	=	Total time of test run, minutes
%M,	14	Average moisture content of test fuel charge, wet basis percent

Sample Calculation:

Dry basis moisture of fuel = 20.03%

,

Using the equation 28-2 for converting dry basis moisture to wet basis moisture,

$$\%M_{y} = \frac{20.03 \times 100}{20.03 + 100}$$

The wet weight of the fuel charge was 7.8 pounds. Converting pounds to kilograms yields a weight of 3.538 kg. The run time for this run was 180 minutes. Therefore, the burn rate equation appears thus:

$$BR = \frac{60 \times 3.538 \times (100 - 16.69)}{180 \times 100}$$

Volume of Gas Sampled Corrected to Dry Standard Conditions

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Using equation 5-1:

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

100

Where:

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K.	-	17.64 °R/in. Hg
T _{std}	212	528 °R
$\mathbf{P}_{\mathrm{std}}$	215	29.92 in. Hg
V _m	100	Volume of gas sample measured at the dry gas meter, def
Y	1-1	Dry gas meter calibration factor, dimensionless
P ₆	-	Barometric pressure at the testing site, in. Hg
ΔH	**	Average pressure differential across the orifice meter, in. H2O
Tm	- 625	Absolute average dry gas meter temperature, °R

Sample Calculation:

$$V_{in(stal)} = 98.434 \times 1.01 \times (\frac{528}{29.92}) \times \frac{30.03 + \frac{0.7}{13.6}}{532.5}$$

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$$V_{m(std)} = 99.116 \, ft^3$$

23

Dilution Tunnel Gas Velocity

Using equations 2-7 and 2-6, calculated at each recorded interval:

$$v_s = k_p \times C_p \times \sqrt{\Delta P} \times \sqrt{\frac{T_{s(avg)}}{P_s \times M_s}}$$

$$M_{g} = M_{d} \times (1 - B_{wg}) + 18.0 \times B_{wg}$$

Where:

$$v_a =$$
 Average dilution tunnel gas velocity, ft/sec
 $k_p =$ Pitot tube constant: $85.49 \cdot \frac{ft}{sco} \left[\frac{(lb/lb-mole) \times (lnches Hg)}{(^{\circ}R) \times (inches H_2O)}\right]^{\frac{1}{2}}$

C_p	=	Pitot tube coefficient (0.99 for standard pitot tube; 0.84 may be used for
105-1		S-type pitot tubes constructed according to Method 2 procedures), unitless
ΔP	-	ΔP measured during the pre-test flow traverse of the dilution tunnel; the

square root of the ΔP values are averaged for this calculation, in. H₂O

P_b = Barometric pressure at test site, in. Hg

P_g = Static Pressure of tunnel, in. Hg

 $P_s = Absolute tunnel pressure, = P_b + P_g$

 $M_1 = Molecular weight of tunnel gas; assume <math>M_d = 29 \text{ lb/lb-mole}$ (per method 5G)

B_{ws} = Moisture content of dilution tunnel gas, ratio; assume 4% (per method 5G)

 $T_a = Dilution tunnel temperature, °R; (°R = °F + 460)$

Sample calculation:

$$M_{2} = 29 \times (1 - 0.04) + 18.0 \times 0.04 = 28.56$$

$$v_s = 85.49 \times 0.99 \times \sqrt{0.0351} \times \sqrt{\frac{(548)}{(30.03 + \frac{-0.45}{13.6})} \times (28.56)}$$
$$v_s = 12.69 \frac{ft}{sec}$$

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Particulate Concentration

Using equation 5G-2:

$$C_s = 0.001 \frac{g}{mg} \times \frac{m_n}{V_{m(std)}}$$

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Where:

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C,	-	Concentration of particulate matter in stack gas, dry basis, corrected to
		standard conditions, g/dscf
m _n	***	Total mass of particulate matter collected in the sampling train, mg
Vm(std)	12	Volume of gas sampled corrected to dry standard conditions, dscf

Sample calculation:

$$C_s = \frac{0.001 \times 16.2}{99.116}$$

 $C_s = 0.000163 \ g/dsef$

Average Dilution Tunnel Gas Flow Rate

Using equation 2-8, calculated at each recorded interval:

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

Where:

Q_{sd}	810	Gas flow rate corrected to dry, standard conditions, dscf/hr
3600	3-3	Conversion from seconds to hours
\mathbf{B}_{ws}	-	Moisture content of dilution tunnel gas, ratio; assume 4% (per method 5G)
V ₄	101	Average dilution tunnel gas velocity, ft/sec
A.	13	Cross sectional area of dilution tunnel, ft ²
Tstd	218	Standard absolute temperature, 538°R
T (avg)	#4	Average absolute dilution tunnel temperature, °R, (°R = °F + 460)
Pb	-	Barometric pressure at test site, in. Hg
Pg	=	Dilution tunnel static pressure, in. Hg
P.	100	Absolute dilution tunnel gas pressure, in Hg, (Hg = $P_b + P_g$)
P _{std}	===	Standard absolute pressure, 29.92 in Hg

Sample calculation:

 $Q_{sd} = 3600 \times (1 - 0.04) \times 12.69 \times \frac{(\pi \times 3^2)}{144} \times \frac{528}{548} \times \frac{30.03 + \frac{-0.45}{13.6}}{29.92}$

Q_{zd} = 8313.36 dscflhr = 138.56 dscflmin

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Particulate Emission Rate

Using equation 5G-3 and 5G-4:

$$E = C_s \times \underline{O}_{sd}$$
$$E_{adj} = K_3 \times E^{0.83}$$

Where:

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B	-	Particulate emission rate, g/hr
B _{adj}	810	Particulate emission rate, adjusted, g/hr
$\mathbf{C}_{\mathbf{s}}$	-	Concentration of particulate matter in the stack, corrected to dry, standard
	cond	litions, g/dscf
Q _{id}	-	Average dilution tunnel gas flow rate, dscf/hr
K3	53	Constant, 1.82 for metric units, 0.643 for English units

Sample calculation:

 $E = 0.000163 \times 8313.36$

E = 1.36 g/hr

 $E_{adj} = 1.82 \times 1.36^{0.83}$

E = 2.35 g/hr

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Proportional Rate Variation

Using equation 5H-9, calculated at each recorded interval:

$$PR = \frac{\theta \times (V_{ml} \times V_s \times T_m \times T_{sl})}{10 \times (V_m \times V_{sl} \times T_s \times T_{ml})} \times 100$$

Where:

1

đ

1

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PR.	=	Percent proportional rate
θ	62	Time of test, min
S	-	Measured tracer gas concentration for the "ith" interval, in this case, the
		inverse of the calculated flow in the stack based on CO2 concentrations in
		the stack and in the dilution tunnel
V _{ml(std)}	=	Volume of gas sample measured by the dry gas meter during the "Th" 10
		minute interval, dsof
V_{m}	=	Volume of gas sample as measured by dry gas meter, dsef
Vst	80	Average gas velocity in the dilution tunnel during each 10 minute interval, i,
		of the test run, m/sec
V,	**	Average gas velocity in the dilution tunnel, m/sec
\mathbf{T}_{ml}	=	Absolute average dry gas meter temperature during each 10 minute interval, i,
		of the test run, °R
$\mathbf{T}_{\mathbf{m}}$	-	Absolute average dry gas meter temperature, °R
T _{st}	455	Absolute average gas temperature in the dilution tunnel during each 10
		minute interval, i, of the test run, °R
T_s	-	Absolute average gas temperature in the dilution tunnel, "R

Sample calculation (for the reading at 50 minutes into test run 1):

 $PR = \frac{180 \times 5.6 \times 12.69 \times 533 \times 552}{10 \times 98.434 \times 12.63 \times 548 \times 532} \times 100$

PR = 103.8%

Appendix F

Test Data

.

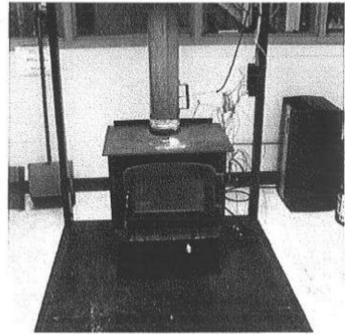


Figure 1 SBI model XTD 1.1 Front View

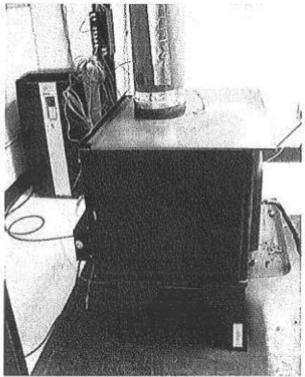


Figure 2 SBI model XTD 1.1 Side View

16.1. Morgan

EPA NSPS WEIGHTED AVERAGE CALCULATION V1.1

Sort data from lowest to highest	
burn rate and enter below.	Weighte

Type of Stove: ed Average 1=cat 2=noncat

3=pellet

		(E) Ave.		Heat		(K)		
Test	Burn	Emission		Output		Weighting		
No.	Rate	Rate g/hr	(OHE)	(BTU/HR)	Prob.	Factor	(KxE)	KxOHE
1	0.90	4.99	11 - St (221)	10852.38	0.3000	0.5380	2.6846	0.00
2	1.19	4.42		14349.26	0.5380	0.4832	2.1357	0.00
3	1.56	1.82	E. C. S. Mark	18810.79	0.7832	0.3636	0.6618	0.00
4	1.93	4.38	an na fille	23272.33	0.9016	0.2168	0.9496	0.00
	S. Parties	212378372°	L Salab	0.00	1.0000	0.0000	0.0000	0.00
	ana si as	NO MARKAN	145225.44	0.00	1.0000	0.0000	0.0000	0.00
12151	1012102	a start a start	Post la Ma	0.00	1.0000	0.0000	0.0000	0.00
SAL	- R.S. (1996	2012012000	112-1216	0.00	1.0000	0.0000	0.0000	0.00
				0.00	1.0000	0.0000	0.0000	0.00
				and a supervision of the local second		0.0000	0.0000	0.00

Totals: 1.6016 6.4317 0.00

Weighted average emissions rate: 4.0158 Weighted Average OHE: 0.00

16.1. Mong-

2



Test Series Parameters EPA Methods 28 and 5G

Project Number <u>G100527551</u> Manufacturer <u>5, B, T</u> Model <u>XTD 1,1</u> Tracking Number <u>PRT1110121353-001</u>

> ا صفح ا ID# PRT1110121353-002 Client: Stove Builders International ENG: Ken J Morgan G100527551

Firebox Volume 1.55 ft³

Fuel Load Range 2.2 -2.7 lbs.

Fan OPTICHAL (Standard, Optional, None)

	Equipment Calibrations
Method 28 Thermometry	
Platform Scale	581-014 (Booth) & SB1-013
Stop Watch	180-592
Audit Weight	20115
Molsture Meter	SB1-214
Method 5G	
Pitot tube	531-203
Pitot Manometer	SBI-101
Thermometry	5B1-135
Dry Gas Meter A	Y= 1.003
Dry Gas Meter B	Y=0.996
Draft Manometer	SB1-025
Barometer	WEATHER HETWORK
Analytical	
Analytical Scale	SBI-26
Hygrometer	SD1-212
Thermometer	SB1-212
Audit Weight	180-135-180-MO
Pre-Series 10 lb. Audit	10.0 89. 20115
Pre-Series 10 lb. Audit Post-Series 10 lb. Audit	10.0 Eg. 20115
Post-Series 10 lb. Audit Pre-Series Pitot Tube Leak	
Post-Series 10 lb. Audit	10.0 Eg. 2045
Post-Series 10 lb. Audit Pre-Series Pitot Tube Leak	10.0 Eg. 2045
Post-Series 10 lb. Audit Pre-Series Pitot Tube Leak Post-Series Pitot Tube Leak	10.0 Eg. 20115
Post-Series 10 lb. Audit Pre-Series Pitot Tube Leak Post-Series Pitot Tube Leak Post Series DGM A Cal Post Series DGM B Cal Appliance Photos	10.0 Eg. 20115
Post-Series 10 lb. Audit Pre-Series Pitot Tube Leak Post-Series Pitot Tube Leak Post Series DGM A Cal Post Series DGM B Cal	10.0 Eg. 20115
Post-Series 10 lb. Audit Pre-Series Pitot Tube Leak Post-Series Pitot Tube Leak Post Series DGM A Cal Post Series DGM B Cal Appliance Photos	10.0 <u>9</u> <u>9</u> <u>4</u> <u>4</u> <u>4</u> <u>4</u> <u>4</u> <u>4</u> <u>4</u> <u>4</u>



Run Notes EPA Methods 28 and 5G-3

PROJECT /	TEST INFORMATION
Project Number:	G100527551
Manufacturer:	S.B.I.
Model:	XTD 1.1
Sample ID Number:	PRT 1110121353-001
Test Date:	10-18-11
Test Run Number:	
Date tunnel cleaned:	10-13-11
Purpose of Test	CATIC KINKALA

	Appliance Info	ormation
Appliance Type:	2	1 - Catalytic 2 - Non-Catalytic 3 - Pellet 4 - Hydronic
Firebox Volume, ft ³ :	1.55	N/A for pellet type
Convection Blower	2	1 - No Fan 2 - Optional Accessory 3 - Standard Equipment

10-25-M

Prelim: 0.30@ 4.56

Coal Bed Range 72.3-2.

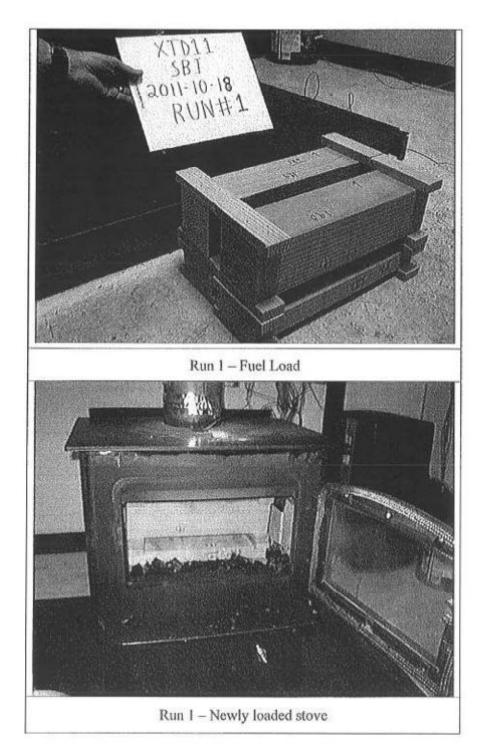
	Test Settings
Primary Alr:	Fully CLOSED
Secondary Air:	FINEN
Control Board:	NIA
Blower/Fan:	ON-LOW

Time	Activity					
	GOAL BED WAS STIRLED MIGHT BEFORE THE LOAD WAS					
	HO SEC LOND THE					
	1:30 Door outs closed					

	Start-Up Procedure	
Loading of fuel, sec. :	40 pec.	
Fuel-loading door :	Closed at 1.5 minutes	
Primary air:	Fully agon for 5 minutes. Abruptly dosed at 50	in
Secondary alr:	Fixed	
Control board:		
Blower / fan:		10

	Other Notes	
NONE.		and the second sec
		-
	The second se	

DT= 86



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1945



TEST FUEL DATA EPA METHOD 5G-3

Project Number: G100527551 Manufacturer: S.B.I. Model: XTD 1.1 Sample ID Number: Test Date: Test Run Number: <u>A</u>

		URN FUE			-	
Eq. ID No.	531-214	Time:	9:20	Temp., *F:	74.2	
Piece No.	Length, In.	Weight, Lb.	Molsture, %, Dry Basis		eight, Moisture %	And and a sub-
1	10.20	4.10	22.1	21.0	19.5	
2	10.00	1.15	21.3	21.6	20.1	
3	10.00	1.15	13.7	21.2	13.1	
4	10.00	1.15	19.4	18.8	18.9	
5	15	1.65	21.1	22.4	21.4	
6	15	1.50	21.2	21.1	17.8	
7	15	1,50	22.0	22.2	18.9	
8	15	1.53	22.3	22.4	19.1	
9						
10	-					
11					1.11	
12		0.000			0.0000000	
Total We	elght	10.95	Avera	ge, %db		

* MOISTURE HETER BLOCK

12.0%= 12.0% 22.0%= 22.0% EQUIPHENT HO. 18701

a solution of the second	1	EST FUI	EL LOAD I	PROPERTIE	S	1 S (3
Eq. ID No.	SE1-2	14	Time:	10:00	Temp., °F:	74.2
Piece No.	Length, Weigh		ght, Lb.			
11000 140.	In.	2x4	4x4	MOIS	Molsture, %, Dry Basis	Basis
1	14.25	1.00	4.15	19.2	20.3	19.2
2	14.25	1	3,50.	18.9	20.9	19.3
3	14.25.	1.50	1.	18.9	19.0	19.5
4	14.25.	2.00		22.5	22.3	21.9
5	11-11-2	10000	100123	1.71	1220 1221	
6	01102.0	SERVO	1.023.025.0	20101222	201516-0212	Sector States
7	1.1.1.1		1.	0145547555	1892633577	1
8	1.1.1.1.1.1.1	1.1.1.1.1.1.1	121122		2012 012	
Tota	5	3.5	7.65			
% of Weight		31.4	68.6			
Total weight, wet, lb.		11.15		Average Moisture, dry		20.16
Total weight, dry, kg		Barrie 4.21		Average Molsture, wet		16.78

10-25-11



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Supplemental Data EPA Methods 5G and 28

Project Number	G100527551
Manufacturer	S.B.I.
Model	XTD 1.1
Sample ID Number	PRT 111 0121353-001
Test Date	OCTOBER 18, 2011
Test Run Number	4

Sampling Start Time	+5 M:35	Sampling Stop Time	16:15
Air Velocity (ft/sec)	Initial: <50	Final:	250
Barometric Pressure (in/Hg)	Initial: 29.69	Final:	29,74
Post - leak Check (cfm @ in/Hg)	Train A:0,00	3@5 Train B:	0.004@5

Date: 10-25-11	_ Engineer Signature:	- Hugel
	• '	0

SBI-Stove Builder International October 18, 2011 Project No. G100527551

Pre-Burn Data Run 1

16.1. Mary-

to set was DATA Logger INTERVALS, 10- MINUTE At RECORD was unable DATA RECORD 10 and which PRE-BURN oF END INTERVALS. Weight occured between 2.70 16. TEmpratum. Einest Reading Noted to BE was Represented ON FIRST are data. 16. 1. Morgan Sampling OF , ETL 2-28-12

