Innovative Hearth Products
Project #036-S-081-1
Model: Ladera CAT
(AKA: WRT3920WS)
Type: Zero Clearance
Residential Wood Heater

EPA Certification Testing
Method 28R
Certification and Auditing of
Wood Heaters

December 19, 2017

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Non-CBI

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Affidavit:

Dirigo Laboratories, Inc. was contracted by Innovative Hearth Products (IHP) to provide testing services for the Ladera CAT -catalytic wood fired heater per EPA Method 28R for Certification and Auditing of Wood Heaters. All testing and associated procedures were conducted at Dirigo Laboratories, Inc. beginning on 11/7/2017 and ending on 11/9/2017. Dirigo Laboratories is located at 11785 SE Highway 212 – Suite 305, Clackamas, Oregon 97015. Testing procedures followed EPA Method 28R and ASTM E2780-10. Particulate sampling was performed per ASTM E2515-10 *Standard Test Method for Determination of Particulate Matter Emissions Collected by a Dilution Tunnel.* Efficiency testing was conducted using CSA B415.1-10.

Dirigo Laboratories is accredited by the U.S. Environmental Protection Agency for the certification and auditing of wood heaters pursuant to subpart AAA of 40 CFR Part 60, New Source Performance Standards for Residential Wood Heaters and subpart QQQQ of 40 CFR Part 60, Standards of Performance for New Hydronic Heaters and Forced Air Furnaces, Methods 28R, 28WHH, 28 WHH-PTS, and all methods listed in Sections 60.534 and 60.5476. Dirigo holds EPA Accreditation Certificate Numbers 4 and 4M (mobile). Dirigo Laboratories, Inc. is accredited by A2LA to ISO 17020:2012 "Criteria for Bodies Performing Inspections, ISO 17025:2005 "Requirements for Testing Laboratories", and ISO 17065:2012 "Requirements for Bodies Operating Product Certification Systems". Dirigo holds A2LA Certificate Numbers 3726.01, 3726.02, and 3726.03. See Appendix E for Accreditations.

Third Party Services to be provided by PFS-TECO.

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

John Steinert

John Steinert

Douglas Towne

Doug Towne

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Introduction:

Innovative Hearth Products of Nashville, TN contracted with Dirigo Laboratories, Inc. to perform EPA certification testing on the The Ladera CAT (AKA: WRT3920WS) catalytic wood heater. The Ladera CAT heater is classified as a Zero-Clearance Fireplace.

Notes:

- Appliance / catalyst aging was performed by the manufacturer at their facilities prior to the test series. Aging data can be found with the accompanying data files.
- Prior to testing, the dilution tunnel was cleaned with a steel brush.
- Run #'s 1, 2, 3 & 4 were performed with the convection blower in operation.
- Front filters were changed on sample train A at one hour for all runs.

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Wood Heater Identification and Testing:

- Appliance Tested: ***Ladera CAT (AKA: WRT3920WS)***
- Serial Number: ***0001***
- Manufacturer: **Innovative Hearth Products**
- Catalyst: ***Yes***
- Heat exchange blower: ***Integral***
- Type: **Wood Stove**
- Style: Zero Clearance
- Date Received: **Friday, November 03, 2017**
- Wood Heater / Catalyst Conditioning: ***10/26/17 – 11/3/17***
- Testing Period – **Start: Tuesday, November 07, 2017 Finish: Thursday, November 09, 2017**
- Test Location: **Dirigo Laboratories, Inc. 11785 SE HWY 212 - Suite 305, Clackamas, OR 97015**
- Elevation: **≈131 Feet above sea level**
- Test Technician(s): **Doug Towne, John Steinert**
- Observers: **Matthew Romanow**
- Third Party Services provided by: **PFS-TECO**

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Test Procedures and Equipment:

All Sampling and analytical procedures were performed by John Steinert and Doug Towne. All procedures used are directly from EPA Method 28R, CSA B415.10, ASTM E2780-10 and ASTM E2515-10. See the list below for equipment used. See Appendix D for calibration data.

Equipment List:

1. Analyzer -California Analytical ZRE CO2/CO/O2 IR ANALYZER
2. Delmhorst J-2000 Wood Moisture Meter
3. Dayton 4c121 Blower for dilution tunnel -Emissions Booth #1
4. Sartorius ENTRIS224-IS Balance Scale
5. 10 lb Calibration Weight
6. DigiWeigh Bench Shipping Scale
7. APEX XC-60 Digital Emissions Sampling Box A
8. APEX XC-60 Digital Emissions Sampling Box B
9. APEX Ambient sampling box
10. Gast MOA-P122-AA Vacuum Pump
11. Rice Lake 3'x3' floor scale w/digital weight indicator

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Results:

The weighted average emission rate is **1.8 g/hr** with a weighted average efficiency of **65.1%**. The Innovative Hearth Products – Ladera CAT catalytic wood heater meets the 2020 PM emission standard of ≤ 2.0 g/hr per CFR 40 part 60, §60.532 (b).

Detailed individual run data can be found in separate digital folders supplied with this report.

Emissions:

EPA Method 28 - Weighted Average

DIRIGO LABORATORIES INC.

Weighted Average: 1.8 (g/hr)

Client: IHP
Model: Ladera
Tracking No.: 081
Project No.: 036-S-081-1
Test Dates: November 7-8, 2017

Burn Rate Category	2	Burn Rate Category	2
Burn Rate (kg/hr-dry)	1.00	Burn Rate (kg/hr-dry)	1.10
Emissions Rate (g/hr)	2.4	Emissions Rate (g/hr)	1.5
Emissions Rate Cap (g/hr)	15	Emissions Rate Cap (g/hr)	15
Weighting Factor	30.36%	Weighting Factor	30.36%
Run Number	2	Run Number	1

Burn Rate Category	3	Burn Rate Category	4
Burn Rate (kg/hr-dry)	1.70	Burn Rate (kg/hr-dry)	1.90
Emissions Rate (g/hr)	1.6	Emissions Rate (g/hr)	1.4
Emissions Rate Cap (g/hr)	18	Emissions Rate Cap (g/hr)	18
Weighting Factor	28.71%	Weighting Factor	10.56%
Run Number	4	Run Number	3

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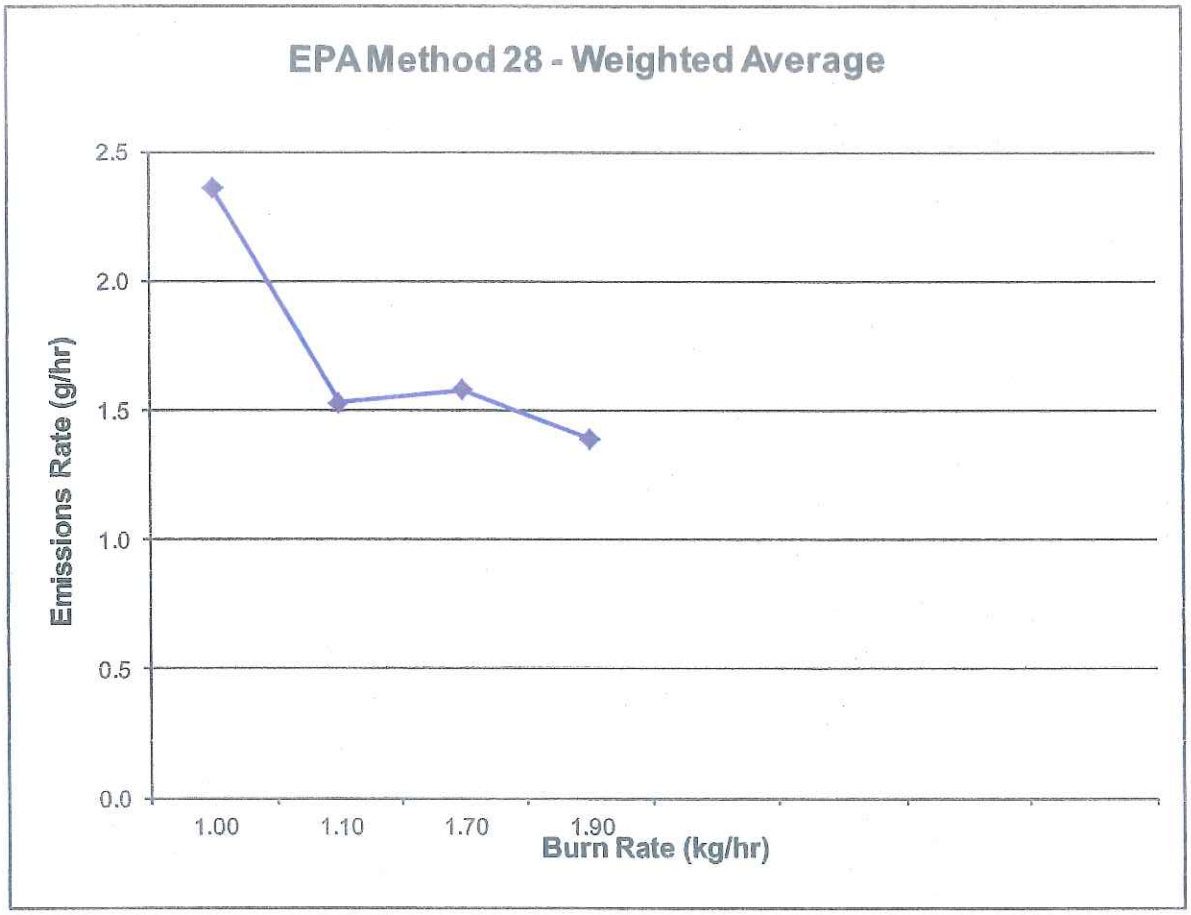
EPA Method 28 - Weighted Average

DIRIGO LABORATORIES INC.

Client: IHP
Model: Ladera
Tracking No.: 081
Project No.: 036-S-081-1
Test Dates: November 7-8, 2017

Signature/Date: _____



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Efficiency:

CSA B415.1-10 Weighted Average

DIRIGO LABORATORIES INC.

Weighted Average: 65.1 %

Client: Innovative Hearth Products
Model: Ladera CAT
Tracking No.: 81
Project No.: 036-S-081-1
Test Dates: 11/7-9/2017

Burn Rate Category	2	Burn Rate Category	2
Burn Rate (kg/hr-dry)	1.00	Burn Rate (kg/hr-dry)	1.10
OA Efficiency %	65.9	OA Efficiency %	65.1
Emissions Rate Cap (g/hr)	15	Emissions Rate Cap (g/hr)	15
Weighting Factor	30.36%	Weighting Factor	30.36%
Run Number	2	Run Number	1

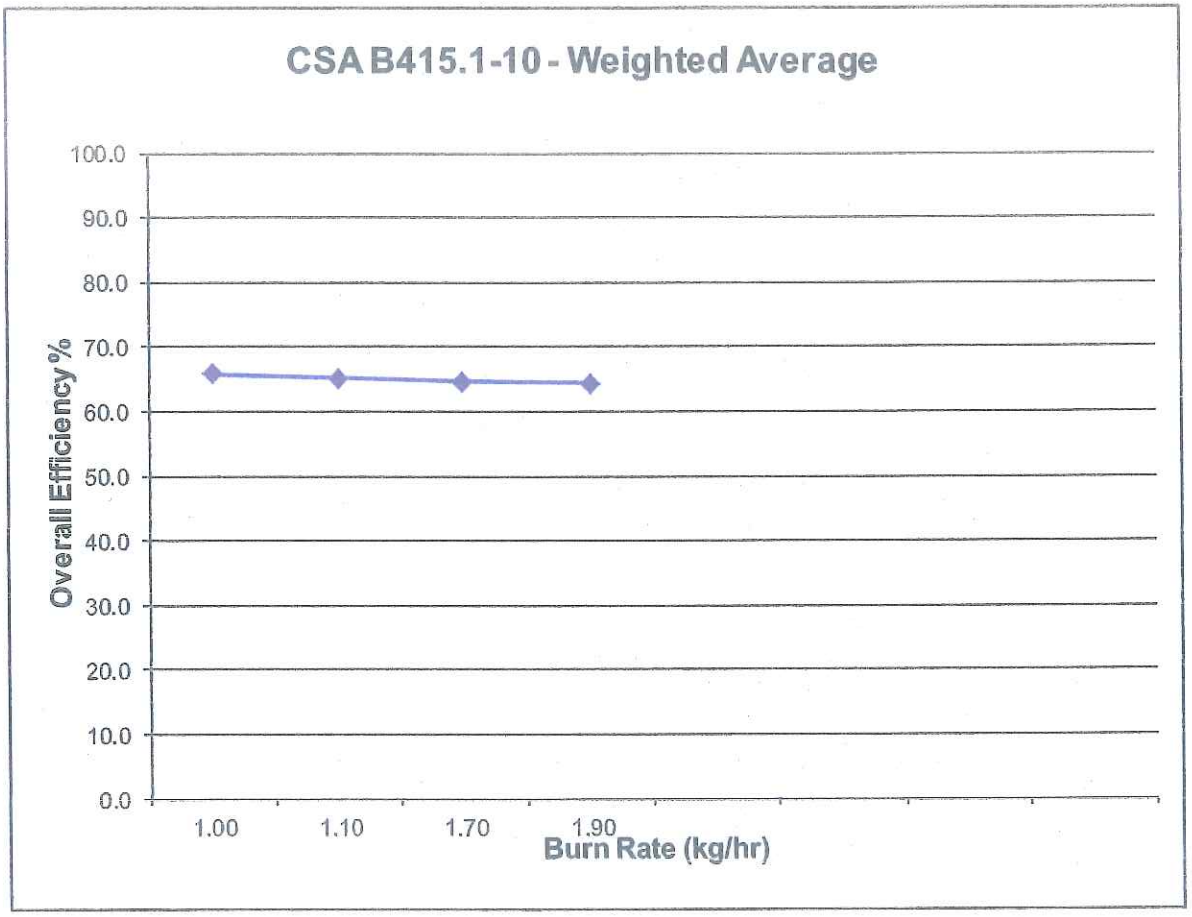
Burn Rate Category	3	Burn Rate Category	4
Burn Rate (kg/hr-dry)	1.70	Burn Rate (kg/hr-dry)	1.90
OA Efficiency %	64.5	OA Efficiency %	64.2
Emissions Rate Cap (g/hr)	18	Emissions Rate Cap (g/hr)	18
Weighting Factor	28.71%	Weighting Factor	10.56%
Run Number	4	Run Number	3

Non CBI

CSA B415.1-10 - Weighted Average

DIRIGO LABORATORIES INC.

Client: Innovative Hearth Products
Model: Ladera CAT
Tracking No.: 81
Project No.: 036-S-081-1
Test Dates: 11/7-9/2017



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Summary Table:

Category 2 < 1.00 kg/hr		Category 2 0.80 to 1.25 kg/hr		Category 3 1.25 to 1.90 kg/hr		Category 4 Maximum	
Run Number	**2**	**Run Number**	**1**	**Run Number**	**3**	**Run Number**	**4**
Emissions Rate g/hr	2.36	Emissions Rate g/hr	1.53	Emissions Rate g/hr	1.39	Emissions Rate g/hr	1.58
Burn Rate kg/hr	1.0	Burn Rate kg/hr	1.1	Burn Rate kg/hr	1.9	Burn Rate kg/hr	1.69
BTU/hr (HHV)	12,934	BTU/hr (HHV)	13,703	BTU/hr (HHV)	22,847	BTU/hr (HHV)	20,487
CO g/hr	14.89	CO g/hr	6.59	CO g/hr	12.29	CO g/hr	10.02
OA Efficiency (HHV)%	65.9	OA Efficiency (HHV)%	65.1	OA Efficiency (HHV)%	64.2	OA Efficiency (HHV)%	64.5

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Process Operations and Description:

The appliance was operated according to procedures as described in the Operations Manual. Primary air supply settings, fuel bed adjustments, test fuel properties, test fuel configuration and loading density are as described below. All draft measurements for all runs were less than 1 ft^3 per minute. This appliance could not achieve a category 1 burn rate resulting in the use of two category 2 runs with one run being 1.0 kg/hr or less. This unit utilizes a fixed stop to achieve the low burn rate which cannot be changed by the consumer thus satisfying the requirement.

Run Summaries:

Run #1:

Run 1, performed on November 7, 2017 was a Category 2 attempt and achieved a burn rate of 1.1 Kg/hr. Prior to the start of the test run, the pre-burn was started with the fan turned on and the primary air set to the low position for 1 hour. After the 1 hour pre-burn, the test was started. During the test start, the door was cracked open for 20 seconds then shut. The primary air was set to the high position for 5 minutes and then set to the low setting at the 5 minute mark. The fan was turned on at the 30 minute mark. At 1-hour, the front filter in Train A was changed. The test run time was 240 minutes. This satisfied the upper end of the requirement for using 2 runs within the category 2 burn rate. No deviations or anomalies to the test were observed.

Run #2:

Run 2, performed on November 8, 2017 was a category 2 attempt and achieved a minimum burn rate of 1.0 kg/hr. There is a positive stop that prevents the stove from being operated at a lower burn rate. This positive stop meets the Method 28 requirement for performing two Category 2 runs in lieu of a Category 1 and Category 2.

Prior to the start of the test run, the pre-burn was started with the fan turned on and the primary air set to the low position for 1 hour. After the 1 hour pre-burn, the test was started. Upon starting the test, the door was shut, the primary air was set to the high position for 5 minutes and then set to the low setting at the 5 minute mark. The fan was turned on at the 30 minute mark. At 1-hour, the front filter in Train A was changed. The test run time was 250 minutes. This satisfied the required burn rate of 1kg/hr or less for using 2 runs within the category 2 burn rate. No deviations or anomalies to the test were observed.

Run #3:

Run 3, performed on November 8, 2017 was a category 4 with a burn rate of 1.9 kg/hr. Prior to the start of the test run, the pre-burn was started with the fan turned on and the primary air set to the full open position for 1 hour. After the 1 hour pre-burn, the test was started. Upon starting the test, the door was open for 1 minute with the primary air set to the high position. The fan was turned on at the 30 minute mark. At 1-hour, the front filter in Train A was changed. The test run time was 150 minutes. No deviations or anomalies to the test were observed.

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Run #4:

Run 4, performed on November 9, 2017 was a category 3 with a burn rate of 1.7 kg/hr. Prior to the start of the test run, the pre-burn was started with the fan turned on and the primary air set to the medium high position for 1 hour. After the 1 hour pre-burn, the test was started. Upon starting the test, the door was cracked open for 2 minutes with the primary air set to medium high position, with a measured opening of 0.867". The fan was turned on at the 10 minute mark. At 1-hour, the front filter in Train A was changed. The test run time was 160 minutes. No deviations or anomalies to the test were observed.

One Hour Particulate Data:

Run Number	Total Estimated PM Emissions at 1 hour
1	3.9 g/hr
2	7.0 g/hr
3	2.2 g/hr
4	2.3 g/hr

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Filter Catch:

Run 1:

Project #	036-S-81-1	MFG	IHP
Run #	EPA1	Model	Ladera
Date	11/7/17		

Train A First Hour

Front	Rear	Filter #	Tare	Final	Net
☑		3154	0.1179	0.1218	0.0039
☐	☑	3155	0.1173	0.1174	0.0001
☑	☐	3159	0.1182	0.1185	0.0003
☐	☐	O Ring	3.5737	3.5742	0.0005
☐	☐	O Ring			
					4.8 mg

Train B

Front	Rear	Filter #	Tare	Final	Net
☑	☐	3156	0.1185	0.1226	0.0041
☐	☑	3157	0.1189	0.119	0.0001
☐	☐	O ring	3.5093	3.5103	0.001
☐	☐	O ring			
					5.2 mg

Nozzle

#	TARE	FINAL	Net	
8A	116.8294	116.8296	0.0002	0.2

Nozzle

#	TARE	FINAL	Net	
8B	116.8251	116.8255	0.0004	0.4

Train A Total Catch	5	Train B Total Catch	5.6

Ambient

Filter #		Tare	Final	Net	Vol (liter)
3158		0.117	0.1171	1E-04	1112.444
O ring		1.6525	1.6525	0	
			Total	0.0001 mg	

0

Notes: Weights on 11/16/17 @ 4:00 PM. 68 °F, 10% RH (filters + rings); 68 °F, 10% RH (probes).

Run 2:

Project #	036-S-081-1	MFG	IHP
Run #	EPA2	Model	Ladera CAT
Date	11/16/17		

Train A First Hour

Front	Rear	Filter #	Tare	Final	Net
☑		3160	0.1191	0.1261	0.007
☐	☑	3161	0.1166	0.1166	0
☑	☐	3165	0.1183	0.1185	0.0002
☐	☑	O Ring	3.5261	3.5269	0.0008
☐	☐	O Ring			
					8 mg

Train B

Front	Rear	Filter #	Tare	Final	Net
☑	☐	3162	0.1184	0.1249	0.0065
☐	☑	3163	0.1184	0.1188	0.0004
☐	☐	O ring	3.5484	3.5498	0.0014
☐	☐	O ring			
					8.3 mg

Nozzle

#	TARE	FINAL	Net	
1A	115.6266	115.6269	0.0003	0.3

Nozzle

#	TARE	FINAL	Net	
1B	115.9009	115.9015	0.0006	0.6

Train A Total Catch	8.3	Train B Total Catch	8.9

Ambient

Filter #		Tare	Final	Net	Vol (liter)
3164		0.1169	0.1169	0	1250.378
O ring		1.6584	1.6586	0.0002	
			Total	0.2 mg	

0

Notes: Weights on 11/16/17 @ 4:00 PM. 68 °F, 10% RH (filters + rings); 68 °F, 10% RH (probes).

Non CBI

Run 3:

Project #	036-S-081-	MFG	IHP
Run #	EPA3	Model	Ladera CAT
Date	11/16/17		

Train A First Hour

Front	Rear	Filter #	Tare	Final	Net
☑		3166	0.1189	0.1211	0.0022
☐	☑	3167	0.1179	0.1177	0
☑	☐	3171	0.1185	0.1184	0
☐	☑	O Ring	3.5605	3.5619	0.0014
☐	☐	O Ring			
					3.6 mg

Train B

Front	Rear	Filter #	Tare	Final	Net
☑	☐	3168	0.1192	0.1205	0.0013
☐	☑	3169	0.1188	0.1185	0
☐	☐	O ring	3.5619	3.5634	0.0015
☐	☐	O ring			
					2.8 mg

Nozzle

#	TARE	FINAL	Net	
2A	116.2379	116.2372	-0.0007	0

Nozzle

#	TARE	FINAL	Net	
2B	116.3283	116.3285	0.0002	0.2

Train A Total Catch: 3.6

Train B Total Catch: 3

Ambient

Filter #		Tare	Final	Net	Vol (liter)
3170		0.1182	0.1181	-0.0001	695.257
O ring		1.6796	1.6799	0.0003	
			Total	0.2999 mg	

0

Notes: Weights on 11/16/17 @ 4:00 PM. 68 °F, 10% RH (filters + rings); 68 °F, 10% RH (probes).

Run 4:

Project #	036-S-081-1	MFG	IHP
Run #	EPA4	Model	Ladera CAT
Date	11/16/17		

Train A First Hour

Front	Rear	Filter #	Tare	Final	Net
☑		3172	0.1192	0.1215	0.0023
☐	☐	3173	0.1189	0.1186	0
☑	☐	3177	0.1171	0.1174	0.0003
☐	☑	O Ring	3.5647	3.5659	0.0012
☐	☐	O Ring			
					3.8 mg

Train B

Front	Rear	Filter #	Tare	Final	Net
☑	☐	3174	0.1179	0.1198	0.0019
☐	☑	3175	0.1176	0.1175	-0.0001
☐	☐	O ring	3.5759	3.578	0.0021
☐	☐	O ring			
					3.9 mg

Nozzle

#	TARE	FINAL	Net	
6A	116.5651	116.5648	-0.0003	0

Nozzle

#	TARE	FINAL	Net	
6B	116.1174	116.1172	-0.0002	0

Train A Total Catch: 3.8

Train B Total Catch: 3.9

Ambient

Filter #		Tare	Final	Net	Vol (liter)
3176		0.1181	0.1182	0.0001	740.889
O ring		1.6777	1.6779	0.0002	
			Total	0.2001 mg	

0

Notes: Weights on 11/16/17 @ 4:00 PM. 68 °F, 10% RH (filters + rings); 68 °F, 10% RH (probes).

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Test Condition Summary:

All testing conditions for runs 1,2,3,&4 fell within allowable specifications of Method – 28R. ASTM E2780-10, ASTM E2515-10. A summary of facility conditions, surface temperature averages, temperature averages, pre-test fuel weights, test fuel charge weights and run times is listed below in Table 4. Before and after each test run, measured air velocities were less than 1ft/sec.

Runs	Ambient (Deg. F)		Relative Humidity (%)		Average Surface Temp. (Deg. F)		Barometric Pressure (In. Hg.)	Pre-Test Fuel End Wt. (Lbs.)	Test Fuel Charge Wt. (Lbs.)	Test Fuel Moisture %(Dry Basis)	Run Time (Min.)
	Pre	Post	Pre	Post	Pre	Post					
1	70	69	61	61	400	374	30.2	2.5	12.1	22.58	240
2	68	71	61	61	380	325	30.2	2.7	11.9	24.19	250
3	74	75	63	63	441	417	29.8	2.8	12.6	20.76	150
4	71	73	63	63	506	417	29.8	3.0	12.1	21.78	160

Heater Specifications:

Dimensions, firebox configuration, air supply locations, air introduction locations, and baffle locations of the wood heater are referenced below.

Heater Dimensions

Heater Dimensions				
Height	Width	Depth	Firebox Volume	Weight
28-3/32	28-3/16	13-5/16	1.68	243

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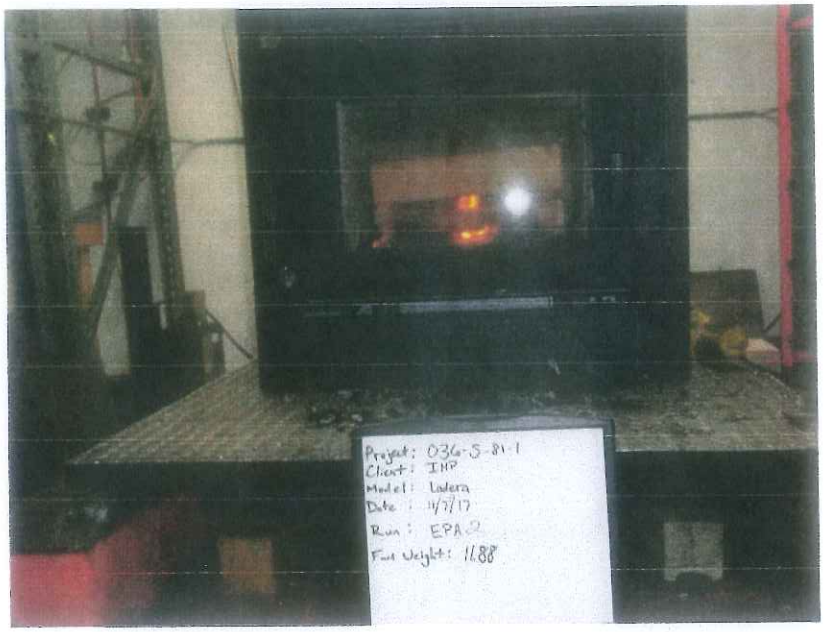
Front



Left & Rear

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Right

Non CBI

Primary Air Control and Settings

CBI

Non CBI

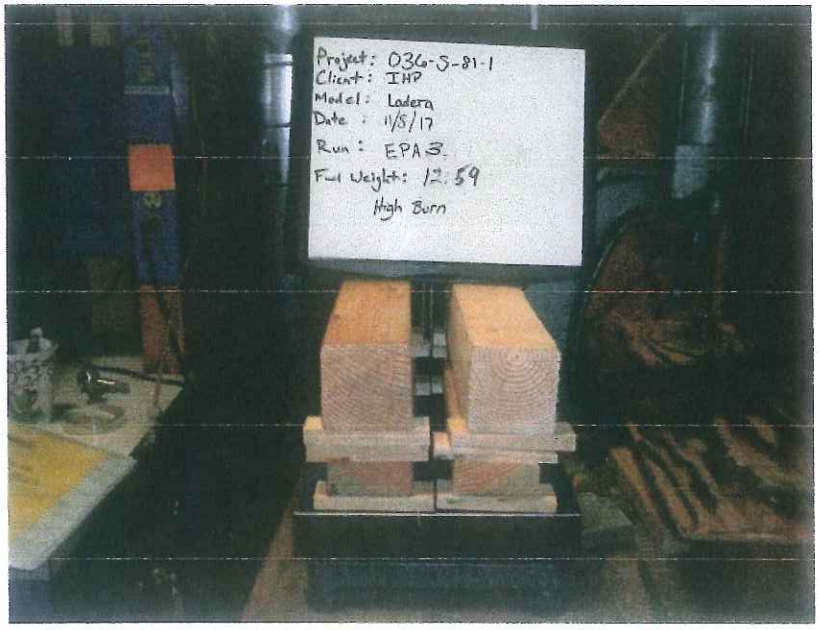
Air Flow Schematic

CBI

Non CBI

Fuel Load Run #2

Fuel Load Run #3



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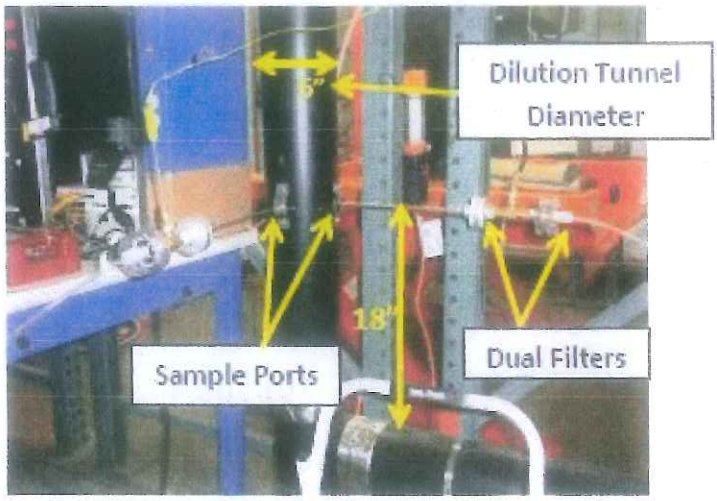
Fuel Load Run #4

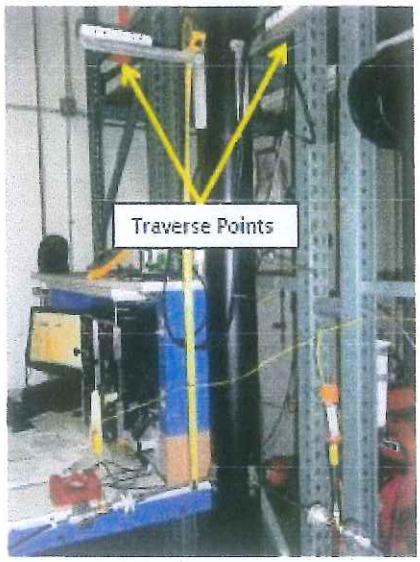
Non CBI

Sampling Locations and Descriptions:

Sample ports are located 16.5 feet downstream from any disturbances and 1 foot upstream from any disturbances. Flow rate traverse data was collected 12 feet downstream from any disturbances and 5.5 feet upstream from any disturbances. (See below)

Sample Points





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Sampling Methods:

ASTM E2515-11 was used in collecting particulate samples. The dilution tunnel is 6 inches in diameter. All sampling conditions per ASTM E2515-11 were followed. No alternate procedures were used.