				VERGION 1	1.2	2/6/2010		1					
Manufacturer:	SBI			an out of the		Sector Chevers							
Model:	XTD 1.1								100.00	1111			
Date:	10/18/2011									1	1.1 Pro. 5.10		
Run:	1		4000000000	********					0.100011140		111000-0010-000		
	G100527651		*******	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(1- min li)					1000	10.000	1111 P. 4	
Test Duration:	the second s									+)+++++			
- T I - D A - D T I A - D A -		Start	End	*****	1. A. B.					1111111		11111	
	Barometer (in.Hg):	29.69	29,74		in the second	0		in test in the	/ ++ =				
	And the states for the state	20.00	P.0-1-4			1110-010	11 miles				the manufacture		
	Dry Bulb (F):	79	82		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)								
	Humidity (%):	49	49										
	transary (rij.	42	40	+					*****		****		
	(()				+ +	· · · · · · · · · · · · · · · · ·		111-111	
Molsture content of	wood (wet hasis)	16.7765									-15 2.04		
	Average		0.00	0.00	222.00	64.29	87,45	422.16	345,18	414.00	440.71	443.60	829.9
and the second second second	······	0.00			+		*		*	111.00	*	4	4
Elapsed	Weight				Flue	Room	Tunnel	Unit 1	Unit	Unit	Unit	Unit	DGM 1
Time	Remaining	co	C02	02	Gas	Temp	Dry Bulb	Top	Back	R.Side	L.Side	Boltom	Reading
0	11.10				230.6	78.8	101.8	343.5	438.1	419.2	459.4	481.2	814.89
10	10.25				230.2	79.7	89.0	0.806	416.1	392.0	437.4	445.4	815.90
20	9.47		1 1 1 1 1 1 1 1		255.0	80.9	90.1	416.5	395.2	387.1	405.2	407.2	817.02
30	8.32	- 1			200.2	83.2	03.3	637.6	373.3	392.4	398.6	504.7	618.09
40	7.39		100.0		306.4	84.2	94.0	574.1	355.8	300.0	400.8	402.6	819.17
50	6.33				312.2	64.4	93.5	601.0	341.6	407.7	410.7	411.1	820.25
60	6.34		61-834 - 1-04-1		309.0	05.4	93.5	612.0	331.4	420.7	440.7	424.0	021.31
70	4.50				291.6	85.0	92.4	593.2	324.2	450.1	455.7	439.3	822.40
60	3.87				278.9	85.5	01.1	674.1	320.7	468.8	470.3	452.2	023.48
90	3.20	and the second second	17.4910 E. 1914		2/0.2	60.3	90.2	559.7	310.2	497.7	480.1	463.0	824.55
100	2.71				270.6	60.0	90.0	507.3	319.7	494.5	490.8	471.8	825.63
110	2.33			State of state of	247.4	66.6	88.0	634.2	322.1	409.7	408.4	460.6	828.74
120	2.08				227.5	85.7	68.0	470.7	375 8	479.0	495.7	484.9	827.60
130	1.92			ALC: N.M. 111	214.5	85.5	85.7	438.0	330.1	472.9	491.6	483.1	828.91
140	1.74			and all the second	203.5	84.0	84.7	403.6	334.6	453.9	488.2	460.8	829.98
150	1.68	1	1		197.4	85.0	84.8	0.186	339.3	438.0	477.9	478.4	831.07
160	1.45				101.6	84.6	84.5	357.8	342.9	430.8	468.4	472.3	832.13
170	1.28	1000			190.1	85.4	84.6	362.1	345.1	413,4	459.2	488.0	833,21
180	1.17				187.6	85.7	85.0	355.2	345.1	408.9	450.0	465.2	834.28
190	1.63			1111 - A184	184.5	84.7	64.2	345.0	344.5	401.0	440.7	450 3	835.35
200	0.50			114 A.M. 114	101.0	04.5	83.8	337.6	342.9	391.6	432.8	455.1	635.47
210	0.77;				178.1	84.4	83.6	329.4	341.6	385.3	425.2	449.9	837.54
220	0.63			1	175.2	84.4	83.6	321.7	340.5	376.0	417.1	442.4	838.63
230;	0.49			A 1 - 9	173.7	63.9	63.7	315.4	330.8	355.4	409.8	432.7	839.72
240	0.38				171.6	84.1	83.6	311.6	338.7	362.5	403.0	423.0	843.81
260	0.21	- TT 10	11.11.14		589.7	83.2	82.8	307.3	338.2	358.3	398.0	413.6	841.01
260	0.12				587.2	82.0	82.7,	301.5	337.0	351.0	392.3	405.0	843.00
1	0.01		201		184.1	83.4	82.7	292.5	338.0	342.8	385.7	305.5	644.10
270													

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							*********				· ·····	
Manufacturer:	SBI											
Model:	XTD 1.1										1	
Date:	10/18/11								1040230012210	2021/20/1202		755555844
Run:	1											
Project #:	G10052755	1			*********						1	
	**********										ſ	
							10. VI. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.			*********		*******

	**********	+++++++++++++++++++++++++++++++++++++++			*********		*****					*********
						********	•••••		+++++++++++++++++++++++++++++++++++++++	*****	A + + + (+ +) + +	+++++++++++++++++++++++++++++++++++++++
		**********			********						1 + 21 1 2 + 4 + 4 + 4	
****	**** *******											******
79.69	79.60	75.44	767.14	73.00	79.04	75.79	0.02	.0.041	0.00	413.17		
73.62	73.59	75.11	107.14	73.00	73.01	75.73	0.02	-0.041	Visual		Change In	*******
DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	DGM 2	Filter 2	Address and	Chimney	Smoke	Stove	Surface	
Inlet T	Outlet T	Temp	Reading	Inlet T	Outlet T	Tomp	Velocity	Draft	Observed	Temp	Temp.	*******
72.6	72.6	72.0	751,790	72.2	72.2	73.2	0.020	-0.035	Ouserveu	429.9	10mp.	
72.7	72.0	74.7	752.960	72.3	72.2	75.0	0.020	-0.040		418.0	-11.92	
72.9	72.7	75.1	764.124	72.4	72.3	75.6	0.020	-0.040		402.0	-27.84	
	CONTRACTOR AND CONTRACTOR	11-11-11-11-11-11-11-11-11-11-11-11-11-	755.228			75.8	0.020	-0.045		419.3	-10.58	****
73.0	72.9	75.4		72.6	72.6	FE - DE SAN ARANA	*****	-0.045	and the second	415.9	-4.02	******
73.3	73.1	75.6	756,345	72.7	72.8	76.3	0,020	a to a to be first writer to be derived		436.2	6.34	
73.2	73.1	75.9	757.429	72.8	72.8	76.4	0.020	-0.055		447.7	17.84	
73.1	73.1	76.9	758,498	72.8	72.6	76.6	0.020	-0.055			1.01111111111111	
73.1	73.1	75.8	759.602	72.7	72.6	76.4	0.020	-0.055		452.5	22.62	********
72.9	73.0	75.8	760.702	72.6	72.4	76.4	0.020	-0.055		457.2	27.34	
73.5	73,3	76.0	761.808	72.6	72.8	76.3	0.020	-0,055		463.9	34.06	
73.6	74.0	75.9	763.010	73.0	73.2	78.4	0.020	-0.050		468.8	38.94	********
73.6	73.5	75.6	764.131	72.8	72,8	76.3	0.020	-0,050	Section 1994	467.0	37.12	
73.5	73.5	76.3	765.170	72.8	72.9	76.1	0.020	-0.048		453.0	23.14	
73.6	73.5	75.1	768.191	72.9	72.9	75.9	0,020	-0,048	2249 NO. 1	442.8	12.9	******
73.7	73.6	76.0	767.217	73.1	73.1	75,8	0.020	-0.045		431.8	1.94	
74.0	73.8	74.9	768.220	73.2	73.2	75.8	0.020	-0.038		422.6	-7.24	
73.8	73.8	74.8	789.270	73.1	73.1	75.7	0.020	-0.038	A ALLER	416.4	-13.44	
73.9	73.9	74.8	770,345	73.3	73.3	75.6	0.020	-0.035		409.6	-20.32	
74.1	74.0	75.2	771.415	73.4	73.4	75.6	0.020	-0.033		404.9	-25	
73.8	73.0	75.4	772.476	73.4	73.2	75.7	0.020	-0.035		398.4	-31.46	
74.2	74.1	75.3	773.587	73.4	73.4	75.7	0.020	-0.035		392.0	-37.88	
74.2	74.1	75.1	774.648	73.4	73.5	75.8	0.020	-0,033		386.3	-43.62	
74.2	74.2	74.0	775.719	73.4	73,6	75.6	0.020	-0.033		379.5	-50.34	
74.1	74.2	74.8	776.807	73.3	73.5]	75,5	0.020	-0.033		373.4	-56.46	
74.1	74.0	74.7	777.881	73.0	73.2	75.4	0.020	-0.030		367.9	-62	
74.1	74.1	74.6	778.985	73.3	73.4	75.4	0.020	-0.030		363.1	-66.8	
74.1	74.1	74.6	780.060	73.4	73.5	75.3	0.020	-0.030		357.5	-72.34	
74.1	74.2	74.7	781.160	73.5	73.5	75.4	0.020	-0.030	and the same test	350.5	-79.38	
74.2	74.2	74.7	Contract Parce Services	73.8	73.6	75.4	0.020	-0.030	No. 2010.00.00 (\$ 10.000 \$	343.6	-86.32	-86.3

1/ 1. Morgan

A-1 - 1 - 1 - 1 - 1 - 1 - 1		Manufa	cturer:	SBI			******		
		No. of the Workshow Market	odel:	XTD 1.1			**********		
	1++++(1+++)++++++++++++++++++++++++++++	A 10 1 1 1 1 1 1 10 10 10 10 10 10 10 10	Date:	10/18/11			***		
		A STATE OF A STATE OF A	Run:	1					
********			roject #:	G1005275	51		**********		**********
	*****	Test Dura		and the second states and the second	280	*****	*********		
	Total Gas V				29,951	Pi	ot Factor	0.82	
	Total Gas V				30.023			.99 standar	d.
	Average Baro				29.715		ACCOUNTS AND ADDRESS.	I. Factor for	States and a state of
*********			lar Weigl	nt	28.56				
		A CONTRACTOR AND DESCRIPTION	orrection		0.924781526				* *********
	Calibration Fa	ictor (DGN	1 #1):		1.0060				
	Calibration Fa				1.0030				****
*********				(1) VS:	0.0269				
				(2) VS:	0.0269			Filter	Filter
		1						Face	Faco
Elapsed	DGM 1	DGM 1	DGM 1	DGM 2	DGM 2	DGM 2	Tunnel	Velocity	Velocity
Time	Reading	Inlet T	Outlet T	Reading	Inlot T	Outlet T	Dry Bulb	DGM 1	DGM 2
0	814.892	72.6	72.6	State where we have a first	72.22	72.16	101.8		
10	815.960	72.7	72.6	第二日 化合合物 化合合物 化合合物 化化合金	72.29	72.24	88.96	9.11	9.9
20	817.020	72.9	72.7	754.124	72.41	72.32	90.08	9.04	9.9
30	818.092	73.0	72.9	755.226	72.58	72.51	93.28	9.14	9.3
40	819.175	73.3	73.1	756.345	72.72	72.79	94.02	9.23	9.5
50	820.252	73.2	73.1	757.429	72.78	72.75	93.53	9.18	9.2
60	821.312	73.1	73.1	758.498	72.75	72.62	93.32	9.04	9.1
70	822.406	73.1	73.1	759.602	72.74	72.62	92.36	9.33	9.3
80	823.483	72.9	73.0	the second stand is shown in the	72.64	72.4	91.07	9.19	9.3
90	824.558	73.5	73.3	the second second second second	72.63	72.75	90.2	9.16	9.3
100	825.630	73.6	74.0	C- all and a state book was a g	73	73.22	90.03	9.13	10.2
110	826.749	73.6	73.5	THE R R R WAR WAR WAR A R R	72.78	72.83	88.31	9.53	9.5
120	827.860	73.5	73.5	the second second as a second as the	72.82	72.86	86.88	9.47	8.8
130	828.910	73.6	73.5		72.9	72.92	85.71	8.95	8.6
140	829.989	73.7	73.6	A 199 WHERE HIS REPORT OF	73.05	73.07	84.71	9.19	8.7
150	831.070	74.0	73.8	Second and a second set	73.18	73.24	84.83	9.20	8.5
160	832.137	73.8	73.8		73.13	73.13	84.5	9.09	8.9
170	833.210	73.9	CALCULATION AND A REPORT	770.345	73.28	73.25	84.55	9.14	9.1
180	834.285	74.1		771.415	73.41	73.37	84.95	9.15	9.0
190	835.362	73.8		772.476	73.35 73.44	73.21	84.24	9.17	9.0
200	836.470	74.2	74.1			73.44	83.76	9.43	9.4
210 220	837.547	74.2	74.1	774.648	73.39	73.49 73.51	83.5	9.17	9.0
230	838.631	74.2	A DOMESTIC AND A DOMESTIC	776.807	73.38 73.26	73.48	83.64 83.7	9.22 9.32	9.1 9.2
230	839.726 840.811	74.1	the second state of the second state of	777.881	73.20	73.24	STATES AND A MARKED	9.32	9.2
250	841.915	74.1		778.985	73.3	73.41	82.8	9.40	9.1
260	843.008	74.1	and the state of t	780.066	73.42	73.48	a la companya da la companya da seconda da la	9.30	9.5
270	844.105	74.1	*********	781.160	73.45	73.40	and the second state of th	9.34	9.2
280	. 845.202	74.1		782.229	73.63	73.61	ATTRACTOR STRUCTURE	9.34	9.2

14. Morgan

					contraction				
	Stack are		0.34907		Man	ufacturer:			
	moisture (16.7765			*****************	XTD 1.1		
Load V	Veight (lbs	wet):	11.15			a house a shear that was a start of a	10/18/11		
Burn R	ate (Dry k	g/hr):	0.902			Run:	Law and an an arriver of		
					Pr	oject No.:	G1005275	551	
		(DGM #1)			533.603				
***********	shaded as to be at an and the set	(DGM #2)	and share to be at the to the state of the state	the state and description of the	533.005				
		perature [547.453	2536.14			
		city (feet p			7.36437	29			
Sta	indardized	Tunnel F	low (dscfn	n):	141,77				
		Average	Average						
		Inlet +	Inlet +						
		Outlet	Outlet	99.95	99.96	#1	#2		
Tunnel	Tunnol	Temp.	Temp.			dDGM	dDGM		
Velocity	Velocity	Meter 1	Meter 2		DES	Vol.Std.	Vol.Std.	These	
Delta-P	Ft/Sec	Deg. R 532.6	Deg. R	PR1	PR2	(ft3)	(ft3)	Time 0	
0.020	7.460	532.6	532.2	00 00	107.93	1.057	1.156	10	
0.020	7.375	532.7	532.3 532.4	98.98 98.31	107.93	1.037	1.150	20	
	A COURSE AND INCOME.	the state of the s	532.4	99.68	102.00	1.045	1.088	30	
0.020	7.404	533.0 533.2	532.8	100.73	102.00	1.001	1.104	40	
	and the second second second	· · · · · · · · · · · · · · · · · · ·	532.8	100.13	100.31	1.065	1.070	50	
0.020	7.405	533.2	532.0	98.55	98.92	1.005	1.070	60	
0.020	7.397	533.1	532.7	101.61	102.07	1.049	1.090	70	
0.020	7.389	533.1 533.0	532.5	99.94	102.07	1.062	1.086	80	
0.020	7.383	11日日日日日日日日日日 - 第	532.7	99.60	101.87	1.063	1.090	90	**1
C. TERMSON, N	I do do to the set of the local of	533.4	533.1	99.23	110.99	1.059	1.187	100	
0.020	7.382	533.8 533.5	532.8	103.48	103.24	1.105	1.107	110	
************	7.361		to the local and a first of a	1.7	- 年后以来的建始更好的专家的建筑量;		1.025	120	
0.020	7.353	533.5 533.5	532.8 532.9	102.61 96.86	95.56	1.098	1.025	130	
0.020	7.346	533.7	533.1	99.42	93.79	1.066	1.012	140	
0.020	7.340	533.9	533.2	99.42	92.01	1.068	0.989	150	
	COLUMN ASSOCIATED AND A MARKET OF	- 一百万武者,老阿施海马会,侍董	1. 法公共的法规的法 计成大学		96.31	1.054	1.035	160	
0.020	7.345	533.8 533.9	533.1 533.3	98.28 98.81	98.58	1.060	1.060	170	
0.020	7.348	534.0	533.4	99.01	98.13	1.061	1.055	180	
0.020	7.343	533.8	533.3	99.17	97.26	1.064	1.046	190	
0.020	7.340	534.1	533.4	101.92	101.77	1.094	1.095	200	
0.020	7.338	534.2	533.4	99.03	97.17	1.063	1.046	210	
0.020	7.339	534.2	533.4	99.69	98.10	1.070	1.056	220	
0.020	7.339	534.1	533.4	100.71	99.67	1.081	1.072	230	
0.020	7.338	534.1	533.1	99.80	98.43	1.071	1.059	240	
0.020	7.333	534.1	533.4	101.46	101.06	1.090	1.088	250	* * * *
0.020	7.333	534.1	533.5	100.45	98.93	1.079	1.065	260	
0.020	7.332	534.1	533.5	100.43	100.12	1.083	1.078	270	
0.020	7.330	534.2	533.6	100.76	97.77	1.083	1.053	280	*****

14.1. Margan

		Intertek Testing Servic	268				$0, \phi \in [0, 1, 0, 1], 0, \tau \in \mathbb{N}$	
	****	SFBA EPA ADJUSTE	D EMISSION	RESULTS	3			
	********			in the second				Star Star
Manufacturer:		SBI				RESULT	S	
	Model:	XTD 1.1		*******	**********	**********		********
	Date:	10/18/11		A	verage Ad	justed Emis	sions Rate:	4.99
	Run:	1				djusted Em		3.37
Pro	ect#::	G100527551				Burn Rate	IS BOOM PROVIDENTS	0.90
est Duration (Mi	nutes):	280						
Test Duration (Hours):	4.67						
				BARO	METRIC	PRESSU		
							Average:	29.71
TEMPERATI	JRE FAC						Start:	29.6
	unnonni	DGM #1:	0.9895				End:	29.7
		DGM #2:	0.9906					
hound				DRY GA	S METER	a to the state of the state of the	manager	
VOLUMES	SAMPI	· · · · · · · · · · · · · · · · · · ·	00.002			DGM #1	Final:	845.20
		DGM #1:	29.965	****			Initial:	814.89
manning		DGM #2:	30.036			DOM	Elizab	
TOTAL TU	NNEL	OLUME (scf):	39696		******	DGM #2	Final: Initial:	782.22
I I O I AL IO	NINEL	OLOWIE (SCI).	29090				initian.	/01./
SAMPLE R	ATIOS	****		TEMO	DATUR	ES (DEG.	PANKIN	
		Train 1:	1324.8	1 EWIP	ATON		DGM #1:	533.60
		Train 2:	1321.6		**********	A WELLOW CORRECTOR	DGM #2:	533.00
	Gampie	116101 2.	1981.0		**********	*********	DOM WZ.	000.00
TOTAL EM	ISSION	S		CALIBI	RATION	FACTOR	5	
	Train		15.37			*************	DGM #1:	1.006
	e Train 2		16.12			(active reasons)	DGM #2:	1.003
	5 17 - 11 - 1	Ave:	15.75				and the second	ana ta sha a
EMISSION	RATES			TUNNE	L FLOW	RATE:		141.8
Sample	Frain 1 ((g/hr):	3.29				CATCH (r	
Sample "			3.46				Train 1:	
		Ave:	3.37				Filters	10.3
		SION RATES					Probe	1.3
Sample 1			4.89				Total	11.0
Sample 1	frain 2 ((g/hr):	5.09			Sample	Train 2:	
		Ave:	4.99				Filters	10.9
	DEV	IATION:	1.99%				Probe	1.:
			ivite avenue i vic		an fra some		Total	12.3
				Walk Commence				
		er than 7.5% due to low		catch				
		ates shall not differ by						
of the weigh	ned ave	erage emission rate lim	it (4.1 or 7.5)	(5g-3)				
Line the fall	ou de se	a a fill an ann an	inne littlessa	··········	distant.	*********		
Use the foll	owing:					***********		
Catalytic un	ile		4.86%		•))*)/			
7.5% of 4.1			4.00%				*****	
1.070 014.1	Aun	**************************************						
Non catalyti	o unite		2.65%					
inon catalyt			2.03%	**********		******		
7.5% of 7.5	a/hr i							

14. 1. Morgn

					Synthesis and some of		·*******
REPORT	DATA						
	-						
	Client:	a second s					
	Run:	and the second state of th					
	and a second on he will be a	10/18/11					
Proje	An of the life had the pro- one one of	G100527551					
	the same of the state of the same	XTD 1.1					
Fuel Moisture (E	a set of the set of the set of the	20.15833333			Long Street		
Stack Static (ne	and the second of the late of the	0.0925		1]		
Baron		29.715			1		
Average Room	Temp:	84.29		1	1		
					1		
	- Change and a second						
Change in stove	temp:	-86.32			1	- main	
				1	1		
					1		
Burn Ra		0.902					
djusted Emission	a the second second second second	4.994		1	I		
Syste		4.894					
Syste		5.093			1		
Deviat		1.99%					
Filter		75.11					1-1-1-1
Filter	and an a state of the state of	75.73					
Tunr	and a second sec	87.45					
	DGM 1:	73.60		1			
	DGM 2:	73.00		1	1		
Water Col	lected:	1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-					
Room T	emp	Bar Pressure		Relative H	l umidity	Air Velo	ocity
	After	Before	After	Before	After	Before	After
79	82	29.69	29.74	49	49	0	0
Delta H Av	erage	$(1,\dots,n_{n}+n)=(1,n)+(1$	en la tra V fabrica a	1. (*)* * * * * * * * * * * * * *	1 H H H H H H H H H H H H H H H		
DGM#1:	0					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
DGM#2:	0					*****	

14.1. Morga-11-10-11

SBI-Stove Builder International Project No. G100527551 October 18, 2011 Dillution Tunnel Traverse Data Run 1

VERSION 1.2

2/5/2010

E&E Tunnel Traverse Worksheet

	TUNNEL	TUNNEL	SQUARE ROOT
A CENTER	0.020	93	0.1414
B CENTER	0.020	88	0.1414
A1	0.018	92	0.1323
A2	0.020	92	0.1414
A3	0.018	92	0.1323
A4	0.015	89	0.1225
B1	0.018	88	0.1323
B2	0.020	88	0.1414
B3	0.018	88	0.1323
B4	0.013	85	0.1118
AVERAGE	0.01775	89.35	0.1308

Static Pressure:

PITOT CONSTANT= 0.9248

Tunnel Diameter (in): Tunnel Area (ft2) **Tunnel Static Pressure**

8 0.349066 -0.0925

14.1. Morgan



Vos Prévisions locales: Québec, QC

Conditions actuelles Mar 18 oct 2011, 10:00 HAE Aéroport J-Lesage de Québec

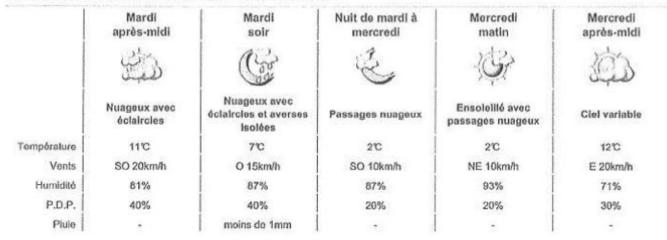
0000

Falbles averses de pluie

8°C

T. ressentie : -Vents : SO 15km/h Rafales: 28km/h Lever : 7:07 Coucher du soleil : 17:53 Humidité relative : 100% Pression : 100.55 kPa -Visibilité : 16.0 km Plafond : 1000 pl

Prévisions à court terme Émis le : Mar 18 oct 2011, 10:00 HAE



Tendance à long terme Émis le : Mardi 18 octobre 2011, 10:00 HAE

	Mercredi 19 oct	Jeudi 20 oct	Vendredi 21 oct	Samedi 22 oct	Dimanche 23 oct	Lundi 24 oct
Conditions de 6 h à 18 h	É	(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(0000	0000	100	12D
	Clol variable	Pluie	Nuageux avec averses	Nuageux avec averses	Ciel variable	Ciel variable
P.D.P.	30%	90%	80%	70%	30%	30%
T. Max	12°C	10°C	11%	10°C	10°C	26
T. Min	1°C	6°C	7%	6°C	2°C	0°C
Vents	NE 15 km/h	E 25 km/h	SO 10 km/h	S 10 km/h	O 10 km/h	O 5 km/h

1h. J. Morg-



Vos Prévisions locales: Québec, QC

Conditions actuelles Mar 18 oct 2011, 16:00 HAE Aéroport J-Lesage de Québec

To .