Sampling and Analytical Procedures

All sampling and analytical procedures used followed EPA Method 28R. ASTM E2780-17, ASTM E25115-11.

Analytical Methods Description:

All sample recovery and analysis procedures followed ASTM E2515-11 procedures. At the end of each test run, filters, gaskets and probes were removed from their housings, dessicated for 24 hours, and then weighed to a constant weight per Method 5 section 11.0.

Calibration, Quality Control and Assurances:

Calibration procedures and results were conducted per EPA Method 1 through 5 and Method 28.

Test method quality control procedures (leak checks, volume meter checks, stratification checks, proportionality results) followed the procedures outlined in Method 5.

Appliance Sealing and Storage:

Following securing with metal strapping and the seal below, the appliance was placed into storage at client facilities located at: 1502 14th St. NW, Auburn, WA 98001

Non CBI

Sealing Label

ATTENTION:

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

THIS APPLIANCE HAS BEEN SEALED IN ACCORDANCE WITH REQUIREMENTS OF 40 CFR PART 60 SUBPART AAA §60.535(g)

REPORT #_____ **DATE SEALED**_____

MANUFACTURER_____ **MODEL #**_____

Sealed Unit

Non CBI

Appendices:

Appendix A:

Sampling and Analytical Procedures

All Sampling and analytical procedures were performed by Jeremy Clark, Douglas Towne and John Steinert. All procedures used are directly from EPA Method 28R, ASTM 2515-11 and ASTM E2780-10. No alternative procedures were used for this test series.

Appendix B:

Participants

The following personnel performed all testing.

- John Steinert, Doug Towne

Analysis and Report Writing

The following people were involved with analysis and report writing.

- John Steinert, Jeremy Clark, Doug Towne

Observers:

The following people were observers during testing:

- Matthew Romanow

Appendix C:

Appliance Updates

- No updates to the appliance were made.

Non CBI

Appendix D:

Test Equipment Calibration Audit:

- Calibrations for the platform scale and bench scale were performed with Certified Class F weights
- Moisture meter calibration was performed with Delmhorst moisture meter calibrator
- Gas Analyzer calibration performed with certified EPA Protocol gases
- 47mm filters weighed to a constant weight with calibrated analytical balance
- All equipment calibration data submitted in separate digital file along with this report.

Appendix E:

EPA Certifications:

CERTIFICATE OF ACCREDITATION

This certifies that:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Dirigo Laboratories, Inc.

Has satisfied the requirements for laboratory accreditation for the certification of wood heaters pursuant to subpart AAA of 40 CFR Part 60, New Source Performance Standards For Residential Wood Heaters and subpart QQQQ of 40 CFR Part 60, Standards of Performance for New Hydronic Heaters and Forced Air Furnaces.

October 21, 2015 - October 21, 2020
EFFECTIVE DATE

MEASUREMENT TECHNOLOGY GROUP
GROUP LEADER

Methods 28R, 28 WHH, 28 WHH-PTS
All Methods listed in Sections 60.534 and 60.5476
METHODS

4
CERTIFICATE NUMBER

Non CBI

Accredited Laboratory

A2LA has accredited

DIRIGO LABORATORIES, INC.

Clackamas, OR

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Presented this 24th day of July 2017.

President and CEO
For the Accreditation Council
Certificate Number 3726.01
Valid to December 31, 2018

For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.

Non CBI

DIRIGO LABORATORIES INC.

Weighted Average: 1.8 (g/hr)

Client: IHP
Model: Ladera
Tracking No.: 081
Project No.: 036-S-081-1
Test Dates: November 7-8, 2017

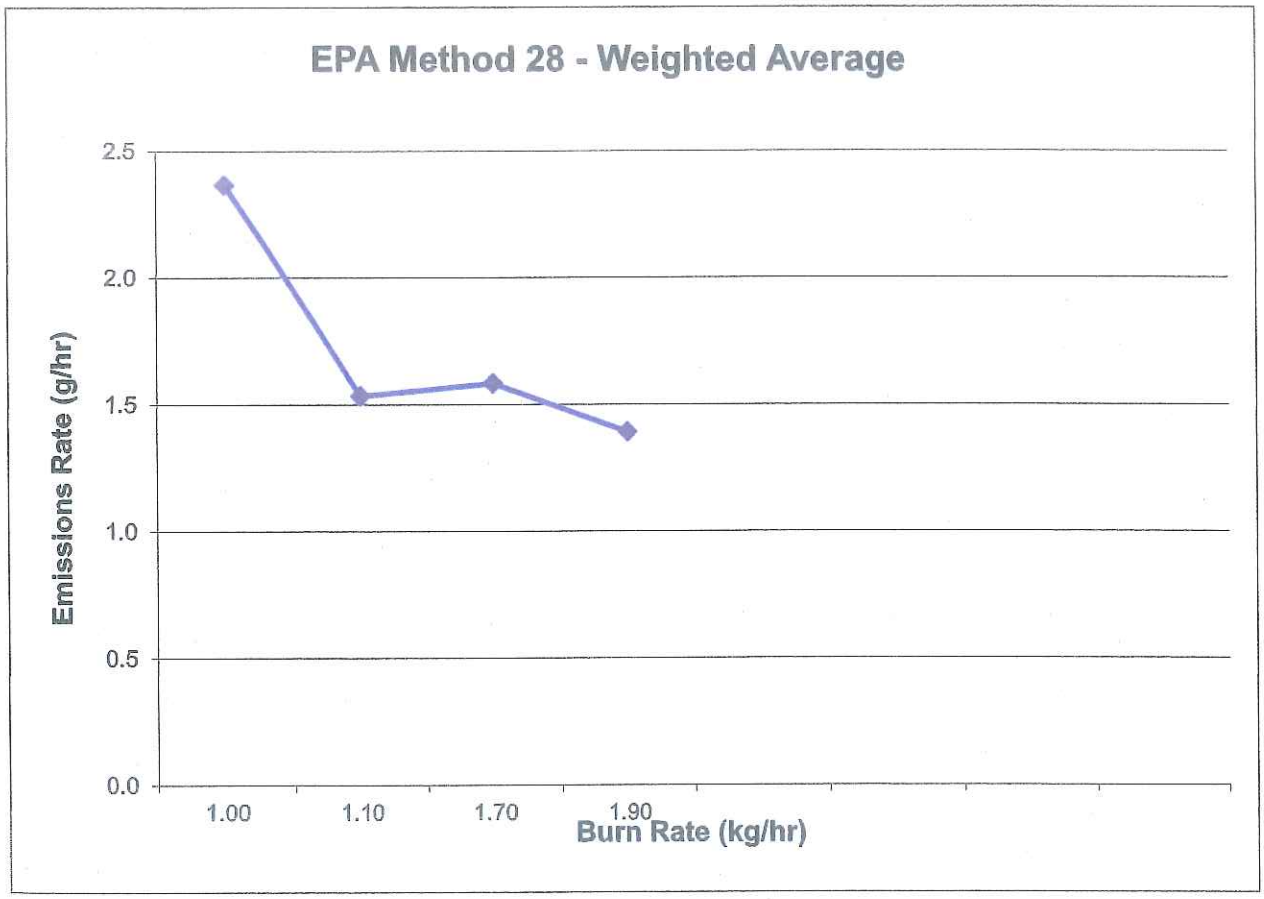
Burn Rate Category	2	Burn Rate Category	2
Burn Rate (kg/hr-dry)	1.00	Burn Rate (kg/hr-dry)	1.10
Emissions Rate (g/hr)	2.4	Emissions Rate (g/hr)	1.5
Emissions Rate Cap (g/hr)	15	Emissions Rate Cap (g/hr)	15
Weighting Factor	30.36%	Weighting Factor	30.36%
Run Number	2	Run Number	1

Burn Rate Category	3	Burn Rate Category	4
Burn Rate (kg/hr-dry)	1.70	Burn Rate (kg/hr-dry)	1.90
Emissions Rate (g/hr)	1.6	Emissions Rate (g/hr)	1.4
Emissions Rate Cap (g/hr)	18	Emissions Rate Cap (g/hr)	18
Weighting Factor	28.71%	Weighting Factor	10.56%
Run Number	4	Run Number	3

DIRIGO LABORATORIES INC.

Client: IHP
Model: Ladera
Tracking No.: 081
Project No.: 036-S-081-1
Test Dates: November 7-8, 2017

Signature/Date: _____



PREBURN

JOB # 036-S-81-1
TECHNICIAN JDS-DT
DATE: 11/9/17
RUN #: EPA4
READING INTERVAL: 10

Model Designation Ladera

	Tunnel Traverse Information								
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.045	0.046	0.046	0.047	0.046	0.048	0.049	0.048	0.047
Temperature	102	102	102	102	102	102	102	102	102.000

Run Time: 60

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
0	11.6	-0.083	380	380	412	614	330	423.2
10	9.9	-0.079	298	427	450	708	335	443.6
20	8	-0.088	332	488	500	816	343	495.8
30	6.1	-0.094	380	562	573	886	344	549
40	4.5	-0.09	412	628	623	898	345	581.2
50	3.3	-0.078	422	670	654	754	356	571.2
60	3	-0.068	398	639	618	582	367	520.8

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Tunnel Velocity: 15.14611 ft/sec.
Intial Tunnel Flow: 159.8702 scfm
Average Tunnel Flow: 157.077 scfm

Notes:

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
			374.5714		547.1429			

Run #	EPA4
Date:	11/9/17

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Dilution Tunnel Traverse Data									
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.045	0.046	0.046	0.047	0.046	0.048	0.049	0.048	0.047
Temperature	102	102	102	102	102	102	102	102	102.000

Tunnel Velocity:	15.146	ft/sec.
Intial Tunnel Flow:	159.87	scfm
Average Tunnel Flow	157.08	scfm

JOB #	036-S-81-1																
TECHNICIA	JDS-DT							ROOM TEMP (F)		71.0			BEG	MID	END	AVG	
DATE:	11/9/2017								BAROMETRIC				29.8	29.8	29.8	29.8	
RUN #:	EPA4																
READING INTERVAL:		10															
SAMPLE BOX :		A	METER Y FACTOR:		1.011					PROBE MATERIAL:			SS				
FRONT FILTER #:		3172	[redacted]			REAR FILTER #	REAR FILTER #:		3173	[redacted]							
FINAL LEAK RATE (CFM):		<0.01	@	19	IN-HG		FINAL LEAK RATE (CFM)		<0.01	@	19	IN-HG					
Run Time:		160		AMBIENT FILTER #:			3176	VOLUME	740.889	LITERS	FUEL MOISTURE DB			21.78	%		
				FINAL LEAK RATE (CFM):			<0.01	@	19	IN-HG							
TEST START TIME:										1	2	3	4	5	6		
										TEMPERATURES							
	GAS METER	SAMPLE	TUNNEL	ORIFICE	FILTER	TUNNEL VEL	Proportional	Scale	Weight	TUNNEL	FLUE	FILTER	FB REAR	FB	METER	AMBIENT	
ET	VOLUME	RATE(FT3/MIN)	DELTA P	DELTA H	VAC	FT/SEC	Rate (%)	Weight	Chg	TEMP	TEMP	TEMP	TEMP	INT	TEMP	TEMP	
0	0.000	0.000	0.047	0.01	-0.05		NA	12.1	0	130	605	71	596	641.89	72	71	
10	1.457	0.146	0.047	2.04	0	15.181	107	11	1.1	131	632	81	491	748.69	73	71	
20	2.846	0.139	0.047	2.01	-1.2	15.207	101	9.4	1.6	133	701	83	474	788.04	76	71	
30	4.246	0.140	0.047	2.03	-0.71	15.258	102	7.8	1.6	137	754	79	491	842.26	80	71	
40	5.646	0.140	0.047	2.01	-1.29	15.271	101	6.1	1.7	138	791	79	525	907	83	72	
50	7.049	0.140	0.047	2	-0.9	15.283	101	4.7	1.4	139	808	79	561	929.64	86	73	
60	8.458	0.141	0.047	2	-2.09	15.245	101	3.6	1.1	136	749	79	586	783.98	89	72	
70	9.877	0.142	0.047	2.02	-0.97	15.039	100	2.8	0.8	120	689	80	618	741.02	91	73	
80	11.299	0.142	0.047	2.02	-2.17	15.000	99	2.2	0.6	117	642	81	637	678.71	93	73	
90	12.717	0.142	0.047	2.03	-2.15	14.961	99	1.6	0.6	114	620	82	640	662.3	94	73	
100	14.143	0.143	0.047	2.03	-0.35	14.922	99	1.3	0.3	111	586	81	630	603.66	95	73	
110	15.565	0.142	0.047	2.04	-0.59	15.013	99	0.9	0.4	118	559	81	607	564.13	96	73	
120	16.994	0.143	0.047	2.04	-0.78	15.013	99	0.7	0.2	118	544	82	573	546.1	97	73	
130	18.424	0.143	0.047	2.02	-2.16	15.000	99	0.4	0.3	117	537	82	539	542.04	97	73	
140	19.852	0.143	0.047	2.03	-2.17	14.987	99	0.2	0.2	116	531	82	523	532.55	98	73	
150	21.284	0.143	0.047	2.04	-1.15	14.974	99	0	0.2	115	528	82	516	529.32	98	73	
160	22.716	0.143	0.047	2.03	-1.05	14.974	99	0	0	115	521	82	505	514.68	98	73	

TEST START TIME:										1	2	3	4	5	6			
										TEMPERATURES								
	GAS METER	SAMPLE	TUNNEL	ORIFICE	FILTER	TUNNEL VEL	Proportional	Scale	Weight	TUNNEL	FLUE	FILTER	FB REAR	FB	METER	AMBIENT		
ET	VOLUME	RATE(FT3/MIN)	DELTA P	DELTA H	VAC	FT/SEC	Rate (%)	Weight	Chg	TEMP	TEMP	TEMP	TEMP	INT	TEMP	TEMP		
	22.716		0.047	2.02		15.083	100.2			124	635				89	72		

JOB #	036-S-81-1
TECHNICIA	JDS-DT
DATE:	11/9/17
RUN #:	EPA4
READING INTERVAL:	10

SAMPLE BOX :		METER Y FACTOR:		1.002	PROBE MATERIAL:			SS	
FRONT FILTER #:	3174				REAR FILTER #:	3175			
FINAL LEAK RATE (CFM):	<0.01	@	19	IN-HG	FINAL LEAK RATE (CFM):	<0.01	@	19	IN-HG

Run Time: 160 Firebox Delta T 89.8

ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	PROPORTIONAL RATE	FLUE DRAFT	ORIFICE DELTA H	FILTER VAC	TEMPERATURES 1 LEFT SIDE	2 RIGHT SIDE	3 FILTER	4 FB TOP	5 FB BOT	6 METER	STOVE AVG T
0	0	0	NA	0	0	1	402	619	73	539	376	71	506
10	1.446	0.145	107	-0.07	1.99	1.53	441	518	82	576	401	72	485
20	2.834	0.139	103	-0.07	1.97	1.33	333	505	84	659	369	75	468
30	4.219	0.139	102	-0.08	2.01	1.39	343	536	81	738	355	79	493
40	5.605	0.139	102	-0.08	2	1.75	361	575	81	807	344	82	522
50	6.993	0.139	101	-0.08	2	2.08	377	606	82	816	337	85	539
60	8.383	0.139	101	-0.08	1.99	2.04	386	621	82	730	335	87	532
70	9.776	0.139	99	-0.07	1.98	1.33	390	615	80	648	338	89	522
80	11.169	0.139	99	-0.07	1.99	2.02	388	603	80	596	346	91	514
90	12.563	0.139	98	-0.07	1.98	1.35	385	589	79	585	355	92	511
100	13.963	0.140	98	-0.07	1.99	1.71	382	578	79	543	363	93	499
110	15.361	0.140	99	-0.06	1.98	1.63	372	554	79	498	372	94	481
120	16.760	0.140	99	-0.06	1.99	1.39	358	531	80	472	381	95	463
130	18.164	0.140	99	-0.06	1.98	1.77	344	510	80	452	383	95	446
140	19.567	0.140	98	-0.06	1.99	1.89	333	492	80	442	381	96	434
150	20.970	0.140	98	-0.06	1.99	1.49	324	478	80	435	378	96	426
160	22.377	0.141	99	-0.06	1.98	1.9	316	468	80	420	374	96	417

Run Notes:

							1	2	3	4	5	6	
							TEMPERATURES						
ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	PROPORTIONAL RATE	FLUE DRAFT	ORIFICE DELTA H	FILTER VAC	LEFT SIDE	RIGHT SIDE	FILTER	FB TOP	FB BOT	METER	STOVE AVG T
	22.377	0.140	100.185	-0.065	1.988125	1.623529	367	553	80	586	364	88	90
	TOTAL	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	DT

416.6

Ambient Sample Results:

JOB NUMBER:	036-S-81-1
TECHNICIAN:	JDS-DT
DATE:	43048
RUN NUMBER:	EPA4

METER Y FACTOR: **0.997**

	Sample Volume (L)	Meter Temp °F	ΔH	ΔP
Start	0	95	0	0
End	740.889	95	0	0

	SAMPLE INFORMATION	
Total Sample Volume - Vm	740.889	Liters
Total Sample Volume - Vm	26.164	ft^3
Average Sample Rate	0.16	ft^3/min
Sample Time	160.00	Minutes
Average Meter Temperature	95	°F
Total Sample Volume (Standard Conditions) - Vmstd	24.717	dscf
Total Particulates	0.2	mg
Particulate Concentration (dry-standard)	0.000008096	grams/dscf
Particulate Emission Rate	0.000075038	grams/hour

JOB NUMBER: 036-S-81-1

RUN #: EPA4

DATE: 11/9/2017

BURN RATE: 1.7 KG/HR DRY

FILTER A PARTICULATE: 3.8 mg

FILTER B PARTICULATE: 3.9 mg

	SAMPLE A INFORMATION		SAMPLE B INFORMATION	
Total Sample Volume - Vm	22.72		22.38	
Average Gas Velocity in Dilution Tunnel - vs	15.15	feet/second	15.15	feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	9424.62	dscf/hour	9424.62	dscf/hour
Total Sample Volume (Standard Conditions) - Vmstd	22.10	dscf	21.64	dscf
Average Tunnel Temperature	123.8	F	123.8	F
Average Delta p	0.047		0.047	
Average Gas Meter Temperature	89	F	88	F
Average Delta H	2.02	in-h20	1.99	in-h20
Total Time of Test	160	min	160	min
Total Particulates	3.8	mg	3.9	mg
Particulate Concentration (dry-standard)	0.00017	grams/dscf	0.00018	grams/dscf
Ambient Train (dry-standard)	0.000008096	grams/dscf	0.000008096	grams/dscf
Net (dry-standard)	0.000163838	grams/dscf	0.00017212	grams/dscf
Particulate Emission Rate	1.54	grams/hour	1.62	grams/hour
Total PM Emissions	4.12	grams	4.33	grams
Average Total PM Emissions		4.22	grams	
AVERAGE PARTICLATE EMISSIONS RATE		1.58	grams/hour	
% OF AVERAGE	97.5		102.5	
Emissions Factor	0.914	g/Kg -Dry	0.960	g/Kg -Dry

PREBURN

JOB # 036-S-81-1
TECHNICIAIJDS-DT
DATE: 11/8/17
RUN #: EPA3
READING INTERVAL: 10

Run Time: 80

Model Designation Ladera

	Tunnel Traverse Information								
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.045	0.046	0.046	0.047	0.046	0.048	0.049	0.048	0.047
Temperature	102	102	102	102	102	102	102	102	102.000

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
0	15.9	-0.073	279	317	346	552	341	367
10	13.9	-0.075	257	391	403	692	331	414.8
20	12	-0.08	295	469	458	756	329	461.4
30	10.2	-0.085	336	537	522	813	326	506.8
40	8.2	-0.087	368	608	575	873	319	548.6
50	6.5	-0.088	391	668	618	905	315	579.4
60	5	-0.086	413	699	663	875	331	596.2
70	4.5	-0.072	420	676	655	647	346	548.8
80	2.8	-0.07	374	596	570	493	356	477.8

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Tunnel Velocity:	15.29281 ft/sec.
Intial Tunnel Flow:	159.8702 scfm
Average Tunnel Flow:	155.5703 scfm

Notes:

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
			348.1111		534.4444			

Run #	EPA3
Date:	11/8/17

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Dilution Tunnel Traverse Data									
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.045	0.046	0.046	0.047	0.046	0.048	0.049	0.048	0.047
Temperature	102	102	102	102	102	102	102	102	102.000

Tunnel Velocity:	15.293	ft/sec.
Intial Tunnel Flow:	159.87	scfm
Average Tunnel Flow	155.57	scfm

JOB #	036-S-81-1																
TECHNICIA	JDS-DT							ROOM TEMP (F)		74.0			BEG	MID	END	AVG	
DATE:	11/8/2017								BAROMETRIC				29.8	29.8	29.8	29.8	
RUN #:	EPA3																
READING INTERVAL:		10															
SAMPLE BOX :		A	METER Y FACTOR:		1.011					PROBE MATERIAL:			SS				
FRONT FILTER #:		3166				REAR FILTER #	REAR FILTER #:		3167								
FINAL LEAK RATE (CFM):		<0.01	@	19	IN-HG	<0.01	FINAL LEAK RATE (CFM)		19	@		IN-HG					
Run Time:		150		AMBIENT FILTER #:			3170	VOLUME	695.257		FUEL MOISTURE DB			20.76	%		
				FINAL LEAK RATE (CFM):			<0.01	@	19	IN-HG							
TEST START TIME:										1	2	3	4	5	6		
										TEMPERATURES							
ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	TUNNEL DELTA P	ORIFICE DELTA H	FILTER VAC	TUNNEL VEL FT/SEC	Proportional Rate (%)	Scale Weight	Weight Chg	TUNNEL TEMP	FLUE TEMP	FILTER TEMP	FB REAR TEMP	FB INT	METER TEMP	AMBIENT TEMP	
0	0.000	0.000	0.047	0.01	-0.07		NA	12.6	0	129	556	75	522	540.86	83	74	
10	1.396	0.140	0.047	2.03	-0.12	15.322	101	11.2	1.4	142	717	77	467	838.71	83	75	
20	2.800	0.140	0.047	2	-2.24	15.448	102	8.9	2.3	152	884	80	502	1087.66	85	75	
30	4.207	0.141	0.047	2.04	-1.09	15.549	102	6.8	2.1	160	961	78	579	1151.91	88	75	
40	5.625	0.142	0.047	2.04	0	15.549	103	5	1.8	160	908	69	640	1025.2	90	76	
50	7.056	0.143	0.047	2.04	-1.72	15.448	103	3.8	1.2	152	802	73	677	832.98	93	77	
60	8.482	0.143	0.047	2.03	-1.99	15.347	101	3	0.8	144	717	76	675	759.53	95	78	
70	9.925	0.144	0.047	2.01	-2.01	15.271	101	2.3	0.7	138	666	80	662	698.93	97	76	
80	11.357	0.143	0.047	2	-2.14	15.194	100	1.7	0.6	132	621	81	641	635.29	98	76	
90	12.785	0.143	0.047	2.02	-0.58	15.142	99	1.4	0.3	128	597	83	601	607.8	99	76	
100	14.217	0.143	0.047	2.02	-0.09	15.104	99	1.1	0.3	125	575	85	569	577.57	100	76	
110	15.652	0.144	0.047	2	-1.14	15.065	99	0.8	0.3	122	555	85	541	557.68	101	75	
120	17.083	0.143	0.047	2.02	-0.03	15.052	98	0.6	0.2	121	544	85	518	545.09	101	75	
130	18.517	0.143	0.047	2.03	-0.52	15.039	98	0.3	0.3	120	532	85	499	529.09	102	76	
140	19.955	0.144	0.047	2.01	-1.19	15.026	99	0.1	0.2	119	528	85	492	522.39	102	75	
150	21.389	0.143	0.047	2.02	-0.86	15.026	98	0	0.1	119	526	85	483	519.23	102	75	

TEST START TIME:										1	2	3	4	5	6			
										TEMPERATURES								
	GAS METER	SAMPLE	TUNNEL	ORIFICE	FILTER	TUNNEL VEL	Proportional	Scale	Weight	TUNNEL	FLUE	FILTER	FB REAR	FB	METER	AMBIENT		
ET	VOLUME	RATE(FT3/MIN)	DELTA P	DELTA H	VAC	FT/SEC	Rate (%)	Weight	Chg	TEMP	TEMP	TEMP	TEMP	INT	TEMP	TEMP		
	21.389		0.047	2.02		15.239	100.3			135	668				95	76		

JOB #	036-S-81-1
TECHNICIA	JDS-DT
DATE:	11/8/17
RUN #:	EPA3
READING INTERVAL:	10
SAMPLE BOX :	B
METER Y FACTOR:	1.002
PROBE MATERIAL:	SS
FRONT FILTER #:	3168
REAR FILTER #:	3169
FINAL LEAK RATE (CFM):	<0.01 @ 19 IN-HG
FINAL LEAK RATE (CFM):	<0.01 @ 19 IN-HG

Run Time: 150

Firebox Delta T 23.8

ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	PROPORTIONAL RATE	FLUE DRAFT	ORIFICE DELTA H	FILTER VAC	TEMPERATURES 1 LEFT SIDE	2 RIGHT SIDE	3 FILTER	4 FB TOP	5 FB BOT	6 METER	STOVE AVG T
0	0	0	NA	0	0	1	343	538	77	442	361	82	441
10	1.397	0.140	103	-0.07	2.04	2.04	316	471	80	622	360	82	447
20	2.794	0.140	103	-0.09	2.01	2.02	331	511	82	834	345	84	505
30	4.187	0.139	103	-0.09	2	1.39	373	595	82	920	336	87	561
40	5.581	0.139	103	-0.09	1.98	2.03	409	660	84	875	333	89	583
50	6.979	0.140	102	-0.08	1.98	1.55	427	682	83	762	338	91	577
60	8.377	0.140	101	-0.07	1.97	1.85	428	672	83	668	349	93	558
70	9.777	0.140	100	-0.07	1.98	1.95	421	649	83	618	360	95	542
80	11.183	0.141	100	-0.07	1.97	1.46	410	625	83	568	367	96	522
90	12.589	0.141	99	-0.07	1.99	1.44	389	587	83	524	371	97	494
100	13.997	0.141	99	-0.06	1.97	1.75	371	551	83	493	371	98	471
110	15.406	0.141	99	-0.06	1.98	1.4	355	528	83	476	374	99	455
120	16.815	0.141	99	-0.06	1.99	1.28	342	512	82	456	378	99	441
130	18.228	0.141	99	-0.06	1.99	2.06	329	498	82	443	382	99	430
140	19.637	0.141	98	-0.06	1.99	1.54	324	487	82	434	381	100	424
150	21.052	0.142	99	-0.06	1.99	1.55	318	478	82	425	383	100	417

Run Notes:

							1	2	3	4	5	6	
							TEMPERATURES						
ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	PROPORTIONAL RATE	FLUE DRAFT	ORIFICE DELTA H	FILTER VAC	LEFT SIDE	RIGHT SIDE	FILTER	FB TOP	FB BOT	METER	STOVE AVG T
	21.052	0.140	100.285	-0.066	1.988667	1.644375	368	565	82	598	362	93	24
	TOTAL	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	DT

417.4

Ambient Sample Results:

JOB NUMBER:	036-S-81-1
TECHNICIAN:	JDS-DT
DATE:	43047
RUN NUMBER:	EPA3

METER Y FACTOR: **0.997**

	Sample Volume (L)	Meter Temp °F	ΔH	ΔP
Start	0	95	0	0
End	695.257	95	0	0

	SAMPLE INFORMATION	
Total Sample Volume - Vm	695.257	Liters
Total Sample Volume - Vm	24.553	ft^3
Average Sample Rate	0.16	ft^3/min
Sample Time	150.00	Minutes
Average Meter Temperature	95	°F
Total Sample Volume (Standard Conditions) - Vmstd	23.195	dscf
Total Particulates	0.3	mg
Particulate Concentration (dry-standard)	0.000012930	grams/dscf
Particulate Emission Rate	0.000119960	grams/hour

JOB NUMBER: 036-S-81-1

RUN #: EPA3

DATE: 11/8/2017

BURN RATE: 1.9 KG/HR DRY

FILTER A PARTICULATE: 3.6 mg

FILTER B PARTICULATE: 3 mg

	SAMPLE A INFORMATION		SAMPLE B INFORMATION	
Total Sample Volume - Vm	21.39		21.05	
Average Gas Velocity in Dilution Tunnel - vs	15.29	feet/second	15.29	feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	9334.22	dscf/hour	9334.22	dscf/hour
Total Sample Volume (Standard Conditions) - Vmstd	20.59	dscf	20.15	dscf
Average Tunnel Temperature	135.2	F	135.2	F
Average Delta p	0.047		0.047	
Average Gas Meter Temperature	95	F	93	F
Average Delta H	2.02	in-h20	1.99	in-h20
Total Time of Test	150	min	150	min
Total Particulates	3.6	mg	3	mg
Particulate Concentration (dry-standard)	0.00017	grams/dscf	0.00015	grams/dscf
Ambient Train (dry-standard)	0.000012930	grams/dscf	0.000012930	grams/dscf
Net (dry-standard)	0.000161876	grams/dscf	0.00013594	grams/dscf
Particulate Emission Rate	1.51	grams/hour	1.27	grams/hour
Total PM Emissions	3.78	grams	3.17	grams
Average Total PM Emissions		3.47	grams	
AVERAGE PARTICLATE EMISSIONS RATE		1.39	grams/hour	
% OF AVERAGE	108.7		91.3	
Emissions Factor	0.798	g/Kg -Dry	0.670	g/Kg -Dry