1 1 °C Nuageux avec éclaircles T. ressentle : -Vents : SO 30km/h Rafales: 44km/h Lever : 7:07 Coucher du solell : 17:53 Humidité relative : 66% Pression : 100.72 kPa A Visibilité : 48.0 km Plafond : 5500 pl

Prévisions à court terme Émis le : Mar 18 oct 2011, 16:10 HAE

	Mardi soir	Nuit de mardi à mercredi	Mercredi matin	Mercredi après-midi	Mercredi soir
	Califordian Constant			30D	0000
	Nungeux avec averses	Bancs de brouillard	Ensoleillé avec passages nuageux	Ciel variable	Nuageux avec averses
Température	3.6	4°C	4°C	120	10°C
Vents	O 15km/h	O 5km/h	E 5km/h	NE 10km/h	NE 30km/h
Humidité	81%	93%	93%	66%	71%
P.D.P.	40%	30%	10%	30%	70%
Pluie	moins de 1mm				près de 1mm

Tendance à long terme Émis le : Mardi 18 octobre 2011, 16:11 HAE

	Mercredi 19 oct	Jeudi 20 oct	Vendredi 21 oct	Samedi 22 oct	Dimanche 23 oct	Lundi 24 oct
Conditions de 6 h à 18 h	(Gr	aling all	abus o	alesses	30D	10D
	Ensoleillé avec passages nuageux	Falble pluie	Nuageux avec averses	Nuageux avec averses	Ciel variable	Clel variable
P.D.P.	30%	80%	80%	70%	30%	30%
T. Max	12°C	12°C	11%	10°C	10°C	9°C
T. Min	3°C	870	7'C	50	2°C	20
Vents	E 10 km/h	E 35 km/h	SO 10 km/h	S 10 km/h	O 10 km/h	O 5 km/h

1 1. 1. Marga



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10

Run Notes EPA Methods 28 and 5G-3

Preliw: 1,19@ 4,27 4+=42

PROJECT /	TEST INFORMATION
Project Number:	G100527651 517521
Manufacturer:	S.B.I.
Model:	XTD 1.1
Sample ID Number:	PRT 1110121353-001
Test Date:	+0-18-1+ 1× 10-19-11
Test Run Number:	Z
Date tunnel cleaned:	
Purpose of Test	CAT II

Could bed Range 22-2.7 PRE-BURNS T=0 @ 10:04

	Appliance Info	ormation
Appliance Type:	2	1 - Catalytic 2 - Non-Catalytic 3 - Pellet 4 - Hydronic
Firebox Volume, ft ³ :	1,55	N/A for pellet type
Convection Blower	2	1 - No Fan 2 - Optional Accessory 3 - Standard Equipment

16.1. Ming-

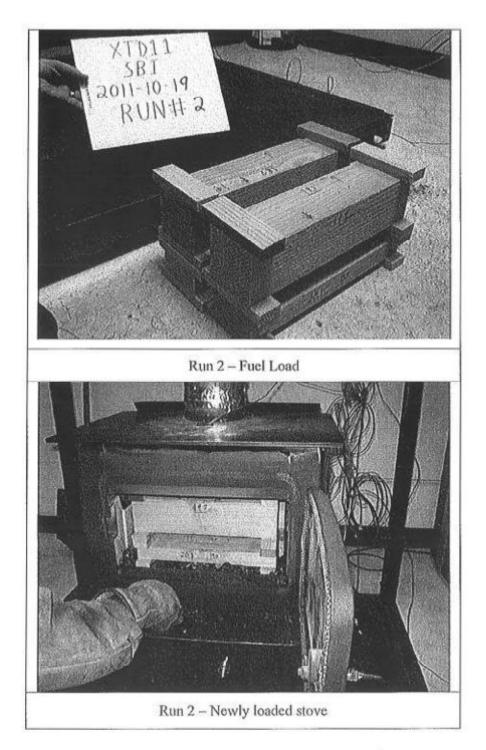
	Test Settings	
Primary Air:	3/16" Gauge	
Secondary Air:	FIXED	
Control Board:	NA	
Blower/Fan:	ON-Low	

lme	Activity
Ø	time = 10104 am
45	STIRRED Loud
67	Remarged 0,35 16. Action Occured within 20 Sec.
98	Levelsd Cod bod

	Start-Up Procedure
Loading of fuel, sec. :	Louded by 30 sec
Fuel-loading door :	ATTAC UNLIL 90 Sec.
Primary air:	Fully Open motil S.D min. Abruptly Closed to fest getting at 5
Secondary air:	FIXED
Control board:	
Blower / fan:	off 12 30mm ON -Low Remander of fast

1 Other Notes NONE .

Z



16. 1. May-



TEST FUEL DATA EPA METHOD 5G-3

Project Number:	G100527551
Manufacturer:	S.B.I.
Model:	XTD 1.1
Sample ID Number:	PRT1110121353-001
Test Date:	
Test Run Number:	Kip 2

12.0 = 12.0 22.0 = 22.0

CALIBRATOR: 19701

A CARLES AND		URN FUE	L PROPE	RTIES	
Eq. ID No.:	\$131 214	Time:	08:15	Temp., °F	75
Piece No.	Length, In.	Welght, Lb,		sture, %, D	
1	10	1,20	23.1	2211	2015
2	10	1.10	22,0	221	21.1
3	10	1,15	22.4	22,0	211
4	10	1,15	231	21.7	21.1
5	15	1.00	19.3	20,8	18.8
6	15	1.00	19.4	20,5	18.7
7	15	1.70	22,1	23,1	19.9
8	15	1.75	2211	23,1	18.9
9	1.000				100000
10	1000	1. S. S. S. S.			
11	2000			Sec. 1. C	
12		1. 1. 1. 1.	23/32/32	ALC: UNK	COLUMN CO
Total We	eight	10,25	Avera	ge, %db	20,9

			L LOAD F	ROPERTIE	S			
Eq. ID No .:	SB1 2	14	Time:	9:10	Temp., °F: 75			
Plece No.	Length,	and the local division of the local division	ht, Lb.	TTAL	sture, %, Dry	And a design of the local division of the lo		
	In.	2x4	4x4	montaro, w, biy buais				
1	14.25	1.50	X	18,9	19.2	19.0		
2	14,25	2,15	X	23.1	2110	21.3		
3	14,25	X	3,70	21.0	19,0	18,6		
4	14.25	X	3,65	19,9	19.2	19.7		
5	1.00		1.1280		1000			
6		1000 000	1.1.1	1.	1.	. All ke		
7	The set of			10 M R.	1.380.000	12.0		
8				Carl News	States and			
Totals	8	3,65	7135					
% of We	lght	3312	6618					
Total weight,	wet, lb.	11,0	a product of the local division of the	Average N	loisture, dry	20,0		
Total weight,	dry, kg		16	Average M	14.44			

16.1. Mongr-



Supplemental Data EPA Methods 5G and 28

Project Number	G100527551	
Manufacturer	S.B.I.	
Model	XTD 1.1	
Sample ID Number	PRT 1110121353-001	
Test Date	10-19-11	
Test Run Number	2	

Sampling Start Time/	15	Samp	ling Stop Time	15:15
Air Velocity (ft/sec)	Initial:	150	Final:	50
Barometric Pressure (in/Hg)	Initial: <u>3</u>	0,11	Final: 2	0.07
Post - leak Check (cfm @ in/Hg)) Train A: 100	10,5	Train B: ,00	205

Date: 10-19-11 Engineer Signature:

1h of Margar

SBI-Stove Builder International October 19, 2011 Project No. 100527551

Pre-Burn Data Run 2

Temp Dry Bulb Top Bottom Back L.Side 1 83.01 155.2 600.7 635.5 587.7 607 8 88.32 124.7 794.2 609.6 648.2 605.3 8 88.32 111.8 698.9 591.5 623.4 607.9 8 88.32 111.8 698.9 591.5 623.4 607.9 8 88.32 107.7 687 565.3 549.4 607.9 90.65 106.3 678.4 533.9 578.4 616.1 93.9 104.2 656.5 507.2 553.7 621.7 92.59 99.56 573.6 487.4 549.2 611.2 84.57 4183.1 488.7 464.8 502.6 577.4 83.54 91.17 393.8 435. 476.7 543.2		Room	Tunnel	Unit	Unit	Unit	Unit	Unit	Scale		
83.01 155.2 600.7 635.5 587.7 89.88 124.7 794.2 609.6 648.2 88.32 111.8 698.9 591.5 623.4 88.32 111.8 698.9 591.5 623.4 89.88 107.7 687 565.3 549.4 90.65 106.3 678.4 533.9 578.4 93.9 104.2 656.5 507.2 553.7 92.59 99.56 573.6 487.4 549.2 87.84 4183.1 488.7 464.8 502.6 84.57 4183.3 428.2 450.5 476.7 83.54 91.17 393.8 435 476.7		Temp	Dry Bulb	Top	Bottom	Back	L.Side	Right	weight	Draft	Time
124.7 794.2 609.6 648.2 111.8 698.9 591.5 623.4 107.7 687 565.3 549.4 106.3 678.4 533.9 578.4 104.2 656.5 507.2 553.7 99.56 573.6 487.4 549.2 4183.1 488.7 464.8 502.6 4183.3 428.2 450.5 476.7 91.17 393.8 435 4387	4	83.01	155.2	600.7	635.5	587.7	607	613	10.2		
88.32 111.8 698.9 591.5 623.4 89.88 107.7 687 565.3 549.4 90.65 106.3 678.4 533.9 578.4 90.65 106.3 678.4 533.9 578.4 93.9 104.2 656.5 507.2 553.7 92.59 99.56 573.6 487.4 549.2 87.84 4183.1 488.7 464.8 502.6 84.57 4183.3 428.2 476.7 83.54 91.17 393.8 435 438.7	60	89,88	124.7	794.2	609.6	648.2	605.3	612.5	7.66		0
89.88 107.7 687 565.3 549.4 90.65 106.3 678.4 533.9 578.4 93.9 104.2 656.5 507.2 553.7 93.9 104.2 656.5 507.2 553.7 92.59 99.56 573.6 487.4 549.2 87.84 4183.1 488.7 464.8 502.6 84.57 4183.3 428.2 476.7 83.54 91.17 393.8 435 438.7	00	88.32	111.8	698.9	591.5	623.4	602.2	611.7	8.38		00
90.65 106.3 678.4 533.9 578.4 93.9 104.2 656.5 507.2 553.7 92.59 99.56 573.5 487.4 549.2 87.84 4183.1 488.7 464.8 502.6 84.57 4183.3 428.2 476.7 83.54 91.17 393.8 435 438.7	h., 2	89.88	107.7	687	565.3	549.4	607.9	614.3	5.38		30
93.9 104.2 656.5 507.2 553.7 92.59 99.56 573.6 487.4 549.2 87.84 4183.1 488.7 464.8 502.6 87.84 4183.3 428.2 450.5 476.7 83.54 91.17 393.8 435 438.7	00	90.65	106.3	678.4	533.9	578.4	616.1	621.8	4.47		40
92.59 99.56 573.6 487.4 549.2 87.84 4183.1 488.7 464.8 502.6 84.57 4183.3 428.2 450.5 476.7 83.54 91.17 393.8 435 438.7		93.9	104.2	656.5	507.2	553.7	621.7	630.4	3.74		9
87.84 4183.1 488.7 464.8 502.6 84.57 4183.3 428.2 450.5 476.7 83.54 91.17 393.8 435 438.7		92.59	99.56	573.6	487.4	549.2	611.2	622.2	3.34		09
84.57 4183.3 428.2 450.5 476.7 83.54 91.17 393.8 435 438.7	0	87.84	4183.1	488.7	464.8	502.6	577.4	590.7	3.26		202
83.54 91.17 393.8 435 438.7	3	84.57	4183.3	428.2	450.5	476.7	543.2	557.1	2.81		80
	N	83.54	91.17	393.8	435	438.7	515.3	525.7	2.74		06

DATA LOGGER RECORD WAS SET TO ON 10- MINUTE INTERVALS, AND WAS UNHBLE TO RECORD FINAL PRE-BURN PATA BETWEEN INTERVALS. WHICH OLCURED FINAL SCALE WEIGHT WAS NOTED TO BE 2.75 13. TEMPERATURES ARE REPRESENTED LINE OF SAMpling DATA. First ON

1. 1. Margan, ETL 2.28-12

11. J. Morg-11-10-11

da	1			VERGION	12	2/5/2010	0			(Contraction of the	(· · · · ·
Manufacturer	SBI	1		Transford and and	1	and the			0.10 + 10.1 h)d				
Model	XTD 1.1				* # 201 W - 0. 6				in a company		1		
Date	10/19/2011	1.1	2	the second		*****			4-4++>	******		the state	
Run		Private and the second		participant da	e di Consegora					1213011	********		
Project #	G100527551				·) · · · · · · ·			11.000	+ + + + + + + + + + + + + +	1-111-111			
Test Duration:	NAME OF TAXABLE PARTY OF TAXABLE PARTY.			1100 - and 1	1001					ly in a set			
and an entry of the second sec	1011910-1110	Start	End	11.00	0.1 Y 0				100.000.000	40710.000.00	1 - (- (
	Barometer (in.Hg):	30.11	30.07	- And a state	******				* +	e maint			
······ ······ ····· ···	I for constant for suffic	00.11	00,01							A-++	a set the part of		
	Dry Bulb (F):	80	78							1-11-11	10.000 0014	A.A. (911. mile)	
	Humidity (%):	33.7	32							* ···· * 11100			
			1	1		1		1.	11400	Survey of	10.00		C
			a a 11 1 - 00 - 11			tel and and				A. Januari	in a second as	La caralle	
Molsture content o	f wood (wet basis):	16.6544	1										
	Average	0.84	4,63	15.30	276 53	83.48	\$5.06	457,10	361.49	457.38	484.30	453 36	850.4
	•	•		•				. }					
Elapsed	Weight				Flue	Room	Tunnel	Unit	Unit	Unit	Unit	Unit	DOM 1
Time	Remaining	00	C02	02	Gas	Tecto	Ory Bulls	Top	Back	R.Side	L.Side	Bolton	Reading
0	t1.00	0.61	0.94	17.63	260.7	70.6	95.0	355.2	414.8	416.0	482.2	483.8	845.246
10	9.76	0.32	2.67	18.15	260.1	79.3	\$9.4	441.9	402.5	399.2	456 3	451.0	846.25
20	6.67	0.69	5.65	15.60	313.2	60.0	93.8	645.9	385.8	387,3	428.8	423.0	847.341
30	7.61	0.78	6.05	14.17	338.5	81.3	100.5	506.1	369.4	384,0	422.4	417.2	848.391
40	6.67	0,62	7,16	13.34	348.8	64.6	101.0	554.5	358.6	416.0	435.9	425.3	849.451
50	6.53	0.41	6.38	12.20	360.0,	85.8	104.8	013.3	349.0	453.4	460.3	442.1	850.62
60	4.45	0.41	7.87	12.61	359.0	86.8	101.6	018.4	342.0	484.7	409.2	468.9	851.57
70	3.60	0.35	7.68	12.87	348.3	85,1	100.6	602.0	340.0	613.1	510.5	491.8	852.04
80	2.88	0.30	7.54	13.03	338.1	89.0	99.6	594.3	339.8	643.0	623.6	613.9	853,700
90	2.22	0.02	7.40	13.01	528.0	87.0	08.9	605.2	341.0	639.1	634.4	\$33.5	854.700
100	1.84	0.84	5.10	14.64	290.8	84.2	05.3	531.7	345,3	655.2	540.0	648.5	855.841
110	1.64	0.78	4.27	15,24	260.3	83.0	64.5	482.1	353.0	674.5	632.0	850.0	650.910
120	1.43	0.03	3.82	15.82	251.6	85.0	92.6	442.0	360.1	602.7	523.2	541.6	857.9%
130	1.29	0.96	3.73	15.77	242.6	66.1	92.6	416.0	363.9	472.6	514.3	529.4	859.065
140	1.09	1.09	3.49	15.87	237.1	68.4	01.5	400.3	304.9	453.6	508.2	518.0	560,150
150	0.92	1,17	3.32	15.90	233.3	84.5	91.0	387.0	365.1	438.6	502.1	505.5	661.240
160	0.74	1.22	3.14	16.21	227.7	82.7	\$0.4	375.0	363.8	439.2	494.3	494.8	662.325
170	0.64	1.37	2.91	10.38	221.4	83.5	89.5	363.8	362.7	441.1	484.7	454.0	863,405
180	0.41	1.41	2.58	16.68	216.0	\$1.8	89.1	353.8	360.7	439.8	474.3	472.2	664,482
190	0.27	1.40	2.32	16.87	211,3	80.3	88.6	341.0	358.0	430.7	461.4	460.0	865.552
200	0.14	1.49	1.68	17.29	204.4	79.5	68.0	320.2	356.0	419.5	447.2	445.9	865 663
210	0.00	1.47	1.69	17.44	197.7	78.3	87.1	315 3	353.0	408.3	430.5	440.8	
second of the second se	ter en juden sin des en judensel			to a first state	the laborate	10.0	01-11	w13.0,		700.8	430.0	732.71	667,701

1/ 1. Margu

*******	**********				********	*****					**********	
lanufacturer:	SAL			*********								
	XTD 1.1	(***********										
	10/19/11		unaman		********			*****				
Run:				*********	amourne	*********	******					
	G10052750		*********	****						********		
FIGOU M.	101003270											
*******	Ś	101010111444		**+*	*******	*****				*********	********	
********	******			*****								
		********		******					+++++++++++++++++++++++++++++++++++++++			

	*****			**********			********	· · · · · · · · · · · · · · · · · · ·				1
						******	•••••					
		4.1 (1+ (- + + + +)			******		******					
74.20	74.19	76.42	703 00	73.60	73.69	77.92	0.02	-0.048	0.00	448.73		
* 74.20			793.98	73.66	73.68	77.82		4	Visual		Change In	
DGM 1	DGM 1	Filtor 1	DGM 2	DGM 2	DGM 2	Filter 2	Tunnel	Chimney	Smoke	Stove	Surface	
Intot T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Velocity	Draft	Observed	Temp	Tomp.	
73.0	72.8	72.9	782.243	72.4	72.5	73.9	0.023	-0.045		430.4	0	******
73.1	73.0	75.4	783.400	72.6	72.6	76.7	0.023	The local difference in the later of the lat	Constraint Constraint	430.2	-0.22	
73.3	73.2	76.2	784.548	72.7	72.8	77.4	0.023	0.060		413.9	-16,46	
73.5	73,3	76.4]	785.681	72.9	72.9	77.8	0.023	-0.063		419.8	-10.58	
73.6	73.4	76.5	786,762	73.0	73.0	78.1	0.023	-0.083		438.1	7.66	******
73.7	73.6	76.7	787.842	73.1	73.1	78.3	0.023	-0.063		463.8	33.4	******
73.8	73.7	76.9	788.940	73.3	73.3	78.5	0.023	-0.088		480.4	50.02	
73.9	73,8	76.9	790.053	73.4	73.4	78.6	0.023	-0.065)	STATES STATES	491.5	61.08	*******
74.0	73.9	77.2	791.170	73.5	73.5	78.5	0.023	-0,063		503.0	72.64	
74.1	74.0	77.1	792.287	73.6	73.6	78.5	0.023	-0.065		506.8	76.36	
74.2	74.1	76.9	793.442	73.7	73.7	78,5	0.023	-0.063		504.1	73.74	
74.4	74.2	76.6	794.545	73.8	73,9	78.4	0.023	-0.055		488.5	58.1	
74.5	74,4	76.6	795.648	73.0	73.9	78,3	0.023	-0.053		474.0	43.64	
74.5	74.5	76.9	796.755	74.0	74.0	78.2	0.023	-0.045		459.4	28.98	
74.6	74.6	76.8	797.852	74.1	74.1	77.9	0.023	-0.045		449.0	18.64	
74.7	74.6	76.7	798.955	74.2	74.2	77.8	0.023	-0.045		439.9	9.46	
74.7	74.6	76.5	800.065	74.1	74.1	77.8	0.023	-0.045		433.4	3.02	
74.8	74.8	76.2	801.175	74.3	74.3	77.9	0.023	-0.043		427.3	-3.14	
74.8	74.9	76.4	802 289	74.4	74.3	77.8	0.023	-0.043		420.2	-10.24	
75.0	76.0	76.4	803.398	74.4	74.4	77.8	0.023	-0.043		410.6	-19.84	
76.3	75.2	76.5	804.510	74.6	74.7	77.9	0.023	-0.043	Part Contract	399.8	-30.64	
75.2	75.2	76.6	805.616	74.7	74.7	77.8	0.023	-0.043		388.0	-42.44	-42

16 f. Morge

		Manufa	street in our lot or the street of	SBI					
		A COMPANY OF THE R. P. N. P. P. N. P.	lodel:	XTD 1.1					
			Date:	10/19/11					
		and a state of a state	Run:	2					
		CANNEL FRANKSHINGTON	A DOMESTIC A DESCRIPTION OF A DESCRIPTIO	G1005275	A CONTRACTOR DURING THE PARTY OF				
		Test Dura	and the second s		210				
	Total Gas \				22.444	Pi	tot Factor	0.82	
	Total Gas \				23/3/14			.99 standar	
	Average Bar	desc in the second	*****	l	30.09		0.84 or Ca	al. Factor for	S-Type)
		A construction in management of the state of the	lar Weigi		28.56				
			orrection:		0.942984935				
	Calibration Fa				1.0060				
	Calibration Fa	actor (DGN	A #2):		1.0030				
				(1) VS:	0.0384		201000		
				(2) VS:	0.0370			Filter	Filter
								Face	Face
Elapsed		DGM 1	DGM 1	DGM 2	DGM 2	DGM 2	Tunnel	Velocity	Velocity
Timo	NAME OF A DESCRIPTION O		Outlet T	Reading	Inlet T	Outlet T	Dry Bulb	DGM 1	DGM 2
0	845.246	73.0	72.8	782.243	72.41	72.49	94.96		
10	846.298	73.1	73.0		72.59	72.58	99.37	9.08	9.9
20	 A house a sub-sub-sub-sub-sub-sub-sub-sub-sub-sub-	73.3	73.2		72.73	72.8	98.81	9.06	9.8
30	CONTRACTOR NOT A MARKAN AND A DATE	73.5	73.3	the second second second second	72.86	72.9	100.5	9.07	9.7
40	A STATE OF STREET,	73.6	73.4	And the second second second second	72.96	72.95	101.6	9.14	9.3
50	C	73.7	73.5	a second second second	73.13	73.13	104.8	9.16	9.3
60	the second diversion of the last in the second second and the	73.8	73.7	the second state is a second state of	73.28	73.27	101.6	9.10	9.4
70		73.9	73.8	Search and the second second second	73.35	73.42	100.6	9.18	9.5
80	853.700	74.0	73.9	• • • • • • • • • • • • • • • • • • •	73.51	73.46	99.55	9.14	9.6
90	854.760	74.1	74.0	E. The second state of	73.6	73.59	98.9	9.14	9.6
100	855.845	74.2	74.1	The second	73.67	73.69	95.25	9.35	9.9
110	856.910	74.4	74.2		73.77	73.85	94.49	9.18	9.4
120	857.990	74.5	74.4		73.89	73.92	92.84	9.30	9.4
130	859.065	74.5	74.5	the second s	74.03	73.99	92.61	9.26	9.5
140	860.158	74.6	74.6		74.14	74.1	91.54	9.41	9.4
150	861.240	74.7	74.6	Section of the sectio	74.15	74.16	90.99	9.32	9.4
160	862.325	74.7	74.6	B) the state of a second state of a	74.14	74.14	90.37	9.34	9.5
170	863.405	74.8	74.8		74.28	74.31	89.54	9.30	9.5
180	864.482	74.8	74.9	802.289	74.37	74.34	89.14	9.27	9.5
190	865.552	75.0	75.0	803.398	74.44	74.44	88.77	9.21	9.5
200	866.663	75.3	75.2	804.510	74.62	74.71	87.95	9.56	9.5
210	867.701	75.2	75.2	805.616	74.65	74.72	87.14	8.93	9.4

1 1. 1. Morgan

	Proportio	nal Rate	Calculatio	ons	(EPA Form	ulas from F	PR5G)	
	Stack are	ea (ft2):	0.34907		Man	ufacturer:	SBI	
Wood	moisture (14-11-0-10-3-10-10-0-0-10-10-10-10-10-10-10-10-10-10	16.6644	1914 (1917) - 1914 (1917) 1914 (1917) 1914		Model:	XTD 1.1	
- second to be by the second of the	Veight (lbs	A # # 10 (A # 10 (# = 10 /0 /)	11	NUTER CONTRACT		Date:	10/19/11	1 12 15 d + 7 16 16 d + 7 16 16 17 18 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19
the second section in the party of	ate (Dry k	to the second second on the later is the	1.188	11 01	-	Run:	COMPANY AND INCOMENDATION OF BUILD	
1 % # 18 do en # reco 10. K. I		100,00,00 (1) (0, 1) (0, 10, 10, 10, 1)		*****	Pr	oject No.:	G100527	551
-inal Ter	nperature	(DGM #1) Degree	s Rankin:	534.161			
	nperature				533.671	*****	*******	
of \$25 to an at \$10 \$1 to at \$1 a	unnel Tem	to pay of the late \$10 per site and second day		er an it is had als it at at at an it.	555.060	******	• - • • • • • • • • • • • • • • • • • •	
the second second documents of a	unnel Velo	the last of the second second second	or the set of Tel strike are depicted and the	AT THE ADDRESS OF TAXABLE ADDRESS.	7.969859	175.337		
the second second second second second second	ndardized		the second second second second second second	the Property of the second second second	153.24			
an								
		Average	Average					
		Inlet +	Inlet +	and and should add				
		Outlet	Outlet	99.99	100.00	#1	#2	
Tunnel	Tunnel	Temp.	Temp.			dDGM	dDGM	
Velocity	Velocity	Meter 1	Meter 2			Vol.Std.	Vol.Std.	
Delta-P	Ft/Sec	Deg. R	Deg. R	PR1	PR2	(ft3)	(ft3)	Time
0.023	7.969	532.9	532.5					0
0.023	8.001	533.1	532.6	98.98	104.58	1.054	1.157	10
0.023	7.997	533.3	532.8	98.70	103.68	1.051	1.147	20
0.023	8.009	533.4	532.9	98.93	102.46	1.052	1.132	30
0.023	8.017	533.5	533.0	99.76	97.84	1.060	1.080	40
0.023	8.040	533.6	533.1	100.31	97.99	1.063	1.078	50
0.023	8.017	533.7	533.3	99.34	99.31	1.055	1.096	60
0.023	8.010	533.9	533.4	100.16	100.56	1.065	1.111	70
0.023	8.002	533.9	533.5	99.58	100.81	1.060	1.115	80
0.023	7.997	534.0	533.6	99.51	100.73	1.060	1.114	90
0.023	7.971	534.2	533.7	101.50	103.80	1.085	1.152	100
0.023	7.966	534.3	533.8	99.53	99.03	1.064	1.100	110
0.023	7.954	534.4	533.9	100.76	98.87	1.079	1.100	120
0.023	7.952	534.5	534.0	100.26	99.19	1.074	1.104	130
0.023	7.945	534.6	534.1	101.83	98.18	1.092	1.093	140
0.023	7.941	534.7	534.2	100.74	98.66	1.081	1.099	150
0.023	7.936	534.7	534.1	100.96	99.23	1.084	1.106	160
0.023	7.930	534.8	534.3	100.39	99.13	1.078	1.106	170
0.023	7.927	534.9	534.4	100.06	99.44	1.075	1.110	180
0.023	7.925	535.0	534.4	99.36	98.94	1.068	1.105	190
0.023	7.919	535.2	534.7	103.04	99.09	1.108	1.107	200
0.023	7.913	535.2	534.7	96.20	98.48	1.036	1.101	210

1 1. Marga-

	Intertek Testing Servic	09				
	SFBA EPA ADJUSTER	EMISSION	FSUITS			
****	or ball a Adooo ill	2 EMIGOIOI	LOOLIO			
anufacturer:	SBI		***********	RESULT	S	
	XTD 1.1				ř	
LAL THREE AND	10/19/11		4	verage Adjusted Emis	sions Rate:	4,42
Run:	CARDEN AND ADDRESS OF A COMPANY AND A COMPANY A		Company of the Arriver of the	erage Unadjusted Em	()有效,在有效,在我们,在我们,在我们,	2,91
THE REPORT OF THE PARTY OF THE	G100527551			the state of the s	(Dry kg/hr):	1.19
st Duration (Minutes):	Conversion of the second second second		1	1	1 1	in the second
est Duration (Hours):	3.60			aa		
l l l l l l l l l l l l l l l l l l l	3.00	******				
		+++++ (********************************	*****			
	*****	******************	BARON	ETRIC PRESSUR	2E	
			Draton	TROTICOOD	Average:	30.0
TEMPEDATURE FAR	TARE	*****************		******	Start:	30.1
TEMPERATURE FAC	DGM #1:	0.9885	***********		End:	30.0
i ancorora actemation	DGM #2:	0.9894				00.0
	DOM IFA.	0.0004	DRY CAS	METER VALUES	*****	
VOLUMES SAMPL	FD	·····	UNIGAS	IDGM #1	Final:	867.70
I CLOWED OF MARK	DGM #1:	22.456	***********	·····	Initial:	845.24
	DGM #2:	23.326		+++-++++++++++++++++++++++++++++++++		
	Loom me.			DGM #2	Final:	805.61
TOTAL TUNNEL V	OLUME (scft:	32180	**********		Initial:	782.24
TOTAL TOTALE	OLONIC (OU).		*****	*****		*********
SAMPLE RATIOS		****************	TEMPE	RATURES (DEG.	RANKIN)	
	Train 1:	1433.0			DGM #1:	534.10
	Train 2:	1379.6			DGM #2:	533.6
- Odmpik	TIGHT 4.	1070.0			1 Destri March	000.0
TOTAL EMISSION	S	·····	CALIBE	ATION FACTORS		
Sample Train		10.32	Unicipi		DGM #1:	1.000
Sample Train		10.07			DGM #2:	1.00
- Oddin vio Troat	Ave:	10.19			1	
EMISSION RATES			TUNNE	L FLOW RATE:		153.
Sample Train 1	**************************************	2.95	Tornic	PARTICULATE	CATCH (n	
Sample Train 2		2.88			le Train 1:	.21
- Odinpio Hainz	Ave:	2.91	*****		Filters	6
ADJUSTED EMISS			**********	human	Probe	0
Sample Train 1		4.46		· ······	Total	7
Sample Train 2		4.38		Samo	le Train 2:	
	Ave:	4.42			Filtors	7
DEV	/IATION:	1.00%	Section 1		Probe	0
(- ++)+)		1.0076		****	Total	7.
(() + + + + + + + + + + + + + + + + +		****************		***************************************		an manage
If deviation is great	er than 7.5% due to lov	particulate c	atch			
	ates shall not differ by 7			American (1999) - and (1999) - a (1999)	X	
	arage emission rate limi		50-3)	*		*******
Contraction and Reserved and		1.5.111.711.1174.5	R (
Use the following:	<pre>(11)(11)(11)(11)(11)(11)(11)(11)(11)(11</pre>		*********	**************************************	0.0000	
See the long high	())) = = (, ,) = (, ,) = (,			***********************	*******	
Catalytic units		2.17%		······································		
7.5% of 4.1 g/hr				******		
Livia Martine		********				
Non catalytic units		1.18%	****	10		< < < < < > > >

1/ Morgen

REPORT	DATA						
							1 (* 18 an at at 18 fer
	Client:						
		2					
	with the state of the state and but had	10/19/11					
Pro		G100527551					
		XTD 1.1					
Fuel Moisture (Dry):	19.99666667					
Stack Static (n	ieg):	0.095				1	
	meter:	30.09					
Average Room	n Temp:	83.48					
Change in stove	e temp:	-42.44					
		I					
Burn F	Rate:	1.188					interes.
Adjusted Emissic	n Rate:	4.420					
Syst	em 1:	4,464					
	em 2:	4.376	****	1			
Devia		1.00%	A R DIE IN P R DIE IN DIE				
Filte	r 1:	76.42					
Filte	r 2:	77.82	* 16 (4 H H H H H H H H H H H H				
the second state and a product of the second	nnel:	95.06		1			
	DGM 1:	A REPORT OF A REPO				**********	
	DGM 2:	73.67			***********		*******
Water Co	10 10 10 10 10 10 10 10 10 10 10 10 10					C.F.S. B.B.C. S.S.S.	
	10 10 10 10 10 10 10 10 10 10 10 10		1 (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1		0.0000000000000000000000000000000000000	***********	*******
Room	Temp	Bar Pressure	1.000	Relative Hu	midity	Air Velo	ocity
Before	After	Before	After	Before	After	Before	Afte
80	78	30.11	30.07	33.7	32	0	0
	*********				1.4.5 × 1.4.6 × 1.4 × 0.4		
Delta H A	verage						
DGM#1:	0		ente a seu alterte la				11.0 · · · · · · ·
DOMAT	-	and the second state of the second state and the			Contract of the second	Conception of the second second	

1h f. Marg-

SBI-Stove Builder International Project No. 100527551 October 19, 2011 Dillution Tunnel Traverse Data Run 2

VERSION 1.2

2/5/2010

E&E Tunnel Traverse Worksheet

	TUNNEL	TUNNEL	SQUARE	Static Pressure:	
A CENTER	0.023	95	0.1500		
B CENTER	0.023	97	0.1500		
A1	0.018	94	0.1342	PITOT	
A2	0.020	94	0.1414	CONSTANT:	0.9430
A3	0.023	94	0.1500		
A4	0.018	88	0.1323		
B1	0.020	96	0.1414		
B2	0.023	96	0.1500		
B3	0.023	96	0.1500		
B4	0.018	93	0.1323		
AVERAGE	0.02055	94.44	0.1414		

Tunnel Diameter (in): Tunnel Area (ft2) Tunnel Static Pressure

-	
L,).349066
	-0.095

12. Morgen 11-10-11



Run Notes EPA Methods 28 and 5G-3

PROJECT /	TEST INFORMATION
Project Number:	G100527551
Manufacturer:	S.B.I.
	XTD 1.1
Sample ID Number:	9RTX110121353-001
Test Date:	OCTOBER 20, 20 14
Test Run Number:	3
Date tunnel cleaned:	10-13-11
Purpose of Test	CAT: 3

Prelim 1 1,56 @ 2.0 DT 53 DEV 0,734.

	Appliance Inf	ormation
Appliance Type:	2	1 - Catalytic 2 - Non-Catalytic 3 - Pellet 4 - Hydronic
Firebox Volume, ft ³ :	1.55	N/A for pellet type
Convection Blower	2	1 - No Fan 2 - Optional Accessory 3 - Standard Equipment

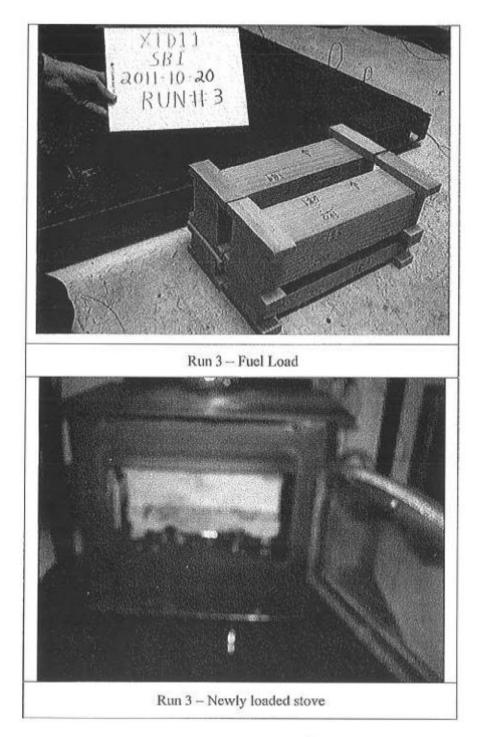
16. 1. Marga

	Test Settings	
Primary Air:	314" & GAUGE	
Secondary Air:	FILED	
Control Board:	NIA	
Blower/Fan:	ON-LOW	

Time	Activity	
Ð	STIRRED Ful Load	
45	STIRRED Fuel Load	
12_	COAL BED LEVELED	100 M (A.2

	Start-Up Procedure
Loading of fuel, sec. :	SON
Fuel-loading door :	CLOSED AT 1/15
Primary air:	
Secondary air:	NOT ADJUSTABLE
Control board:	
Blower / fan:	

	Other Notes		
CBR = 22-2.7 LB		Since the second s	
1 .	A A A A A A A A A A A A A A A A A A A		
		the second second	



16. 1. Marg



TEST FUEL DATA EPA METHOD 5G-3

Project Number:	G100527551
Manufacturer:	S.B.I.
Model:	XTD 1.1
Sample ID Number:	PET 1110221353-001
Test Date:	OCTOBER 20, 2011
Test Run Number:	3

12.0	= 12.0
	= 22.0

CALIBRATOR - 19701

k	PRE-B	URN FUE	L PROPE	RTIES	
Eq. ID No.:	581-214	Time:	8:30	Temp., °F:	73.7
Piece No.	Length, In.	Weight, Lb.		sture, %, Dr	A COLUMN TWO IS NOT
1	10	1.25	20,4	21.5	195
2	01	1.20	21.7	22.5	19.5
3	10	1.15	23.4	21.5	19.7
4	10	1,15	21.5	22.4	19.5
5	15	1.70	21.0	22.2	13.4
6	15	1.70	21.2	13.9	20.0
7	15	1.90	22.1	21.9	19.3
8	15	1.20	21.5	23.4	13.8
9	15	1.75	21.2	21.7	20,1
10					
11					
12					
Total We	elght	13.40	Avera	ge, %db	