PREBURN

JOB # 036-S-81-1
TECHNICIAN JDS-DT
DATE: 11/8/17
RUN #: EPA2
READING INTERVAL: 10

Model Designation Ladera

	Tunnel Traverse Information								
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.045	0.046	0.046	0.045	0.046	0.045	0.046	0.045	0.046
Temperature	110	110	110	110	110	110	110	110	110.000

Run Time: 60

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
0	4.7	-0.091	619	632	646	1089	394	676
10	4	-0.077	458	692	660	775	368	590.6
20	3.9	-0.07	394	646	597	604	361	520.4
30	3.8	-0.064	348	573	544	502	356	464.6
40	3.6	-0.054	318	513	512	444	354	428.2
50	2.8	-0.051	298	478	486	400	357	403.8
60	2.7	-0.044	286	440	439	370	358	378.6

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Tunnel Velocity: 14.78522 ft/sec.
Intial Tunnel Flow: 157.4579 scfm
Average Tunnel Flow: 160.9112 scfm

Notes:

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
			388.7143		554.8571			

Run #	EPA2
Date:	11/8/17

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Dilution Tunnel Traverse Data									
[redacted]	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.045	0.046	0.046	0.045	0.046	0.045	0.046	0.045	0.046
Temperature	110	110	110	110	110	110	110	110	110.000

Tunnel Velocity:	14.785	ft/sec.
Intial Tunnel Flow:	157.46	scfm
Average Tunnel Flow	160.91	scfm

JOB #	036-S-81-1																
TECHNICIAN	JDS-DT							ROOM TEMP (F)		68.0			BEG	MID	END	AVG	
DATE:	11/8/2017								BAROMETRIC				30.2	30.2	30.2	30.2	
RUN #:	EPA2																
READING INTERVAL:		10								PROBE MATERIAL:			SS				
SAMPLE BOX :		A	METER Y FACTOR:		1.011												
FRONT FILTER #:		3160				REAR FILTER #	REAR FILTER #:		3161								
FINAL LEAK RATE (CFM):		<0.01	@	19	IN-HG	<0.01	FINAL LEAK RATE (CFM)		<0.01	@	19	IN-HG					
Run Time:		250		AMBIENT FILTER #:			3164	VOLUME	1250.378		FUEL MOISTURE DB			24.19	%		
				FINAL LEAK RATE (CFM):			<0.01	@	19	IN-HG							
TEST START TIME:										1	2	3	4	5	6		
										TEMPERATURES							
	GAS METER	SAMPLE	TUNNEL	ORIFICE	FILTER	TUNNEL VEL	Proportional	Scale	Weight	TUNNEL	FLUE	FILTER	FB REAR	FB	METER	AMBIENT	
ET	VOLUME	RATE(FT3/MIN)	DELTA P	DELTA H	VAC	FT/SEC	Rate (%)	Weight	Chg	TEMP	TEMP	TEMP	TEMP	INT	TEMP	TEMP	
0	0.000	0.000	0.047	0	-0.06		NA	11.9	0	97	417	70	436	427.68	70	68	
10	1.378	0.138	0.047	2.03	0	14.653	101	11.4	0.5	98	404	74	382	441.67	72	68	
20	2.759	0.138	0.047	2	-1.22	14.679	101	10.6	0.8	100	472	75	351	576.45	75	68	
30	4.152	0.139	0.047	2	-0.23	14.732	101	11.2	-0.6	104	532	76	347	702.97	78	68	
40	5.546	0.139	0.047	2.01	-1.15	14.758	101	8.5	2.7	106	567	77	374	673.51	82	68	
50	6.943	0.140	0.047	2.03	-2.1	14.810	101	7.2	1.3	110	649	77	427	828.13	84	68	
60	8.351	0.141	0.047	2.02	-0.05	14.862	102	5.9	1.3	114	675	78	487	805.93	87	69	
70	9.765	0.141	0.047	2.02	-0.1	14.849	102	5.1	0.8	113	623	79	513	723.91	89	70	
80	11.179	0.141	0.047	2.02	-0.86	14.810	101	4.5	0.6	110	583	79	512	628.83	90	70	
90	12.592	0.141	0.047	2.03	-0.23	14.797	101	3.8	0.7	109	556	79	504	581.75	92	70	
100	14.011	0.142	0.047	2.02	-0.06	14.784	101	3.3	0.5	108	537	79	509	555.63	93	71	
110	15.428	0.142	0.047	2.02	-2.08	14.758	100	2.8	0.5	106	518	78	520	528.7	94	70	
120	16.850	0.142	0.047	2.01	-0.34	14.745	100	2.4	0.4	105	498	79	519	507.18	95	70	
130	18.268	0.142	0.047	2.03	-0.07	14.732	100	1.9	0.5	104	484	79	516	495.88	95	72	
140	19.692	0.142	0.047	2.03	-0.05	14.718	100	1.7	0.2	103	485	78	512	500.27	96	71	
150	21.113	0.142	0.047	2.02	-0.29	14.718	100	1.5	0.2	103	482	78	493	494.9	96	71	
160	22.541	0.143	0.047	2.02	-0.31	14.718	100	1.3	0.2	103	478	78	469	479.72	97	72	
170	23.962	0.142	0.047	2.02	-0.5	14.718	100	1.2	0.1	103	481	79	452	479.13	97	72	
180	25.388	0.143	0.047	2.01	-0.04	14.718	100	1	0.2	103	482	79	441	476.36	97	72	
190	26.815	0.143	0.047	2.01	-1.74	14.718	100	0.8	0.2	103	483	79	430	474.09	98	72	
200	28.239	0.142	0.047	2	-2.07	14.718	100	0.7	0.1	103	479	79	419	463.19	98	72	
210	29.669	0.143	0.047	2.01	-2	14.692	100	0.5	0.2	101	426	79	407	398.53	98	72	
220	31.094	0.143	0.047	2.01	-0.16	14.666	99	0.4	0.1	99	416	78	392	395.4	98	72	
230	32.521	0.143	0.047	2.01	-0.16	14.653	99	0.2	0.2	98	415	78	383	396.25	99	72	
240	33.950	0.143	0.047	2.02	-0.12	14.653	99	0.1	0.1	98	414	78	375	394.09	99	72	
250	35.375	0.143	0.047	2.03	-1.63	14.653	99	0	0.1	98	415	78	367	400.83	99	71	

TEST START TIME:										1	2	3	4	5	6			
										TEMPERATURES								
	GAS METER	SAMPLE	TUNNEL	ORIFICE	FILTER	TUNNEL VEL	Proportional	Scale	Weight	TUNNEL	FLUE	FILTER	FB REAR	FB	METER	AMBIENT		
ET	VOLUME	RATE(FT3/MIN)	DELTA P	DELTA H	VAC	FT/SEC	Rate (%)	Weight	Chg	TEMP	TEMP	TEMP	TEMP	INT	TEMP	TEMP		
	35.375		0.047	2.02		14.732	100.3			104	499				91	70		

JOB #	036-S-81-1
TECHNICIAN	JDS-DT
DATE:	11/8/17
RUN #:	EPA2
READING INTERVAL:	10
SAMPLE BOX :	B
METER Y FACTOR:	1.002
PROBE MATERIAL:	SS
FRONT FILTER #:	3162
REAR FILTER #:	3163
FINAL LEAK RATE (CFM):	<0.01 @ 19 IN-HG
FINAL LEAK RATE (CFM):	<0.01 @ 19 IN-HG

Run Time: 250 Firebox Delta T 55

ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	PROPORTIONAL RATE	FLUE DRAFT	ORIFICE DELTA H	FILTER VAC	TEMPERATURES 1 LEFT SIDE	2 RIGHT SIDE	3 FILTER	4 FB TOP	5 FB BOT	6 METER	STOVE AVG T
0	0	0	NA	0	0	1	292	437	71	373	360	70	380
10	1.414	0.141	104	-0.05	2.02	1.33	327	381	75	378	369	71	367
20	2.810	0.140	103	-0.05	2	1.98	306	338	76	443	365	74	361
30	4.188	0.138	101	-0.06	1.97	1.37	302	327	77	571	361	77	382
40	5.563	0.138	101	-0.06	1.99	1.26	254	370	77	618	330	80	389
50	6.943	0.138	101	-0.07	1.99	1.98	284	425	78	746	323	83	441
60	8.325	0.138	101	-0.07	1.98	1.55	315	490	79	787	316	85	479
70	9.711	0.139	101	-0.07	1.99	1.94	331	526	80	707	310	87	477
80	11.098	0.139	100	-0.07	1.96	2.04	330	521	80	610	310	89	457
90	12.489	0.139	100	-0.06	1.96	1.95	325	513	80	581	314	90	447
100	13.879	0.139	100	-0.06	1.96	1.54	325	509	80	566	320	91	446
110	15.270	0.139	99	-0.06	1.96	1.62	327	507	80	550	324	92	446
120	16.665	0.140	100	-0.06	1.96	1.96	327	508	80	531	328	93	443
130	18.062	0.140	99	-0.05	1.97	1.69	323	499	80	535	332	94	441
140	19.456	0.139	99	-0.05	1.96	1.84	321	495	80	519	333	95	436
150	20.862	0.141	100	-0.05	2	2.02	310	478	80	459	336	95	415
160	22.278	0.142	100	-0.05	1.99	1.23	297	458	80	433	335	95	398
170	23.689	0.141	100	-0.05	2.01	1.2	290	442	80	418	332	96	387
180	25.104	0.142	100	-0.05	1.99	1.52	284	429	80	406	330	96	378
190	26.515	0.141	100	-0.05	2	1.93	276	413	80	390	327	96	367
200	27.931	0.142	100	-0.05	2	1.46	268	399	80	378	323	97	357
210	29.345	0.141	100	-0.05	2.01	1.44	262	388	80	360	319	97	347
220	30.762	0.142	100	-0.04	2	1.68	257	379	80	348	319	97	339
230	32.177	0.142	100	-0.05	2.03	1.6	252	370	80	343	321	97	334
240	33.594	0.142	100	-0.05	2.01	1.47	249	364	80	339	319	97	329
250	35.009	0.142	99	-0.04	2.01	1.44	244	358	80	336	318	98	325

Run Notes:

DATE: 43047

RUN NUMBER: EPA2

METER Y FACTOR: 0.997

	Sample Volume (L)	Meter Temp °F	ΔH	ΔP
Start	0	95	0	0
End	1250.378	95	0	0

	SAMPLE INFORMATION	
Total Sample Volume - Vm	1250.378	Liters
Total Sample Volume - Vm	44.157	ft^3
Average Sample Rate	0.18	ft^3/min
Sample Time	250.00	Minutes
Average Meter Temperature	95	°F
Total Sample Volume (Standard Conditions) - Vmstd	42.274	dscf
Total Particulates	0.2	mg
Particulate Concentration (dry-standard)	0.000004731	grams/dscf
Particulate Emission Rate	0.000048000	grams/hour

JOB NUMBER 036-5-81-1

RUN # EPA2

DATE: 11/8/2017

BURN RATE 1.0 KG/HR DRY

FILTER A PARTICULATE 8.3 mg

FILTER B PARTICULATE 8.9 mg

	SAMPLE A INFORMATION		SAMPLE B INFORMATION	
Total Sample Volume - Vm	35.38		35.01	
Average Gas Velocity in Dilution Tunnel - vs	14.79	feet/second	14.79	feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	9654.67	dscf/hour	9654.67	dscf/hour
Total Sample Volume (Standard Conditions) - Vmstd	34.76	dscf	34.17	dscf
Average Tunnel Temperature	103.8	F	103.8	F
Average Delta p	0.047		0.047	
Average Gas Meter Temperature	91	F	90	F
Average Delta H	2.02	in-h20	1.99	in-h20
Total Time of Test	250	min	250	min
Total Particulates	8.3	mg	8.9	mg
Particulate Concentration (dry-standard)	0.00024	grams/dscf	0.00026	grams/dscf
Ambient Train (dry-standard)	0.000004731	grams/dscf	0.000004731	grams/dscf
Net (dry-standard)	0.000234070	grams/dscf	0.00025570	grams/dscf
Particulate Emission Rate	2.26	grams/hour	2.47	grams/hour
Total PM Emissions	9.42	grams	10.29	grams
Average Total PM Emissions		9.85	grams	
AVERAGE PARTICLATE EMISSIONS RATE		2.36	grams/hour	
% OF AVERAGE	95.6		104.4	
Emissions Factor	2.166	g/Kg -Dry	2.367	g/Kg -Dry

PREBURN

JOB # 036-S-81-1
TECHNICIAN JDS-DT
DATE: 11/7/17
RUN #: EPA1
READING INTERVAL: 10

Run Time: 60

Model Designation Ladera

Tunnel Traverse Information									
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.049	0.048	0.047	0.045	0.047	0.049	0.049	0.048	0.048
Temperature	110	110	110	110	110	110	110	110	110.000

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
0	4.6	-0.096	592	580	631	1109	392	660.8
10	3.9	-0.081	456	678	677	807	366	596.8
20	3.7	-0.07	399	638	620	590	364	522.2
30	3.6	-0.064	360	575	573	503	367	475.6
40	3.3	-0.058	337	526	536	463	374	447.2
50	2.6	-0.054	320	497	507	427	381	426.4
60	2.5	-0.052	299	460	464	396	386	401

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Tunnel Velocity:	14.44195 ft/sec.
Intial Tunnel Flow:	161.2914 scfm
Average Tunnel Flow:	157.7258 scfm

Notes:

			1	2	3	4	5	
			TEMPERATURES					
ET	SCALE READING	FLUE DRAFT	LEFT SIDE	RIGHT SIDE	BACK	TOP	BOTTOM	STOVE AVG T
			394.7143		572.5714			

Technician______________________

Run #	EPA1
Date:	11/7/17

Dilution Tunnel MW(dry):	29.00	lb/lb-mole
Dilution Tunnel MW(wet):	28.78	lb/lb-mole
Dilution Tunnel H2O:	2.00	%
Dilution Tunnel Static:	-0.400	In H20
Tunnel Area:	0.196	ft^2
Pitot Tube Cp:	0.99	

Dilution Tunnel Traverse Data									
	Pt.1	Pt.2	Pt.3	Pt.4	Pt.5	Pt.6	Pt.7	Pt.8	
dP	0.049	0.048	0.047	0.045	0.047	0.049	0.049	0.048	0.048
Temperature	110	110	110	110	110	110	110	110	110.000

Tunnel Velocity:	14.442	ft/sec.
Intial Tunnel Flow:	161.29	scfm
Average Tunnel Flow	157.73	scfm

JOB #		036-S-81-1																
TECHNICIA		JDS-DT						ROOM TEMP (F)					BEG	MID	END	AVG		
DATE:	11/7/2017								BAROMETRIC				30.2	30.2	30.2	30.2		
RUN #:	EPA1																	
READING INTERVAL:		10																
SAMPLE BOX :		A	METER Y FACTOR:		1.011					PROBE MATERIAL:			SS					
FRONT FILTER #:		3154				REAR FILTER #	REAR FILTER #:		3155									
FINAL LEAK RATE (CFM):		<0.01	@	19	IN-HG	3155	FINAL LEAK RATE (CFM)		<0.01	@	19	IN-HG						
Run Time:		240		AMBIENT FILTER #:			3158	VOLUME	Liters		FUEL MOISTURE DB			22.58	%			
				FINAL LEAK RATE (CFM):			<0.01	@	19	IN-HG								
TEST START TIME:										1	2	3	4	5	6			
										TEMPERATURES								
	GAS METER	SAMPLE	TUNNEL	ORIFICE	FILTER	TUNNEL VEL	Proportional	Scale	Weight	TUNNEL	FLUE	FILTER	FB REAR	FB	METER	AMBIENT		
ET	VOLUME	RATE(FT3/MIN)	DELTA P	DELTA H	VAC	FT/SEC	Rate (%)	Weight	Chg	TEMP	TEMP	TEMP	TEMP	INT	TEMP	TEMP		
0	0.000	0.000	0.045	0.01	-0.06		NA	12.1	0	100	431	70	461	425.39	75	70		
10	1.356	0.136	0.045	1.95	-0.56	14.427	100	11.1	1	105	497	76	415	516.16	76	70		
20	2.711	0.136	0.045	1.93	-0.13	14.440	100	10.2	0.9	106	529	77	382	563.48	78	70		
30	4.066	0.136	0.045	1.91	-0.06	14.529	100	9.4	0.8	113	676	78	372	773.82	81	69		
40	5.424	0.136	0.045	2.03	-1.66	14.517	100	8.2	1.2	112	584	79	390	635.51	84	69		
50	6.824	0.140	0.045	2.04	-0.35	14.517	102	7	1.2	112	623	79	434	732.47	87	69		
60	8.229	0.141	0.045	2.03	-1.31	14.504	102	6	1	111	617	80	476	709.35	89	70		
70	9.639	0.141	0.045	2.03	0	14.478	102	5.2	0.8	109	572	80	491	614.86	91	70		
80	11.047	0.141	0.045	2.05	-0.04	14.453	101	4.6	0.6	107	546	79	488	561.96	93	70		
90	12.450	0.140	0.045	2.03	-1.96	14.440	100	4.1	0.5	106	527	79	480	535.86	94	70		
100	13.859	0.141	0.045	2.04	0	14.427	101	3.6	0.5	105	518	78	477	529.53	95	70		
110	15.275	0.142	0.045	2.03	-1.89	14.402	101	3.1	0.5	103	511	78	480	533.13	95	70		
120	16.684	0.141	0.045	2.04	-0.72	14.389	100	2.5	0.6	102	501	78	489	523.2	96	70		
130	18.091	0.141	0.045	1.98	-0.01	14.389	100	2.1	0.4	102	514	77	494	544.38	97	70		
140	19.493	0.140	0.045	2	-0.63	14.376	99	1.6	0.5	101	495	77	511	495.14	97	69		
150	20.897	0.140	0.045	2.02	-1.4	14.351	99	1.5	0.1	99	462	77	504	450.5	97	70		
160	22.314	0.142	0.045	2.02	-1.34	14.325	100	1.3	0.2	97	447	76	493	437.59	97	69		
170	23.725	0.141	0.045	2.01	-0.62	14.312	100	1.1	0.2	96	433	76	483	423.54	97	69		
180	25.147	0.142	0.045	2	-1.45	14.299	100	0.9	0.2	95	427	76	475	418.69	98	70		
190	26.563	0.142	0.045	2.02	-1.45	14.299	100	0.8	0.1	95	424	75	471	417.72	98	70		
200	27.982	0.142	0.045	2.02	-0.38	14.286	100	0.6	0.2	94	420	75	460	413.82	98	69		
210	29.396	0.141	0.045	2.02	-1.84	14.286	99	0.4	0.2	94	422	75	448	418.3	98	69		
220	30.816	0.142	0.045	2.02	-0.11	14.286	100	0.2	0.2	94	423	75	440	420.44	98	69		
230	32.231	0.142	0.045	2.04	0	14.286	100	0.1	0.1	94	425	75	431	415.44	98	69		
240	33.651	0.142	0.045	2.03	-2.04	14.286	100	0	0.1	94	422	75	424	410.98	98	69		

TEST START TIME:										1	2	3	4	5	6			
										TEMPERATURES								
	GAS METER	SAMPLE	TUNNEL	ORIFICE	FILTER	TUNNEL VEL	Proportional	Scale	Weight	TUNNEL	FLUE	FILTER	FB REAR	FB	METER	AMBIENT		
ET	VOLUME	RATE(FT3/MIN)	DELTA P	DELTA H	VAC	FT/SEC	Rate (%)	Weight	Chg	TEMP	TEMP	TEMP	TEMP	INT	TEMP	TEMP		
	33.651		0.045	2.01		14.388	100.3			102	498				92	70		

JOB #	036-S-81-1
TECHNICIA	JDS-DT
DATE:	11/7/17
RUN #:	EPA1
READING INTERVAL:	10
SAMPLE BOX :	B
METER Y FACTOR:	1.002
PROBE MATERIAL:	SS
FRONT FILTER #:	3156
REAR FILTER #:	3157
FINAL LEAK RATE (CFM):	<0.01 @ 19 IN-HG
FINAL LEAK RATE (CFM):	<0.01 @ 19 IN-HG

Run Time: 240

Firebox Delta T 26.4

ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	PROPORTIONAL RATE	FLUE DRAFT	ORIFICE DELTA H	FILTER VAC	TEMPERATURES 1 LEFT SIDE	2 RIGHT SIDE	3 FILTER	4 FB TOP	5 FB BOT	6 METER	STOVE AVG T
0	0	0	NA	0	0	1	299	458	72	395	387	74	400
10	1.389	0.139	104	-0.06	1.89	1.38	270	426	77	431	383	75	385
20	2.738	0.135	100	-0.06	1.88	1.77	247	402	78	485	372	77	378
30	4.075	0.134	99	-0.08	1.86	1.6	236	380	79	452	360	80	360
40	5.410	0.134	99	-0.07	2.15	1.42	252	394	80	573	352	83	392
50	6.793	0.138	102	-0.07	1.99	1.29	281	447	81	691	343	86	439
60	8.180	0.139	102	-0.07	2	1.55	302	495	81	705	335	88	463
70	9.569	0.139	101	-0.07	1.99	1.77	308	510	81	633	328	89	454
80	10.959	0.139	101	-0.06	1.99	1.97	306	503	80	571	327	91	439
90	12.347	0.139	100	-0.06	1.98	1.94	302	492	80	535	328	92	427
100	13.740	0.139	101	-0.06	1.97	1.83	301	484	80	528	331	93	424
110	15.136	0.140	101	-0.06	1.99	1.51	307	491	79	542	334	93	431
120	16.530	0.139	100	-0.06	1.99	1.92	311	500	79	543	336	94	436
130	17.927	0.140	100	-0.06	1.99	1.37	310	496	79	516	340	94	431
140	19.326	0.140	100	-0.06	1.98	1.65	305	475	79	461	348	95	420
150	20.726	0.140	100	-0.05	1.99	1.61	297	458	78	421	359	95	408
160	22.122	0.140	100	-0.05	1.99	1.33	291	447	78	404	369	95	401
170	23.521	0.140	100	-0.05	1.98	1.44	286	440	78	394	374	95	395
180	24.923	0.140	100	-0.05	1.99	1.32	283	436	77	392	380	95	393
190	26.322	0.140	100	-0.05	1.99	1.57	282	433	77	389	385	95	392
200	27.721	0.140	100	-0.05	2	1.82	281	429	77	385	391	95	389
210	29.123	0.140	100	-0.05	2	1.62	279	428	77	385	395	96	387
220	30.522	0.140	99	-0.05	1.99	1.5	276	424	77	381	397	96	384
230	31.921	0.140	99	-0.05	2	1.56	272	418	76	373	399	96	379
240	33.323	0.140	100	-0.05	1.99	1.64	268	411	76	367	398	96	374

Run Notes:

							1	2	3	4	5	6	
							TEMPERATURES						
ET	GAS METER VOLUME	SAMPLE RATE(FT3/MIN)	PROPORTIONAL RATE	FLUE DRAFT	ORIFICE DELTA H	FILTER VAC	LEFT SIDE	RIGHT SIDE	FILTER	FB TOP	FB BOT	METER	STOVE AVG T
	33.323	0.139	100.263	-0.056	1.982083	1.5752	286	451	78	478	362	90	26
	TOTAL	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	DT

373.6

TECHNICIAN: JDS-DT

DATE: 43046

RUN NUMBER: EPA1

METER Y FACTOR: 0.997

	Sample Volume (L)	Meter Temp °F	ΔH	ΔP
Start	0	95	0	0
End	1112.444	95	0	0

	SAMPLE INFORMATION	
Total Sample Volume - Vm	1112.444	Liters
Total Sample Volume - Vm	39.286	ft^3
Average Sample Rate	0.16	ft^3/min
Sample Time	240.00	Minutes
Average Meter Temperature	95	°F
Total Sample Volume (Standard Conditions) - Vmstd	37.611	dscf
Total Particulates	0.0	mg
Particulate Concentration (dry-standard)	0.000000003	grams/dscf
Particulate Emission Rate	0.000000025	grams/hour

JOB NUMBER: 036-S-81-1

RUN #: EPA1

DATE: 11/7/2017

BURN RATE: 1.1 KG/HR DRY

FILTER A PARTICULATE: 5 mg

FILTER B PARTICULATE: 5.6 mg

	SAMPLE A INFORMATION		SAMPLE B INFORMATION	
Total Sample Volume - Vm	33.65		33.32	
Average Gas Velocity in Dilution Tunnel - vs	14.44	feet/second	14.44	feet/second
Average Gas Flow Rate in Dilution Tunnel - Qsd	9463.55	dscf/hour	9463.55	dscf/hour
Total Sample Volume (Standard Conditions) - Vmstd	33.00	dscf	32.49	dscf
Average Tunnel Temperature	101.8	F	101.8	F
Average Delta p	0.045		0.045	
Average Gas Meter Temperature	92	F	90	F
Average Delta H	2.01	in-h20	1.98	in-h20
Total Time of Test	240	min	240	min
Total Particulates	5	mg	5.6	mg
Particulate Concentration (dry-standard)	0.00015	grams/dscf	0.00017	grams/dscf
Ambient Train (dry-standard)	0.000000003	grams/dscf	0.000000003	grams/dscf
Net (dry-standard)	0.000151533	grams/dscf	0.00017235	grams/dscf
Particulate Emission Rate	1.43	grams/hour	1.63	grams/hour
Total PM Emissions	5.74	grams	6.52	grams
Average Total PM Emissions		6.13	grams	
AVERAGE PARTICLATE EMISSIONS RATE		1.53	grams/hour	
% OF AVERAGE	93.6		106.4	
Emissions Factor	1.281	g/Kg -Dry	1.457	g/Kg -Dry

DIRIGO LABORATORIES INC.

Weighted Average: 65.1 %

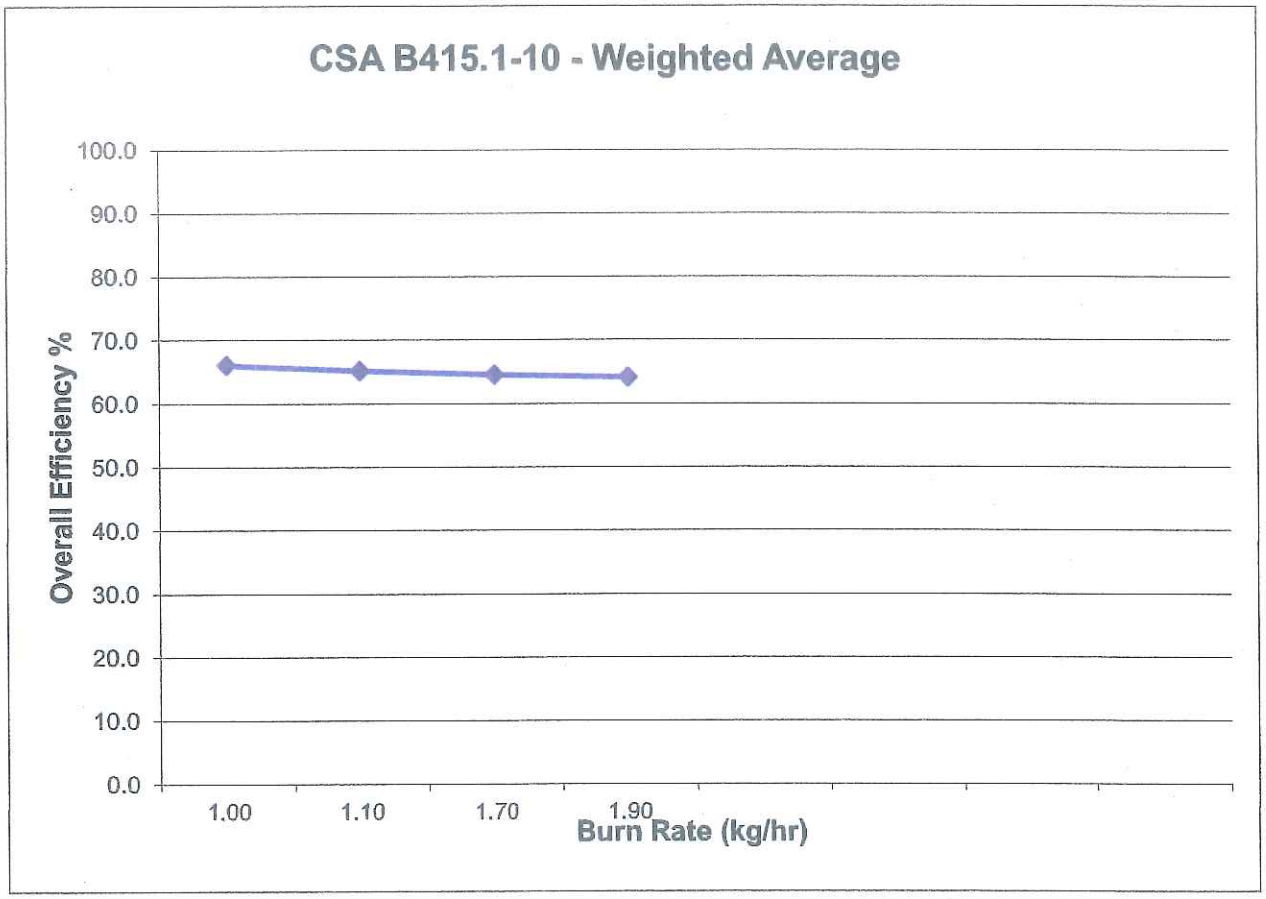
Client: Innovative Hearth Products
Model: Ladera CAT
Tracking No.: 81
Project No.: 036-S-081-1
Test Dates: 11/7-9/2017

Burn Rate Category	2	Burn Rate Category	2
Burn Rate (kg/hr-dry)	1.00	Burn Rate (kg/hr-dry)	1.10
OA Efficiency %	65.9	OA Efficiency %	65.1
Emissions Rate Cap (g/hr)	15	Emissions Rate Cap (g/hr)	15
Weighting Factor	30.36%	Weighting Factor	30.36%
Run Number	2	Run Number	1

Burn Rate Category	3	Burn Rate Category	4
Burn Rate (kg/hr-dry)	1.70	Burn Rate (kg/hr-dry)	1.90
OA Efficiency %	64.5	OA Efficiency %	64.2
Emissions Rate Cap (g/hr)	18	Emissions Rate Cap (g/hr)	18
Weighting Factor	28.71%	Weighting Factor	10.56%
Run Number	4	Run Number	3

DIRIGO LABORATORIES INC.