19.3 15

	and the second se	and the second second second	Contract on the local division of the local division of the	PROPERTIE		and the second
Eq. ID No .:	SB1-	214	Time:	8:35	Temp., *F:	94
Plece No.	Length,	Welg	ht, Lb.			and the second second
1 1000 110.	In.	2x4	4x4	INDIS	ture, %, Dry	Dasis
1	14:25	1.45		ERN	19.0	18.7-
2	14.25	2.15		19.7	13.2	19,1
3	14.25		3.85.	18.0	(9.0	20.2
4	14.25		3,60'	15.5	20	19.0
5						
6						
7		1.				
8						
Total	5	3,60	7.45			
% of We	ight	32.6	67.5			
Total weight,		14.0	5	Average M	19.09	
Total weight,	dry, kg	4.1	9	Average M	olsture, wet	16.38

10-25-11



Supplemental Data EPA Methods 5G and 28

Project Number	G100527551
Manufacturer	S.B.I.
Model	XTD 1.1
Sample ID Number	PRT 1110121353-001
Test Date	OCTOBER 20, 2011
Test Run Number	3

Sampling Start Time 10:	35 Sa	ampling Stop Time 13: \$9
Air Velocity (ft/sec)	Initial: <50	Final: _<50
Barometric Pressure (in/Hg)	Initial: <u>29,72</u>	Final: 29. C
Post - leak Check (cfm @ in/Hg)	Train A: 0.0050	5"Hy Train B: 0.002@5

Date: 10-25- 11	Engineer Signature:	- Wey RI
		. 0

Pre-Burn Data Run 3 1.5

Oetober 12, 2014 October 20, 2011 SBI-Stove Builder International Project No. G100527551

£^	ry Bulb Top Bottom 151.2 595.5 171.4 135.2 651.8 256 136 712.1 322.4 128.6 675.3 372.2 130.9 674.2 418.8 4176.5 697.9 470.8 116.3 601.3 470.9
651.8 256 712.1 322.4 675.3 372.2 674.2 418.8 697.9 470.8 601.3 470.9	135.2 651.8 256 136 712.1 322.4 128.6 675.3 372.2 130.9 674.2 418.8 4176.5 697.9 470.8 116.3 601.3 470.9
	Temp Dry Bulb Top 72.77 151.2 595.5 72.77 151.2 595.5 77.08 135.2 651.8 79.68 136 712.1 80.97 128.6 675.3 81.68 130.9 674.2 83.3 116.3 601.3

DATA LOGGER WAS SET TO RECORD 10- MINUTE INTERVALS, AND WAS ON UNABLE TO RECORD FINAL PRE-BURN PATA WHICH OCCURED BETWEEN INTERVALS. SCALE WEIGHT WAS NOTED TO BE FINAL 2.70 16. TEMPERATURES ARE REPRESENTED ON FIRST

LINE OF SAMPLING DATA. 1/ 1. Mary, ETL

2-28-12

May 11-10-10

		1 1		VERSION	1.2	2/5/2010	1						
Manufacturer:	581										17.7		
Model	XTD 1.1				tot a transfer of								
Dale:	10/20/2011			1									
Buch	3			1.11.11.11	1.1.1.1.1.1.1			Same in			1.1.1.1		
Project #	G100527551		and the second s							100 PC 10110	1. 18 1. 18 1. 1 1. 1		
Test Duration:	160	1			10000			5 3			1.	-	
		Start	End				1						
	Borometer (in.Hg):	29.72	20.6				1						
					Sec. 3				-	and the second			
	Dry Bulb (F):	83	65				1						
	Humidity (%):	49	49								a		
	1		1. A.							1.0.2.5			
		in the second											
Maisture content of	f wood (wet basis):	16.1836	2.000								e Million		
	Average	0.60	6.88	14.01	407.62	85.70	117.55	657.98	358,21	652.41	578.64	688.32	875.3
				•			•				•		•
Elapsed				-	Flue	Reem	Tunnet	Unit	Unit	Unit	Unit	Unit	DOM 1
Tinto	THE PERSON NAMES OF TAXABLE	00	CO2	02	Gaa	Temp	Dry Bulb	Top	Back	R.Side	L.Side	Bottom	Reading
	10.95	0.35	\$1,75	8.88	350.7	83.4	135.6	433.4	437.1	464.0	630.5	645.2	867.72
10	9.02	0.35	\$1,75	8.85	590.6	86.1	142.3	731.0	421.0	478.1	617.8	535.7	658.760
20	0.97	0.26	12.44	7.87	623.3	87.0	145.0	847.5	409.4	553.0	635.3	571.8	659.66
30	6.25	0.23	11.21	8.91	570.4	87.3	141.3	838.3	399.7	635.2	676.2	616.9	870.95
40	3.90	0.23	0.07	11.28	618.6	00.5	132.7	752.4	355.7	683.3	623.1	652.7	872.03
	2.94	0.20	6.67	12.69	475.3	63,6	129.0	692.9	392.8	671.1	649.3	073.2	873.10
60	2.48	0.30	5.18	15.10	427.3	84.0	121.6	614.3	354.3	610.4	648.3	667.4	874.183
70		0.29	5.02	14.03	420.0	84,0	115.0	680.0	376.3	695.2	638.7	654.0	875.254
60	1.67	0.30	4.77	14.75	360.6	84.9	111.0	654.6	376.3	589.0	635.0	645.9	878.330
90	1.33	0.73	3.68	10.01	301.2	85.0	107.9	607.2	370.3	558.0	620.2	027.9	677.40
100	1.12	0.63	3,63	10.07	347.8	60.2	107.2	470.4	377.6	640.9	602.0	606,7	878.47
110	0.90	0.65	3.13	16.47	336.1	80.8	105.2	453.0	379.6	532.8	685.4	606.3	870.55
120	0.67	0.98	2.88	10.64	328.2	80.3	103.4	433.7	379.8	518,1	570,7	565.1	650.630
130	0.45	1,02	2.51	10.91	315.1	85.9	101.7	418.6	378.9	609.6	658.0	544.8	861.70
140	0.28	1,09	1.92	17.31	301.7	85.8	100.4	405.B	374.9	502.8	639.6	623.9	882.774
150	0.12	1.02	1.72	17.84	288.5	85.4	90.6	383.4	372.0	481.9	613.3	502.6	663.855
			1.61	17.91			68.0				485.4		1

14.1. Morgn

Manufacturer:	SBI											
Model:	XTD 1.1											
Date:	10/20/11											000000000
Run:	3											
Project #:	G10052755	51	**********	********								********
*********							******					********
***********				**********		**********						
*******		********		********		4 4 14 7 4 1 4 1 4 1 4 1 4	110 01175-011					*******
		*******		********		********	********				***********	*******
	******			*********		*********		***********	***********			******
************							**********				Y	
************			+++++++++++++++++++++++++++++++++++++++			**********			******	*****		*******
	******	********	*****	*********	********	4.5.00 (************			******	
72.20	72.27	77.71	814.46	71.76	71.74	78.65	0.02	-0.064	0.00	533.11	*******	*****
*	72.27		*	*	71.74	.*			Visual		Change In	********
DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	DGM 2	Filter 2	Tunnol	Chimney	Smoke	Stove	Surface	********
Inlot T	Outlet T	Temp	Reading	Inlet T	Outlet T	Temp	Velocity	Draft	Observed	Temp	Tomp.	*******
71.3	71.3	72.4	805.631	70.9	70.9	72.6	0.020	-0.035		483.8	0	*******
71.4	71.2	78.6	806,720	70.9	70.9	78.7	0.018	-0.050	1	536.9	53.06	********
71.7	71.6	79.9	807.848	71.1	71.1	80.2	0.018	-0.055		583.4	99.52	
72.3	71.9	79.7	808.975	71.3	71.5	80.9	0.018	-0.063		613.1	129.22	
72.5	72.2	80.2	810.081	71.6	71.8	81.5	0.018	-0.085	30770770	621.4	137.6	
72.4	72.4	80.4	811.182	71.0	71.8	81.5	0.018	-0.093		615.9	132.02	
72.6	72.4	79.8	812.275	71.8	71.9	80.9	0.018	-0.090		586.5	102.7	
72.6	72.6	79.0	813.381	71.0	71.9	80.0	0.018	-0.080		569.4	85.52	
72.7	72.6	78.0	814.428	72.0	72.0	79.4	0.018	-0.073		559.9	76.1	
72.6	72.6	77.A	815.490	72.0	71.9	78.7	0.018	-0.068	********	537.9	54.08	*******
72.5	72.6	77.0	816.581	72.1	72.0	78.3	0.018	-0.063		522.3	38.46	
72.4	72.6	76.8	\$17,708	72.0	71.9	77.8	0.018	-0.060	***********	507.4	23.56	
72.4	72.6	76.8	618.831	72.1	72.0	77.7	0.018			493.5	9.64	
72.5	72.7	76.6	819.961	72.2	72.1	77.6	0.018	12 24 24 24 24 24 24 24 24 24 24 24 24 24	1	481.6	-2.28	*****
72.5	72.6	76.4	821.088	72.2	72.1	77.3	0.018	and an a second proved	and distant	468.6	-15.24	
72.3	72.5	76.4	822.218	72.1	71.9	77.1	0.018	-0.055		450.8	-33.02	
72.6	72.4	75.9	823.345	72.0	72.0	76.8	0.018			430.5	-53.36	-53.3

16-1. Maryon 11-10-11

		Manufa	a state of a real to be a real	SBI		*********			
			lodel:	XTD 1.1					
			Date:	10/20/11					
			Run:	3					
		and a state of a local as	roject #:	G1005275	·				
		Test Dura	the second second second second		160				
	Total Gas V				17.010	Pil	tot Factor	0.82	
	Total Gas V				17,480		the state of the s	.99 standar	a contra de la serie des
	Average Baro				29.66		0.84 or Ca	al. Factor for	S-Type
			lar Weigł		28.56				
		the state of the state in the state.	prrection:		0.942286731				
	Calibration Fa				1.0060				
	Calibration Fa	actor (DGN	1 #2):		1.0030				
				(1) VS:	0.0447				
				(2) VS:	0.0435			Filter	Filter
								Face	Face
Elapsed	DGM 1	DGM 1	DGM 1	DGM 2	DGM 2	DGM 2	Tunnel	Velocity	Velocity
Timo	Reading	Inlet T	Outlet T	Reading	Inlet T	Outlet T	Dry Bulb	DGM 1	DGM 2
0	867.722	71.3	71.3	805.631	70.87	70.86	135.6		
10	868,760	71.4	71.2	806.720	70.88	70.86	142.3	8.86	9.2
20	869.868	71.7	71.5	807.848	71.07	71.1	145	9.46	9,6
30	870.951	72.3	71.9	808.975	71.33	71.52	141.3	9.24	9.5
40	872.034	72.5	72.2	810.081	71.62	71.76	132.7	9.23	9.4
50	873.103	72.4	72.4	COMPANY AND A STREET	71.85	71.83	129.9	9.11	9.3
60	874.182	72.6	72.4		71.82	71.89	121.5	9.19	9.3
70	875.258	72.6	72.5		71.87	71.86	115.8	9.17	9.4
80	876.330	72.7	72.6	la serve serve habered at	72	72	111.6	9.13	8.9
90	877.407	72.6	72.6	to be at solid, as her as to the board in the	72.01	71.94	107.9	9.18	9.0
100	878.479	72.5	72.6	of the second line was should be for the second	72.05	71.97	107.2	9.13	9.2
110	879.551	72.4	72.6	817.706	72.01	71.91	105.2	9.14	9.5
120	880.630	72.4	72.6	818.831	72.12	71.99	103.4	9,19	9.5
130	881.703	72.5	72.7	819,961	72.21	72.07	101.7	9.14	9.6
140	882.774	72.5	72.6	821.088	72.17	72.06	100.4	9.12	9.5
150	883.852	72.3	72.5	822.218	72.11	71.89	98.83	9,19	9.6
160	884.926	72.6	72.4	823.345	71.95	72	97.98	9.15	9.5

14 f. Marg-

	Proportio	nal Rate	Calculatio	ns	(EPA Form	ulas from F	PR5G)	
	Stack are	a (ft2):	0.34907	4 - (10.00 4) 40 40 40 40 40 40 40	Man	ufacturer:	SBI	
Wood	moisture (to the off the latent second the second off	16.1836		ivicit	Model:	XTD 1.1	
	Veight (Ibs		10.95			Date:	10/20/11	1 × 4 H + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +
or statistics is address by pr	ate (Dry k	the star has been seen as the line but any	1.561			Run:	the second set, where we are all of the second	*****
Contraction of the second	T	Sector 1		***	Pr	oject No.:	G100527	551
Final Ter	i mperature	(DGM #1) Degrees	Rankin	532.281	0,001110.		1
the set of the set on the set of the line	mperature	the second second second second second second second	the same of the lot of the lot of the same of the same	construction and the second second second	531.749			
to the state of the last state in the	unnel Tem	a second of the second second second second	the state of the state of the state of the state of	the state of the last strength and the state of the	577.548			
the second second second second second	unnel Velo	the second second second second second second	to send out the set of the Print Pri	one wanted part for which the second part	7.323379	************		
at the state of the local sector in the	andardized	to the second seco	the last sector and an an internet to be an	a 10 pr 11 + 10 = 10 + 10 = 11	133,39			1 10 1 4 10 10 10 10 10 10 4 4 (
	1		ion (acon		enuinequations and a			1 (1) (0) (0) (0) (0) (0) (0) (0) (0) (0) (0
	$((w,w)) \mapsto ((0,0,w,w,w))$	Average	Average	**********	1.14 (9.15) 16 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	*****	****	
		Inlet +	Inlet +			* + = = * * * * * * * * * * * *		
* *** * * * * * * * * * * * *	11.11.11.11.11.11.11.11.11.11.11.11.11.	Outlet	Outlet	100.22	100.22	#1	#2	
Tunnel	Tunnel	Temp.	Temp.			dDGM	dDGM	
Velocity	Velocity	Motor 1	Meter 2			Vol.Std.	Vol.Std.	
Delta-P	Ft/Sec	Deg. R	Deg. R	PR1	PR2	(ft3)	(ft3)	Time
0.020	7.834	531.3	530.9					0
0.018	7.369	531.3	530.9	100.24	102.12	1.028	1.076	10
0.018	7.491	531.6	531.1	105.68	104.49	1.097	1.115	20
0.018	7.468	532.1	531.4	102.89	104.01	1.071	1.113	30
0.018	7.414	532.4	531.7	102.10	101.29	1.071	1.092	40
0.018	7.396	532.4	531.8	100.54	100.56	1.057	1.086	50
0.018	7.241	532.5	531.9	102.16	100.52	1.067	1.078	60
0.018	7.308	532.5	531.9	99.95	99.80	1.064	1.091	70
0.018	7.179	532.6	532.0	100.60	95.44	1.059	1.033	80
0.018	7.257	532.6	532.0	99.34	95.15	1.064	1.048	90
0.018	7.253	532.6	532.0	98.82	97.68	1.059	1.076	100
0.018	7.240	532.5	532.0	98.67	100.56	1.060	1.110	110
0.018	7.228	532.5	532.1	99.15	100.38	1.067	1.110	120
0.018	7.218	532.6	532.1	98.44	100.66	1.060	1.114	130
0.018	7,209	532.6	532.1	98.14	100.28	1.058	1.111	140
0.018	7.199	532.4	532.0	98.67	100.43	1.066	1.115	150
0.018	7.194	532.5	532.0	98.21	100.09	1.062	1.112	160

1/ 1. Morg-

		ntertek Testing Servic						
	1	SFBA EPA ADJUSTE	D EMISSION	RESULT	3			
	ana							
Aanufacturer:		381		humani		RESULT	S	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(TD 1.1				1	1	
		0/20/11				justed Emis		1.82
	Run: 3			A	verage Una	adjusted Em	化化化物 化离子化合金化合金化合金	11.00
Projec		3100527551		14992	1010523-0	Burn Rate	(Dry kg/hr):	1.56
ast Duration (Minu		160						(mananta)
Test Duration (Ho	ours):	2.67	********					

				PADO	UCTOIO	DOCCOU		
			***************	BARO	METRIC	PRESSU	1 4 4 4 4 5 mm 7 8 8 8 4 1	
Truncourun	1	000					Average:	29.6
TEMPERATUR	EFACI	DGM #1:	0.0020				Start: End:	29.7
		DGM #2:	0.9920				Eng.	29.
		UGM #2:	0.9930	DBY CA	S METER	VALUES		
VOLUMES S	AMPL	-D	*******	DRIG	OMETER	DGM #1	Final:	884.92
	I I	DGM #1:	17.019		**********	COM #1	Initial:	867.72
*****		DGM #2:	17.489	********		********		
						DGM #2	Final:	823.34
TOTAL TUNK	VEL VO	LUME (scf):	21342			COM IL	Initial:	805.63
	1			*****				+++ + + + + + + + + + + + + + + + + +
SAMPLE RA	rios	******	1100 0110000000000000000000000000000000	TEMP	ERATUR	ES (DEG.	RANKIN)	********
		Train 1:	1254.0				DGM #1:	532.28
		Train 2:	1220.4				DGM #2:	531.75
	T		***************	**********		********		
TOTAL EMIS	SIONS			CALIB	RATION	FACTOR	S	
Sample 7	Train 1	(g):	2.76		**********	1	DGM #1:	1.006
Sample 1			2.56	17 I.L. I. I.F. P. P.			DGM #2:	1.003
1	1	Ave:	2.66					
EMISSION R	ATES			TUNN	EL FLOW	RATE:		133.4
Sample Tra			1.03		PART	ICULATE	CATCH (n	ng)
Sample Tra	ain 2 (g	/hr):	0.96			Sample	Train 1:	
1		Ave:	1.00				Filters	1.9
ADJUSTED E							Probe	0.3
Sample Tra			1.87				Total	2.3
Sample Tra	ain 2 (g	/hr):	1.76			Sample	Train 2:	
		Ave:	1.82				Filters	
	DEVI	ATION:	3.06%				Probe	0.1
							Total	2.
		moniteric ange out that i p						
		r than 7.5% due to lo		atch				
		tes shall not differ by						
of the weighte	d aver	age emission rate lim	it (4.1 or 7.5)	(5g-3)				
- huser huser			- · ·		Second a			
Use the follow	ang:							
Calability			0.000	*****				
Catalytic units			2.71%					
7.5% of 4.1 g/	11			-	- un er a			+++++++++++++++++++++++++++++++++++++++
Non catalult			4 4004		is much		(1+++) (+++)	
Non catalytic			1.48%					
7.5% of 7.5 g/								

14. Morgen

REPORT	DATA						
	Client:	CDI					
	Run:	C					
	when the second second second second	10/20/11					
	Date:	the second					
Proj		G100527551					
Further later	 A state to address the late of the state 	XTD 1.1			****		
Fuel Moisture (I	er bei er fel de bei er state er state in	19.30833333			e = 1 + 1 = 1 = 1 + 1 + 1		
Stack Static (n		0.0975					
to the later of th	neter:	29.66					
Average Roon	n Temp:	85.70					
			(+)-+I0=+++				

Change in stove	temp:	-53.36					
			*********				********
Burn R		1.561					
djusted Emissio		1.817					
	em 1:	1.872					
	em 2:	1.761					
Devia	the second second second second second	3.06%					
Filter	the late of the little little and the	77.71					
Filter	a state to the state of the state	78.65					
to water many a manufacture to be presented	nel:	117.55					
and a second prover the Address of the second second	DGM 1:	72.28				1	
	DGM 2:	71.75					
Water Co	llected:		****				
Room	Temp	Bar Pressure		Relative Hu	lumidity	Air Velo	city
Before	After	Before	After	Before	After	Before	Afte
83	85	29.72	29.60	49	49	0	0
Della Ll A	loromo						in second
Delta H Av DGM#1:							
the state of a second state of the second state of the	0						
DGM#2:	0					1	

14 f. Morg-

SBI-Stove Builder International Project No. G100527551 October 20, 2011 Dillution Tunnel Traverse Data Run 3

VERSION 1.2

Tunnel Static Pressure

2/5/2010

E&E Tunnel Traverse Worksheet

	TUNNEL	TUNNEL	SQUARE ROOT	Static Pressure:	
A CENTER	0.020	134	0.1414		
B CENTER	0.020	123	0.1414		
A1	0.018	130	0.1323	PITOT	
A2	0.020	130	0.1414	CONSTANT:	0.9423
A3	0.018	130	0.1323		
A4	0.015	122	0.1225		
B1	0.018	121	0.1323		
B2	0.020	121	0.1414		
B3	0.020	121	0.1414		
B4	0.015	111	0.1225		
AVERAGE	0.01825	124.26	0.1333		
Tunnel Diameter Tunnel Area (fi		8 0.349066	-		