Client: Innovative Hearth Products
Model: Ladera CAT
Tracking No.: 81
Project No.: 036-S-081-1
Test Dates: 11/7-9/2017



VERSION: 2.4 4/15/2010

lanufacturer: IHP
Model: Ladera
Date: 11/9/2017
Run: 4
Control #: 081
est Duration: 160
urn Category 3

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

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Wood Moisture (% DRY):	21.78
Wood Moisture (% wet):	17.88
Load Weight (lb wet):	12.10
Burn Rate (dry kg/h):	1.7
Total Particulate Emissions:	4.22 g

Fuel Data

	D. Fir	
HHV	19,810	kJ/kg
%C	48.73	
%H	6.87	
%O	43.90	
%Ash	0.50	

Dougla
Oak

	Averages	635.1	72.4	12.54	8.42	0.06
		Temp. (F)				
Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas	Room Temp	Flue Gas Composition (%) O2	CO2	CO
0	12.1	605.0	71.0	16.28	4.14	0.05
10	11.0	632.0	71.0	11.66	9.68	0.13
20	9.4	701.0	71.0	10.18	11.50	0.02
30	7.8	754.0	71.0	8.87	12.88	0.02
40	6.1	791.0	72.0	8.30	13.37	0.01
50	4.7	808.0	73.0	8.50	12.89	0.02
60	3.6	749.0	72.0	10.73	10.03	0.02
70	2.8	689.0	73.0	11.79	9.03	0.01
80	2.2	642.0	73.0	12.45	8.43	0.03
90	1.6	620.0	73.0	12.17	8.83	0.01
100	1.3	586.0	73.0	13.83	6.65	0.05
110	0.9	559.0	73.0	14.05	6.62	0.06
120	0.7	544.0	73.0	14.79	5.87	0.11
130	0.4	537.0	73.0	14.71	6.01	0.13
140	0.2	531.0	73.0	14.70	6.03	0.13
150	0.1	528.0	73.0	14.77	5.92	0.14
160	0.0	521.0	73.0	15.34	5.34	0.14

Manufacturer:	IHP
Model:	Ladera
Date:	11/9/2017
Run:	4
Control #:	081
Test Duration:	160 min

	HHV	LHV
Eff	64.6%	69.9%
Comb Eff	99.5%	99.5%
HT Eff	65.0%	70.2%
Output	21,646	kJ/h
Burn Rate	1.69	kg/h
Grams CO	26	g
Input	33,490	kJ/h
MC wet	17.88	

Ultimate CO2

CO2-ult 19.64

Fo

1.061

Overall Heating Efficiency:	64.6%	Air Fuel Ratio (A/F)		
Combustion Efficiency:	99.5%	Dry Molecular Weight (Md)		
Heat Transfer Efficiency:	65.0%	Dry Moles Exhaust Gas (Nr):		
		Air Fuel Ratio (A/F)		
Heat Output:	20,534 Btu/h	21,646 kJ/h		
Heat Input:	31,769 Btu/h	33,490 kJ/h		
Burn Duration:	2.666666667 h			
Burn Rate:	3.7 lb/h	1.7 kg/h		
Stack Temp:	637.0 Deg. F	336.1 Deg. C		

	Averages	0.06	8.42	158.5%	20.38	11.92	335.1	22.5	99.7%	62.1%	61.9%	15.6	1.73	68.45
INPUT DATA				Oxygen Calculation			Input Data		Combust	Heat	Net	Air	Wet Wt	% Wet
Elapsed Time	Weight Remaining (kg)	% CO [e]	% CO2 [d]	Excess Air EA	Total O2	Calc. % O2 [g]	Flue Gas (ºC)	Room Temp (ºC)	Eff %	Transfer %	Eff %	Fuel Ratio	Now Wt	Consumed x
0	5.49	0.05	4.14	368.8%	20.66	16.50	318.3	21.7	100.1%	43.0%	43.1%	28.3	5.49	0.00
10	4.99	0.13	9.68	100.2%	20.29	10.55	333.3	21.7	99.2%	66.6%	66.1%	12.1	4.99	9.09
20	4.26	0.02	11.50	70.5%	20.18	8.67	371.7	21.7	100.1%	67.2%	67.2%	10.3	4.26	22.31
30	3.54	0.02	12.88	52.3%	20.09	7.20	401.1	21.7	100.0%	67.3%	67.4%	9.2	3.54	35.54
40	2.77	0.01	13.37	46.8%	20.06	6.68	421.7	22.2	100.1%	66.8%	66.9%	8.9	2.77	49.59
50	2.13	0.02	12.89	52.2%	20.09	7.19	431.1	22.8	100.0%	65.6%	65.6%	9.2	2.13	61.16
60	1.63	0.02	10.03	95.5%	20.28	10.24	398.3	22.2	100.1%	62.5%	62.5%	11.8	1.63	70.25
70	1.27	0.01	9.03	117.3%	20.34	11.31	365.0	22.8	100.3%	62.7%	62.9%	13.1	1.27	76.86
80	1.00	0.03	8.43	132.2%	20.38	11.94	338.9	22.8	100.1%	63.3%	63.4%	14.0	1.00	81.82
90	0.73	0.01	8.83	122.2%	20.36	11.52	326.7	22.8	100.3%	65.4%	65.6%	13.4	0.73	86.78
100	0.59	0.05	6.65	193.2%	20.50	13.82	307.8	22.8	100.0%	60.5%	60.5%	17.7	0.59	89.26
110	0.41	0.06	6.62	194.1%	20.50	13.85	292.8	22.8	99.8%	62.0%	61.9%	17.8	0.41	92.56
120	0.32	0.11	5.87	228.5%	20.55	14.62	284.4	22.8	99.2%	59.8%	59.3%	19.8	0.32	94.21
130	0.18	0.13	6.01	219.9%	20.53	14.46	280.6	22.8	98.9%	60.9%	60.2%	19.3	0.18	96.69
140	0.09	0.13	6.03	218.9%	20.53	14.44	277.2	22.8	98.9%	61.4%	60.7%	19.2	0.09	98.35
150	0.05	0.14	5.92	224.1%	20.54	14.55	275.6	22.8	98.7%	61.1%	60.3%	19.5	0.05	99.17
160	0.00	0.14	5.34	258.4%	20.58	15.17	271.7	22.8	98.6%	58.8%	58.0%	21.6	0.00	100.00
0														

29.82	
453.66	%HC
13.02	0.88

Combustion Efficiency:	99.5%		
Total Input (kJ):	89,306	84,703	(Btu)
Total Output (kJ):	57,723	54,747	(Btu)
Efficiency:	64.6%		
Total CO (g):	26.42		

Moisture of Wood (wet basis):	17.88
Initial Dry Weight Wtdo (kg):	4.51
Moisture Content Dry	21.78

Load Weight (kg):	5.49				
Fuel Heating:	HHV	LHV		HHV	LHV
Value in kJ/kg - CV:	19810.00	18328.69	Btu/lb	8522.48	7885.21

0.02	68.45	89675	4.06	6.87	2.74	19810.00	17.88	79.59	21.11	2.09	7.19	-0.01	0.21	40.47	69.28
Dry Wt.	% Dry	Fuel Properties					Mw	Mass Balance					kg Wood per		
Now	Comsumed	Total	Carbon	Hydrogen	Oxygen	Calorific	Moisture	(moles/100 mole dry flue gas)					100 mole dfp		M
Wtdn	y	Input	/12= [a]	/1= [b]	/16= [c]	Value	Fuel Burnt	[h]	[u]	[w]	[j]	[k]	Nk	CO2	O2
4.51	0.00	0	4.06	6.87	2.74	19810.00	17.88	79.31	21.04	1.03	3.57	-0.02	0.10	40.51	161.44
4.10	9.09	14023	4.06	6.87	2.74	19810.00	17.88	79.64	21.13	2.42	8.30	0.00	0.24	40.26	43.87
3.50	22.31	11809	4.06	6.87	2.74	19810.00	17.88	79.81	21.17	2.83	9.76	-0.01	0.28	40.78	30.74
2.91	35.54	12178	4.06	6.87	2.74	19810.00	17.88	79.90	21.19	3.17	10.92	-0.01	0.32	40.78	22.79
2.27	49.59	11440	4.06	6.87	2.74	19810.00	17.88	79.94	21.20	3.29	11.33	-0.01	0.33	40.81	20.39
1.75	61.16	9226	4.06	6.87	2.74	19810.00	17.88	79.90	21.19	3.18	10.93	-0.01	0.32	40.78	22.74
1.34	70.25	7012	4.06	6.87	2.74	19810.00	17.88	79.71	21.14	2.47	8.52	-0.01	0.25	40.79	41.63
1.04	76.86	5166	4.06	6.87	2.74	19810.00	17.88	79.65	21.13	2.22	7.67	-0.02	0.22	40.84	51.15
0.82	81.82	4428	4.06	6.87	2.74	19810.00	17.88	79.60	21.12	2.08	7.17	-0.01	0.21	40.74	57.68
0.60	86.78	3321	4.06	6.87	2.74	19810.00	17.88	79.64	21.12	2.17	7.50	-0.02	0.22	40.85	53.29
0.48	89.26	2583	4.06	6.87	2.74	19810.00	17.88	79.48	21.08	1.65	5.68	-0.01	0.16	40.60	84.39
0.34	92.56	2214	4.06	6.87	2.74	19810.00	17.88	79.47	21.08	1.64	5.67	-0.01	0.16	40.53	84.78
0.26	94.21	1845	4.06	6.87	2.74	19810.00	17.88	79.40	21.06	1.47	5.07	-0.01	0.15	40.11	99.90
0.15	96.69	1845	4.06	6.87	2.74	19810.00	17.88	79.40	21.06	1.51	5.20	0.00	0.15	39.98	96.18
0.07	98.35	1107	4.06	6.87	2.74	19810.00	17.88	79.40	21.06	1.52	5.22	0.00	0.15	39.98	95.73
0.04	99.17	1107	4.06	6.87	2.74	19810.00	17.88	79.39	21.06	1.49	5.13	0.00	0.15	39.89	98.04
0.00	100.00	369	4.06	6.87	2.74	19810.00	17.88	79.35	21.05	1.35	4.64	0.00	0.13	39.80	113.05
0.00															

Moisture Content MCwb: 17.88

Dry kg : 4.51
CA: 48.73
HY: 6.87
OX: 43.90

																SUM
0.39	-0.05	427.81	34.63	12.10	608.22	13371.35	9656.25	9290.05	9208.07	13762.44	11085.27	295.60	9212.15	10498.13	1953.96	63877.06
Moles per kg of Dry Wood				Moisture	Stack Temp	Heat Content Change - Ambient to Stack Temperature Flue Gas Constituent						Room Temp	Energy Losses (kJ Flue Gas Co			
CO	HC	N2	H2O	Present	K	CO2	O2	CO	N2	CH4	H2O	K	CO2	O2	CO	N2
0.49	-0.19	776.10	34.90	12.10	591.48	12576.10	9128.54	8794.28	8714.15	12841.93	10497.54	294.82	509.48	1473.74	142.72	6763.02
0.54	0.01	331.27	34.51	12.10	606.48	13279.76	9611.13	9252.02	9169.24	13622.14	11041.63	294.82	534.69	421.65	158.03	3037.49
0.07	-0.04	283.02	34.60	12.10	644.82	15107.64	10853.62	10427.54	10338.60	15673.26	12437.93	294.82	616.10	333.67	20.81	2926.03
0.06	-0.03	252.96	34.58	12.10	674.26	16540.60	11816.98	11336.06	11242.99	17304.63	13516.14	294.82	674.47	269.29	18.64	2844.02
0.03	-0.03	244.00	34.58	12.10	694.82	17534.71	12477.79	11957.18	11861.74	18452.85	14252.59	295.37	715.60	254.48	9.00	2894.29
0.06	-0.03	252.76	34.58	12.10	704.26	17984.12	12773.83	12234.70	12138.36	18977.82	14581.39	295.93	733.33	290.44	18.68	3068.15
0.08	-0.06	324.15	34.63	12.10	671.48	16383.18	11709.41	11234.14	11141.63	17129.21	13395.02	295.37	668.21	487.41	23.93	3611.55
0.05	-0.08	360.27	34.67	12.10	638.15	14744.35	10603.88	10190.49	10102.96	15271.73	12156.12	295.93	602.20	542.35	13.26	3639.76
0.14	-0.07	384.69	34.67	12.10	612.04	13499.69	9757.67	9389.86	9306.53	13875.40	11205.10	295.93	549.97	562.86	42.39	3580.18
0.05	-0.08	368.39	34.68	12.10	599.82	12923.88	9363.68	9016.41	8935.19	13234.92	10761.27	295.93	527.88	499.03	13.51	3291.60
0.31	-0.09	485.21	34.71	12.10	580.93	12042.51	8757.44	8440.90	8363.11	12261.54	10077.04	295.93	488.91	739.02	88.96	4057.88
0.37	-0.08	486.53	34.69	12.10	565.93	11349.96	8278.29	7985.30	7910.39	11502.80	9535.13	295.93	459.99	701.86	106.88	3848.61
0.75	-0.05	542.57	34.62	12.10	557.59	10968.04	8012.98	7732.74	7659.49	11086.72	9234.62	295.93	439.95	800.54	218.53	4155.80
0.86	-0.03	528.14	34.58	12.10	553.71	10790.50	7889.38	7615.01	7542.54	10893.88	9094.52	295.93	431.36	758.80	251.29	3983.54
0.86	-0.03	526.43	34.58	12.10	550.37	10638.67	7783.54	7514.16	7442.38	10729.26	8974.50	295.93	425.32	745.08	250.39	3917.92
0.94	-0.02	534.94	34.56	12.10	548.71	10562.87	7730.66	7463.76	7392.33	10647.19	8914.51	295.93	421.35	757.90	274.00	3954.41
1.04	-0.03	591.41	34.58	12.10	544.82	10386.33	7607.38	7346.23	7275.60	10456.28	8774.61	295.93	413.36	860.00	302.94	4302.83

/S			AVERAGE	SUMS						
-828.02	32411.07	11324.75	7555.83	31258	121	31137.10	58417	121	26.42	-2.62
/kg of Dry Fuel)			Total							
nstituent			Loss	Total	Chemical	Sensible and	Total	Chem	Grams Produced	
CH4	H2O Comb	H2O Fuel MC	Rate	Loss	Loss 1	Latent Loss	Output	Loss 2	CO	HC
-170.14	1900.85	659.05	11278.71	0	0	0.00	0	0	0.00	0.00
7.45	1898.20	665.63	6723.14	4759	114	4645.73	9264	114	10.72	0.09
-35.44	1951.73	682.53	6495.43	3872	-9	3880.84	7937	-9	1.18	-0.37
-24.90	1987.69	695.58	6464.79	3974	-4	3978.21	8204	-4	1.09	-0.27
-25.77	2013.26	704.49	6565.35	3791	-10	3801.01	7649	-10	0.49	-0.26
-24.87	2024.52	708.47	6818.71	3176	-3	3178.60	6050	-3	0.83	-0.20
-50.00	1986.68	694.11	7421.88	2627	-9	2636.16	4385	-9	0.81	-0.31
-68.54	1946.08	679.12	7354.25	1918	-14	1932.23	3248	-14	0.33	-0.32
-64.79	1912.66	667.61	7250.87	1621	-5	1625.98	2808	-5	0.91	-0.26
-71.37	1898.08	662.24	6820.97	1144	-10	1153.19	2178	-10	0.22	-0.21
-82.37	1875.68	653.96	7822.04	1020	1	1019.33	1563	1	1.11	-0.19
-74.71	1855.97	647.41	7546.01	843	3	840.06	1371	3	1.15	-0.15
-46.11	1842.17	643.77	8054.64	750	16	734.67	1095	16	1.96	-0.08
-25.85	1834.94	642.07	7876.16	734	20	713.20	1112	20	2.26	-0.04
-25.56	1830.75	640.62	7784.52	435	12	422.83	672	12	1.35	-0.03
-18.22	1827.82	639.90	7857.15	439	14	425.19	668	14	1.48	-0.02
-26.82	1823.99	638.20	8314.50	155	5	149.88	214	5	0.54	-0.01

Dirigo Laboratories, Inc.

Manufacturer:	IHP
Model:	Ladera
Date:	11/9/2017
Run:	4
Control #:	081
Test Duration:	160
Output Category:	3

	HHV Basis	LHV Basis
Overall Efficiency	64.6%	69.9%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	65.0%	70.2%

HHV Output Rate (kJ/h)	21,646	20,534	(Btu/h)
Burn Rate (kg/h)	1.69	3.73	(lb/h)
Input (kJ/h)	33,490	31,769	(Btu/h)

Test Load Weight (dry kg)	4.5	9.9	dry lb
MC wet (%)	17.88		
MC dry (%)	21.78		
Particulate (g)	4.22		
CO (g)	26		
Test Duration (h)	2.666666667		

Emissions	Particulate	CO
g/MJ Output	0.07	0.46
g/kg Dry Fuel	0.94	5.86
g/h	1.58	9.91
lb/MM Btu Output	0.17	1.06

Air/Fuel Ratio (A/F)	13.02

Test Results in Accordance with CSA B415.1-10

Technician: _____

VERSION: 2.4 4/15/2010

lanufacturer: IHP
Model: Ladera
Date: 11/8/2017
Run: 3
Control #: 081
est Duration: 150
urn Category 3

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

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Wood Moisture (% DRY): 20.76
Wood Moisture (% wet): 17.19
Load Weight (lb wet): 12.60
Burn Rate (dry kg/h): 1.9
Total Particulate Emissions: 3.47 g

Fuel Data

	D. Fir	
HHV	19,810	kJ/kg
%C	48.73	
%H	6.87	
%O	43.90	
%Ash	0.50	

Dougla
Oak

		Temp. (F)		Flue Gas Composition (%)		
Averages		668.1	75.6	11.78	8.67	0.05
Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas	Room Temp	O2	CO2	CO
0	12.6	556.0	74.0	16.26	3.74	0.02
10	11.2	717.0	75.0	8.52	12.56	0.09
20	8.9	884.0	75.0	4.23	17.34	0.16
30	6.8	961.0	75.0	3.85	17.43	0.18
40	5.0	908.0	76.0	6.87	13.81	0.00
50	3.8	802.0	77.0	10.28	10.27	0.00
60	3.0	717.0	78.0	11.56	9.00	0.00
70	2.3	666.0	76.0	12.21	8.27	0.00
80	1.7	621.0	76.0	13.68	6.65	0.00
90	1.4	597.0	76.0	14.07	5.99	0.04
100	1.1	575.0	76.0	14.03	6.09	0.03
110	0.8	555.0	75.0	14.03	6.01	0.04
120	0.6	544.0	75.0	14.59	5.47	0.06
130	0.3	532.0	76.0	14.52	5.58	0.05
140	0.1	528.0	75.0	14.79	5.34	0.07
150	0.0	526.0	75.0	15.02	5.09	0.08

Manufacturer:	IHP
Model:	Ladera
Date:	11/8/2017
Run:	3
Control #:	081
Test Duration:	150 min

Overall Heating Efficiency:	64.2%
Combustion Efficiency:	99.5%
Heat Transfer Efficiency:	64.5%

Air Fuel Ratio (A/F)
Dry Molecular Weight (Md)
Dry Moles Exhaust Gas (Nr):
Air Fuel Ratio (A/F)

	HHV	LHV
Eff	64.2%	69.4%
Comb Eff	99.5%	99.5%
HT Eff	64.5%	69.7%
Output	24,084	kJ/h
Burn Rate	1.89	kg/h
Grams CO	31	g
Input	37,513	kJ/h
MC wet	17.19	

Heat Output:	22,847	Btu/h	24,084	kJ/h
Heat Input:	35,585	Btu/h	37,513	kJ/h
Burn Duration:	2.5	h		
Burn Rate:	4.2	lb/h	1.9	kg/h
Stack Temp:	675.5	Deg. F	357.5	Deg. C

	Ultimate CO2
CO2-ult	19.64
	Fo
	1.061

INPUT DATA				Oxygen Calculation			Input Data							
Averages	0.05	8.67	175.3%	20.36	11.67	353.4	24.2	100.0%	60.3%	60.3%	16.6	1.69	70.44
Elapsed Time	Weight Remaining (kg)	% CO [e]	% CO2 [d]	Excess Air EA	Total O2	Calc. % O2 [g]	Flue Gas (ºC)	Room Temp (ºC)	Combust Eff %	Heat Transfer %	Net Eff %	Air Fuel Ratio	Wet Wt Now Wt	% Wet Consumed x
0	5.72	0.02	3.74	422.4%	20.69	16.94	291.1	23.3	100.9%	43.6%	44.0%	31.6	5.72	0.00
10	5.08	0.09	12.56	55.3%	20.10	7.50	380.6	23.9	99.6%	68.4%	68.2%	9.4	5.08	11.11
20	4.04	0.16	17.34	12.2%	19.78	2.36	473.3	23.9	99.3%	68.7%	68.2%	6.8	4.04	29.37
30	3.09	0.18	17.43	11.5%	19.78	2.26	516.1	23.9	99.2%	66.6%	66.1%	6.8	3.09	46.03
40	2.27	0.00	13.81	42.2%	20.03	6.22	486.7	24.4	100.1%	63.8%	63.9%	8.6	2.27	60.32
50	1.72	0.00	10.27	91.3%	20.26	9.99	427.8	25.0	100.3%	61.1%	61.3%	11.6	1.72	69.84
60	1.36	0.00	9.00	118.3%	20.35	11.35	380.6	25.6	100.4%	61.7%	61.9%	13.2	1.36	76.19
70	1.04	0.00	8.27	137.5%	20.39	12.12	352.2	24.4	100.4%	62.0%	62.3%	14.4	1.04	81.75
80	0.77	0.00	6.65	195.4%	20.50	13.85	327.2	24.4	100.6%	58.8%	59.1%	17.9	0.77	86.51
90	0.64	0.04	5.99	225.8%	20.54	14.53	313.9	24.4	100.1%	57.3%	57.4%	19.7	0.64	88.89
100	0.50	0.03	6.09	221.0%	20.54	14.43	301.7	24.4	100.3%	59.2%	59.3%	19.4	0.50	91.27
110	0.36	0.04	6.01	224.7%	20.54	14.51	290.6	23.9	100.1%	60.0%	60.1%	19.6	0.36	93.65
120	0.27	0.06	5.47	255.2%	20.57	15.07	284.4	23.9	99.9%	58.2%	58.1%	21.4	0.27	95.24
130	0.14	0.05	5.58	248.9%	20.57	14.96	277.8	24.4	100.0%	59.6%	59.6%	21.1	0.14	97.62
140	0.05	0.07	5.34	263.1%	20.58	15.21	275.6	23.9	99.7%	58.6%	58.4%	21.9	0.05	99.21
150	0.00	0.08	5.09	279.9%	20.60	15.47	274.4	23.9	99.6%	57.4%	57.1%	22.9	0.00	100.00
0														

29.85	
442.88	%HC
12.71	0.88

Combustion Efficiency:	99.5%		
Total Input (kJ):	93,782	88,948	(Btu)
Total Output (kJ):	60,211	57,107	(Btu)
Efficiency:	64.2%		
Total CO (g):	30.74		

Moisture of Wood (wet basis):	17.19
Initial Dry Weight Wtdo (kg):	4.73
Moisture Content Dry	20.76

Load Weight (kg):	5.72				
Fuel Heating:	HHV	LHV		HHV	LHV
Value in kJ/kg - CV:	19810.00	18328.69	Btu/lb	8522.48	7885.21

0.02	70.44	94154	4.06	6.87	2.74	19810.00	17.19	79.61	21.12	2.14	7.39	-0.01	0.21	40.65	76.63
Dry Wt. Now Wtdn	% Dry Comsumed y	Fuel Properties Total Input	Carbon /12= [a]	Hydrogen /1= [b]	Oxygen /16= [c]	Calorific Value	Mw Moisture Fuel Burnt	Mass Balance (moles/100 mole dry flue gas) [h]	[u]	[w]	[j]	[k]	kg Wood per 100 mole dfp Nk	CO2	M O2
4.73	0.00	0	4.06	6.87	2.74	19810.00	17.19	79.30	21.03	0.92	3.21	-0.02	0.09	40.86	185.09
4.21	11.11	18980	4.06	6.87	2.74	19810.00	17.19	79.85	21.18	3.12	10.70	0.00	0.31	40.52	24.19
3.34	29.37	16375	4.06	6.87	2.74	19810.00	17.19	80.14	21.26	4.31	14.78	0.02	0.43	40.39	5.51
2.55	46.03	14514	4.06	6.87	2.74	19810.00	17.19	80.13	21.26	4.34	14.87	0.02	0.43	40.34	5.22
1.88	60.32	11165	4.06	6.87	2.74	19810.00	17.19	79.97	21.21	3.40	11.69	-0.01	0.34	40.84	18.39
1.43	69.84	7443	4.06	6.87	2.74	19810.00	17.19	79.74	21.15	2.53	8.71	-0.02	0.25	40.88	39.77
1.13	76.19	5582	4.06	6.87	2.74	19810.00	17.19	79.65	21.13	2.21	7.63	-0.02	0.22	40.90	51.55
0.86	81.75	4838	4.06	6.87	2.74	19810.00	17.19	79.61	21.12	2.03	7.02	-0.02	0.20	40.91	59.97
0.64	86.51	3349	4.06	6.87	2.74	19810.00	17.19	79.50	21.09	1.63	5.65	-0.02	0.16	40.95	85.29
0.53	88.89	2233	4.06	6.87	2.74	19810.00	17.19	79.44	21.07	1.48	5.12	-0.02	0.15	40.66	98.64
0.41	91.27	2233	4.06	6.87	2.74	19810.00	17.19	79.45	21.07	1.50	5.20	-0.02	0.15	40.74	96.53
0.30	93.65	1861	4.06	6.87	2.74	19810.00	17.19	79.44	21.07	1.49	5.14	-0.02	0.15	40.66	98.17
0.23	95.24	1861	4.06	6.87	2.74	19810.00	17.19	79.40	21.06	1.36	4.70	-0.02	0.14	40.48	111.57
0.11	97.62	1861	4.06	6.87	2.74	19810.00	17.19	79.41	21.06	1.38	4.78	-0.02	0.14	40.57	108.79
0.04	99.21	1489	4.06	6.87	2.74	19810.00	17.19	79.38	21.06	1.33	4.59	-0.01	0.13	40.39	115.03
0.00	100.00	372	4.06	6.87	2.74	19810.00	17.19	79.36	21.05	1.27	4.39	-0.01	0.13	40.28	122.42
0.00															

Moisture Content MCwb: 17.19

Dry kg : 4.73
CA: 48.73
HY: 6.87
OX: 43.90

																SUM
0.25	-0.09	456.05	34.70	11.53	626.52	14223.47	10211.65	9809.02	9725.73	14770.81	11699.61	297.39	9250.62	10748.50	1172.05	64677.44
Moles per kg of Dry Wood				Moisture	Stack Temp	Heat Content Change - Ambient to Stack Temperature Flue Gas Constituent						Room Temp	Energy Losses (kJ Flue Gas Co			
CO	HC	N2	H2O	Present	K	CO2	O2	CO	N2	CH4	H2O	K	CO2	O2	CO	N2
0.22	-0.27	866.34	35.05	11.53	564.26	11252.23	8208.82	7918.75	7844.36	11399.79	9455.80	296.48	459.76	1519.37	63.55	6795.89
0.29	0.00	257.60	34.52	11.53	653.71	15452.87	11078.19	10637.26	10547.81	16082.76	12686.14	297.04	626.13	268.03	85.25	2717.09
0.37	0.05	186.68	34.43	11.53	746.48	20077.17	14147.54	13521.02	13420.82	21433.84	16104.96	297.04	811.00	77.93	110.52	2505.38
0.42	0.05	185.48	34.42	11.53	789.26	22293.41	15588.85	14866.90	14763.48	24063.46	17697.83	297.04	899.39	81.45	124.10	2738.26
0.00	-0.03	236.51	34.58	11.53	759.82	20741.05	14578.65	13923.40	13822.28	22222.96	16581.12	297.59	847.11	268.10	0.00	3269.11
0.00	-0.06	317.37	34.65	11.53	700.93	17732.95	12598.02	12066.99	11971.82	18707.09	14381.73	298.15	724.86	501.02	0.00	3799.51
0.00	-0.08	361.94	34.69	11.53	653.71	15389.24	11029.09	10589.21	10500.36	16024.17	12628.55	298.71	629.35	568.60	0.00	3800.53
0.00	-0.10	393.78	34.72	11.53	625.37	14069.21	10139.92	9750.18	9665.25	14525.17	11632.65	297.59	575.56	608.12	0.00	3806.02
0.00	-0.14	489.54	34.80	11.53	600.37	12886.38	9332.47	8985.33	8904.60	13205.37	10723.85	297.59	527.69	795.98	0.00	4359.18
0.27	-0.12	539.22	34.76	11.53	587.04	12262.95	8904.14	8578.84	8500.51	12515.79	10240.60	297.59	498.61	878.32	79.17	4583.68
0.20	-0.13	531.46	34.77	11.53	574.82	11695.99	8512.90	8207.09	8131.06	11892.42	9798.52	297.59	476.47	821.77	58.44	4321.32
0.27	-0.12	537.44	34.76	11.53	563.71	11205.55	8174.76	7885.89	7811.82	11352.49	9416.57	297.04	455.62	802.52	78.72	4198.40
0.44	-0.11	587.60	34.75	11.53	557.59	10925.66	7980.26	7700.71	7627.86	11047.75	9196.23	297.04	442.30	890.34	129.08	4482.12
0.36	-0.12	577.35	34.77	11.53	550.93	10600.37	7752.09	7482.93	7411.63	10698.17	8936.91	297.59	430.07	843.38	105.60	4279.09
0.53	-0.11	600.43	34.74	11.53	548.71	10520.50	7697.94	7431.74	7360.70	10608.21	8876.13	297.04	424.93	885.49	153.77	4419.61
0.63	-0.10	628.09	34.73	11.53	547.59	10470.01	7662.70	7398.15	7327.34	10553.58	8836.14	297.04	421.77	938.10	183.86	4602.24

/IS			AVERAGE	SUMS						
-1251.84	30898.20	10272.80	7860.49	33322	219	33102.40	60833	219	30.74	-1.64
/kg of Dry Fuel)			Total							
nstituent			Loss	Total	Chemical	Sensible and	Total	Chem	Grams Produced	
CH4	H2O Comb	H2O Fuel MC	Rate	Loss	Loss 1	Latent Loss	Output	Loss 2	CO	HC
-239.75	1872.78	616.17	11087.77	0	0	0.00	0	0	0.00	0.00
3.08	1955.50	653.43	6308.51	6044	82	5962.49	12936	82	7.79	0.05
41.45	2068.45	692.86	6307.58	5214	121	5093.12	11161	121	8.63	0.60
47.84	2122.45	711.23	6724.71	4927	121	4806.39	9587	121	8.55	0.61
-26.99	2093.93	698.35	7149.60	4029	-15	4044.23	7135	-15	0.00	-0.27
-58.15	2021.89	672.98	7662.11	2879	-21	2900.21	4564	-21	0.00	-0.38
-75.16	1963.28	652.76	7539.36	2125	-21	2145.33	3458	-21	0.00	-0.37
-87.29	1930.24	641.28	7473.93	1825	-21	1846.25	3013	-21	0.00	-0.38
-123.96	1903.15	630.80	8092.84	1368	-21	1388.94	1981	-21	0.00	-0.37
-107.53	1884.37	625.22	8441.85	952	-3	954.82	1281	-3	0.86	-0.21
-113.71	1869.75	620.12	8054.16	908	-6	914.08	1325	-6	0.63	-0.23
-106.82	1855.66	615.72	7899.81	742	-3	744.75	1119	-3	0.71	-0.18
-103.43	1847.61	613.18	8301.20	780	2	777.53	1081	2	1.17	-0.17
-109.94	1839.36	610.19	7997.75	751	-1	751.77	1110	-1	0.96	-0.18
-97.18	1835.75	609.49	8231.85	619	4	614.53	870	4	1.11	-0.13
-94.28	1834.03	609.02	8494.74	160	2	157.97	213	2	0.33	-0.03

Dirigo Laboratories, Inc.

Manufacturer:	IHP
Model:	Ladera
Date:	11/8/2017
Run:	3
Control #:	081
Test Duration:	150
Output Category:	3

	HHV Basis	LHV Basis
Overall Efficiency	64.2%	69.4%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	64.5%	69.7%

HHV Output Rate (kJ/h)	24,084	22,847	(Btu/h)
Burn Rate (kg/h)	1.89	4.17	(lb/h)
Input (kJ/h)	37,513	35,585	(Btu/h)

Test Load Weight (dry kg)	4.7	10.4	dry lb
MC wet (%)	17.19		
MC dry (%)	20.76		
Particulate (g)	3.47		
CO (g)	31		
Test Duration (h)	2.5		

Emissions	Particulate	CO
g/MJ Output	0.06	0.51
g/kg Dry Fuel	0.73	6.49
g/h	1.39	12.29
lb/MM Btu Output	0.13	1.19

Air/Fuel Ratio (A/F)	12.71

Test Results in Accordance with CSA B415.1-10

Technician: _____

VERSION: 2.4 4/15/2010

lanufacturer: IHP
Model: Ladera
Date: 11/8/2017
Run: 2
Control #: 081
est Duration: 250
urn Category 2

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

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Wood Moisture (% DRY): 24.1
Wood Moisture (% wet): 19.42
Load Weight (lb wet): 11.90
Burn Rate (dry kg/h): 1.0
Total Particulate Emissions: 9.85 g

Fuel Data

	D. Fir	
HHV	19,810	kJ/kg
%C	48.73	
%H	6.87	
%O	43.90	
%Ash	0.50	

Dougla
Oak

		Temp. (F)		Flue Gas Composition (%)		
Averages		498.9	70.4	13.80	6.70	0.06
Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas	Room Temp	O2	CO2	CO
0	11.9	417.0	68.0	16.55	3.52	0.03
10	11.4	404.0	68.0	16.61	3.33	0.44
20	10.6	472.0	68.0	14.44	6.21	0.13
30	11.2	532.0	68.0	13.14	7.85	0.06
40	8.5	567.0	68.0	10.46	11.06	0.02
50	7.2	649.0	68.0	7.94	13.85	0.04
60	5.9	675.0	69.0	8.71	12.91	0.01
70	5.1	623.0	70.0	11.90	9.06	0.01
80	4.5	583.0	70.0	12.45	8.31	0.02
90	3.8	556.0	70.0	12.48	8.32	0.02
100	3.3	537.0	71.0	12.54	8.22	0.02
110	2.8	518.0	70.0	12.76	7.98	0.01
120	2.4	498.0	70.0	13.34	7.23	0.01
130	1.9	484.0	72.0	12.73	7.86	0.01
140	1.7	485.0	71.0	14.18	6.08	0.03
150	1.5	482.0	71.0	14.92	5.23	0.05
160	1.3	478.0	72.0	14.58	5.56	0.06
170	1.2	481.0	72.0	14.66	5.51	0.07
180	1.0	482.0	72.0	15.04	5.04	0.09
190	0.8	483.0	72.0	15.30	4.75	0.07
200	0.7	479.0	72.0	15.25	4.88	0.08
210	0.5	426.0	72.0	15.69	4.46	0.02
220	0.4	416.0	72.0	15.70	4.38	0.03
230	0.2	415.0	72.0	15.69	4.41	0.03
240	0.1	414.0	72.0	15.87	4.21	0.05
250	0.0	415.0	71.0	15.99	4.06	0.05

Manufacturer:	IHP
Model:	Ladera
Date:	11/8/2017
Run:	2
Control #:	081
Test Duration:	250 min

	HHV	LHV
Eff	65.9%	71.2%
Comb Eff	99.4%	99.4%
HT Eff	66.3%	71.6%
Output	13,635	kJ/h
Burn Rate	1.04	kg/h
Grams CO	62	g
Input	20,685	kJ/h
MC wet	19.42	

Ultimate CO2

CO2-ult 19.64

Fo

1.060

Overall Heating Efficiency:	
Combustion Efficiency:	
Heat Transfer Efficiency:	
Heat Output:	12,934
Heat Input:	19,622
Burn Duration:	4.166666667
Burn Rate:	2.3
Stack Temp:	502.2

	Averages	0.06	6.70	232.4%	20.49	13.76	259.4	21.3	99.8%	63.4%
INPUT DATA				Oxygen Calculation			Input Data		Combust Eff %	Heat Transfer %
Elapsed Time	Weight Remaining (kg)	% CO [e]	% CO2 [d]	Excess Air EA	Total O2	Calc. % O2 [g]	Flue Gas (ºC)	Room Temp (ºC)		
0	5.40	0.03	3.52	453.3%	20.71	17.17	213.9	20.0	100.7%	54.3%
10	5.17	0.44	3.33	421.0%	20.69	17.14	206.7	20.0	91.5%	54.1%
20	4.81	0.13	6.21	209.8%	20.52	14.25	244.4	20.0	98.9%	65.1%
30	5.08	0.06	7.85	148.3%	20.42	12.54	277.8	20.0	99.8%	66.6%
40	3.86	0.02	11.06	77.3%	20.21	9.14	297.2	20.0	100.1%	71.1%
50	3.27	0.04	13.85	41.4%	20.02	6.15	342.8	20.0	99.9%	71.5%
60	2.68	0.01	12.91	52.0%	20.09	7.17	357.2	20.6	100.1%	69.7%
70	2.31	0.01	9.06	116.6%	20.34	11.28	328.3	21.1	100.3%	65.3%
80	2.04	0.02	8.31	135.8%	20.39	12.07	306.1	21.1	100.2%	65.4%
90	1.72	0.02	8.32	135.5%	20.39	12.06	291.1	21.1	100.2%	66.7%
100	1.50	0.02	8.22	138.4%	20.40	12.17	280.6	21.7	100.2%	67.4%
110	1.27	0.01	7.98	145.8%	20.41	12.43	270.0	21.1	100.4%	67.8%
120	1.09	0.01	7.23	171.3%	20.46	13.23	258.9	21.1	100.4%	66.9%
130	0.86	0.01	7.86	149.6%	20.42	12.56	251.1	22.2	100.4%	69.3%
140	0.77	0.03	6.08	221.5%	20.54	14.44	251.7	21.7	100.3%	64.0%

150	0.68	0.05	5.23	272.0%	20.59	15.34	250.0	21.7	100.1%	60.6%
160	0.59	0.06	5.56	249.5%	20.57	14.98	247.8	22.2	99.9%	62.4%
170	0.54	0.07	5.51	252.0%	20.57	15.03	249.4	22.2	99.7%	62.0%
180	0.45	0.09	5.04	282.9%	20.60	15.52	250.0	22.2	99.4%	59.6%
190	0.36	0.07	4.75	307.5%	20.62	15.84	250.6	22.2	99.7%	57.9%
200	0.32	0.08	4.88	296.0%	20.61	15.69	248.3	22.2	99.6%	59.0%
210	0.23	0.02	4.46	338.5%	20.64	16.17	218.9	22.2	100.7%	60.8%
220	0.18	0.03	4.38	345.4%	20.65	16.25	213.3	22.2	100.5%	61.1%
230	0.09	0.03	4.41	342.4%	20.65	16.22	212.8	22.2	100.5%	61.4%
240	0.05	0.05	4.21	361.1%	20.66	16.42	212.2	22.2	100.1%	60.3%
250	0.00	0.05	4.06	377.9%	20.67	16.58	212.8	21.7	100.2%	59.1%
0										

	Air Fuel Ratio (A/F)	
65.9%	Dry Molecular Weight (Md)	29.62
99.4%	Dry Moles Exhaust Gas (Nr):	556.34
66.3%	Air Fuel Ratio (A/F)	15.97

%HC
0.88

Combustion Efficiency:	99.4%
Total Input (kJ):	86,188
Total Output (kJ):	56,811
Efficiency:	65.9%
Total CO (g):	62.03

Btu/h	13,635	kJ/h
Btu/h	20,685	kJ/h
h		
lb/h	1.0	kg/h
Deg. F	261.2	Deg. C

63.3%	20.1	1.74	67.71	0.04	67.71	86550	4.06	6.87	2.74	19810.00	19.42
Net Eff %	Air Fuel Ratio	Wet Wt Now Wt	% Wet Consumed x	Dry Wt. Now Wtdn	% Dry Comsumed y	Fuel Properties					Mw Moisture Fuel Burnt
						Total Input	Carbon /12= [a]	Hydrogen /1= [b]	Oxygen /16= [c]	Calorific Value	
54.7%	33.5	5.40	0.00	4.35	0.00	0	4.06	6.87	2.74	19810.00	19.42
49.5%	30.9	5.17	4.20	4.17	4.20	6518	4.06	6.87	2.74	19810.00	19.42
64.4%	18.7	4.81	10.92	3.88	10.92	724	4.06	6.87	2.74	19810.00	19.42
66.5%	15.0	5.08	5.88	4.09	5.88	7605	4.06	6.87	2.74	19810.00	19.42
71.2%	10.7	3.86	28.57	3.11	28.57	14485	4.06	6.87	2.74	19810.00	19.42
71.5%	8.6	3.27	39.50	2.63	39.50	9416	4.06	6.87	2.74	19810.00	19.42
69.7%	9.2	2.68	50.42	2.16	50.42	7605	4.06	6.87	2.74	19810.00	19.42
65.5%	13.1	2.31	57.14	1.86	57.14	5070	4.06	6.87	2.74	19810.00	19.42
65.5%	14.3	2.04	62.18	1.65	62.18	4708	4.06	6.87	2.74	19810.00	19.42
66.9%	14.2	1.72	68.07	1.39	68.07	4346	4.06	6.87	2.74	19810.00	19.42
67.6%	14.4	1.50	72.27	1.21	72.27	3621	4.06	6.87	2.74	19810.00	19.42
68.0%	14.9	1.27	76.47	1.02	76.47	3259	4.06	6.87	2.74	19810.00	19.42
67.2%	16.4	1.09	79.83	0.88	79.83	3259	4.06	6.87	2.74	19810.00	19.42
69.5%	15.1	0.86	84.03	0.69	84.03	2535	4.06	6.87	2.74	19810.00	19.42
64.2%	19.4	0.77	85.71	0.62	85.71	1449	4.06	6.87	2.74	19810.00	19.42

60.6%	22.5	0.68	87.39	0.55	87.39	1449	4.06	6.87	2.74	19810.00	19.42
62.4%	21.1	0.59	89.08	0.48	89.08	1086	4.06	6.87	2.74	19810.00	19.42
61.9%	21.2	0.54	89.92	0.44	89.92	1086	4.06	6.87	2.74	19810.00	19.42
59.3%	23.1	0.45	91.60	0.37	91.60	1449	4.06	6.87	2.74	19810.00	19.42
57.8%	24.6	0.36	93.28	0.29	93.28	1086	4.06	6.87	2.74	19810.00	19.42
58.7%	23.9	0.32	94.12	0.26	94.12	1086	4.06	6.87	2.74	19810.00	19.42
61.2%	26.5	0.23	95.80	0.18	95.80	1086	4.06	6.87	2.74	19810.00	19.42
61.4%	26.9	0.18	96.64	0.15	96.64	1086	4.06	6.87	2.74	19810.00	19.42
61.7%	26.7	0.09	98.32	0.07	98.32	1086	4.06	6.87	2.74	19810.00	19.42
60.3%	27.9	0.05	99.16	0.04	99.16	1086	4.06	6.87	2.74	19810.00	19.42
59.2%	28.9	0.00	100.00	0.00	100.00	362	4.06	6.87	2.74	19810.00	19.42
				0.00							

				Moisture Content MCwb:	19.42
		Moisture of Wood (wet basis):	19.42	Dry kg :	4.35
81,745	(Btu)	Initial Dry Weight Wtdo (kg):	4.35	CA:	48.73
53,882	(Btu)	Moisture Content Dry	24.10	HY:	6.87
				OX:	43.90

Load Weight (kg):	5.40				
Fuel Heating:	HHV	LHV		HHV	LHV
Value in kJ/kg - CV:	19810.00	18328.69	Btu/lb	8522.48	7885.21

79.48	21.08	1.66	5.73	-0.01	0.17	40.44	101.62	0.47	-0.10	549.89	34.71
Mass Balance (moles/100 mole dry flue gas)					kg Wood per 100 mole dfp	Moles per kg of Dry Wood					
[h]	[u]	[w]	[j]	[k]	Nk	CO2	O2	CO	HC	N2	H2O
79.28	21.03	0.87	3.03	-0.02	0.09	40.73	198.70	0.35	-0.27	917.44	35.06
79.09	20.98	0.94	3.15	0.04	0.09	35.70	183.78	4.72	0.39	847.96	33.74
79.41	21.06	1.56	5.37	0.00	0.16	40.00	91.77	0.84	-0.03	511.53	34.57
79.55	21.10	1.95	6.70	-0.01	0.19	40.56	64.78	0.31	-0.06	411.05	34.64
79.78	21.16	2.73	9.39	-0.01	0.27	40.78	33.70	0.07	-0.04	294.18	34.61
79.96	21.21	3.42	11.75	0.00	0.34	40.71	18.08	0.12	-0.01	235.00	34.55
79.91	21.20	3.18	10.94	-0.01	0.32	40.81	22.67	0.03	-0.03	252.62	34.59
79.65	21.13	2.23	7.69	-0.02	0.22	40.84	50.83	0.05	-0.08	359.08	34.67
79.60	21.11	2.05	7.07	-0.02	0.20	40.80	59.25	0.10	-0.08	390.77	34.68
79.60	21.11	2.05	7.07	-0.02	0.20	40.80	59.13	0.10	-0.08	390.30	34.68
79.59	21.11	2.03	6.99	-0.02	0.20	40.80	60.38	0.10	-0.08	395.02	34.69
79.58	21.11	1.96	6.78	-0.02	0.20	40.86	63.63	0.05	-0.09	407.45	34.71
79.53	21.10	1.78	6.15	-0.02	0.18	40.87	74.77	0.06	-0.11	449.56	34.75
79.57	21.11	1.93	6.68	-0.02	0.19	40.86	65.27	0.05	-0.10	413.64	34.72
79.45	21.07	1.50	5.19	-0.02	0.15	40.74	96.76	0.20	-0.13	532.33	34.78

79.38	21.06	1.30	4.49	-0.02	0.13	40.56	118.94	0.39	-0.13	615.63	34.79
79.40	21.06	1.38	4.77	-0.02	0.14	40.49	109.07	0.44	-0.11	578.19	34.75
79.39	21.06	1.37	4.74	-0.01	0.14	40.40	110.18	0.51	-0.10	582.15	34.73
79.35	21.05	1.26	4.35	-0.01	0.13	40.19	123.73	0.72	-0.09	632.77	34.71
79.34	21.05	1.18	4.09	-0.02	0.12	40.35	134.52	0.59	-0.13	673.96	34.78
79.35	21.05	1.22	4.21	-0.01	0.12	40.26	129.48	0.66	-0.11	654.69	34.75
79.35	21.05	1.10	3.82	-0.02	0.11	40.84	148.11	0.18	-0.21	726.58	34.95
79.34	21.04	1.08	3.76	-0.02	0.11	40.74	151.17	0.28	-0.20	737.86	34.93
79.34	21.04	1.09	3.78	-0.02	0.11	40.74	149.84	0.28	-0.20	732.86	34.92
79.32	21.04	1.04	3.63	-0.02	0.10	40.52	158.06	0.48	-0.18	763.31	34.89
79.31	21.04	1.01	3.50	-0.02	0.10	40.51	165.46	0.50	-0.19	791.25	34.91

13.39	532.53	9909.95	7268.33	7021.32	6953.28	9955.05	8387.32	294.50	10434.34	17689.11	3517.65
Moisture Present	Stack Temp K	Heat Content Change - Ambient to Stack Temperature Flue Gas Constituent						Room Temp K	Energ		
		CO2	O2	CO	N2	CH4	H2O		CO2	O2	CO
13.39	487.04	7920.89	5873.45	5689.97	5631.42	7816.88	6802.11	293.15	322.65	1167.07	100.20
13.39	479.82	7606.30	5648.60	5474.24	5417.48	7487.96	6544.90	293.15	271.57	1038.10	1360.84
13.39	517.59	9268.61	6829.92	6605.87	6540.16	9240.79	7893.63	293.15	370.75	626.75	242.50
13.39	550.93	10769.73	7882.93	7611.00	7538.10	10853.78	9090.44	293.15	436.84	510.68	90.09
13.39	570.37	11660.26	8501.81	8200.20	8123.42	11823.42	9791.50	293.15	475.53	286.48	21.47
13.39	615.93	13789.59	9965.07	9588.89	9503.91	14178.07	11442.43	293.15	561.33	180.21	34.40
13.39	630.37	14456.17	10416.58	10015.64	9928.52	14929.54	11949.18	293.71	589.99	236.17	9.26
13.39	601.48	13065.64	9466.39	9115.31	9033.20	13380.09	10879.31	294.26	533.63	481.20	13.17
13.39	579.26	12028.73	8753.16	8438.24	8360.17	12234.94	10074.33	294.26	490.71	518.66	28.61
13.39	564.26	11336.91	8274.24	7982.78	7907.60	11477.60	9532.56	294.26	462.49	489.26	28.53
13.39	553.71	10832.84	7922.09	7647.02	7574.16	10932.78	9132.90	294.82	441.93	478.33	28.85
13.39	543.15	10374.30	7603.64	7343.90	7273.02	10433.05	8772.24	294.26	423.85	483.79	14.86
13.39	532.04	9872.85	7252.31	7008.65	6940.15	9893.32	8373.10	294.26	403.48	542.23	16.39
13.39	524.26	9481.65	6974.32	6742.37	6675.97	9480.75	8055.73	295.37	387.40	455.18	15.06
13.39	524.82	9527.68	7008.18	6775.10	6708.38	9526.77	8094.84	294.82	388.14	678.13	58.25

13.39	523.15	9453.12	6955.68	6724.94	6658.59	9447.08	8035.10	294.82	383.41	827.28	112.34
13.39	520.93	9332.67	6869.37	6642.08	6576.42	9321.62	7936.27	295.37	377.85	749.28	126.55
13.39	522.59	9407.12	6921.84	6692.22	6626.19	9401.11	7996.00	295.37	380.06	762.65	148.69
13.39	523.15	9431.95	6939.33	6708.94	6642.78	9427.64	8015.91	295.37	379.06	858.59	207.91
13.39	523.71	9456.80	6956.83	6725.65	6659.37	9454.18	8035.82	295.37	381.56	935.84	172.27
13.39	521.48	9357.47	6886.86	6658.79	6593.00	9348.10	7956.18	295.37	376.77	891.69	191.19
13.39	492.04	8054.97	5963.99	5775.46	5716.50	7968.64	6903.61	295.37	328.97	883.32	52.89
13.39	486.48	7812.03	5790.73	5609.34	5551.73	7713.81	6705.57	295.37	318.23	875.37	80.52
13.39	485.93	7787.79	5773.42	5592.74	5535.26	7688.42	6685.78	295.37	317.24	865.11	79.97
13.39	485.37	7763.55	5756.12	5576.14	5518.80	7663.05	6665.98	295.37	314.54	909.78	138.85
13.39	485.93	7808.95	5789.78	5608.75	5551.07	7707.86	6704.97	294.82	316.32	957.96	143.97

SUMS				AVERAGE	SUMS					
94018.71	-2228.59	47251.96	18225.96	7265.74	29377	484	28893.43	57173	484	62.03
y Losses (kJ/kg of Dry Fuel)				Total						
Flue Gas Constituent				Loss	Total	Chemical	Sensible and	Total	Chem	Grams Pr
N2	CH4	H2O Comb	H2O Fuel MC	Rate	Loss	Loss 1	Latent Loss	Output	Loss 2	CO
5166.50	-241.63	1780.07	679.77	8974.64	0	0	0.00	0	0	0.00
4593.80	351.86	1704.27	676.33	9996.77	3289	554	2735.32	3229	554	43.46
3345.48	-23.00	1793.09	694.39	7049.95	258	8	249.92	467	8	0.86
3098.55	-53.19	1838.02	710.41	6631.39	2546	14	2532.21	5059	14	3.33
2389.77	-39.20	1860.63	719.80	5714.48	4179	-13	4191.56	10307	-13	1.51
2233.45	-10.81	1914.27	741.90	5654.75	2688	11	2676.90	6728	11	1.56
2508.09	-28.84	1934.01	748.69	5997.37	2302	-7	2309.78	5303	-7	0.34
3243.64	-67.96	1901.76	734.36	6839.81	1750	-14	1764.36	3319	-14	0.32
3266.90	-73.11	1874.47	723.59	6829.84	1623	-11	1633.62	3085	-11	0.65
3086.36	-72.89	1855.66	716.33	6565.76	1440	-10	1450.00	2905	-10	0.60
2991.98	-74.50	1842.00	710.98	6419.58	1174	-8	1181.85	2448	-8	0.51
2963.38	-85.47	1830.78	706.15	6337.35	1043	-12	1054.16	2217	-12	0.24
3120.04	-100.85	1818.72	700.81	6500.82	1070	-14	1083.32	2190	-14	0.26
2761.48	-87.65	1806.17	696.56	6034.20	772	-9	781.37	1763	-9	0.19
3571.05	-113.70	1810.54	697.08	7089.49	518	-4	522.46	930	-4	0.41

4099.24	-121.29	1809.34	696.28	7806.61	571	-1	571.58	878	-1	0.79
3802.42	-100.56	1803.51	694.96	7454.00	409	1	407.46	678	1	0.67
3857.40	-92.16	1804.61	695.76	7557.02	414	3	411.47	672	3	0.79
4203.35	-84.96	1804.47	696.03	8064.44	590	9	580.98	859	9	1.47
4488.15	-116.73	1808.84	696.29	8366.21	459	3	455.92	628	3	0.91
4316.37	-100.83	1804.23	695.23	8174.65	448	5	443.54	638	5	1.01
4153.50	-190.04	1777.78	681.13	7687.56	422	-7	429.08	665	-7	0.28
4096.41	-181.85	1769.95	678.48	7637.11	419	-6	424.39	668	-6	0.43
4056.58	-180.18	1769.07	678.22	7586.01	416	-5	421.52	670	-5	0.43
4212.54	-165.33	1766.70	677.95	7855.05	431	-2	432.30	656	-2	0.74
4392.27	-173.72	1769.01	678.47	8084.28	148	-1	148.35	214	-1	0.26

-2.57

oduced HC
0.00
2.06
-0.01
-0.36
-0.51
-0.09
-0.20
-0.31
-0.31
-0.28
-0.24
-0.25
-0.29
-0.20
-0.15

-0.16
-0.10
-0.09
-0.11
-0.11
-0.10
-0.19
-0.18
-0.18
-0.16
-0.06

Dirigo Laboratories, Inc.

Manufacturer:	IHP
Model:	Ladera
Date:	11/8/2017
Run:	2
Control #:	081
Test Duration:	250
Output Category:	2

	HHV Basis	LHV Basis
Overall Efficiency	65.9%	71.2%
Combustion Efficiency	99.4%	99.4%
Heat Transfer Efficiency	66.3%	71.6%

HHV Output Rate (kJ/h)	13,635	12,934	(Btu/h)
Burn Rate (kg/h)	1.04	2.30	(lb/h)
Input (kJ/h)	20,685	19,622	(Btu/h)

Test Load Weight (dry kg)	4.4	9.6	dry lb
MC wet (%)	19.42		
MC dry (%)	24.10		
Particulate (g)	9.85		
CO (g)	62		
Test Duration (h)	4.166666667		

Emissions	Particulate	CO
g/MJ Output	0.17	1.09
g/kg Dry Fuel	2.26	14.26
g/h	2.36	14.89
lb/MM Btu Output	0.40	2.54

Air/Fuel Ratio (A/F)	15.97

Test Results in Accordance with CSA B415.1-10

Technician: _____

VERSION: 2.4 4/15/2010

lanufacturer: IHP
Model: Ladera
Date: 11/7/2017
Run: 1
Control #: 081
est Duration: 240
urn Category 2

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

Temp. Units F (F or C)
Weight Units lb (kg or lb)

Wood Moisture (% DRY):	22.58
Wood Moisture (% wet):	18.42
Load Weight (lb wet):	12.10
Burn Rate (dry kg/h):	1.1
Total Particulate Emissions:	6.13 g

Fuel Data

	D. Fir	
HHV	19,810	kJ/kg
%C	48.73	
%H	6.87	
%O	43.90	
%Ash	0.50	

Douglas
Oak

Averages		497.8	69.6	13.77	6.86	0.02
		Temp. (F)				
Elapsed Time (min)	Fuel Weight Remaining (lb)	Flue Gas	Room Temp	Flue Gas Composition (%) O2	CO2	CO
0	12.1	431.0	70.0	15.82	4.50	0.01
10	11.1	497.0	70.0	14.91	5.64	0.12
20	10.2	529.0	70.0	12.98	7.70	0.07
30	9.4	676.0	69.0	13.15	7.77	0.14
40	8.2	584.0	69.0	11.05	10.26	0.01
50	7.0	623.0	69.0	9.98	11.43	0.00
60	6.0	617.0	70.0	11.35	9.69	0.00
70	5.2	572.0	70.0	12.67	8.18	0.00
80	4.6	546.0	70.0	13.42	7.34	0.00
90	4.1	527.0	70.0	13.43	7.29	0.00
100	3.6	518.0	70.0	13.12	7.67	0.00
110	3.1	511.0	70.0	12.46	8.39	0.00
120	2.5	501.0	70.0	13.28	7.44	0.00
130	2.1	514.0	70.0	13.89	6.64	0.01
140	1.6	495.0	69.0	14.42	5.93	0.00
150	1.5	462.0	70.0	14.63	5.71	0.01
160	1.3	447.0	69.0	14.69	5.64	0.01
170	1.1	433.0	69.0	14.67	5.74	0.01
180	0.9	427.0	70.0	14.41	6.01	0.01
190	0.8	424.0	70.0	14.76	5.56	0.01
200	0.6	420.0	69.0	14.73	5.68	0.02
210	0.4	422.0	69.0	14.84	5.61	0.02
220	0.2	423.0	69.0	14.97	5.48	0.02
230	0.1	425.0	69.0	15.22	5.21	0.04
240	0.0	422.0	69.0	15.35	5.06	0.03

Manufacturer:	IHP
Model:	Ladera
Date:	11/7/2017
Run:	1
Control #:	081
Test Duration:	240 min

	HHV	LHV
Eff	65.1%	70.4%
Comb Eff	99.5%	99.5%
HT Eff	65.5%	70.7%
Output	14,446	kJ/h
Burn Rate	1.12	kg/h
Grams CO	26	g
Input	22,181	kJ/h
MC wet	18.42	

Ultimate CO2

CO2-ult 19.64

Fo

1.060

Overall Heating Efficiency:	
Combustion Efficiency:	
Heat Transfer Efficiency:	
Heat Output:	13,703
Heat Input:	21,041
Burn Duration:	4
Burn Rate:	2.5
Stack Temp:	500.6

INPUT DATA				Oxygen Calculation			Input Data		Combust	Heat
Elapsed Time	Weight Remaining (kg)	% CO [e]	% CO2 [d]	Excess Air EA	Total O2	Calc. % O2 [g]	Flue Gas (ºC)	Room Temp (ºC)	Eff %	Transfer %
Averages	0.02	6.86	201.0%	20.49	13.61	258.8	20.9	100.3%	65.6%	
0	5.49	0.01	4.50	335.5%	20.64	16.14	221.7	21.1	100.9%	60.7%
10	5.04	0.12	5.64	241.0%	20.56	14.86	258.3	21.1	99.0%	61.6%
20	4.63	0.07	7.70	152.8%	20.43	12.69	276.1	21.1	99.7%	66.7%
30	4.26	0.14	7.77	148.3%	20.42	12.58	357.8	20.6	99.0%	59.3%
40	3.72	0.01	10.26	91.3%	20.26	10.00	306.7	20.6	100.2%	69.5%
50	3.18	0.00	11.43	71.9%	20.19	8.76	328.3	20.6	100.2%	69.8%
60	2.72	0.00	9.69	102.7%	20.30	10.61	325.0	21.1	100.3%	67.1%
70	2.36	0.00	8.18	140.1%	20.40	12.22	300.0	21.1	100.4%	65.8%
80	2.09	0.00	7.34	167.6%	20.46	13.12	285.6	21.1	100.5%	64.9%
90	1.86	0.00	7.29	169.5%	20.46	13.17	275.0	21.1	100.5%	65.7%
100	1.63	0.00	7.67	156.1%	20.43	12.76	270.0	21.1	100.5%	67.2%
110	1.41	0.00	8.39	134.1%	20.39	12.00	266.1	21.1	100.4%	69.2%
120	1.13	0.00	7.44	164.0%	20.45	13.01	260.6	21.1	100.5%	67.5%
130	0.95	0.01	6.64	195.4%	20.50	13.86	267.8	21.1	100.5%	64.4%
140	0.73	0.00	5.93	231.2%	20.55	14.62	257.2	20.6	100.7%	62.9%