-0.0975

16 J. Morg-



Weather Forecast: Québec, QC

alerts

Wind warning for Quôbec area

Current Weather Thurs, Oct 20, 2011, 9:00 EDT Jean-Lesage Intl Airport



Short Term Forecast Updated: Thurs, Oct 20, 2011, 8:00 EDT

1	Thursday Afternoon	Thursday Evening	Thursday Overnight	Friday Morning	Friday Afternoon
	(abida)	Sugar	Calles .	Cooper la	6000
1	Light rain	Cloudy with showers	Light rain	Light rain	Cloudy with showers
Tomp.	120	12°C	38	10%	110
Wind	NE 35km/h	NE 15km/h	SW 15km/h	SW 15km/h	SW 15km/h
Relative Humidity	94%	94%	87%	62%	93%
P.O.P.	80%	80%	80%	70%	60%
Rain	1-3mm	2-4mm	2-4mm	1-3mm	less then 1mm

Long Term Forecast Updated: Thursday, October 20, 2011, 6:00 EDT

	Friday Oct 21	Saturday Oct 22	Sunday Oct 23	Monday Oct 24	Tuesday Oct 25	Wednesday Oct 26
Conditions 6am - 6pm	0000	aling)	1 des	0000	(inter	1000
	Light rain	Cloudy with showers	Variable	Cloudy with showers	Cloudy with showers	Cloudy periods
P.O.P.	70%	40%	20%	40%	80%	20%
High	11%	11%	10%	1110	510	0.0
Low	36	70	50	573	610	50
Wind.	SW 15 km/h	W 10 km/h	W 5 km/h	SE 6 km/h	NE 5 km/n	W 5 km/h

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Weather Forecast: Québec, QC

alerts

Wind warning for Québec area

Current Weather Thurs. Oct 20, 2011, 12:00 EDT Jean-Lesage Intl Airport



Short Term Forecast Updated: Thurs, Oct 20, 2011, 10:00 EDT

	Thursday Afternoon	Thursday Evening	Thursday Overnight	Friday Morning	Friday Afternoon
	in the second	0000	6000	wind a	1000
1	Light rain	Cloudy with showers	Light rain	Light rain	Cloudy with showers
Temp.	12°C	12°C	8°C	10°C	11"C
Wind	NE 35km/h	NE 15km/h	SW 15km/h	SW 15km/h	SW 15km/h
Relative Humidity	94%	94%	87%	82%	93%
P.O.P.	80%	80%	80%	70%	60%
Rain	1-3mm	2-4mm	2-4mm	1-3mm	less than 1mm

Long Term Forecast Updated: Thursday, October 20, 2011, 10:00 EDT

	Friday Oct 21	Saturday Oct 22	Sunday Oct 23	Monday Oct 24	Tuesday Oct 25	Wednesday Oct 26
Conditions 6am - 6pm	assas)	6000	100	2000	allas	心
	Light rain	Cloudy with showers	Variable	Cloudy with showers	Cloudy with showers	Cloudy periods
P.O.P.	70%	40%	20%	40%	80%	20%
High	11°C	11°C	10°C	11°C	9°C	9*C
Low	8*C	7°C	5*C	5°C	6°C	6°C
Wind	SW 15 km/h	W 10 km/h	W 5 km/h	SE 5 km/h	NE 5 km/h	W 5 km/h

16. J. Morg-

10/20/2011



Run Notes EPA Methods 28 and 5G-3

and the second se	TEST INFORMATION
Project Number:	G100527551
Manufacturer:	S.B.I.
Model:	XTD 1.1
Sample ID Number:	PRTM10121353-001
Test Date:	OCTOBER 21, 2011
Test Run Number:	4
Date tunnel cleaned:	10-13-11
Purpose of Test	CAT.4

1.93 @ 4.4 AT=79 Dev. 2.33%

16. Morg
0
11-10-11

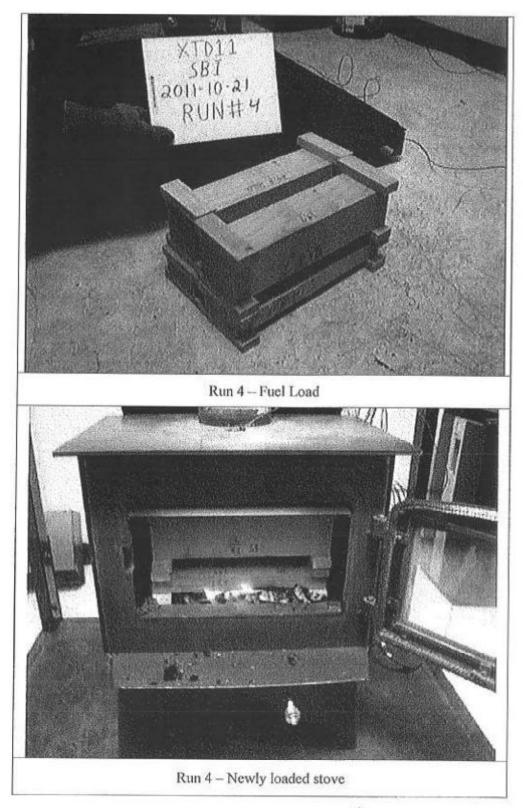
the second se	Appliance Info	
Appliance Type:	2	1 - Catalytic 2 - Non-Catalytic 3 - Pellet 4 - Hydronic
Firebox Volume, ft ³ :	1.55	N/A for pellet type
Convection Blower	2_	1 - No Fan 2 - Optional Accessory 3 - Standard Equipment

£.	Test Settings
Primary Alr:	FULLY OPEH
Secondary Alr:	FIXED
Control Board:	HA
Blower/Fan:	OH LOW AFTER 30 HIH

W - 8:40 AM

	Start-Up Procedure
Loading of fuel, sec. :	SD MC
	CLOSED AT 1.5 min.
Primary air:	COMPLETERY OPEN
Secondary air:	
Control board:	HA
Blower / fan:	OH AT LOW POSITION AT 30' INTO THE TEST

AT	40'	Air inl	ET OPEN	HG OF TU	HHEL	SAVU	phicreases Leases
AT	70-	HIXIHG	BATTLE	OPEHING	SAW	DEC	REASED



16.1. Marga-



TEST FUEL DATA EPA METHOD 5G-3

Project Number:	G100527551
Manufacturer:	S.B.I.
Model:	XTD 1.1
Sample ID Number:	
Test Date:	OCTOBER 21, 2011
Test Run Number:	

Eq. ID No.	531-214	Time:	8:10	Temp., "F:	73.7
Plece No.	Length, In.	Welght, Lb,		sture, %, Dr	
1	10	1.20	23.4	24.2	22.5
2	10	1.25	23,4	24.1	20.2
3	10	1.20	21.2	21.4	19.5
4	10	1.15	20,0	20.9	20.0
5	12	1.75	23,1	23.6	22.4
6	12	1.75	23.7	24.3	23.4
7	15	1.85	23.8	23.1	231
8	15	1.85	23,5	23.8	23.4
9	15	1.85	22,0	22,2	19.3
10					
11					
12					
Total W	eight	13.80	Avera	ge, %db	-

EQ. : 19701

	1	EST FUE	L LOAD F	PROPERTIE	S	
Eq. ID No .:	SB1-	2	Time:	8:30	Temp., *F:	
Piece No.	Length,	Weig	ht, Lb.	Mala	hurs 0/ Day	Deale
FIECE NU.	In.	2x4	4x4	INIOIS	ture, %, Dry	basis
1	14.25	2.05		19.2	19.2	19.2
2	14.25	1,60	•	20.1	19.5	18.4
3	14.25		3.65	20.0	19.2	20.3
4	14.25		3,75	8.21	19.7	20.5
5						
6						
7						
8						
Totals	3	3.65	7.4			
% of Weight		33	67			
Total weight,	wet, lb.	11.0	No. of Concession, Name of Street, or other	Average N	loisture, dry	13,50
Total weight,	dry, kg	4.	Contract of the local division of the local	Average M	loisture, wet	16.38



Supplemental Data EPA Methods 5G and 28

Project Number	G100527551
Manufacturer	S.B.I.
Model	XTD 1.1
Sample ID Number	PRT4140121353 -001
Test Date	OCTOBER 24, 2014
Test Run Number	4-

Sampling Start Time 3	:56	Sampling Stop Time	12:06
Air Velocity (ft/sec)	Initial: <50	Final:	250
Barometric Pressure (in/Hg)	Initial: 23. 4	Final:	23.67
Post - leak Check (cfm @ in/Hg)	Train A: 0.00	Train B;	0.002

Date: 10-25-11	Engineer Signature:	They
		9

SBI-Stove Builder International October 21, 2011 Project No. G100527551

Pre-Burn Data Run 4

÷

	Time								
	Draft								
Scale	weight	2.45	55.88	12.35	9.7	7.14	5.06	3.22	2.56
Unit	Right	70.9	129.4	208.4	290.4	385.4	482.4	583.3	635.6
Unit	L.Side	70.54	133.3	208.8	290.5	372.4	449	537.9	588
Unit	Back	11	204.8	260.9	397	530.5	628.3	683.7	635.6
Unit	Bottom	70.91	90.06	173.1	262.9	358.6	456.4	556.1	554.4
Unit	Top	69.39	273	569.6	728.3	860.4	827.8	828.1	673.1
Tunnel	Dry Bulb	70.04	159	147.8	163	168.5	161.7	155.6	134.5
	Temp								
Flue	Gas	68.63	322.9	580.7	627.1	666.6	636.7	593.6	488

DATA LOGGER WAS SET TO RECORD ON 10- MINUTE INTERVALS, AND WAS UNHBLE TO RECORD FINAL PRE-BORN PATA WHICH OCCURED BETWEEN INTERVALS. FINAL SCALE WEIGHT WAS NOTED TO BE 2.25 16. TEMPERATURES ARE REPRESENTED ON FIRST LINE OF SAMpling DATA.

1/1. Mugz, ETL 2-28-12

11-10-11

and the second se		1	1.1.1.1.1.1	VERSION	12	2/6/2010			11-1-1-1-1				
Manufacturer:	SBI		1										
Model:	XTD 1.1												
Date:	10/21/2011								the state of the				
Run:	4								1.11.11		ALC: N CONTRACTOR		
Project #:	G100527551			and it straight	has been and				((+))(1.000
Test Duration:	130							111110.0			10.000	1111	1.00
	Contact of additional contact	Start	End										
	Barometer (In Hg):	29.65	29.67							(0.000 (0.00)) (0.000			
1 71 7 11 ····· from the follows were served as	Dry Bulb (F):	83	85							monina			
	Humidity (%):	38	39	1. 1. mar. (C. 11. 1. 1								-	
	{				(1-1-) (PE 16) (1							·** ··· · ·	
Moisture content of	wood (wet basis):	16.3821	····			-							
the second s	Average	8.40	10.13	10.04	602.00	84.34	143.53	050.51	454.48	643.41	632.98	665.49	891
					•				-			*	
Elapsed	Weight				Flue	Ream	Tunnel	Unit	Unit	Unit	Unit	Unit	DGH
emiT	Remaining	co	CO2	02	Gas	Temp	Dry Bulb	Top	Back	R.Side	L.Side	Bottom	Readle
0	11.1	0.26	12.60	8.05	435.4	82.8	130.1	564.7	637.1	695.6	500.5	630.3	854.9
10	9.0	0.26	12.50	0.01	092.2	83.0	171.7	839.7	615.7	553.2	667.5	599.6	865.9
20	6.5	0.23	13.47	0.06	733.6	88.4	164.4	083.5	401.0	628.8	6883	633.0	887.0
30	4.4	0.24	13.42	7.39	695.0	85.2	181.9	\$77.6	475.8	725.0	638.6	691.4	888.0
40	3.1	0.25	13.31	7.65	505.5	85.1	168.4	838.9	464.9	774.0	691.4	739.7	659.0
50	2.3	0.27	13.60	7,72	623.7	87.9	158.7	714.8	460.6	768.9	709.5	751.6	690.0
60	1.7	0.27	13.61	7.73	503.7	65.8	150.2	657.6	457.0	747.8	705.8	741.3	801.8
70	1.3	0.28	13.60	7.73	407.3	80.2	135.8	620.4	455.6	700.5	609.4	727.6	892.8
60	1.0	0.27	13.09	7.66	435.2	84.8	129.6	665.8	440.5	618.2	674.9	698.5	893.2
90	0.7	0.50	8.70	7.62	417.6	83.3	124.8	628.0	663.0	610.3	644.7	605.0	894.2
100	0.6	0.00	4.38	13.01	408.3	82.7	123.4	609.6	440.0	008.4	620.6	643.5	805.2
110	0.2	0.71	3.66)	10.13	393.3	82.0	119.6	457.8	438.7	683.6	600.5	623.6	805.2
120	0.0	0.80	3.03	16.79	376.0	64.7	118.3	405.3	437.6	662.7	578.2	699.6	097.3

16 1. Morgan

****		$(a_1,a_2,a_3,a_4,a_5,a_4,a_5,a_6,a_6,a_6,a_6,a_6,a_6,a_6,a_6,a_6,a_6$		++++		**********		····			********	
Manufacturer:	sni				animi	*****	**********				·	
	XTD 1.1				****		*****	(**************		*****		
	10/21/11	*********				*********			*******	********	****	********
Run			*****			********	******			*******	********	
***************	G10052755	41-41-41-41-41-41-41-41-41-41-41-41-41-4										********
i repost in.	010002100	*****	P. 141		*****					*********		********
		********			******	·····						*****
**********	*****			********			****		*****			*******
	****		**** *******			* * *** ++ * * * * * *						
	*********	**********	********	*********		********	******	************		********	**********	********
****		******				11	++ (+)*****	c				
				**********		********	********		*********			
			+++++++++++++++++++++++++++++++++++++++	****	1.1.1		*+18++++++++			*********	******	********
72.74	72.52	80.33	830.10	72.25	72.24	82.07	0.02	-0.068	0.00	612.57		******
				8		*	*	*	Visual		Change In	********
DGM 1	DGM 1	Filter 1	DGM 2	DGM 2	DGM 2	Filter 2	Tunnel	Chimney	Smoke	Stove	Surface	10000
Inlot T	Outlot T	Temp	Reading	Inlet T	Outlet T	Temp	Velocity	Draft	Observed	Temp	Temp.	
71.6	71.6	72.3	823.365	71.3	71.3	73.1	0.020	-0.035		583.6	0	
71.5	71.6	79.6	824.371	71.4	71.3	80.8	0.023	-0.045	and the second second second	615.1	31.5	
72.0	71.7	83.6	825.408	71.5	71.5	84.0	0.021	-0.026		664.7	81.06	
72.5	72.0	83.6	828,480	71.8	71.8	84.0	0.023	-0.080	100000000	701.7	118.04	
72.7	72.3	82.0	827.533	72.0	72.0	84.4	0.020	A REAL PROPERTY AND A REAL PROPERTY.		701.8	118.14	
72.7	72.4	82.7	828.538	72.2	72.2	85.4	0.020	-0.095		681.0	97.4	
73.0	72.7	82.6	829.560	72.4	72.5	84.9	0.020	-0.082		661.9	78.24	
73.0	72.8	81.8	830.592	72.6	72.6	84.4	0.023	-0.082	Sales line	640.7	57.06	
73.2	73.0	80.8	831.617	72.7	72.7	83.0	0.020	-0.078		601.0	17.34	
73.0	72.9	79.6	832,598	72.6	72.5	82.0	0.020	-0.077		580.2	-3.46	
73.2	73.0	79.8	833.715	72.6	72.6	81.4	0.021	-0.074		564.6	-19.08	
73.4	73.2	79.3	834,825	72.9	72.9	80,9	0.021	-0.070		546.9	-36.74	00
73.2	73.2	78.6	835.842	72.8	72.8	80.6	0.021	-0.063		528.7	-54.92	1.020000
73.2	73.2	78.4	836,998	72.8	72.8	A DEL DE LA COMPANY	0.021	-0,062		504.1	-79.5	-79.

1-10-14

		Manufa	cturer:	SBI		**********				
		************	odel:	XTD 1.1						
			Date:	10/21/11			********		** ********	
		***********	Run:	4	****		**********			
		P	roject #:	G1005275	51				**********	
		Test Dura	tion:	***********	130	**********			**********	
	Total Gas V	the set of the set of the set of the late			13,231	Pi	ot Factor	0.82		
	Total Gas V				13,440)			0.99 standar	d,	
	Average Baro	metric Pre	ssure:	***********	29.66		0.84 or C	al. Factor for S-Typ		
			lar Weigł	ht;	28.56				1	
		Pitot Co	prrection:		0.954891641					
	Calibration Fa	ctor (DGN	1 #1):		1.0060					
	Calibration Factor (DGM #2):				1.0030					
				(1) VS:	0.0614					
				(2) VS:	0.0604			Filter	Filtor	
								Faco	Face	
Elapsod	DGM 1	DGM 1	DGM 1	DGM 2	DGM 2	DGM 2	Tunnel	Velocity	Velocity	
Time	Reading	Inlot T	Outlet T	Reading	Inlet T	Outlet T	Dry Bulb	DGM 1	DGM 2	
0	884.946	71.6	71.5	the second is not as a second second of the	71.33	71.32	130.1			
10	885.982	71.8	71.5	Contraction and the state of th	71.36	71.29	171.7	8.84	8.5	
20	887.010	72.0	71.7		71.5	71.5	184.4	8.77	8.8	
30	888.007	72.5	72.0	*****************	71.8	71.84	181.9	8.50	9.12	
40	889.012	72.7	72.3		72.01	72.03	168.4	8.56	8.9	
50	890.055	72.7	72.4	828.538	72.19	72.21	156.7	8.89	8.54	
60	891.104	73.0	72.7	a same and a same a same a s	72.41	72.46	150.2	8.93	8.68	
70	892.160	73.0	72.8	CORPORATION CONTRACTOR	72.56	72.56	135.8	8.99	8.71	
80	893.207	73.2	73.0	for a second second second	72.67	72.68	129.5	8.91	8.7	
90	894.252	73.0	72.9	832.596	72.55	72.51	124.8	8.90	8.32	
100	895.298	73.2	73.0	833.715	72.61	72.6	123.4	8.90	9.50	
110	896.299	73.4	73.2	834.825	72.86	72.87	119.8	8.52	9.42	
120	897.320	73.2	73.2	835.842	72.81	72.78	118.3	8.69	8.64	
130	898.337	73.2	73.2	836.998	72.81	72.75	114.4	8.65	9.82	

16 f. Marg-

	Proportio	nal Rate	Calculatio	ns	(EPA Formu	Ilas from F	PR5G)		
	Stack are	a (#2).	0.34907		Mon	ufacturer:	ISBI		
Mood	moisture (the last is the state of the last of the	16.3821	*******	IVICII	second second and an of second at the second	XTD 1.1	n (n	1 - 1 - 1 - 1 - 1 - 1
ALL HER ALL COLUMN TO THE PR. P. 41 101 1	Veight (lbs	and the server of the part of the server of	11.05			Date:	10/21/11		
		to be to be in the second second second	1.934	*******		Run:	enter a series a series of a s	a na a to the call of a to the call of a	********
Dunin	ate (Dry k	g/nr).	1.934		Dr		A REAL PROPERTY AND A REAL PROPERTY A REAL PROPERTY AND A REAL PROPERTY AND A REAL PRO	664	
Final Tax		(DOM #4	Deerool	Denkin	to be all all all and a second second be being all an age to	oject No.:	G100527	551	
diversity into a state of the second second	a local protection in the second second second	(DGM #1	the first life and the second side and and the first second second	1 march 40 percent 40 ad, 41, 75 61 10 P	532.634				
and the local data in the second s	and the lattice of the lattice sector.	(DGM #2	the last law the shares where an an and the state	Can be up had the second second to be the set of	532.245				251112127
IN MARKED BY AN ADDRESS OF ADDRESS	and the set of the late of set of the set of the	perature	法教育委员 计原则数据 计计算机	(4) (a) (a) (a) (a) (a) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b	603.529		(a) = 10 = 10 = 10 = 10 = 10 = 10 = 10 = 1		
Final Tunnel Velocity (feet per second): Standardized Tunnel Flow (dscfm):				the second secon	8.169013				
Sta	Indardized	I Tunnel F	low (dscf	m):	142.39				*******
	****	Average	Average	10.000 m + 1 1 1 10 10 m + 1			****		- 4
n n han e si d anaa e b	1 1 1 2 2 2 3 1 1 1 2 2 2 2 2	Inlet+	Inlet +	ALM					
	1. 11 h F # 1. 6 11 F # 414	Outlet	Outlet	99.93	99.88	#1	#2		
Tunnel	Tunnel	Tomp.	Temp.	and the second second		dDGM	dDGM		
Velocity	Velocity	Meter 1	Meter 2			Vol.Std.	Vol.Std.		
Delta-P	Ft/Sec	Deg. R	Deg. R	PR1	PR2	(ft3)	(ft3)	Time	
0.020	7.902	531.6	531.3					0	
0.023	8.672	531.7	531.3	99.36	94.76	1.026	0.994	10	
0.021	8.512	531.9	531.5	102.43	101.48	1.017	1.024	20	
0.023	8.742	532.2	531.8	96.29	101.69	0.986	1.058	30	
0.020	8.155	532.5	532.0	101.82	104.79	0.993	1.039	40	
0.020	8.078	532.6	532.2	104.65	99.05	1.031	0.991	50	
0.020	8.036	532.9	532.4	104.64	100.15	1.036	1.007	60	
0.023	8.422	532.9	532.6	98.12	94.19	1.043	1.017	70	
0.020	7.898	533.1	532.7	102.61	98.68	1.034	1.010	80	
0.020	7.867	532.9	532.5	102.03	93.90	1.032	0.965	90	
0.021	8.051	533.1	532.6	99.53	104.60	1.033	1.103	100	
0.021	8.026	533.3	532.9	94.91	103.39	0.988	1.093	110	
0.021	8.016	533.2	532.8	96.70	94.61	1.008	1.002	120	
0.021	7.989	533.2	532.8	96.00	107.19	1.004	1.139	130	a per per de parte de la com

16 1. Marg-

	Intertek Testing Service	205				******
		Lewinggrave	La constant			
	SFBA EPA ADJUSTE	DEMISSION	RESULTS		**********	
	001		****************	RESULT		
anufacturer:	SBI			RESULI	5	
antenna antenna antenna	XTD 1.1		1		1	
Date:	10/21/11		COLDS AND DRIVERSON AND A	ge Adjusted Emis	(市场市场市场),在市场市场市场	4.38
Run:	4		Averag	e Unadjusted Em	the search as a second second at a second	2.88
	G100527551		75333655444	Burn Rate	(Dry kg/hr):	1,93
st Duration (Minutes):	130					
est Duration (Hours):	2.17					
			BAROMET	RIC PRESSU		
		101000000000000000000000000000000000000			Average:	29.60
TEMPERATURE FAC	TORS				Start	29.6
	DGM #1:	0.9913		in many	End:	29.6
	DGM #2:	0.9920				
			DRY GAS M	ETER VALUES		and a state of the state of
VOLUMES SAMPL	ED			DGM #1	Final:	898.33
	DGM #1:	13.238			Initial:	884.94
	DGM #2:	13.447				
				DGM #2	Final:	836.99
TOTAL TUNNEL V	OLUME (scf):	18510			Initial:	823.36
SAMPLE RATIOS			TEMPERA	TURES (DEG.	RANKIN)	
	Train 1:	1398.3			DGM #1:	532.63
	Train 2:	1376.5			DGM #2:	532.25
TOTAL EMISSION		en av erspire de	CALIBRAT	ION FACTOR		
Sample Train		6.43			DGM #1:	1.006
Sample Train 2		6.06			DGM #2:	1.003
1 1	Ave:	6.24				
EMISSION RATES				LOW RATE:		142.4
Sample Train 1 (g/hr):	2,97	P	ARTICULATE		ng)
Sample Train 2 (2.80		Sample	Train 1:	
	Ave:	2.88			Filters	3.
ADJUSTED EMISS	ION RATES	COTTO: SOUTH COTTO: S			Probe	0.
Sample Train 1 (4.49			Total	4.
Sample Train 2 (4.27		Sample	Train 2:	
	Ave:	4.38			Filters	3.
DEV	IATION:	2.49%			Probe	0.
		retain no filharana			Total	4.
		1.0.0				
If deviation is great	er than 7.5% due to lo	w particulate d	atch			
	ates shall not differ by					
	rage emission rate lin		(5g-3)			
Use the following:						
						10010000
Catalytic units		5.33%				
7.5% of 4.1 g/hr		The second s				
and a restar in the second second		2.91%				
Non catalytic units						
Non catalytic units 7.5% of 7.5 g/hr	****					

16 f. Morg-

the stands of the state of the balance of the state	p	period and a second second second second second	Contraction and the second	- pines	ACCORDED AND ADDRESS OF	CARD AND ADDRESS	
REPORT	DATA						
	Client:						
	Run:	and a second s					
	Date:	10/21/11					
Pro		G100527551					
	Model:	XTD 1.1					
Fuel Moisture	(Dry):	19.59166667					
Stack Static (r	neg):	0.1					
Barc	meter:	29.66	111.0.0.000000				
Average Roo	m Temp:	84.34					
1	Concerne and the second	A CONTRACTOR OF CONT		1			
	1 (1) [1] [2] [2] (2] (2] (2] [2] [2] [2] [2] [2] [2] [2] [2] [2] [* (F) * (K * K * () * () (K *			PE-1111-11-11-11-11-11-11-11-11-11-11-11-	1.000.000000000000000000000000000000000
				T			
Change in stov	e temp:	-79.5	2)-14 0 0 5 4 2 4 1 1 1 1			10 H I 1 1 I I I I I I I I I I I I I I I I	
Burn I	Rate:	1.934					
Adjusted Emissio	on Rate:	4.381					
	tem 1:	4.490		1			
	tem 2:	4.272		1			
	ation:	2.49%		1			
Filte	a set of the late of the set of the set of the set	80.33					
Filte	er 2:	82.07					
Tu	nnel:	143.53					
	DGM 1:	72.63					
	DGM 2:	72.25					
Water C	ollected:					1 P II -1 -1 P -1 -1 - P -1 - P II -	
Room	Temp	Bar Pressure		Relative Hu	l Imidity	Air Velo	ocity
Before	After	Before	After	Before	After	Before	After
83	85	29.65	29.67	38	39	0	0
Delta H A	verage						
DGM#1:	0					*******	
DGM#2:	0		A.C. 1 & F. P. M. F. C. 4			1.11.1.1	

14 1. Morg_

SBI-Stove Builder International Project No. G100527551 October 21, 2011 Dillution Tunnel Traverse Data Run 4

VERSION 1.2

Tunnel Static Pressure

2/5/2010

E&E Tunnel Traverse Worksheet

	TUNNEL	TUNNEL	SQUARE	Static Pressure:	
A CENTER	VELOCITY 0.023	135	ROOT 0.1500		
		the second se			
B CENTER	0.020	157	0.1414		
A1	0.020	132	0.1414	PITOT	
A2	0.020	133	0.1414	CONSTANT:	0.9549
A3	0.020	134	0.1414		
A4	0.018	128	0.1323		
B1	0.020	155	0.1414		
B2	0.020	156	0.1414		
B3	0.020	156	0.1414		
B4	0.018	151	0.1323		
AVERAGE	0.01975	143.72	0.1391		
Tunnel Diameter	(in):	8	1		
Tunnel Area (ft	A	0.349066			

-0.1

16.1.Marg-

- o Holiday Weather
- o Marine Forecast
- o Park Report
- o School Day Forecast
- o Ski Report o Stargazing
- Health & Environment o Aches & Pains
 - o Air Quality
 - o Bug Report
 - o Climate Change
 - o Flu Report
 - O Forest Fire Watch
 - o Going Green
 - o Pollen Report
 - o Under the Weather
 - o UV Report
- . C Site Search
- O Location Search

Search content with key GO

Last 24 Hours: Québec, QC

Change » Local Time: Friday, October 21, 2011, 1:32 pm EDT | Local TV: Vidéotron 21

1-10-11

EA

ObservationsUpdated: Friday October 21 2011,13:00 EDT

	Sky	Temp (°C)	Dew Point	Feels Like	Wind (km/h)	Relative Humidity (%)	Pressure (kPa)	Visibility (km)	Ceiling (ft)
FRI 13:00	的					87	100.49-	48	2500
FRI 12:00	(D)	11	8		SW 22	82	100.48—	40	1700
FRI 11:00	Ó	10	8		SW 19	87	100.48	40	1300
FRI 10:00		9	8		SW 22	93	100.45	40	1400

http://www.theweathernetwork.com/index.php?product=obs24h&placecode=caqc0441&ref=qlin... 10/21/2011

	0000)							
FRI 09	1 -) 9	8		SW 20	93	100.41	40	5200
FRI 08	134	9	8	÷	SW 17	93	100.34	40	10000
FRI 07:	1.1) 9	8		SW 15	93	100.26	32	7200
FRI 06:	00) 9	9	2	SW 13	100	100.12-	24	9000
FRI 05:	00	9 9	8		SW 13	93	100.12	24	9000
FRI 04:	00	9	7		SW 15	87	100.08	24	2100
FRI 03:	00 00) ⁹	8	10	W 4	93	100.06	16	1900
FRI 02;	00 00	9	8		S7	93	100.03▲	16	700
FRI 01:	00 0000	9	8		SW 6	93	99.95	16	2600
FRI 00:0	00000	9	8	•	W 9	93	99.91	6.4	2500
THU 23	00 0000	9	9		E 9	100	99.76	6.4	1500
	00 0000	9	8		E 22	93	99.75-	16	2200
	00 000	9	8	-	E 19	93	99.75 	16	2800
THU 20;	00	9	8		E 19	93	99.79₩	16	2200
THU 19:	00 0000	8	8		E 28	100	99.85-	8.0	700
THU 18:	00000	8	8		E 37	100	99.85 v	6.4	800
THU 17:	000000	8	8	•	E 15	100	100.01	13	900
THU 16:	00 (2,36)	9	7		E 46	87	99.83~	13	900
THU 15:0	(0000 000 000 000 000 000 000 000 000 0	8	7		E 43	93	99.93 v	13	700
							16.1.11	long-	
							1.00 to 3		

http://www.thewcathernetwork.com/index.php?product=obs24h&placecode=caqc0441&ref=qlin... 10/21/2011



Run Notes EPA Methods 28 and 5G-3

ı.

Bulin : 0,95 @ 5.27

DT= 33 Coal Bal Range = 2.2-2.7

PROJECT /	TEST INFORMATION
Project Number:	
Manufacturer:	
Model:	XTD 1.1
Sample ID Number:	PRT MI 0121353-001
Test Date:	OCTOBER 24, 20M
Test Run Number;	5
Date tunnel cleaned:	
Purpose of Test	TAH CONFIRMATION

Appliance Information 1 - Catalytic 2 - Non-Catalytic Appliance Type: 2 3 - Pellet 4 - Hydronic Firebox Volume, ft³: N/A for pellet type 1.55 1 - No Fan **Convection Blower** 2 2 - Optional Accessory 3 - Standard Equipment

16. 1. Marg-

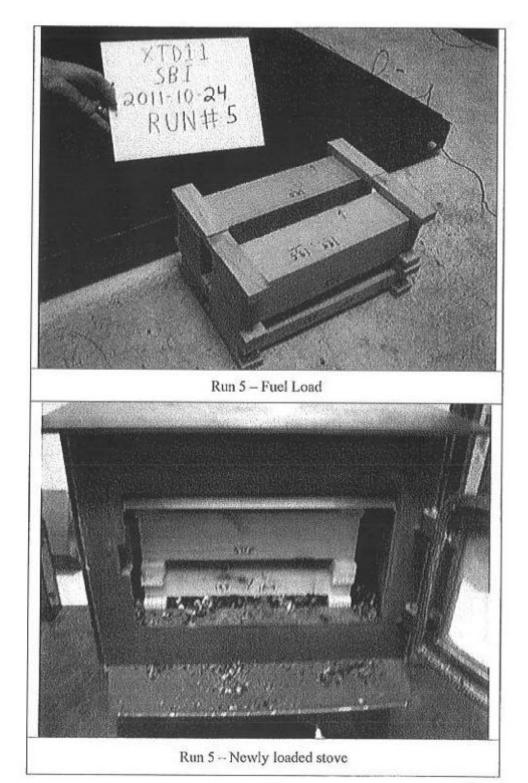
and the second sec	Test Settings	
Primary Air:	Vic"	
Secondary Air:	Fixed	
Control Board:	HVA:	
Blower/Fan:	OFF	

Time	Activity	-
0	S:45AH; The primary air was not at 3/18".	
451	COAL WAS STIRRED.	
1:03R	O.ILD REMOVED WITHIN 20 AC.	
1:412	COAL BED WAS LEVELLED FOR 30 ML.	

Start-Up Procedure					
Loading of fuel, seo. :	55 mc.				
Fuel-loading door :	boon closed at strang. So records				
	Failly open 5 min. Abustly closed at 3/16" at 5 min				
Secondary alr;	Hot adjustable 10				
Control board:	NA				
Blower / fan:	OFF				

Other Notes

1



16. 1. Morg-



TEST FUEL DATA EPA METHOD 5G-3

Project Number:	G100527551
Manufacturer:	S.B.I.
Model:	XTD 1.1
Sample ID Number:	and the second se
Test Date:	001.25, 20M
Test Run Number:	5

HOISTURE HETER BLOCK

Eq. ID No .:	581-214	Time:	8:20	Temp., °F:	94.1
Plece No.	Length, In.	Weight, Lb.	Mol	sture, %, Dr	y Basis
1	15	1.25	13.0-	19.0	-19.2
2	15	1.25	13.1	19.7	18.8
3	15	1.75	24.3	20.6	-22.0
4	15	1.70	200.4	-+8.7	The shirts
6	10	1.10	23.5	231	133
6	10	1.10	23.7	21.7	20.3
7 .	10	1.10	23.4	21.5	23.1
8	10	1.15	21.5	13.3	23.1
9	10.000				
10	111111	2000			1000
11	1.1			C. C	- 1935 <u>2</u> (1988)
12			1000	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
Total We	alght	10.35	Avera	ge, %db	Constant of the

PRE-BURN FUEL PROPERTIES

13.7	13.3	20.3
20.8	13.7	20.2
21.6	23.1	23.4
20.3	21.5	20.3

Eq. ID No .: SB1 -		-14-	Time:	9:55	Temp., °F:	74.1	
Plece No.	Length,	Welg	ht, Lb.	Molsture, %, Dry Basis			
11000 110.	In.	2x4	4x4		ture, %, Dry i	Daala	
1	14.25	1.55		20.0	19.7	19.4	
2	14.25	1.95	St. Sec.	22.1	21.6	21.1	
3	14.25		3.65	13.5	19.0	19,9	
4	14.25		3.95	19.3	18.7	19.9	
6		100.2018	Dialsetti	Set from the			
6	1.5 1.3 1	351.023					
7		1.5.1.1.5.1		12000000	11. 11. 11.		
8	3.1224.6	18-11-20			22912222	1910 1917	
Total	\$	3.5	7.4	///////////////////////////////////////			
% of Weight		32.1	67.9				
Total weight,	wet, lb.	10.9		Average Molsture, dry		20.02	
Total weight,	dry, kg	4.1	2_	Average Moisture, wet		46.68	

10-25-2011



Supplemental Data EPA Methods 5G and 28

	G100527651 S.B.I. XTD 1.1
Test Date	OCTOBER 25, 2010
Test Run Number	5-FAN CONFIRMATION

Sampling Start Time	. <u>33</u> Sa	mpling Stop Time	15.53
Air Velocity (ft/sec)	Initial: <50	Final:	2,50
Barometric Pressure (in/Hg)	Initial: 30,08	Final: 1	29.92
Post - leak Check (cfm @ in/H	g) Train A: 0.004 @5	Train B: _	2.00K@5

Date: 10-25 - 11 Engineer Signature:

SBI-Stove Builder International Project No. G100527551 October 24, 2011

Pre-Burn Data Run 5

÷

Tunnel	nel	Unit	Unit	Unit	Unit	Unit	00		
Dry	Bulb	Top	Bottom	Back	L.Side	Right	weight	Draft	Time
-	61	888	561	674	589	598		-	0
-	18	728	556	677	599	609			10
	17	710	537	649	600	607			20
-	10	669	515	619	610	619			30
	901	659	493	608	622	630			40
	104	591	476	587	623	628			50
	97	520	461	546	598	598			60
	111	462	449	509	563	566			70
	93	416	437	477	530	537			80
	92	388	425	448	501	508			06
	91	370	415	431	479	485			100

1-10-11

DATA LOGGER SET TO RECORD WAS ON 10- MINUTE INTERVALS, AND WAS UNABLE TO RECORD FINAL PRE-BORN PATA WHICH OCCURED BETWEEN INTERVALS. FINAL SCALE WEIGHT WAS NOTED TO BE 2.55 13. TEMPERATURES ARE REPRESENTED ON FIRST LINE OF SAMpling DATA.

1-1. Mage, ETL

2-28-12

				VERSION	1.2	2)5/2010							
Manufacturer:	\$81			Contraction of the local division of the loc	1	- Correla							
Model	XTD 1.1			1-1-1-1-1-1-1-10-								· · · · · ·	
the second s	10/26/2011		**************************************	1.1-11.01.0110			1 A A 4 7 1 4 7 1			0.1.9.5.1.93	****		
	5-Fan Confirmatio	0		ater little	0.00000000	1100.00		(1+1)(0)(1+1)(-1)		10.4140-01-01	10.1.1.1.1.1.1.1		
and the second second is the second	G100527651		ni i em ig			in can care	· · · · · · · · ·		a substant and				
Test Duration:	Contract to Design of the local data and the local			10.000	() - star at							******	
Test Duration.	200	Start	End	minit								·	
	Barometer (in Hg):	30.08	29.92	interest in	1.1			*********	1	titu mati	·····		
	barometer (in,ing);	30,05	19.92	4) 441 m 4 1 m	مير به اعرادي.			10-01		initia (a. 1			
ware and the second second second bar	Contraction of the later of the	-			in anim	ile entres		and the set	main	in the second		mine	
	Dry Bulb (F):	85	84										
	Humidity (%):	30	34				-		timm nes				
										-1.+>	anter a s	Salat and and	
					A contract						a. 14.14	1.1.1	1.
Molsture content of	wood (wet basis):	16.6782		an instant				- manimum					
	Average	1.05	3.93	15.62	204.98	84.90	\$5.11	437.15	348.70	460.23	468.87	474.40	911.0
	the mathematic								· · · ·				
Elapsed		in the second	in sinni		Flue	Room	Tunnel	Unit	Unit	Unit	Unit	Unit	DOM 1
Time	Remaining	CO	CO2	02	Gas	Temp	Dry Belb	Top	Back	R.Side	L.Side	Battom	Reading
	10.00	1.12	2.35	17.05	256.7	85.0	09.0	356.0	410.2	427.2	459.9	475.6	898.38
10	10.05	0.58	2.08	13.67	270.0	63.9	97.2	436.0	397.3	412.0	449.1	450.6	899.35
20	9.62	0.63	2.17	18.26	233.0	83.8	93.6	309.0	383.9	351.0	413.7	421.9	900.35
30	8.28	0.52	0.09	10.71	382.9	84,5	103.7	560,1	358.1	368.3	403.4	417,4	901.37
40	6.96	0,62	0.37	11,10	402.0	87.8	108.3	6.58.6	356.4	435.7	434.8	452.1	902.40
60	5.76	0.60	8.82	11.27	369.5	87.0	105.7	671.4	349.0	495.0	469.5	400.8	903,42
60	4.74	0.62	8.23	12.00	300.6	64.9	105.1	643.6	344.9	\$92.2	612.6	611.6	904.44
70	3.67	0,47	7.61	12.35	351.3	84.8	102.1	625.0	342.0	607.1	646.4	626.6	905.48
80	3,16	0.36	7.26	13,10	335.7	84.0	100.0	603.7	341.0	605.1	665.1	640.7	905.51
90	2.63	0.39	7.01	13.72	327.5	83.9	\$9.6	681.7	343.7	601.8	672.2	853.2	907.65
500	2.11	0.52	5.73	14.38	305.0	84.1	0.90	651.4	346.0	693.0	672.2	659.8	008.59
\$10	1.04	0.93	4.07	15.37	282.0	82.3	65.6	493.3	348.1	665.6	662.8	653.0	909.62
120	1.70	0.84	4.18	15,47	268.3	64.6	\$4.7	461.3	350.3	533.5	663.2	540.6	910.65
130	1.49	1.19	3.37	15.97	256.0	63.0	93.6	434.0	352.0	502.0	637.6	629.4	911.66
140	1.33	1.21	3.21	16.22	247.4	83.9	92.2	414.9	350.5	491.0	620.7	510.1	912.72
150	1,21	1.37	2.05	15.26	240.0	84.8	91.4	399.6	348.0	479.7	505.2	609.1	913.73
160	1.03	1.47,	2.51	10.46	234.4	84.6	90.8	385.2	348.5	467.1	489.6	500.0	914.76
170	0.90	1.77	1,48	17,19	223.5	66.3	91.5	307.1	343.7	430.0	472.3	460.9	915.00
180	0.78	1.52	1.60	17.41	213.6	66.3	90.6	346.1	339.7	415.3	451.2	469.0	915.84
190	0.70	1.42	CONTRACTOR OFFICE	CONTRACTOR DESIGNATION	208.0	85.2	69.6	333.0	335.6	414.0	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
a star of a second of the second seco	provide the second second second second	States - Constants	1.68	17.28,			1	the second second		10-10-10-10-10-10-10-10-10-10-10-10-10-1	431.8	452.8	917.87
200	0.64	1.35	1,89	17,22	204,8	0.05	90.1	324.2	332.2	414.3	410.6	438.9	918.89
210	0.50	1,40	1.78	17.37	200.8	86.2	90.4	316.1	329.3	408.7	404.1	427.8	919.85
	0.48	1,38	1.66	17.68	197.4	85.7	89.8	308.0	326.6	308.3	391.9	417.9	920.91
230	0.22	1.53	1.57	17.69	193.3	85.6	89.5	300.8	323.5	386.2	380.1	407,6	921.94
240	0.36	1,65	1.40	17.86	109.6	84,8	88.5	293.1	320.6	376.6	369.2	307,6	922.97
260	0.45	1,65	1.22	18,12	186.0	84.5	85.2	285.1	316,8	370.4	359.0	366.2	023.99
260	0.00	1.53	1.60	17.89	165.8	84.0	68.1	260.3	312.3	351.7	351.5	375.6	925.015