150	0.68	0.01	5.71	243.4%	20.56	14.85	238.9	21.1	100.6%	64.2%
160	0.59	0.01	5.64	247.7%	20.57	14.92	230.6	20.6	100.6%	64.9%
170	0.50	0.01	5.74	241.6%	20.56	14.82	222.8	20.6	100.6%	66.2%
180	0.41	0.01	6.01	226.3%	20.54	14.53	219.4	21.1	100.6%	67.6%
190	0.36	0.01	5.56	252.7%	20.57	15.01	217.8	21.1	100.6%	66.2%
200	0.27	0.02	5.68	244.6%	20.56	14.87	215.6	20.6	100.5%	66.9%
210	0.18	0.02	5.61	248.9%	20.57	14.95	216.7	20.6	100.5%	66.5%
220	0.09	0.02	5.48	257.1%	20.58	15.09	217.2	20.6	100.5%	65.9%
230	0.05	0.04	5.21	274.2%	20.59	15.36	218.3	20.6	100.2%	64.6%
240	0.00	0.03	5.06	285.9%	20.60	15.53	216.7	20.6	100.4%	64.2%
0										
0										

	Air Fuel Ratio (A/F)	
65.1%	Dry Molecular Weight (Md)	29.64
99.5%	Dry Moles Exhaust Gas (Nr):	547.37
65.5%	Air Fuel Ratio (A/F)	15.72

%HC
0.88

Combustion Efficiency:	99.5%
Total Input (kJ):	88,723
Total Output (kJ):	57,783
Efficiency:	65.1%
Total CO (g):	26.37

Btu/h	14,446	kJ/h
Btu/h	22,181	kJ/h
h		
lb/h	1.1	kg/h
Deg. F	260.3	Deg. C

65.8%	18.2	1.77	67.70	0.04	67.70	89090	4.06	6.87	2.74	19810.00	18.42
Net Eff %	Air Fuel Ratio	Wet Wt Now Wt	% Wet Consumed x	Dry Wt. Now Wtdn	% Dry Comsumed y	Fuel Properties Total Input	Carbon /12= [a]	Hydrogen /1= [b]	Oxygen /16= [c]	Calorific Value	Mw Moisture Fuel Burnt
61.2%	26.3	5.49	0.00	4.48	0.00	0	4.06	6.87	2.74	19810.00	18.42
61.0%	20.5	5.04	8.26	4.11	8.26	10632	4.06	6.87	2.74	19810.00	18.42
66.5%	15.3	4.63	15.70	3.78	15.70	6233	4.06	6.87	2.74	19810.00	18.42
58.7%	15.0	4.26	22.31	3.48	22.31	7333	4.06	6.87	2.74	19810.00	18.42
69.6%	11.6	3.72	32.23	3.04	32.23	8799	4.06	6.87	2.74	19810.00	18.42
69.9%	10.4	3.18	42.15	2.59	42.15	8066	4.06	6.87	2.74	19810.00	18.42
67.3%	12.3	2.72	50.41	2.22	50.41	6599	4.06	6.87	2.74	19810.00	18.42
66.1%	14.5	2.36	57.02	1.92	57.02	5133	4.06	6.87	2.74	19810.00	18.42
65.2%	16.2	2.09	61.98	1.70	61.98	4033	4.06	6.87	2.74	19810.00	18.42
66.1%	16.3	1.86	66.12	1.52	66.12	3666	4.06	6.87	2.74	19810.00	18.42
67.6%	15.5	1.63	70.25	1.33	70.25	3666	4.06	6.87	2.74	19810.00	18.42
69.5%	14.2	1.41	74.38	1.15	74.38	4033	4.06	6.87	2.74	19810.00	18.42
67.9%	16.0	1.13	79.34	0.93	79.34	3666	4.06	6.87	2.74	19810.00	18.42
64.7%	17.9	0.95	82.64	0.78	82.64	3300	4.06	6.87	2.74	19810.00	18.42
63.4%	20.0	0.73	86.78	0.59	86.78	2200	4.06	6.87	2.74	19810.00	18.42

64.6%	20.8	0.68	87.60	0.56	87.60	1100	4.06	6.87	2.74	19810.00	18.42
65.3%	21.0	0.59	89.26	0.48	89.26	1467	4.06	6.87	2.74	19810.00	18.42
66.6%	20.7	0.50	90.91	0.41	90.91	1467	4.06	6.87	2.74	19810.00	18.42
68.0%	19.7	0.41	92.56	0.33	92.56	1100	4.06	6.87	2.74	19810.00	18.42
66.6%	21.3	0.36	93.39	0.30	93.39	1100	4.06	6.87	2.74	19810.00	18.42
67.2%	20.8	0.27	95.04	0.22	95.04	1467	4.06	6.87	2.74	19810.00	18.42
66.8%	21.1	0.18	96.69	0.15	96.69	1467	4.06	6.87	2.74	19810.00	18.42
66.2%	21.6	0.09	98.35	0.07	98.35	1100	4.06	6.87	2.74	19810.00	18.42
64.8%	22.6	0.05	99.17	0.04	99.17	1100	4.06	6.87	2.74	19810.00	18.42
64.5%	23.3	0.00	100.00	0.00	100.00	367	4.06	6.87	2.74	19810.00	18.42
				0.00							
				0.00							

Moisture Content MCwb: 18.42

Moisture of Wood (wet basis): 18.42
Initial Dry Weight Wtdo (kg): 4.48
Moisture Content Dry 22.58

84,150 (Btu)
54,804 (Btu)

Dry kg : 4.48
CA: 48.73
HY: 6.87
OX: 43.90

Load Weight (kg): 5.49

Fuel Heating:	HHV	LHV		HHV	LHV
Value in kJ/kg - CV:	19810.00	18328.69	Btu/lb	8522.48	7885.21

79.50	21.09	1.69	5.85	-0.02	0.17	40.79	87.79	0.14	-0.12	498.57	34.76
Mass Balance (moles/100 mole dry flue gas)					kg Wood per 100 mole dfp	Moles per kg of Dry Wood					
[h]	[u]	[w]	[j]	[k]	Nk	CO2	O2	CO	HC	N2	H2O
79.35	21.05	1.10	3.84	-0.02	0.11	40.94	146.83	0.09	-0.22	722.01	34.97
79.38	21.06	1.42	4.88	-0.01	0.14	40.01	105.41	0.85	-0.05	563.08	34.61
79.54	21.10	1.91	6.58	-0.01	0.19	40.50	66.75	0.37	-0.05	418.33	34.63
79.51	21.09	1.95	6.69	0.00	0.19	40.09	64.89	0.72	0.00	410.24	34.52
79.73	21.15	2.53	8.70	-0.01	0.25	40.83	39.78	0.04	-0.06	317.31	34.64
79.81	21.17	2.81	9.68	-0.01	0.28	40.86	31.30	0.00	-0.05	285.34	34.62
79.70	21.14	2.38	8.22	-0.02	0.24	40.88	44.77	0.00	-0.07	336.27	34.67
79.60	21.11	2.01	6.94	-0.02	0.20	40.91	61.12	0.00	-0.10	398.10	34.72
79.54	21.10	1.80	6.23	-0.02	0.18	40.93	73.14	0.00	-0.12	443.57	34.76
79.54	21.10	1.79	6.19	-0.02	0.18	40.93	73.94	0.00	-0.12	446.60	34.76
79.57	21.11	1.88	6.51	-0.02	0.19	40.92	68.10	0.00	-0.11	424.51	34.74
79.61	21.12	2.06	7.12	-0.02	0.21	40.91	58.49	0.00	-0.09	388.17	34.71
79.55	21.10	1.83	6.32	-0.02	0.18	40.93	71.56	0.00	-0.12	437.61	34.75
79.49	21.09	1.63	5.65	-0.02	0.16	40.88	85.30	0.06	-0.13	489.40	34.78
79.45	21.07	1.45	5.04	-0.02	0.14	40.97	101.01	0.00	-0.16	548.99	34.85

79.43	21.07	1.40	4.86	-0.02	0.14	40.90	106.35	0.07	-0.16	568.99
79.43	21.07	1.39	4.81	-0.02	0.14	40.90	108.22	0.07	-0.16	576.04
79.43	21.07	1.41	4.89	-0.02	0.14	40.90	105.57	0.07	-0.16	566.01
79.45	21.07	1.48	5.12	-0.02	0.15	40.89	98.85	0.07	-0.15	540.61
79.42	21.07	1.37	4.74	-0.02	0.14	40.91	110.41	0.07	-0.17	584.33
79.43	21.07	1.40	4.85	-0.02	0.14	40.82	106.89	0.14	-0.15	570.80
79.42	21.07	1.38	4.79	-0.02	0.14	40.82	108.77	0.15	-0.15	577.90
79.41	21.06	1.35	4.68	-0.02	0.13	40.82	112.39	0.15	-0.16	591.58
79.39	21.06	1.29	4.46	-0.02	0.13	40.65	119.86	0.31	-0.15	619.36
79.38	21.06	1.25	4.33	-0.02	0.12	40.74	125.02	0.24	-0.17	639.08

34.84
34.85
34.84
34.82
34.86
34.82
34.83
34.84
34.82
34.85

12.54	531.95	9901.61	7263.97	7017.54	6949.45	9942.85	8382.96	294.02	10095.09	15162.24	1010.80
Moisture Present	Stack Temp K	Heat Content Change - Ambient to Stack Temperature Flue Gas Constituent						Room Temp K	Energ		
		CO2	O2	CO	N2	CH4	H2O		CO2	O2	CO
12.54	494.82	8219.09	6083.42	5890.60	5830.58	8135.57	7041.08	294.26	336.53	893.22	26.28
12.54	531.48	9847.88	7234.77	6991.91	6923.52	9866.51	8353.16	294.26	393.98	762.58	246.84
12.54	549.26	10651.62	7797.35	7528.58	7456.43	10732.85	8992.07	294.26	431.37	520.50	106.96
12.54	630.93	14482.74	10434.62	10032.69	9945.48	14959.43	11969.43	293.71	580.60	677.15	211.66
12.54	579.82	12075.63	8787.29	8471.14	8392.76	12282.64	10113.61	293.71	493.06	349.59	11.60
12.54	601.48	13086.78	9482.74	9131.31	9049.00	13399.50	10898.50	293.71	534.76	296.82	0.00
12.54	598.15	12909.19	9359.12	9013.57	8932.05	13206.56	10758.39	294.26	527.78	418.98	0.00
12.54	573.15	11746.09	8557.80	8252.53	8175.62	11924.87	9853.46	294.26	480.54	523.01	0.00
12.54	558.71	11082.34	8097.38	7814.41	7740.34	11200.30	9332.23	294.26	453.60	592.20	0.00
12.54	548.15	10601.12	7762.11	7494.99	7423.07	10678.19	8952.09	294.26	433.92	573.92	0.00
12.54	543.15	10374.30	7603.64	7343.90	7273.02	10433.05	8772.24	294.26	424.54	517.79	0.00
12.54	539.26	10198.39	7480.55	7226.49	7156.43	10243.36	8632.46	294.26	417.18	437.52	0.00
12.54	533.71	9947.84	7304.94	7058.90	6990.03	9973.83	8432.92	294.26	407.14	522.75	0.00
12.54	540.93	10273.73	7533.29	7276.80	7206.39	10324.55	8692.36	294.26	419.98	642.62	17.87
12.54	530.37	9819.09	7216.05	6974.43	6906.09	9832.36	8332.47	293.71	402.34	728.89	0.00

12.54	512.04	8979.27	6622.70	6406.94	6342.89	8939.21	7656.40	294.26	367.27	704.34	20.73
12.54	503.71	8631.52	6377.77	6172.90	6110.57	8567.69	7377.64	293.71	353.06	690.20	20.97
12.54	495.93	8289.02	6134.48	5939.87	5879.38	8206.33	7099.91	293.71	339.03	647.60	20.59
12.54	492.59	8121.63	6014.03	5824.10	5764.61	8033.09	6961.81	294.26	332.12	594.48	19.65
12.54	490.93	8048.63	5962.02	5774.24	5715.15	7956.40	6902.37	294.26	329.24	658.27	21.25
12.54	488.71	7972.57	5909.06	5723.79	5665.04	7873.81	6842.33	293.71	325.44	631.62	41.50
12.54	489.82	8021.15	5943.71	5757.01	5697.99	7924.78	6881.94	293.71	327.43	646.49	42.02
12.54	490.37	8045.46	5961.04	5773.63	5714.47	7950.28	6901.75	293.71	328.44	669.95	43.02
12.54	491.48	8094.10	5995.70	5806.86	5747.44	8001.35	6941.36	293.71	329.01	718.66	90.13
12.54	489.82	8021.15	5943.71	5757.01	5697.99	7924.78	6881.94	293.71	326.76	743.08	69.74

SUMS				AVERAGE	SUMS					
83823.03	-2719.15	45496.61	16418.29	6771.48	30429	-68	30496.83	58661	-68	26.37
y Losses (kJ/kg of Dry Fuel)				Total						
Flue Gas Constituent				Loss	Total	Chemical	Sensible and	Total	Chem	Grams Pr
N2	CH4	H2O Comb	H2O Fuel MC	Rate	Loss	Loss 1	Latent Loss	Output	Loss 2	CO
4209.74	-200.29	1783.75	639.90	7689.13	0	0	0.00	0	0	0.00
3898.46	-40.95	1811.06	656.36	7728.33	4148	108	4040.30	6484	108	12.79
3119.24	-48.40	1834.05	664.37	6628.08	2085	18	2067.60	4147	18	3.24
4080.06	0.80	1931.04	701.72	8183.03	3029	76	2952.93	4304	76	7.49
2663.08	-52.53	1873.37	678.44	6016.61	2672	-18	2690.41	6127	-18	0.49
2582.05	-45.50	1899.70	688.29	5956.11	2425	-18	2443.32	5641	-18	0.00
3003.60	-65.06	1897.22	686.53	6469.05	2155	-21	2176.38	4444	-21	0.00
3254.75	-88.70	1868.68	675.18	6713.47	1739	-23	1762.13	3393	-23	0.00
3433.34	-106.06	1852.64	668.64	6894.37	1404	-21	1424.87	2629	-21	0.00
3315.16	-107.16	1839.56	663.87	6719.28	1244	-20	1263.14	2423	-20	0.00
3087.49	-98.67	1832.32	661.61	6425.09	1189	-18	1207.15	2477	-18	0.00
2777.90	-84.73	1825.84	659.86	6033.57	1228	-17	1245.36	2805	-17	0.00
3058.92	-103.63	1821.12	657.36	6363.66	1178	-19	1196.70	2489	-19	0.00
3526.84	-115.50	1831.52	660.61	6983.94	1163	-16	1179.39	2136	-16	0.29
3791.38	-146.26	1822.58	656.10	7255.03	806	-16	821.68	1394	-16	0.00

3609.02	-144.45	1798.83	647.62	7003.35	389	-7	395.65	711	-7	0.11
3519.95	-146.98	1789.41	644.12	6870.74	509	-9	517.89	958	-9	0.15
3327.82	-143.25	1779.32	640.64	6611.74	489	-9	498.47	977	-9	0.15
3116.43	-133.93	1773.45	638.90	6341.10	352	-6	358.37	748	-6	0.11
3339.51	-149.90	1773.19	638.16	6609.70	367	-7	374.07	733	-7	0.11
3233.62	-135.62	1769.49	637.41	6503.45	481	-7	488.38	985	-7	0.30
3292.90	-138.11	1771.15	637.90	6579.78	487	-7	494.18	979	-7	0.30
3380.55	-142.89	1772.38	638.15	6689.60	371	-6	376.94	728	-6	0.23
3559.75	-132.35	1772.56	638.65	6976.41	387	-2	389.72	713	-2	0.49
3641.46	-149.02	1772.38	637.90	7042.30	130	-1	131.80	236	-1	0.13

-6.02

ɔduced HC
0.00
-0.39
-0.27
0.01
-0.41
-0.33
-0.38
-0.41
-0.38
-0.35
-0.32
-0.31
-0.34
-0.34
-0.29

-0.14
-0.19
-0.19
-0.13
-0.15
-0.18
-0.18
-0.14
-0.13
-0.05

Dirigo Laboratories, Inc.

Manufacturer:	IHP
Model:	Ladera
Date:	11/7/2017
Run:	1
Control #:	081
Test Duration:	240
Output Category:	2

	HHV Basis	LHV Basis
Overall Efficiency	65.1%	70.4%
Combustion Efficiency	99.5%	99.5%
Heat Transfer Efficiency	65.5%	70.7%

HHV Output Rate (kJ/h)	14,446	13,703	(Btu/h)
Burn Rate (kg/h)	1.12	2.47	(lb/h)
Input (kJ/h)	22,181	21,041	(Btu/h)

Test Load Weight (dry kg)	4.5	9.9	dry lb
MC wet (%)	18.42		
MC dry (%)	22.58		
Particulate (g)	6.13		
CO (g)	26		
Test Duration (h)	4		

Emissions	Particulate	CO
g/MJ Output	0.11	0.46
g/kg Dry Fuel	1.37	5.89
g/h	1.53	6.59
lb/MM Btu Output	0.25	1.06

Air/Fuel Ratio (A/F)	15.72

Test Results in Accordance with CSA B415.1-10

Technician: _____

3-Nov-17		1 1c	RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	5.7	0.285	523	563	584	1074	369	622	1028	65
1	5.6	0.273	518	568	589	1080	366	624	971	64
2	5.5	0.26	495	585	602	1065	356	620	938	63
3	5.5	0.233	486	592	605	1044	356	617	909	64
4	5.3	0.229	492	591	602	1033	359	615	889	64
5	5.3	0.216	500	590	601	1021	360	614	866	64
6	5.3	0.201	506	588	599	1006	362	612	845	64
7	5.2	0.19	509	585	596	991	363	609	829	64
8	5.1	0.18	511	581	590	977	364	605	813	64
9	5.1	0.18	513	578	587	966	364	602	796	64
10	5.2	0.165	514	574	584	952	364	598	781	63
11	5.2	0.154	513	570	578	938	365	593	764	64
12	4.9	0.151	512	566	575	924	365	588	748	64
13	4.9	0.131	511	562	572	909	365	584	736	64
14	4.9	0.127	509	557	569	895	365	579	721	63
15	4.8	0.136	507	553	566	881	365	574	708	64
16	4.7	0.114	505	548	564	867	364	570	697	64
17	4.8	0.111	502	544	559	853	364	564	686	64
18	4.7	0.105	500	539	554	839	364	559	673	64
19	4.7	0.095	497	534	550	819	364	553	664	64
20	4.7	0.089	495	530	548	800	364	547	656	63
21	4.6	0.083	492	526	544	783	363	541	647	63
22	4.6	0.08	488	522	540	767	363	536	635	63
23	4.7	0.079	485	519	537	752	362	531	626	63
24	4.7	0.078	482	515	535	739	361	526	616	63
25	4.6	0.077	479	512	530	726	361	522	605	63
26	4.5	0.077	476	507	529	714	360	517	596	62
27	4.5	0.076	473	503	525	702	360	513	588	60
28	4.8	0.075	471	499	524	691	360	509	579	60
29	4.6	0.074	468	496	523	680	360	505	570	61
30	4.6	0.073	465	493	522	671	360	502	563	62
31	4.5	0.073	462	489	520	661	359	498	554	62
32	4.5	0.072	459	487	517	653	359	495	545	62
33	4.5	0.072	457	484	517	644	359	492	538	62
34	4.4	0.07	455	481	516	636	358	489	532	62
35	4.4	0.07	452	479	515	628	358	486	524	62
36	4.4	0.07	446	477	514	620	358	483	516	62
37	4.4	0.07	441	475	514	613	358	480	511	62
38	4.3	0.069	437	474	517	606	358	478	504	63
39	4.4	0.069	429	471	513	599	357	474	499	62
40	4.3	0.067	413	472	514	585	354	468	493	62
41	4.3	0.067	399	473	517	572	351	462	489	62
42	4.4	0.067	388	473	518	561	349	458	484	62
43	3.5	0.067	379	473	520	550	348	454	479	62
44	4.3	0.066	371	473	521	541	346	451	473	62
45	4.3	0.072	365	476	522	529	345	448	533	63
46	2.8	0.063	361	482	524	507	345	444	490	63
47	3.1	0.063	357	477	524	501	344	441	454	63
48	3	0.065	354	477	525	488	344	438	472	63
49	2.7	0.063	351	473	522	483	343	434	442	62
50	2.7	0.063	347	470	519	478	342	431	436	62
51	2.7	0.064	344	468	515	473	341	428	435	63
52	2.6	0.062	340	464	510	468	341	425	433	62
53	2	0.062	337	461	505	463	340	421	430	62
54	2.6	0.064	334	458	500	458	340	418	426	62
55	2.6	0.062	330	454	494	453	339	414	424	62
56	2.7	0.061	327	451	489	448	339	411	420	62
57	2.7	0.062	323	447	482	443	339	407	418	62

58	2.6	0.062	320	443	477	438	338	403	415	62
59	2.6	0.061	317	439	470	434	338	400	412	62

3-Nov-17	1 1b		RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.8	0.212	582	567	584	984	372	618	881	66
1	4.8	0.192	552	579	591	954	359	607	818	65
2	4.7	0.186	523	591	599	928	350	598	788	67
3	4.8	0.159	499	600	604	894	344	588	766	65
4	4.7	0.15	482	609	608	860	340	580	746	65
5	4.5	0.137	468	615	609	826	336	571	727	65
6	4.8	0.12	458	619	608	794	333	562	711	65
7	4.6	0.117	447	623	607	763	331	554	698	65
8	4.5	0.103	438	625	605	734	328	546	684	65
9	4.5	0.095	431	626	600	708	326	538	671	65
10	4.1	0.093	422	626	596	684	325	531	659	65
11	4.6	0.084	415	624	592	662	324	523	647	65
12	4.4	0.08	408	623	586	642	322	516	631	65
13	4.4	0.079	402	620	581	623	321	509	620	66
14	4.5	0.077	396	618	575	606	321	503	606	66
15	4	0.076	390	615	570	591	320	497	594	65
16	4.4	0.076	384	611	565	577	319	491	584	65
17	4.5	0.075	379	608	560	564	319	486	571	65
18	4.4	0.075	374	604	556	552	318	481	563	65
19	4.3	0.073	369	600	551	541	318	476	553	66
20	4.3	0.073	365	596	546	532	317	471	545	65
21	4.4	0.072	360	592	542	522	316	467	536	65
22	4.3	0.072	357	589	537	514	316	463	527	66
23	4.3	0.071	353	585	534	507	316	459	521	66
24	4.4	0.07	349	581	529	500	316	455	513	65
25	4.4	0.069	346	577	525	493	316	451	508	66
26	4.3	0.07	342	573	521	487	315	448	502	66
27	4.3	0.068	339	570	518	482	316	445	497	67
28	4.3	0.068	336	565	514	477	315	442	492	65
29	4.1	0.067	334	562	511	472	315	439	486	65
30	4.2	0.068	330	558	508	468	315	436	482	65
31	4.2	0.066	329	554	504	465	316	434	477	65
32	4.3	0.067	326	551	502	461	316	431	475	68
33	4.2	0.066	324	549	500	458	316	429	470	66
34	4.5	0.065	321	545	497	455	316	427	466	68
35	4.1	0.065	320	541	495	452	316	425	463	66
36	4.1	0.064	318	538	493	449	316	423	459	67
37	4.3	0.065	316	536	491	447	316	421	455	68
38	4.1	0.064	314	532	489	444	316	419	454	68
39	4.1	0.064	313	529	487	442	316	417	452	68
40	4.1	0.063	311	526	486	440	317	416	446	69
41	4.1	0.064	310	524	484	438	316	414	446	66
42	4.1	0.063	309	521	482	436	317	413	443	69
43	3.4	0.071	307	524	481	432	318	412	495	66
44	2.7	0.06	306	525	479	421	320	410	447	65
45	2.7	0.061	305	519	476	418	319	407	422	66
46	2.6	0.062	304	515	474	414	319	405	420	67
47	2.6	0.061	302	510	471	410	319	403	420	67
48	2.7	0.061	301	506	467	407	318	400	419	69
49	2.6	0.061	299	502	463	404	319	397	416	69
50	2.3	0.06	297	496	459	401	319	394	413	71
51	3.2	0.061	295	491	455	397	320	392	411	69
52	2.7	0.059	293	486	450	394	320	389	408	69
53	2.7	0.06	290	481	446	390	321	386	406	68
54	2.6	0.059	287	476	441	387	321	382	404	66
55	2.6	0.059	293	472	438	386	325	383	401	66

3-Nov-17	1	1 RW	Lad							
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.9	0.304	610	595	650	1111	478	689	1056	70
1	4.8	0.299	581	610	663	1101	458	683	1003	74
2	5.1	0.289	554	625	672	1086	446	677	971	70
3	4.5	0.27	533	638	680	1067	439	671	943	71
4	4.5	0.237	517	649	686	1039	434	665	915	70
5	4.4	0.236	505	659	688	1013	429	659	889	70
6	4.3	0.216	494	665	689	987	427	652	871	72
7	4.2	0.205	484	671	688	964	423	646	849	72
8	4.2	0.212	476	675	686	936	420	639	827	71
9	4.2	0.193	469	678	684	907	416	631	805	70
10	4.1	0.175	461	679	680	877	413	622	785	71
11	4.1	0.165	454	679	675	847	411	613	767	69
12	4.1	0.16	447	678	670	819	409	605	747	70
13	4.2	0.151	440	677	664	791	406	596	729	70
14	4.3	0.132	434	674	658	766	404	587	716	71
15	4	0.126	427	671	651	743	401	579	701	71
16	4	0.113	421	667	644	722	399	571	686	74
17	4	0.114	414	663	637	702	397	562	676	72
18	3.9	0.101	409	659	629	682	395	555	663	71
19	3.9	0.094	403	654	623	664	393	547	653	71
20	4	0.094	397	649	616	648	390	540	642	75
21	3.1	0.085	392	644	609	633	389	534	631	75
22	3.9	0.082	387	640	604	619	387	527	619	78
23	3.9	0.078	382	634	599	607	387	522	606	76
24	3	0.077	378	630	593	596	385	516	595	78
25	4.3	0.077	373	625	589	585	383	511	584	73
26	3.9	0.076	370	620	584	574	382	506	576	75
27	3.8	0.075	366	615	579	564	381	501	566	74
28	3.7	0.074	363	611	576	555	379	497	556	75
29	3.7	0.074	359	606	571	546	379	492	549	75
30	3.8	0.073	356	601	568	538	379	488	542	78
31	3.6	0.073	353	597	564	530	377	484	535	71
32	3.7	0.071	351	592	559	523	377	480	528	75
33	3.6	0.071	348	588	557	516	377	477	522	73
34	3.7	0.071	346	583	553	510	377	474	516	71
35	3.7	0.071	343	579	550	505	376	471	509	72
36	3.7	0.07	341	575	547	499	376	468	505	73
37	3.6	0.069	339	572	544	494	376	465	501	76
38	3.6	0.069	337	568	541	489	375	462	495	76
39	3.6	0.069	335	564	538	485	376	459	492	75
40	3.6	0.067	334	560	535	480	376	457	485	77
41	3.5	0.068	332	556	533	477	376	455	482	75
42	3.5	0.067	331	552	530	473	376	452	478	78
43	3.6	0.067	329	549	528	470	376	450	474	76
44	3.5	0.066	327	545	525	466	376	448	469	75
45	3.5	0.067	326	542	524	463	376	446	466	73
46	4.5	0.074	325	545	522	459	378	446	528	71
47	2.6	0.065	323	545	521	451	379	444	472	71
48	2.6	0.064	322	540	518	446	378	441	450	70
49	2.6	0.066	321	536	515	441	377	438	444	73
50	2.6	0.065	320	531	512	437	377	436	442	73
51	2.6	0.065	319	528	508	433	378	433	444	76
52	2.6	0.064	317	523	505	429	379	430	440	74
53	2.8	0.063	315	519	499	424	380	427	436	79
54	2.7	0.064	313	514	494	420	377	424	435	76
55	2.6	0.062	311	509	488	416	377	420	429	76

3-Nov-17	1 1a		RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	8.3	0.077	425	394	447	493	465	445	550	64
1	8	0.19	423	394	443	513	472	449	719	64
2	7.7	0.149	421	390	440	551	478	456	691	64
3	7.4	0.189	420	386	438	589	481	463	745	63
4	7.2	0.203	421	384	438	623	483	470	778	63
5	6.9	0.232	421	384	437	657	483	477	809	63
6	6.7	0.248	424	386	437	691	483	484	831	63
7	18.4	0.264	427	389	441	723	482	492	861	63
8	6.2	0.249	430	393	444	754	481	500	883	63
9	5.8	0.264	434	398	447	781	479	508	901	63
10	5.6	0.273	439	404	452	805	477	515	915	64
11	5.4	0.275	444	410	458	826	474	522	927	64
12	5.1	0.27	450	417	464	844	472	529	936	65
13	4.9	0.274	456	424	471	862	470	537	946	65
14	4.6	0.281	462	431	478	878	468	543	954	65
15	4.4	0.268	469	438	486	888	466	550	956	64
16	4.6	0.265	475	445	494	896	465	555	956	65
17	3.9	0.257	483	452	501	899	463	560	954	65
18	3.8	0.261	490	459	510	902	462	565	952	65
19	3.6	0.249	496	466	519	904	461	569	950	65
20	3.4	0.264	503	472	526	903	460	573	947	66
21	3.3	0.27	508	479	533	901	460	576	943	66
22	3	0.259	514	485	540	897	459	579	934	66
23	2.9	0.252	519	490	546	890	459	581	921	66
24	2.7	0.249	525	497	553	883	459	583	913	66
25	2.6	0.241	530	502	559	876	460	585	906	66
26	2.4	0.234	534	507	564	870	460	587	902	67
27	2.3	0.23	539	511	570	866	461	589	898	67
28	2.2	0.23	543	514	574	862	462	591	894	67
29	2	0.23	547	518	581	857	463	593	884	67
30	1.9	0.214	551	521	586	847	465	594	869	67
31	1.9	0.206	554	524	591	835	466	594	855	67
32	1.8	0.201	558	527	596	823	468	594	844	68
33	1.7	0.186	560	530	598	811	470	594	833	67
34	1.7	0.183	562	531	601	798	473	593	820	68
35	2.8	0.077	564	533	605	778	475	591	761	68
36	13.4	0.072	566	546	607	725	478	584	636	70
37	13.6	0.217	568	548	610	749	483	592	789	68
38	13.2	0.258	568	543	610	783	487	598	861	68
39	12.8	0.286	567	539	609	822	491	606	949	68
40	12.8	0.304	565	536	606	850	495	610	987	67
41	12.6	0.313	564	535	603	875	498	615	1021	67
42	12.3	0.315	562	533	599	899	500	619	1040	67
43	12	0.325	561	533	597	916	502	622	1045	68
44	11.8	0.324	560	533	595	930	503	624	1052	66
45	11.5	0.329	560	534	592	942	504	626	1062	67
46	11.2	0.333	560	534	591	951	504	628	1069	66
47	11.1	0.336	560	535	590	960	504	630	1080	66
48	10.8	0.339	561	536	590	968	503	632	1087	66
49	10.5	0.344	562	538	588	974	503	633	1097	67
50	10.3	0.34	563	539	589	980	501	634	1106	67
51	10	0.344	564	540	590	985	500	636	1114	66
52	9.8	0.36	566	542	591	989	498	637	1121	67
53	9.5	0.355	566	544	593	994	497	639	1131	67
54	9.3	0.361	568	545	595	999	496	641	1140	67
55	9	0.379	570	547	597	1004	494	642	1151	67
56	8.7	0.364	571	549	599	1010	493	644	1160	68
57	8.5	0.375	573	551	601	1015	491	646	1166	68
58	8.4	0.37	576	553	604	1019	490	648	1171	67