16 1. Morg-

**********			******	*(****)*)**			1.000.000					*******
Manufacturer:	COL				*********		******				**********	
CONTRACTOR AND A DESCRIPTION OF A DESCRIPTION OF A DESCRIPTION OF A DESCRI	XTD 1.1		il in the second second		مولله عومت		· · · · · · · · · · · · · · · · · · ·					
	10/26/11	**********	******	********			*******					
	11111111111111	Case Base		0.000		****				iniciani.		
	5 Fan Conf	441931411413			horeer	**********	*******					
Project #.	G1005275	H							**********	* = + 1 * + + + + + + + + + + + + + + + + +		
		********		**********	******							
****			+*********	*****								······
		*******		*******								
					171-214444							

70.04	70.00	75 00	050.04									******
72.91	72.92	75.38	850.11	72.65	72.61	76.30	0.02	-0.051	0.00	437.09		
DGM 1	DGM 1	Filter 1	DGM 2		· · · · · · · · · · · · · · · ·	***********		************	Visual	1.499.00.0000000000000000000000000000000	Change In	
Inlet T	Outlet T	Temp	Reading	DGM 2 Inlet T	DGM 2 Outlet T	Filter 2		Chimney	Smoke	Stove	Surface	
71.2	71.2	71.5	838.904	70.8	70.8	Temp	Velocity 0.020	Draft +0.055	Observed	Temp 428.0	Temp.	
71.5	71.3	74.2	837.908	71.0	71.0	72.2	0.020	-0.058		429.2	1.22	**********
71.8	71.6	74.7	838.673	71.3	71.2	***********	0.020	-0.053		388.2	-39.76	********
71.9	71.7	75.6	839.951	71.4	71.4	76.4	0.019	-0.080	-	427.5	-39.70	******
72.1	71.0	76.0	841.002	71.6		1111111000044	0.019	1510 211 230 8000	and a second second		TAXABLE PROPERTY.	
72.1	72.0	76.3	842.003	71.8	71.6	76.8 77.3	0.019	-0.064		467.5 495.1	39.56	
72.3	72.1	76.3	843.022	71.9	A RECEIPTION OF A REPORT	**************************************	1-12830-0189			509.0	***********	*******
72.4	72.3	78.4	844.043	72.0	71.8	77.5	0.019	-0.069		525.4	81.02 97.46	
72.6	72.5	76.3	845.070	72.3	72.3	77.7	0.019	-0.065		529.3	101.34	********
72.8	72.7	76.3	846.093	72.4	72.5	***********	1. Sec. 2 & Trick Acad St 9	CONTRACTOR DATES		530.5	101.54	
72.8	72.8	75.8	847.014	72.6	72.5	77.5	0.019	-0.064		524.7	96.74	
73.1	73.0	75.9	847.953	72.7	***********	*********	***********	PERSONAL PROPERTY AND INCOME.		504.5		
73.3	73.2	76.0	848.993	72.9	72.8	77.2	0.019	-0.061		487.8	76.58	10000
73.2	73.3	75.7	850.016	73.0	73.0	77.0	0.019	-0.050		471.3	43.32	
73.3	73.4	75,5	851.015	73.1	73.1	76.5	0.019	-0.050		459.2	31.2	*******
73.4	73.5	75.2	852.072	73.2	73.2	76.3	0.019	-0.049		448.5	20.54	
73.4	73.5	75.2	853.120	73.3	73.2	76.2	0.019	-0.045		437.7	9.72	
73.5	73.6	75.1	854.148	73.3	73.2	76.2	0.019	-0.044		420.1	-7.84	
73.6	73.6	75.3	855.175	73.3	73.3	76.2	0.020	-0.042		404.3	-23.7	
73.5	73.7	75.3	856.210	73,4	73.3	76.2	0.020	-0.044		393.8	-34.16	*****
73.6	73.7	75.3	857.245	73,4	73.3	76.1	0.019	-0.040		385.2	-42.72	
73.5	73.7	75.2	858.274	73.4	73.3	76.0	0.020	-0.038	in the second	377.2	-50.76	******
73.6	73.7	75.2	859.300	73.4	73.3	76.0	0.020	-0.036		368.5	-59.42	
73.5	73.7	76.1	860,357	73.6	73.4	76.0	0.019	-0.035		359.7	-68.28	**** ****
73.6	73.8	75.2	801.425	73.6	73.6	76.0	0.019	-0.032		351.4	-76.56	
73.5	73.7	76.1	862.404	73.6	73.4	76.9	0.019	-0.032	- amenine	343.5	-84.46	********
73.6	73.7	74.9	883.371	73.5	73.4	75.8	0.019	-0.032		334.3	-93.68	-93.6

16. J. Morgan 11-10-11

		Manut	aluran	CDI					********
		Manufa	the state of the state of the state	ISBI					
			lodel:	XTD 1.1		*********			
			Date:	10/25/11	Group Van			*******	
*****		A	Run:	5-Fan Con					
		· · · · · · · · · · · · · · · · · · ·	roject #:	G1005275	*********************			**********	
	Total Gas V	Test Dura			260 28.624	0	at Feator	0.00	
	Total Gas V				28,372	FI	tot Factor	0.82 0.99 standar	
	Average Barc				30			al. Factor for	
******	Average bare		lar Weigl	L	28.56		0.04 01 04	a. ractor ioi	S-Type)
	*****		orrection:		0.950960349			********	
	Calibration Fa	A CONTRACTOR OF A CONTRACTOR O	which is the second second		1.0060		+++++++++++++++++++++++++++++++++++++++	**************	
*******	Calibration Fa			********	1.0030			*****	
		1		(1) VS:	0.0302		******		
				(2) VS:	0.0305		*****	Filter	Filter
				Alfredding			**********	Face	Face
Elapsed	DGM 1	DGM 1	DGM 1	DGM 2	DGM 2	DGM 2	Tunnel	Velocity	Velocity
Time	Reading	Inlet T	Outlet T	Reading	Inlet T	Outlet T	Dry Bulb	DGM 1	DGM 2
0	898.361	71.2	71.2		70.76	70.75	99.04		
10	899,359	71.5	71.3	837.906	71.02	70.97	97.24	8.62	8.6
20	900.358	71.8	71.5	838.873	71.3	71.24	93.5	8.62	8.3
30	901.371	71.9	71.7	839.951	71.41	71.36	103.7	8.74	9.2
40	902.404	72.1	71.9	841.002	71.62	71.63	108.3	8.91	9.0
50	903.422	72.1	72.0		71.77	71.71	105.7	8.78	8.6
60	904.447	72.3	72.1	843.022	71.87	71.84	105.1	8.84	8.7
70	905.483	72.4	72.3	844.043	72.04	71.95	102.1	8.93	8.7
80]	906.519	72.6	72.5	845.070	72.26	72.25	99.96	8.93	8.8
90	907.551	72.8	72.7	846.093	72.43	72.45	99.78	8.89	8.7
100	908.590	72.8	72.8	A rest of the second second second second	72.56	72.52	98.62	8.95	7.9
110	909.629	73.1	73.0	847.953	72.74	72.77	95.75	8.94	8.0
120	910.653	73.3	73.2	THE R P. LEWIS CO., NAME AND ADDRESS OF ADDRESS OF ADDRESS	72.89	72.92	94.66	8.81	8.9
130	911.684	73.2	73.3		72.98	72.99	93.64	8.87	8.7
140	912.720	73.3	73.4	THE REPORT OF THE REPORT OF THE	73.1	73.08	92.19	8.91	8.5
150	913.733	73.4	73.5		73.18	73.19	91.38	8.72	9.0
160	914.768	73.4	73.5	CONTRACTOR AND A	73.25	73.23	90.79	8.90	8.99
170	915.803	73.5		854.148	73.29	73.24	91.5	8.90	8.8
180	916.840	73.5		855.175	73.34	73.29	90.59	8.92	8.8
190	917.872	73.5	73.7	Contraction and the first state of the	73.38	73.32	89.61	8.88	8.8
200	918.890	73.6	73.7	857.245	73.38	73.34	90.11	8.76	8.8
210	919.880	73.5	73.7	858.274	73.39	73.3	90.44	8.51	8.8
220	920.911	73.5	73.7	CANADAM PROPERTY AND A PROPERTY AND	73.43	73.33	89.83	8.87	8.8
230	921.945	73.5		860.357	73.46	73.41	89.52	8.89	9.07
240 250	922.970 923.992	73.6	计分子 人名英格兰 化电路	861.425	73.6	73.5	88.54	8.81	9.16
		12 61	73 71	862.404	73.46	73.35	88.19	8.79	8.40

16 1. Morga-

********	Proportio	onal Rate (Calculatio	ns	(EPA Form	ulas from P	R5G)		
	Stack are	ea (ft2):	0.34907		Mar	ufacturer:	SBI		
Wood I	moisture (16.6782		1		XTD 1.1		
	Veight (lbs		10.9	*********	1 *	Date:	10/25/11		
	ate (Dry k	the second se	0.951				5-Fan Co	nfirmation	****
*********	1	1		*********	P	roject No.:			
inal Ten	nperature	(DGM #1)	Degrees	Rankin	532.916	0,001110	GIGODEI		
		(DGM #2)			532.626			11 × () + + + + + + + + + + + + + + + + + +	
		perature [555.106	*******		********	******
		city (feet p			7.436032			*********	
		Tunnel F			[42.53]				
		1							
C.V.C.S.		Average	Average				******		101000
		Inlot +	Inlot +				/ - # 1 / * - * + * + * + *	********	******
		Outlet	Outlet	100.03	100.02	#1	#2		
Tunnel	Tunnel	Temp.	Temp.			dDGM	dDGM		
Velocity	Velocity	Motor 1	Motor 2			Vol.Std.	Vol.Std.		
Delta-P	Ft/Sec	Dog. R	Dog. R	PR1	PR2	(ft3)	(ft3)	Time	
0.020	7.520	531.2	530.8					0	
0.020	7.508	531.4	531.0	97.07	98.18	1.000	1.002	10	
0.020	7.483	531.7	531.3	96.80	94.38	1.000	0.966	20	
0.019	7.454	531.8	531.4	100.33	107.54	1.014	1.077	30	
0.019	7.484	532.0	531.6	102.68	105.23	1.034	1.049	40	
0.019	7.467	532.1	531.7	100.94	99.97	1.019	0.999	50	
0.019	7.463	532.2	531.9	101.56	101.69	1.025	1.017	60	
0.019	7.443	532.3	532.0	102.35	101.59	1.036	1.019	70	
0.019	7.429	532.6	532.3	102.11	101.95	1.036	1.024	80	
0.019	7.428	532.8	532.4	101.67	101.50	1.031	1.020	90	
0.019	7.420	532.8	532.5	102.24	91.27	1.038	0.918	100	
0.019	7.401	533.1	532.8	101.92	92.77	1.038	0.936	110	
0.019	7.394	533.2	532.9	100.33	102.62	1.022	1.036	120	
0.019	7.387	533.2	533.0	100.92	100.84	1.029	1.019	130	
0.019	7.378	533.4	533.1	101.25	98.32	1.034	0.995	140	
0.019	7.372	533.4	533.2	98.92	103.94	1.011	1.052	150	
0.019	7.368	533.5	533.2	101.00	102.99	1.033	1.043	160	
0.019	7.373	533.5	533.3	101.06	101.08	1.033	1.023	170	
0.020	7.558	533.6	533.3	98.60	98.34	1.035	1.022	180	
0.020	7.364	533.6	533.4	98.03	99.01	1.030	1.030	190	
0.020	7.557	533.6 533.6	533.4 533.3	99.26	101.62	1.016	1.030	200	
0.020	7.553	533.6	533.4	94.11	98.51	0.988	1.024	210	
0.020	7.360	533.6	533.4	97.96	98.16	1.029	1.021	220	
0.019	7.353	533.7	533.6	100.76 99.78	THE STREET AND ADDRESS OF THE OWNER.	1.032	1.052	230	
0.019	7.351	533.6	533.4	CONTRACTOR AND A DECK	104.68	1.022	1.062	240	
0.010	7.350	533.6	533.5	99.48 99.56	95.95 94.75	1.020	0.974	250 260	

16 1. Margan 11-10-11

			Intertek Testing Servic	Ces				
)****	********		SFBA EPA ADJUSTE	D EMISSION	RESULTS			
				1	1		*********	1011111110
Man	ufacturer:		SBI	[RESULT	S	
*********	1	Model:	XTD 1.1		*********		in a second second	
	1		10/25/11		GRANDAGAN .	Average Adjusted Emi	ssion Role	6142
********			5-Fan Confirmation			verage Unadjusted Em	PARTON DESCRIPTION OF THE PARTY OF THE PARTON OF THE PARTO	31.7/
	P		G100527551	**********	The second second		(Dry kg/hr):	0,91
Test	Duration (a subject to a business of	260		1	1		
	st Duration					**********		
******	1	dissista						
	1		(* * * (*) * * * * * * * * * * * * * *		**********			*********
**********		***********			BARON	METRIC PRESSUR	RE	
*******		**********	*************************				Average:	3
	TEMPERA	URE FAC	TORS				Start:	30.0
		array all all a	DGM #1:	0.9908			End:	29.9
		*******	DGM #2:	0.9913		1		
				CONTRACTOR CONTRACTOR	DRY GAS	METER VALUES		
	VOLUME	S SAMPL	.ED			DGM #1	Final:	925.01
			DGM#1:	26.638			Initial:	898.36
			DGM #2:	26.386				
						DGM #2	Final:	863.37
anne an	TOTAL T	UNNEL V	OLUME (scf):	37059		1	Initial:	836.90
						1		
	SAMPLE	***********			TEMPE	RATURES (DEG.	RANKIN)	
			Train 1:	1391.2		1	DGM #1:	532.92
		Sample	Train 2:	1404.5			DGM #2:	532.63
	TOTAL E	**************			CALIBR	RATION FACTORS	3	
		ole Train 1		16.14			DGM #1:	1.006
	Samp	ole Train 2	2 (g):	16.15			DGM #2:	1.003
			Ave:	16.14		l		
	EMISSIO	at a low a side as a set			TUNNE	L FLOW RATE:		142.5
		Train 1 (3.72		PARTICULATE		ng)
	Sample	Train 2 (Wearstan ++++++++++++++++++++++++++++++++++++	3.73			e Train 1:	
	Canal Contraction		Ave:	3.73			Filters	9.
			ION RATES				Probe	2.
		Train 1 (5.42			Total	11.0
	Sample	Train 2 (Were supported as a set of the second s	5.42			e Train 2:	
		····	Ave:	5.42			Filtors	9.9
		DEV	IATION:	0.03%			Probe	1.0
					Serence .	a martine francession	Total	11.
	warment	manud						
			er than 7.5% due to lov		ntch			
			ates shall not differ by 7					
Samera	or the well	inted ave	rage emission rate limi	(4.1 or 7.5) (og-3)			
2012-02212	Lieo the fe	llouine						and the second second
	Use the fo	nowing:				contract in the second second	less marsa	in diama
	Cotobulia	mite		0.000				
	Catalytic u			0.09%				
	7.5% of 4.	gnar	*******					
	Non cataly			0.05%				

16 1. Marg-11-10-11-

REPOR	DATA						********	
INLI ON	PAIA	****************						
	Client:	SBI						
*******		5-Fan Confirmation						h
	Walks a state and she was	10/25/11			** *****			
	the state of the s							
Pro		G100527551						
-		XTD 1.1						
Fuel Moisture		20.01666667						Į
Stack Static (r		0.0775						I
and the second	meter:	30						[
Average Roo	m Temp:	84.90			1			1
							1	
								1
Change in stove	e temp:	-93.68						
						1		1
								1
Burn	Rate:	0.951					**********	1
Adjusted Emissio	on Rate:	5.422						
Sys	tem 1:	5.420						1
	lem 2:	5.424				*********	***********	
	ation:	0.03%						
Filte		75.36					*****	
Filte	and a set of the set of the	76.30	*********			*********	*********	
PRODUCT AND ADDRESS AND ADDRESS	nnel:	95.11	*******				+-+++++++++++++++++++++++++++++++++++++	
	DGM 1:	72.92						
	DGM 2:	72.63				1	*********	1
Water C		12,00					******	
viator o	Jileoted.	*********************************			-		*******	
Poom	Temp	Bar Pressure		Deletive U	.l.	AirVal	l	
Before	After	Before	After	Relative H Before		Air Vel		
	84	the state of the second st	a series as a series includes as all		After	Before	After	
85	84	30.08	29.92	30	34	0	0	
Dalla								
Delta H A								
DGM#1:	0							
DGM#2:	0			1	1			

1/ 1. Morg-

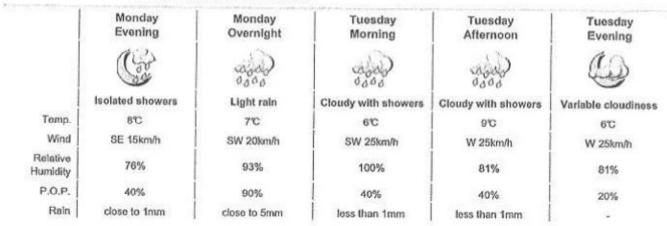
The Weather Network

Weather Forecast: Québec, QC

Current Weather Mon. Oct 24, 2011, 16:00 EDT Jean-Lesage Intl Airport

 Image: Product of the second secon

Short Term Forecast Updated: Mon, Oct 24, 2011, 15:26 EDT



Long Term Forecast Updated: Monday, October 24, 2011, 15:26 EDT

	Tuesday Oct 25	Wednesday Oct 26	Thursday Oct 27	Friday Oct 28	Saturday Oct 29	Sunday Oct 30
Conditions 6am - 6pm	and and	1 Alexandre	5D	1000	1 Good	100
	Cloudy with showers	Cloudy periods	Variable cloudiness	Variable cloudiness	Isolated showers	Variable
P.O.P.	40%	20%	20%	30%	40%	20%
High	9°C	8%	5°C	5°C	5%	5°C
Low	4°C	10	-1'C	-1°C	-2'0	0°C
Wind	SW 25 km/h	W 20 km/h	W 15 km/h	W 20 km/h	SW 10 km/h	W 15 km/h

14.1. Marg-