59	8	0.336	578	556	607	1022	488	650	1145	68
60	7.9	0.35	580	560	610	1025	488	653	1108	68
61	7.7	0.342	583	564	613	1032	486	656	1099	69
62	7.5	0.328	585	568	616	1040	486	659	1093	68
63	7.2	0.331	588	571	620	1048	485	662	1091	69
64	6.9	0.325	590	573	621	1054	484	665	1087	69
65	6.8	0.329	593	577	626	1061	483	668	1085	68
66	6.8	0.324	595	578	627	1066	483	670	1084	69
67	6.4	0.322	597	581	630	1072	482	672	1087	70
68	6.2	0.316	599	584	633	1078	481	675	1088	70
69	6	0.316	602	587	635	1085	480	678	1097	71
70	5.7	0.333	604	589	638	1093	480	681	1105	71
71	5.6	0.316	605	590	640	1100	480	683	1101	71
72	5.4	0.324	608	592	644	1106	479	686	1098	70
73	5.2	0.316	610	594	646	1109	479	688	1088	70
74	5.1	0.314	612	595	648	1111	479	689	1076	70

2-Nov-17	1 1a		RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.7	0.229	587	566	597	1031	420	640	960	79
1	4.6	0.231	590	568	601	1039	420	644	916	79
2	4.5	0.226	593	571	603	1040	420	645	889	79
3	4.5	0.192	565	585	613	1022	405	638	867	77
4	4.4	0.195	538	600	622	987	394	628	842	77
5	4.3	0.195	515	612	627	950	387	618	821	77
6	4.2	0.165	497	620	628	916	382	609	803	77
7	4.1	0.143	484	627	630	886	378	601	781	76
8	4	0.131	472	633	629	857	374	593	764	77
9	4	0.137	462	636	627	828	371	585	748	77
10	3.9	0.129	454	640	625	801	368	578	730	78
11	4	0.098	446	641	622	778	366	570	714	77
12	4	0.12	439	642	617	755	363	563	700	77
13	4	0.099	432	640	613	733	362	556	686	77
14	3.9	0.084	425	639	609	713	359	549	673	77
15	3.9	0.092	421	637	604	693	358	542	659	77
16	3.9	0.085	415	634	601	675	356	536	648	77
17	3.9	0.079	409	631	597	657	355	530	636	77
18	3.9	0.076	405	627	593	641	353	524	624	77
19	3.8	0.077	400	624	588	625	352	518	613	77
20	3.8	0.077	396	620	585	611	350	512	600	77
21	4.3	0.076	391	616	581	598	348	507	591	77
22	3.8	0.074	387	611	576	585	347	502	582	78
23	3.8	0.073	384	607	573	574	346	497	572	77
24	3.8	0.072	380	602	569	564	346	492	563	78
25	3.7	0.072	377	597	566	554	345	488	555	77
26	3.6	0.07	393	582	565	554	356	490	549	78
27	3.7	0.07	406	568	559	557	363	491	538	78
28	3.6	0.071	418	556	555	560	368	491	532	78
29	3.7	0.071	427	546	551	562	372	492	526	78
30	3.8	0.07	434	537	548	563	375	491	522	78
31	3.6	0.067	440	529	544	564	377	491	518	78
32	3.7	0.069	444	521	542	564	379	490	510	78
33	3.6	0.068	447	514	537	564	380	488	506	78
34	3.7	0.069	449	507	535	563	382	487	502	78
35	3.7	0.068	450	502	532	562	383	486	498	78
36	3.7	0.068	451	496	531	562	383	484	495	78
37	3.6	0.066	451	491	530	560	384	483	492	78
38	3.6	0.067	452	487	528	559	385	482	489	78
39	3.6	0.066	451	482	527	558	385	481	485	77
40	4.2	0.071	452	484	525	550	385	479	535	79

41	2.7	0.065	450	480	524	546	386	477	482	78
42	2.7	0.067	450	476	522	542	387	475	468	79
43	2.7	0.064	449	472	519	538	388	473	464	78
44	3.1	0.067	447	469	516	535	389	471	465	78
45	2.6	0.065	446	465	511	532	389	468	460	78
46	2.7	0.063	444	461	505	528	390	466	461	77
47	2.6	0.063	441	457	499	525	390	463	457	78
48	2.6	0.063	439	453	495	521	391	460	455	78
49	2.6	0.064	436	450	490	518	391	457	452	78
50	2.6	0.064	433	446	484	514	392	454	450	77
51	2.9	0.063	430	442	479	511	392	450	447	78
52	2.6	0.062	427	438	474	507	392	447	445	78
53	2.6	0.062	424	434	468	504	392	444	441	77
54	2.6	0.061	420	430	463	500	393	441	440	77
55	2.6	0.061	417	427	458	497	393	438	437	77
56	2.6	0.062	414	423	454	494	393	436	434	77
57	2.6	0.06	411	420	450	491	392	433	433	77
58	2.6	0.062	408	416	443	487	392	429	431	77
59	2.6	0.06	405	413	441	484	392	427	428	77

2-Nov-17	1	1 RW	Lad							
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.7	0.315	569	584	593	1053	440	648	1141	71
1	4.5	0.269	543	603	607	1040	427	644	1071	71
2	4.8	0.253	520	619	619	1027	418	641	1027	71
3	4.4	0.248	504	634	629	1009	412	638	990	71
4	4.2	0.242	492	645	637	991	408	635	960	71
5	4.1	0.22	483	655	642	974	404	632	935	71
6	4.1	0.215	474	663	645	956	402	628	909	71
7	4	0.208	468	669	647	938	400	624	887	71
8	3.8	0.189	461	674	650	920	399	621	868	71
9	3.7	0.172	455	678	650	900	397	616	847	71
10	3.8	0.168	451	680	650	881	395	611	830	72
11	3.6	0.166	446	682	649	861	393	606	813	72
12	3.6	0.153	440	682	648	843	391	601	796	71
13	3.6	0.15	436	683	646	828	389	596	779	73
14	3.5	0.131	432	682	643	812	387	591	761	72
15	3.4	0.123	427	679	641	793	386	585	743	71
16	3.5	0.112	423	677	637	772	385	579	726	71
17	3.4	0.104	419	673	634	748	383	571	708	71
18	4	0.105	414	670	630	726	381	564	694	72
19	3.3	0.082	409	666	623	706	380	557	680	72
20	3.2	0.079	404	662	619	686	379	550	665	71
21	3.3	0.081	400	657	613	667	376	543	653	71
22	3.3	0.078	395	653	607	648	375	535	640	71
23	3.3	0.076	390	647	601	630	374	528	628	71
24	3.3	0.076	386	642	597	612	373	522	617	71
25	3.2	0.076	380	636	592	596	372	515	609	71
26	3.2	0.075	376	630	588	581	371	509	597	71
27	3.3	0.074	372	624	583	567	371	504	587	71
28	3	0.074	368	619	578	555	370	498	579	71
29	2.3	0.073	364	612	573	542	370	492	570	71
30	3.2	0.071	359	606	570	531	369	487	563	71
31	3.3	0.072	355	600	565	520	369	482	555	72
32	3.2	0.072	351	594	561	511	369	477	549	71
33	3.2	0.071	347	588	556	502	370	473	543	72
34	3.2	0.07	344	581	551	493	370	468	538	71
35	3.1	0.069	341	575	547	486	371	464	531	71
36	3.1	0.07	337	569	543	478	372	460	525	72
37	3.1	0.07	335	563	539	471	371	456	518	72

38	3.1	0.069	333	557	535	465	371	452	514	72
39	3	0.068	330	551	531	459	371	449	508	72
40	3	0.068	328	546	528	454	373	446	505	72
41	3	0.066	326	540	524	448	374	443	497	71
42	2.8	0.068	324	535	521	444	374	439	493	71
43	3	0.067	323	530	517	439	375	437	490	71
44	2.1	0.067	321	524	515	435	376	434	485	71
45	3	0.065	319	520	512	431	378	432	481	71
46	2.9	0.065	317	515	509	427	379	429	477	71
47	2.8	0.065	315	510	506	423	380	427	474	72
48	3.9	0.072	314	509	504	419	382	426	511	73
49	2.5	0.061	312	510	502	413	385	424	468	72
50	2.6	0.061	312	504	498	409	384	421	444	72
51	2.6	0.062	310	501	495	406	386	420	438	72
52	2.5	0.063	308	496	492	403	388	418	438	72
53	2.6	0.062	307	492	488	401	389	415	435	72
54	2.5	0.061	305	488	483	399	389	413	433	72
55	2.5	0.062	304	484	479	396	390	411	429	72
56	2.5	0.061	302	480	474	394	391	408	426	72
57	2.5	0.059	300	475	469	392	390	405	423	72
58	2.2	0.059	298	472	465	390	392	403	420	72
59	2.4	0.059	295	467	460	387	393	400	417	72
60	2.2	0.06	294	464	455	385	394	398	412	72
61	2.4	0.058	291	459	451	383	392	395	411	72
62	2.4	0.059	289	456	446	381	394	393	406	72

1-Nov-17	1 1b		RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.7	0.179	539	538	586	960	361	597	888	79
0	4.8	0.169	539	539	587	960	361	597	869	79
1	4.7	0.155	541	541	589	965	361	600	819	78
2	4.6	0.172	530	546	594	960	356	597	791	78
3	4.6	0.149	503	560	602	931	344	588	772	77
4	4.6	0.146	479	570	607	894	337	578	752	78
5	4.5	0.128	460	578	609	858	332	568	737	77
6	4.5	0.1	447	585	609	824	328	559	720	77
7	3.9	0.097	435	591	607	792	324	550	705	77
8	4.4	0.098	426	594	604	763	322	542	690	77
9	4.4	0.091	418	597	601	736	320	534	677	77
10	4.5	0.084	411	599	597	713	318	527	663	76
11	4.3	0.081	404	601	592	690	316	521	650	77
12	4.9	0.079	399	602	587	670	315	515	639	76
13	4.3	0.076	393	602	582	652	314	509	628	77
14	4.6	0.075	388	602	578	636	313	503	616	77
15	4.3	0.077	383	601	574	621	313	499	606	76
16	4.2	0.075	379	600	570	607	313	494	594	77
17	4.2	0.072	375	599	566	594	313	489	586	76
18	4.3	0.071	371	598	561	582	314	485	576	76
19	4.2	0.073	368	596	559	571	314	482	569	76
20	4.3	0.073	365	595	555	561	314	478	560	76
21	4.2	0.071	362	593	551	552	315	475	553	76
22	4.1	0.071	359	592	549	544	316	472	543	76
23	4.1	0.071	356	590	545	537	316	469	536	76
24	4.1	0.068	353	588	543	530	317	466	529	76
25	4.2	0.069	352	587	540	524	318	464	523	76
26	4.1	0.07	349	585	538	518	319	462	518	76
27	4	0.068	347	583	535	512	320	459	511	76
28	4.1	0.066	345	582	533	507	322	458	505	76
29	3.9	0.066	343	581	530	502	322	456	501	76
30	4.1	0.065	342	580	528	498	323	454	498	76

31	4	0.063	354	574	529	500	333	458	494	75
32	4	0.064	368	566	525	506	341	461	491	76
33	4	0.066	380	559	523	512	347	464	487	76
34	4	0.064	390	552	519	518	352	466	484	75
35	3.8	0.063	397	546	517	522	357	468	482	76
36	3.8	0.063	404	541	515	526	360	469	481	75
37	3.9	0.064	409	536	511	529	363	470	477	76
38	3.9	0.062	413	532	510	532	367	471	474	77
39	4.1	0.063	416	529	508	535	369	471	473	76
40	3.8	0.063	419	526	506	537	372	472	471	76
41	3.7	0.062	420	524	503	539	374	472	468	76
42	3.8	0.063	422	521	502	540	376	472	468	75
43	3.7	0.062	424	520	500	542	379	473	466	72
44	3.7	0.062	425	517	498	543	381	473	464	71
45	3.7	0.072	425	515	496	543	382	472	506	70
46	2.7	0.059	427	519	496	529	383	471	473	72
47	2.8	0.061	429	516	494	528	385	470	445	70
48	2.1	0.062	429	513	491	526	387	469	443	71
49	2.9	0.061	404	512	487	516	379	459	444	73
50	3	0.061	381	513	486	503	372	451	442	74
51	2.7	0.063	362	513	484	489	369	444	440	74
52	2.6	0.061	350	512	480	477	367	437	437	74
53	2.6	0.06	340	510	477	467	366	432	430	74
54	2.6	0.06	332	508	473	457	364	427	426	74
55	2.6	0.06	326	505	469	448	363	422	424	75
56	2.6	0.058	336	501	466	446	372	424	420	75
57	2.6	0.059	346	494	462	448	378	426	418	75
58	2.7	0.057	355	486	456	450	382	426	418	75

1-Nov-17	1 1a		RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.7	0.275	564	530	595	1016	459	633	1039	71
1	4.6	0.251	538	545	605	1002	441	626	953	70
2	4.4	0.249	513	561	615	991	429	622	925	70
3	4.3	0.236	494	576	622	978	420	618	902	71
4	4.6	0.209	481	588	628	958	413	614	880	70
5	4.1	0.207	470	599	631	934	408	608	853	70
6	4	0.188	462	607	633	914	404	604	835	70
7	4	0.178	456	615	633	893	399	599	814	73
8	3.8	0.175	449	620	633	873	397	594	796	71
9	3.7	0.154	443	625	632	857	394	590	780	71
10	3.7	0.146	438	629	631	840	391	586	762	70
11	3.5	0.143	433	631	629	818	388	580	747	70
12	3.6	0.131	427	633	626	796	386	573	733	70
13	3.5	0.121	422	633	623	777	383	568	720	71
14	3.5	0.108	418	634	620	761	382	563	708	71
15	3.8	0.094	412	634	617	747	379	558	695	70
16	3.3	0.1	408	633	614	733	377	553	682	71
17	3.3	0.101	404	632	611	719	376	548	672	71
18	3.4	0.084	399	629	609	705	374	543	662	72
19	3.3	0.078	395	627	605	691	373	538	651	71
20	3.3	0.079	391	624	601	676	371	533	641	71
21	3.3	0.079	387	620	598	662	369	527	633	71
22	3.3	0.077	383	617	595	646	368	522	623	70
23	3.2	0.076	379	613	590	628	366	515	616	71
24	3.2	0.078	375	609	586	612	364	509	608	71
25	3.2	0.076	371	604	582	599	363	504	603	71
26	3.1	0.076	369	600	577	586	362	499	593	70
27	3.1	0.075	365	596	573	574	362	494	584	70
28	3.1	0.074	362	592	569	563	362	490	577	71

29	3	0.073	359	588	565	554	362	485	569	71
30	3.1	0.073	356	584	562	545	361	481	561	71
31	3.1	0.072	353	579	558	536	361	477	554	71
32	3	0.071	350	575	554	528	362	474	548	71
33	3	0.071	347	571	551	521	362	470	540	71
34	3	0.069	345	567	547	514	364	467	532	71
35	3	0.069	343	564	545	507	366	465	526	72
36	3	0.068	341	561	542	501	367	462	521	71
37	2.8	0.069	339	557	541	496	368	460	514	71
38	2.9	0.068	337	553	538	490	370	458	509	71
39	3	0.068	336	550	535	486	372	456	504	71
40	2.8	0.067	335	548	533	481	374	454	500	71
41	2.9	0.068	333	545	531	477	376	452	496	71
42	2.8	0.067	332	542	530	473	378	451	492	71
43	2.9	0.066	330	540	528	470	380	449	486	71
44	2.6	0.066	329	537	527	466	382	448	483	71
45	3.2	0.066	328	534	525	463	384	447	479	71
46	2.1	0.065	327	530	524	460	387	446	475	71
47	2.8	0.064	326	528	522	458	389	444	473	71
48	2.7	0.064	325	526	521	455	391	443	467	71
49	2.7	0.068	324	529	521	448	392	443	504	74
50	2.7	0.062	324	526	519	444	394	442	455	71
51	2.7	0.062	324	523	519	440	397	440	446	72
52	2.7	0.062	323	521	516	436	397	439	447	72
53	3.1	0.062	322	519	513	432	400	437	444	71
54	2.6	0.062	321	516	509	428	402	435	441	71
55	2.6	0.061	319	513	505	424	404	433	435	71
56	2.6	0.061	318	510	499	421	405	431	430	71
57	2.6	0.061	316	506	494	417	406	428	426	71
58	2.6	0.061	314	502	489	414	408	425	424	71
59	2.6	0.059	312	499	484	410	409	423	422	71
60	2.6	0.06	310	494	479	407	409	420	417	71
61	2.6	0.059	308	490	473	404	409	417	414	71
62	2.6	0.059	306	485	468	401	409	414	412	71
63	2.5	0.058	304	481	463	398	409	411	409	71
64	2.5	0.058	303	477	458	395	409	408	408	71
65	2.6	0.057	301	474	454	392	408	406	404	71

1-Nov-17	1	1	RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	11.1	0.197	517	470	529	773	578	573	833	69
1	10.9	0.191	516	469	529	779	575	574	837	69
2	10.7	0.201	515	468	529	788	572	574	846	69
3	10.6	0.206	514	467	530	798	568	575	854	69
4	10.3	0.211	514	466	530	806	564	576	859	69
5	10.1	0.212	514	466	531	815	559	577	867	69
6	10	0.221	514	466	531	824	554	578	876	69
7	9.6	0.215	514	467	532	833	549	579	882	69
8	9.5	0.221	514	467	531	840	544	579	887	69
9	9.3	0.222	514	467	533	849	539	581	892	69
10	9.1	0.221	515	468	533	859	534	582	900	69
11	8.9	0.226	516	469	534	867	529	583	908	69
12	8.7	0.227	517	470	534	880	524	585	920	70
13	8.5	0.232	518	471	535	888	520	586	926	69
14	8.3	0.229	519	473	536	897	515	588	934	70
15	8	0.232	520	474	538	906	511	590	945	70
16	7.8	0.255	522	476	539	917	507	592	961	70
17	7.6	0.259	523	479	541	929	503	595	975	70
18	7.4	0.261	525	481	544	940	499	598	986	70
19	7.1	0.266	527	484	548	951	495	601	999	70

20	7	0.273	529	488	550	962	492	604	1012	70
21	6.7	0.281	532	491	554	971	488	607	1018	70
22	6.5	0.278	534	494	558	979	485	610	1020	70
23	6.3	0.267	536	498	562	985	482	613	1020	70
24	6.3	0.282	540	502	567	988	479	615	1020	70
25	6	0.273	542	505	570	989	476	616	1018	70
26	5.8	0.27	545	510	574	993	473	619	1020	71
27	5.5	0.274	549	513	578	997	470	621	1021	71
28	5.4	0.279	551	517	581	1001	467	623	1025	71
29	5.7	0.27	554	520	585	1004	465	626	1023	71
30	5.2	0.259	557	523	588	1008	463	628	1025	71
31	4.9	0.282	561	526	592	1013	461	630	1033	70

31-Oct-17		2 1c	RW	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	5.1	0.363	545	552	576	1066	402	628	1133	69
1	5.1	0.311	519	569	590	1054	391	625	1051	69
2	4.9	0.3	498	585	602	1034	381	620	1012	63
3	4.7	0.317	482	597	611	1021	372	616	986	58
4	4.6	0.302	469	607	618	1009	367	614	962	59
5	4.5	0.282	459	616	623	997	366	612	937	64
6	3.7	0.261	452	624	628	982	364	610	914	65
7	4.3	0.237	447	630	632	967	361	607	893	66
8	3.5	0.241	442	636	635	951	358	604	870	67
9	4.1	0.209	437	640	636	917	356	597	846	67
10	4.2	0.196	435	643	635	881	353	589	820	67
11	4	0.2	430	645	634	846	351	581	797	68
12	4.2	0.178	427	645	632	813	349	573	776	68
13	4.1	0.164	422	646	629	781	346	565	757	68
14	4.2	0.157	418	645	625	751	344	557	737	68
15	4.1	0.137	412	644	619	724	343	548	720	68
16	4.2	0.136	408	642	614	699	341	541	704	68
17	4	0.117	403	639	608	676	339	533	687	68
18	4.1	0.104	397	636	601	655	338	526	671	68
19	4.4	0.093	393	632	594	636	337	518	656	68
20	4	0.087	387	629	588	619	335	511	642	68
21	4.1	0.087	382	625	581	603	335	505	630	68
22	4	0.081	377	620	575	588	333	499	617	68
23	4	0.079	372	616	569	575	333	493	605	68
24	3.9	0.077	368	611	563	562	332	487	595	68
25	3.9	0.076	363	607	557	551	332	482	584	68
26	4.2	0.076	359	602	552	541	332	477	574	68
27	4.3	0.075	355	596	546	532	331	472	562	68
28	3.9	0.074	352	591	542	523	331	468	555	68
29	3.9	0.073	348	586	538	515	330	463	545	68
30	3.9	0.073	344	581	534	508	330	459	538	68
31	3.9	0.072	341	576	529	501	329	455	530	69
32	3.9	0.072	339	571	525	495	330	452	524	68
33	3.9	0.071	335	566	520	489	330	448	516	68
34	3.9	0.07	333	560	516	483	329	444	509	68
35	3.8	0.07	330	555	513	478	329	441	505	69
36	3.9	0.068	328	550	509	473	328	438	499	68
37	3.7	0.068	326	546	506	469	328	435	493	68
38	3.8	0.068	324	542	502	465	328	432	489	68
39	3.3	0.068	322	538	499	461	328	430	481	68
40	3.7	0.066	320	533	497	457	329	427	479	68
41	3.4	0.066	318	529	494	454	330	425	475	68
42	3.7	0.068	316	525	491	450	329	422	470	69
43	4.1	0.067	315	521	488	447	329	420	467	68
44	3.7	0.066	313	518	486	444	328	418	463	68

45	3.2	0.066	312	524	484	435	330	417	489	70
46	2.7	0.062	311	520	482	430	330	414	445	70
47	2.6	0.064	310	514	479	426	330	412	436	69
48	2.7	0.064	308	510	477	423	330	410	435	69
49	2.7	0.063	307	506	474	419	330	407	433	70
50	2.6	0.062	305	501	472	416	330	405	429	69
51	2.6	0.062	303	496	468	412	331	402	428	69
52	2.6	0.062	302	492	465	409	331	400	425	69
53	2.6	0.06	299	488	461	405	332	397	419	69
54	2.6	0.061	298	484	456	402	332	394	415	69
55	2.7	0.061	296	479	453	399	332	392	413	69
56	2.5	0.059	293	475	448	395	332	389	410	69

31-Oct-17		2 1b	Matt	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	1.7	0.075	345	348	384	559	376	402	594	63
1	1.6	0.077	353	354	394	566	375	408	619	63
2	1.4	0.094	361	359	403	588	375	417	647	63
3	1.3	0.088	369	367	410	606	375	425	662	63
4	1.4	0.1	376	374	419	626	375	434	656	63
5	1.1	0.096	382	381	427	639	374	440	657	64
6	1	0.089	389	388	434	648	375	447	659	64
7	0.9	0.089	396	395	442	655	374	453	658	64
8	0.6	0.09	401	401	448	661	374	457	660	64
9	0.7	0.116	407	408	456	664	375	462	669	65
10	0.6	0.11	413	413	461	659	375	464	676	64
11	0.5	0.085	417	418	466	660	375	467	681	64
12	0.4	0.097	422	422	469	660	375	470	688	65
13	0.4	0.108	428	427	476	661	375	473	691	65
14	0.3	0.109	433	432	480	659	376	476	687	64
15	10	0.092	438	435	485	653	376	477	675	65
16	0.2	0.092	443	439	489	644	376	478	660	65
17	0.3	0.086	448	442	492	634	377	479	647	65
18	1.2	0.09	453	446	497	625	378	480	634	65
19	1	0.164	458	448	498	654	379	487	714	65
20	0.8	0.205	462	450	500	705	379	499	799	66
21	0.6	0.226	466	453	503	761	380	513	859	66
22	0.6	0.206	470	457	507	797	381	523	850	66
23	0.4	0.171	475	461	511	787	383	523	807	66
24	0.3	0.163	480	466	514	770	384	523	776	66
25	0.2	0.156	485	469	519	757	385	523	761	66
26	0.1	0.14	488	472	524	744	386	523	743	66
27	0.1	0.117	493	475	530	726	387	522	717	66
28	2.4	0.103	496	477	534	708	388	521	699	66
29	2.4	0.087	497	479	536	692	389	519	686	66
30	2.3	0.091	499	480	537	677	390	517	676	66
31	2.3	0.087	501	482	538	663	390	515	666	66
32	2.2	0.086	501	482	539	652	392	513	658	66
33	2.2	0.079	502	483	539	642	393	512	651	66
34	2.1	0.078	502	483	539	633	394	510	643	67
35	3.1	0.078	502	486	538	617	395	508	580	68
36	12.2	0.074	504	497	538	583	396	503	468	70
37	12	0.084	503	499	537	571	398	502	552	68
38	11.5	0.135	503	496	534	597	400	506	680	67
39	13.4	0.197	502	491	531	640	403	513	756	67
40	11.1	0.209	499	487	526	686	405	521	802	67
41	11	0.213	498	485	522	723	407	527	835	67
42	10.7	0.23	497	483	518	757	410	533	860	67
43	10.5	0.267	497	483	516	787	412	539	880	67
44	10.2	0.262	497	483	514	811	414	544	897	68

45	10.1	0.272	497	484	513	834	415	548	914	68
46	9.8	0.27	498	484	512	853	416	553	926	67
47	9.6	0.282	499	485	510	869	417	556	939	67
48	9.2	0.284	501	486	511	884	417	560	952	68
49	9	0.29	503	488	512	898	418	564	965	68
50	8.8	0.286	504	490	512	913	418	567	981	68
51	8.6	0.289	506	492	513	928	418	571	998	68
52	8.4	0.305	508	494	515	943	418	576	1011	68
53	8.1	0.307	510	496	517	957	418	580	1028	69
54	7.9	0.319	513	499	519	971	417	584	1041	69
55	7.6	0.328	516	502	523	985	417	589	1059	69
56	7.3	0.326	519	506	525	999	416	593	1079	69
57	7.3	0.326	523	509	528	1014	416	598	1097	70
58	7	0.339	526	514	533	1028	415	603	1106	69
59	6.7	0.328	530	517	536	1039	415	607	1116	69
60	6.5	0.331	534	521	541	1048	414	612	1117	70
61	6	0.355	539	524	544	1055	413	615	1120	70
62	6	0.328	542	528	550	1063	413	619	1125	68
63	5.8	0.34	547	531	555	1072	412	624	1133	69
64	5.6	0.342	552	536	559	1078	412	627	1139	69
65	5.4	0.332	556	541	564	1074	412	629	1121	69

31-Oct-17	2	1 Matt	Lad							
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.7	0.408	557	546	568	1100	451	644	1280	64
1	4.6	0.37	532	563	581	1074	435	637	1179	63
2	4.4	0.341	508	582	594	1055	422	632	1123	63
3	4.3	0.33	491	599	605	1037	414	629	1077	63
4	4.2	0.316	478	613	613	1018	407	626	1038	64
5	4	0.286	468	624	618	998	402	622	1002	64
6	4	0.289	460	633	623	979	397	618	969	63
7	3.9	0.263	453	640	625	955	393	613	942	63
8	3.8	0.261	446	646	626	930	391	608	916	64
9	3.7	0.252	440	652	627	907	388	603	890	64
10	3.6	0.239	436	656	626	890	385	599	868	64
11	3.7	0.233	432	660	625	876	381	595	850	64
12	3.4	0.218	426	663	624	860	379	591	830	64
13	3.3	0.219	423	665	623	845	377	586	812	64
14	3.3	0.198	418	665	621	828	376	582	793	64
15	3.1	0.198	414	665	619	809	374	576	776	64
16	3.1	0.182	410	664	616	789	371	570	757	64
17	3.2	0.166	406	662	613	768	369	564	740	64
18	3.2	0.17	402	660	609	748	367	557	726	64
19	2.6	0.149	398	657	604	730	366	551	712	64
20	3.1	0.147	394	653	600	715	363	545	699	64
21	3	0.146	390	649	594	700	362	539	687	64
22	3	0.125	385	645	590	686	360	533	674	64
23	2.9	0.123	381	641	584	674	358	528	661	64
24	2.9	0.108	377	637	581	662	357	523	651	64
25	2.9	0.103	373	632	576	649	357	517	642	64
26	2.9	0.095	370	628	572	638	355	513	629	64
27	2.8	0.086	367	624	567	626	354	508	620	64
28	2.9	0.085	362	619	564	615	353	503	612	65
29	3.1	0.091	360	615	560	606	352	499	605	65
30	2.7	0.082	357	610	556	596	352	494	596	64
31	2.7	0.079	353	606	551	585	351	489	589	65
32	2.7	0.078	351	601	549	573	351	485	584	65
33	2.6	0.078	349	597	544	562	350	480	576	65
34	2.7	0.077	346	592	540	552	350	476	566	66
35	2.6	0.076	344	588	537	542	350	472	558	64

36	2.6	0.076	342	582	533	533	350	468	549	65
37	2.6	0.075	340	578	530	525	351	465	541	65
38	2.6	0.073	338	574	527	517	351	461	535	64
39	2.6	0.074	336	569	524	509	352	458	527	64
40	2.5	0.073	334	565	523	502	352	455	519	64
41	2.5	0.072	332	560	521	496	353	452	513	64
42	2.5	0.071	331	556	519	489	354	450	505	64
43	2.5	0.071	329	552	517	484	356	448	500	64
44	2.5	0.071	328	549	516	478	356	445	494	65
45	2.5	0.07	327	544	514	473	356	443	489	64
46	2.9	0.067	326	547	514	463	358	442	500	65
47	2.4	0.068	325	543	514	458	359	440	468	64
48	2.4	0.068	325	540	513	452	361	438	462	64
49	2.4	0.068	323	537	512	447	362	436	461	64
50	2.4	0.068	322	533	509	442	363	434	460	64
51	2.4	0.067	320	529	506	438	365	431	457	64
52	2.5	0.067	318	525	503	433	366	429	453	64
53	2.3	0.066	316	520	498	428	366	426	447	64
54	2.4	0.066	313	514	493	424	367	422	442	64
55	2.3	0.065	311	510	488	419	367	419	437	63
56	2.4	0.065	308	505	483	414	368	416	434	63
57	2.3	0.064	306	501	478	410	368	412	428	63
58	2.4	0.063	303	496	472	406	368	409	423	64
59	2.3	0.063	300	491	467	401	368	405	420	63
60	2.3	0.062	297	486	463	398	369	403	415	64
61	2.3	0.061	295	481	458	394	369	399	410	63
62	2.3	0.061	293	477	453	390	368	396	406	63

31-Oct-17		2 1a	Matt	Lad						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	0.7	0.162	302	313	381	713	213	385	738	61
1	0.6	0.149	313	322	391	699	222	389	719	61
2	4.5	0.144	324	336	402	647	231	388	573	62
3	4.2	0.122	334	343	410	644	242	395	648	61
4	4	0.173	342	351	417	636	253	400	688	61
5	3.8	0.157	350	356	421	648	265	408	695	61
6	3.7	0.148	356	360	425	651	276	413	695	61
7	3.5	0.14	361	364	424	645	286	416	697	61
8	3.4	0.162	365	368	426	643	296	420	706	61
9	3.1	0.177	369	371	426	650	306	424	723	61
10	3.1	0.178	372	374	427	663	314	430	746	61
11	2.8	0.199	375	379	429	676	321	436	764	61
12	2.5	0.216	379	384	430	696	328	443	781	61
13	2.3	0.286	383	393	433	689	335	447	810	62
14	2	0.212	387	399	437	721	341	457	819	62
15	2	0.209	393	405	444	725	346	463	805	62
16	1.8	0.199	400	412	451	731	352	469	803	62
17	1.7	0.212	406	419	456	736	357	475	803	62
18	1.6	0.198	412	425	464	742	362	481	807	62
19	1.8	0.212	418	432	471	748	367	487	809	62
20	1.5	0.202	424	438	478	754	373	494	811	63
21	1.1	0.201	431	445	485	760	378	500	812	63
22	1	0.202	437	451	493	765	383	506	810	63
23	0.9	0.206	443	457	500	766	389	511	806	63
24	0.7	0.177	449	462	506	760	395	514	796	63
25	0.6	0.177	455	466	513	753	400	518	784	63
26	0.7	0.167	460	470	520	746	406	520	775	63
27	0.5	0.157	465	474	523	733	412	521	756	63
28	0.5	0.154	469	476	528	717	418	522	735	63
29	0.4	0.129	474	479	533	700	425	522	716	63

30	0.4	0.123	476	480	534	685	432	521	701	63
31	0.4	0.107	478	482	536	670	439	521	687	63
32	10.2	0.067	481	491	536	625	447	516	480	65
33	12.7	0.107	484	500	536	596	456	514	522	64
34	12.5	0.099	484	496	533	599	465	515	595	63
35	12.3	0.168	484	492	529	615	474	519	684	63
36	12.1	0.195	482	489	526	640	481	524	746	63
37	11.9	0.214	480	487	521	666	487	528	785	63
38	11.6	0.24	478	485	517	709	492	536	832	63
39	11.9	0.231	476	484	514	738	495	541	845	63
40	11	0.255	475	483	512	762	496	546	861	62
41	10.9	0.27	476	483	510	789	497	551	886	63
42	10.7	0.271	476	483	508	813	496	555	903	62
43	10.5	0.277	477	484	508	834	495	559	919	62
44	10.1	0.288	479	484	507	853	493	563	936	63
45	9.9	0.305	481	486	506	872	491	567	955	62
46	9.8	0.307	483	487	507	889	489	571	972	62
47	9.8	0.322	486	488	509	904	486	575	988	62
48	9.1	0.328	488	490	510	919	484	578	1010	63
49	8.7	0.319	491	492	512	932	481	582	1027	62
50	8.6	0.337	495	494	513	945	479	585	1044	63
51	8.2	0.347	498	497	515	957	477	589	1061	63
52	8.1	0.351	502	499	518	969	474	592	1080	63
53	7.7	0.358	505	502	521	980	472	596	1106	63
54	7.2	0.368	509	504	525	991	469	600	1123	63
55	7.2	0.365	513	508	527	1003	467	603	1146	63
56	6.9	0.378	517	511	530	1014	465	607	1172	64
57	6.6	0.391	522	515	534	1026	463	612	1194	63
58	6.4	0.399	526	519	538	1038	461	616	1215	64
59	6.1	0.405	531	523	542	1050	459	621	1234	64
60	5.8	0.395	535	526	546	1059	458	625	1249	64
61	5.5	0.392	540	531	552	1068	456	629	1249	63
62	5.4	0.401	545	535	557	1076	455	633	1252	64
63	5.1	0.393	549	539	560	1084	453	637	1257	63
64	4.9	0.408	555	544	566	1095	452	642	1276	63

30-Oct-17	3 1e		bw	ladera_low						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	5.3	0.29	548	542	548	977	392	601	997	72
1	5.1	0.248	522	555	557	960	380	595	902	71
2	5	0.242	497	570	566	944	371	589	872	71
3	5	0.231	479	583	573	924	367	585	850	72
4	5.3	0.195	466	595	578	905	364	581	829	70
5	4.7	0.183	456	605	581	885	361	578	811	71
6	4.8	0.198	447	612	584	864	358	573	792	70
7	4.5	0.187	441	619	587	843	356	569	773	70
8	4.5	0.176	435	624	587	823	355	565	761	71
9	4.4	0.177	428	628	587	805	354	560	742	71
10	4.4	0.149	422	630	587	789	354	556	730	71
11	4.3	0.146	416	632	586	774	353	552	717	70
12	4.2	0.154	409	632	586	761	354	548	706	71
13	4	0.134	405	633	584	748	352	544	695	70
14	4.2	0.133	400	632	583	738	352	541	686	70
15	4	0.125	395	632	580	727	351	537	677	70
16	4	0.12	391	631	578	717	350	533	667	70
17	3.7	0.105	387	629	576	710	349	530	658	70
18	3.9	0.114	383	627	574	704	349	527	652	70
19	3.9	0.089	379	625	573	697	348	524	644	70
20	3.8	0.109	376	622	571	691	348	522	637	70
21	3.7	0.091	373	620	569	682	347	518	627	70

22	3.7	0.083	370	617	567	673	346	515	622	70
23	3.7	0.083	367	613	564	665	346	511	615	70
24	3.7	0.083	363	610	562	658	344	508	608	70
25	3.5	0.078	361	606	560	651	344	504	603	70
26	3.6	0.08	358	603	558	645	344	502	598	70
27	3.5	0.08	356	599	556	638	344	499	591	70
28	3.4	0.077	354	595	554	631	343	495	585	70
29	3.4	0.077	353	592	553	624	342	493	582	70
30	3.4	0.078	350	588	552	616	341	489	579	70
31	2.7	0.076	348	584	550	607	342	486	572	69
32	3.4	0.077	346	580	550	594	342	482	572	70
33	3.4	0.076	344	576	549	580	342	478	568	70
34	3.3	0.075	342	573	548	568	342	475	563	70
35	3.3	0.077	339	569	546	556	342	471	559	70
36	3.2	0.075	338	565	545	545	342	467	554	70
37	3.2	0.074	335	561	544	535	343	464	548	70
38	3.2	0.074	334	556	543	526	344	460	541	70
39	3.2	0.073	331	552	540	518	344	457	534	70
40	3.1	0.071	329	549	539	510	345	454	527	70
41	3.1	0.071	328	545	537	502	347	452	522	70
42	3.1	0.07	327	541	535	496	348	449	516	70
43	3	0.071	325	537	534	490	349	447	510	71
44	3.4	0.07	324	534	533	484	351	445	503	70
45	3	0.069	322	529	530	478	352	442	499	70
46	2.5	0.076	321	533	530	468	355	442	558	72
47	2.3	0.068	321	533	530	465	360	442	516	72
48	2.4	0.067	321	528	530	461	363	441	485	71
49	2.3	0.068	321	525	530	456	364	439	476	71
50	2.3	0.067	321	523	530	452	366	438	473	71
51	2.4	0.066	320	519	528	447	369	437	468	70
52	2.3	0.064	319	516	524	442	370	434	462	71
53	2.4	0.067	318	513	519	437	372	432	456	71
54	2.2	0.064	316	511	514	432	374	429	451	70
55	1.9	0.064	315	506	509	427	376	427	444	70
56	2.3	0.065	313	503	503	422	377	424	441	70
57	2.3	0.063	310	499	497	418	377	420	437	71
58	2.3	0.063	308	494	492	412	378	417	431	70
59	2.3	0.063	305	490	485	408	378	413	426	70
60	2.3	0.062	303	486	480	403	378	410	423	70

30-Oct-17	3	1d	bw	ladera_low						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	10.9	0.245	450	435	444	773	411	503	858	66
1	10.8	0.234	452	437	446	791	410	507	873	67
2	10.5	0.239	453	439	448	809	409	512	887	68
3	10.3	0.251	456	441	450	826	407	516	899	69
4	10	0.261	458	445	454	842	406	521	910	69
5	9.8	0.258	461	448	457	857	405	525	923	69
6	9.6	0.258	464	452	460	870	403	530	935	69
7	9.4	0.266	467	456	465	884	402	535	943	69
8	9.2	0.275	471	460	469	896	401	539	956	69
9	9.1	0.272	475	464	473	910	399	544	966	69
10	8.8	0.28	478	469	478	924	398	549	984	70
11	8.5	0.285	482	473	482	938	397	554	1002	70
12	8.3	0.291	486	478	487	950	396	559	1011	70
13	8	0.295	490	482	491	960	395	564	1019	70
14	7.9	0.295	495	487	496	969	394	568	1023	70
15	7.5	0.307	499	492	501	976	393	572	1029	71
16	7.4	0.3	503	496	506	982	392	576	1031	71
17	7.2	0.298	507	501	511	987	392	580	1030	71

18	7.2	0.303	511	505	515	991	391	583	1030	71
19	6.9	0.305	515	509	520	995	391	586	1028	71
20	6.6	0.286	519	513	522	998	390	588	1027	71
21	6.5	0.307	523	517	526	998	390	591	1024	71
22	6.4	0.293	526	521	530	996	390	592	1021	71
23	6.1	0.294	530	525	532	992	390	594	1017	71
24	6	0.279	534	527	535	990	390	595	1011	71
25	7.4	0.293	537	531	539	987	390	597	1008	72
26	5.6	0.272	539	534	541	984	390	598	1007	71
27	5.5	0.274	542	537	544	982	391	599	1003	72
28	5.4	0.29	546	540	546	979	392	600	1000	72

30-Oct-17	3	1c	bw	ladera_low						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	7.8	0.303	333	355	365	800	392	449	964	68
1	7.3	0.314	340	360	375	846	391	462	1019	68
2	7	0.31	348	367	383	881	391	474	1042	69
3	6.7	0.312	357	374	393	903	390	484	1022	69
4	7.1	0.278	367	382	405	903	391	489	979	69
5	6.4	0.275	377	390	416	896	391	494	952	69
6	6.2	0.266	387	399	427	889	391	498	932	69
7	6	0.263	397	408	436	879	391	502	916	69
8	5.9	0.239	406	416	444	867	391	505	900	70
9	5.8	0.215	416	425	451	855	391	508	886	70
10	5.5	0.229	425	433	457	845	391	510	874	70
11	5.9	0.215	434	440	463	834	392	513	863	69
12	5.3	0.197	442	447	468	825	391	515	853	69
13	5.1	0.216	449	454	473	815	392	516	844	70
14	5.4	0.203	455	459	477	808	391	518	837	70
15	4.8	0.195	462	464	479	800	391	519	832	70
16	4.9	0.218	467	469	483	794	391	521	826	69
17	4.7	0.199	472	474	486	786	391	522	819	69
18	4.5	0.185	477	478	490	780	391	523	815	69
19	4.4	0.186	481	482	491	775	391	524	812	69
20	4.3	0.184	486	485	494	771	391	525	808	69
21	4.2	0.205	489	488	494	769	391	526	807	69
22	4.1	0.189	492	491	498	767	391	528	808	70
23	3.9	0.193	496	493	503	767	391	530	807	69
24	3.8	0.189	499	496	506	767	391	532	808	70
25	3.7	0.185	502	498	509	768	392	534	809	70
26	3.4	0.19	505	500	512	767	392	535	804	70
27	3.5	0.182	508	501	513	764	392	536	798	70
28	3.4	0.178	510	503	518	759	393	536	789	70
29	3.3	0.165	513	504	519	754	393	537	780	70
30	3.2	0.159	515	505	521	745	394	536	768	70
31	3.1	0.15	517	507	522	735	394	535	756	70
32	3.1	0.144	517	507	523	724	394	533	743	70
33	3	0.13	517	508	526	714	394	532	733	70
34	2.9	0.126	518	508	528	704	395	531	725	70
35	2.8	0.125	517	508	530	695	395	529	716	70
36	2.9	0.123	517	508	530	687	396	527	710	70
37	2.7	0.105	516	508	532	679	396	526	702	70
38	3	0.108	515	508	534	672	396	525	698	70
39	2.6	0.111	514	507	534	667	396	524	695	70
40	2.5	0.123	513	507	533	662	397	522	691	70
41	0	0.075	512	515	534	628	397	517	525	72

30-Oct-17	3	1 bw	ladera_low							
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.7	0.388	537	539	578	1067	442	633	1258	67
1	4.5	0.371	515	558	592	1053	430	630	1186	67
2	4.4	0.35	494	576	605	1039	422	627	1117	67
3	4.2	0.32	479	593	615	1020	416	624	1070	67
4	4.2	0.304	468	607	622	1001	411	622	1033	67
5	3.9	0.29	460	620	628	981	407	619	998	67
6	3.9	0.281	453	630	632	962	404	616	966	67
7	3.8	0.269	448	638	634	945	401	613	937	67
8	3.7	0.262	441	644	634	927	398	609	912	67
9	3.6	0.244	437	648	635	910	396	605	886	67
10	2.6	0.23	433	653	633	891	394	601	865	67
11	3.5	0.238	428	654	633	871	392	596	845	67
12	3.4	0.211	424	656	630	855	389	591	826	68
13	2.9	0.203	420	656	628	841	387	586	809	67
14	3.3	0.201	416	655	625	830	385	582	795	67
15	3.2	0.192	412	655	621	814	383	577	779	68
16	3.2	0.187	408	653	619	798	382	572	761	67
17	3	0.171	405	651	615	780	379	566	748	67
18	3	0.17	402	650	611	763	377	560	735	67
19	2.9	0.158	397	648	607	744	376	554	721	67
20	2.9	0.151	393	646	604	727	374	549	710	67
21	2.9	0.122	390	643	601	710	372	543	698	67
22	2.9	0.134	386	639	596	694	370	537	684	67
23	2.9	0.118	382	636	592	676	369	531	672	68
24	2.8	0.119	378	633	587	658	367	525	661	68
25	2.8	0.096	375	629	582	641	365	518	650	68
26	2.8	0.094	371	624	577	626	364	512	637	68
27	2.8	0.086	367	620	571	611	362	506	627	68
28	2.8	0.092	363	615	567	596	362	501	617	68
29	2.7	0.082	359	611	562	584	360	495	607	68
30	2.8	0.079	355	606	555	572	359	489	599	68
31	3.2	0.078	352	601	550	561	359	485	591	68
32	2.7	0.077	348	596	546	550	359	480	581	68
33	2.9	0.077	346	592	542	539	358	475	575	68
34	2.6	0.076	343	587	539	528	358	471	565	67
35	2.7	0.076	339	582	536	519	358	467	558	68
36	2.6	0.075	337	577	533	509	358	463	549	68
37	2.5	0.075	334	571	532	502	358	459	544	68
38	2.5	0.074	332	566	530	494	358	456	539	67
39	2.6	0.074	329	562	529	488	359	453	533	68
40	2.6	0.073	327	557	528	482	360	451	527	67
41	2.6	0.072	325	553	528	477	360	449	523	67
42	2.6	0.072	323	549	526	472	361	446	517	67
43	2.5	0.071	321	544	526	467	362	444	512	67
44	2.5	0.071	319	540	525	463	364	442	508	68
45	2.5	0.07	318	536	524	459	365	441	500	68
46	2.5	0.07	317	533	523	456	366	439	498	68
47	2.3	0.073	316	536	522	446	368	438	527	69
48	2.4	0.067	315	530	521	444	370	436	478	68
49	2	0.067	314	527	520	439	372	435	470	68
50	2.4	0.067	313	524	517	435	374	433	468	68
51	2.4	0.068	312	520	514	432	376	431	465	68
52	2.4	0.065	311	516	511	428	378	429	460	68
53	2.4	0.065	309	512	507	424	379	426	456	67
54	2.4	0.065	308	507	502	421	381	424	451	67
55	3	0.064	306	504	497	417	381	421	447	68
56	2.3	0.063	304	500	492	413	382	418	442	68
57	2.4	0.063	302	495	487	409	383	415	437	67
58	2.3	0.064	301	491	482	405	383	412	432	68
59	2.3	0.062	298	486	477	402	384	409	428	67
60	1.7	0.063	296	481	472	398	384	406	423	67

61	2.3	0.063	294	476	467	395	384	403	418	67
62	2.3	0.061	292	472	462	391	384	400	414	67
63	2.2	0.061	291	468	458	388	384	398	409	68
64	2.2	0.06	289	465	454	385	383	395	406	67

30-Oct-17	3 1b		bw	ladera_low						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	12.2	0.101	469	469	509	578	433	492	678	66
1	11.9	0.144	468	463	506	588	439	493	671	66
2	11.6	0.175	464	459	501	613	445	496	722	66
3	11.4	0.18	460	456	497	639	449	500	765	66
4	11.2	0.221	458	454	495	673	453	507	804	66
5	10.8	0.227	456	452	490	704	456	512	816	66
6	10.7	0.249	456	452	488	741	458	519	850	66
7	10.5	0.246	456	452	488	766	459	524	868	66
8	10.2	0.257	457	453	487	789	459	529	889	66
9	10	0.278	458	455	488	813	459	535	912	66
10	9.7	0.276	460	457	491	836	459	541	933	66
11	9.5	0.289	463	459	494	855	459	546	949	66
12	9.2	0.302	466	463	496	872	458	551	968	66
13	8.8	0.31	470	465	500	890	457	556	992	66
14	9	0.321	475	469	503	905	456	562	1013	66
15	8.6	0.332	479	472	509	919	455	567	1040	66
16	8.1	0.341	483	476	513	930	454	571	1068	66
17	7.8	0.344	487	480	517	943	453	576	1095	66
18	7.5	0.347	492	485	522	955	452	581	1123	67
19	7.2	0.356	496	489	527	965	451	586	1162	67
20	7	0.383	501	494	533	977	450	591	1201	67
21	7.2	0.388	506	499	539	990	449	597	1226	67
22	6.4	0.384	510	504	545	1003	448	602	1235	67
23	6.1	0.409	516	509	549	1015	448	607	1274	67
24	5.8	0.406	521	514	554	1029	447	613	1297	67
25	5.5	0.402	526	519	558	1041	446	618	1315	67
26	5.3	0.406	531	525	564	1052	446	623	1341	68
27	5.1	0.416	536	530	570	1061	445	629	1334	68

30-Oct-17	3 1a		bw	ladera_low						
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	3	0.191	139	113	160	497	70	196	746	62
1	2.7	0.201	145	123	172	551	72	213	759	62
2	2.6	0.209	151	131	182	582	74	224	768	62
3	2.4	0.202	159	142	187	618	77	237	774	62
4	2.3	0.211	171	151	190	643	80	247	769	62
5	2.9	0.19	182	162	194	668	83	258	778	62
6	0.8	0.22	193	171	203	701	87	271	804	63
7	1.5	0.194	205	181	228	707	90	282	784	63
8	1.4	0.184	217	192	251	703	94	292	762	63
9	1.2	0.173	230	203	269	699	99	300	751	63
10	1.1	0.167	243	215	288	693	104	309	741	63
11	0.9	0.167	255	226	304	688	109	317	732	63
12	0.9	0.157	267	239	320	685	116	325	731	63
13	0.6	0.153	279	251	335	685	123	335	728	63
14	0.5	0.127	291	262	351	679	130	343	714	63
15	0.7	0.115	301	272	364	670	138	349	700	63
16	0.4	0.13	311	282	378	660	147	356	688	64
17	0.4	0.101	320	291	388	651	157	362	680	64
18	0.3	0.115	329	299	399	643	167	367	671	64

19	2.6	0.076	337	309	409	621	177	371	595	65
20	3.8	0.071	342	322	414	581	189	370	486	64
21	3.6	0.079	349	328	417	575	203	374	560	64
22	3.5	0.092	354	331	418	582	217	381	611	64
23	3.3	0.117	359	334	420	593	231	387	652	64
24	3	0.135	362	337	419	607	243	394	678	64
25	3	0.146	365	339	421	617	255	399	692	64
26	2.7	0.145	368	342	422	628	266	405	707	64
27	3.1	0.171	372	347	425	637	275	411	714	64
28	2.5	0.157	376	351	429	655	284	419	729	64
29	2.3	0.158	380	354	435	665	291	425	736	64
30	2.2	0.175	385	360	439	676	298	431	743	64
31	2.1	0.176	390	365	447	687	305	439	749	64
32	2.8	0.186	394	370	451	696	310	444	756	65
33	1.7	0.17	400	376	458	703	315	450	759	65
34	1.5	0.18	405	382	465	708	320	456	763	65
35	1.5	0.171	411	389	470	713	325	462	763	65
36	12.1	0.184	417	395	478	715	329	467	761	65
37	1.2	0.163	423	401	484	713	334	471	757	65
38	1	0.169	428	407	491	712	338	475	752	65
39	0.9	0.158	433	413	495	709	342	479	747	65
40	1.3	0.151	438	419	500	706	347	482	739	65
41	0.9	0.141	444	425	504	701	351	485	732	65
42	0.7	0.149	448	429	509	695	356	487	725	66
43	0.6	0.142	452	434	512	689	361	489	718	66
44	0.7	0.136	455	438	514	682	366	491	711	66
45	0.4	0.118	458	441	517	676	371	493	705	65
46	0.5	0.118	461	444	520	669	376	494	698	66
47	0.4	0.103	464	448	520	656	381	494	671	66
48	0.3	0.094	466	450	522	650	387	495	673	65
49	0.4	0.09	467	452	523	639	393	495	661	65
50	0.2	0.079	468	453	522	626	399	494	646	66
51	0.3	0.078	469	454	521	614	404	492	633	65

26-Oct-17	3	1 bw	ladera_low							
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.7	0.301	538	549	568	1073	400	626	1113	74
1	4.6	0.302	516	567	583	1055	389	622	1055	72
2	4.4	0.29	496	583	594	1029	381	617	1010	70
3	4.2	0.26	481	596	602	997	374	610	973	68
4	4.3	0.259	469	607	608	964	370	604	939	67
5	4.3	0.261	460	616	613	933	367	598	909	66
6	4.1	0.231	450	622	615	903	365	591	885	66
7	4	0.214	444	628	615	873	361	584	860	65
8	3.8	0.197	437	632	614	841	360	577	837	65
9	4.3	0.192	429	634	613	814	359	570	814	65
10	3.9	0.181	423	636	610	788	357	563	792	65
11	4	0.177	417	636	607	764	357	556	774	64
12	3.9	0.14	411	635	603	742	355	549	755	65
13	3.9	0.135	405	634	599	720	353	542	740	64
14	3.9	0.141	399	632	593	700	353	535	724	64
15	3.8	0.133	394	629	589	681	352	529	709	64
16	3.8	0.128	388	626	584	660	351	522	699	64
17	3.8	0.129	383	622	579	641	350	515	693	64
18	3.7	0.12	378	618	574	624	350	509	682	63
19	3.7	0.106	374	613	569	608	351	503	668	63
20	4	0.097	369	609	565	593	350	497	653	64
21	3.8	0.097	364	603	560	578	350	491	640	63
22	3.7	0.082	360	598	555	565	351	486	627	63
23	3.7	0.083	356	593	550	553	352	481	613	63

24	3.6	0.078	353	588	546	541	352	476	603	63
25	3.7	0.078	348	583	543	531	353	471	591	63
26	3.6	0.078	346	578	539	521	354	468	578	62
27	3.7	0.075	342	572	536	512	354	463	570	63
28	3.6	0.076	340	568	533	504	355	460	560	62
29	4	0.076	337	563	530	497	357	457	550	63
30	3.4	0.074	334	557	528	490	358	453	543	62
31	3.6	0.073	332	553	525	484	359	451	536	62
32	3.5	0.072	330	548	523	478	360	448	528	63
33	3.4	0.07	328	543	521	473	361	445	522	63
34	3.5	0.071	326	539	520	468	363	443	515	63
35	3.4	0.07	325	534	518	463	365	441	507	63
36	3.6	0.069	323	531	516	459	366	439	499	62
37	3.4	0.067	322	526	514	455	368	437	494	63
38	3.4	0.069	320	523	513	451	370	436	489	63
39	3.4	0.069	320	517	512	448	372	434	484	63
40	3.4	0.068	319	515	511	444	374	433	479	63
41	3.4	0.067	318	511	509	441	375	431	472	63
42	3.6	0.066	317	508	508	438	377	430	469	63
43	3.3	0.065	316	505	507	435	379	428	463	63
44	3.3	0.065	315	502	506	433	381	428	459	63
45	2.5	0.065	315	500	505	431	382	426	456	62
46	3.2	0.064	313	497	504	428	384	425	453	62
47	3.3	0.063	313	495	503	426	385	424	449	62
48	3.2	0.064	312	492	503	424	387	424	445	62
49	3.2	0.063	312	490	501	422	389	423	442	63
50	3.2	0.063	311	487	501	420	390	422	437	62
51	3.2	0.062	311	485	499	418	391	421	433	62
52	3.2	0.062	310	483	498	417	393	420	433	64
53	2.6	0.07	309	486	498	414	400	421	491	65
54	2.5	0.061	309	483	497	412	404	421	441	65
55	2.6	0.062	309	481	497	409	408	421	426	67
56	2.5	0.062	308	479	496	407	410	420	422	67
57	1.6	0.06	307	477	495	405	413	419	421	68
58	2.6	0.061	307	475	491	402	414	418	420	68
59	2.4	0.061	306	472	487	400	416	416	418	68
60	2.5	0.059	305	469	482	397	416	414	413	69
61	2.4	0.058	303	467	478	394	417	412	409	69
62	2.4	0.058	301	464	474	391	417	409	406	69
63	2.4	0.058	299	461	468	388	417	407	403	69
64	2.5	0.057	298	458	463	385	417	404	401	69
65	2.4	0.056	296	455	458	382	417	401	399	69
66	2.3	0.055	293	452	454	379	416	399	394	70
67	2.3	0.057	292	449	449	377	416	396	392	70

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ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB
0	4.2	0.388	534	560	566	1153	491	661	1298	74
1	4	0.374	515	576	582	1126	475	655	1240	73
2	3.9	0.356	492	595	597	1101	463	650	1166	72
3	3.7	0.332	474	612	610	1078	454	645	1120	73
4	3.7	0.324	462	626	621	1054	448	642	1079	72
5	3.6	0.299	453	636	631	1029	441	638	1044	72
6	3.4	0.293	446	643	638	1005	437	634	1014	73
7	3.3	0.284	441	649	644	978	431	628	984	73
8	3.4	0.27	436	654	648	951	427	623	954	72
9	3.2	0.269	430	657	651	925	423	617	927	73
10	3.2	0.239	427	660	653	902	419	612	904	72
11	3.2	0.219	423	663	654	880	417	607	882	72
12	3.1	0.206	419	665	655	858	414	602	861	72

13	3	0.203	416	666	656	834	412	597	839	72
14	3	0.195	412	666	654	811	409	590	820	72
15	3	0.184	409	665	653	786	406	584	799	72
16	3	0.178	405	663	650	762	405	577	781	72
17	3	0.16	402	661	647	739	403	570	764	72
18	3	0.156	398	659	642	717	401	563	748	72
19	2.8	0.14	395	656	638	696	400	557	731	72
20	2.9	0.12	392	653	633	676	398	550	717	72
21	2.9	0.131	387	649	628	657	397	544	700	72
22	2.8	0.114	384	645	623	640	396	538	687	71
23	2.8	0.105	380	641	619	625	396	532	674	71
24	2.9	0.091	377	637	614	611	395	527	661	72
25	2.6	0.106	373	633	609	599	394	522	649	72
26	2.7	0.085	370	629	605	587	395	517	636	72
27	2.7	0.079	368	625	601	577	396	513	624	72
28	2.7	0.078	365	621	597	567	396	509	614	71
29	2.7	0.078	363	617	594	558	398	506	603	71
30	2.7	0.077	360	613	590	550	399	502	592	72
31	1.7	0.077	358	609	587	542	401	499	583	72
32	2.7	0.075	356	605	583	535	401	496	575	72
33	2.6	0.075	354	601	580	528	402	493	564	71
34	2.2	0.073	352	598	576	522	402	490	557	71
35	2.6	0.074	350	594	574	516	405	488	549	71
36	2.6	0.072	348	590	570	510	406	485	543	72
37	2.4	0.071	347	588	568	505	407	483	534	71
38	2.6	0.071	346	584	565	500	409	481	529	72
39	2.5	0.07	344	581	563	495	410	479	523	71
40	3	0.071	343	577	559	491	412	476	517	71
41	2.5	0.069	341	573	557	486	413	474	511	71
42	2.5	0.069	340	571	555	482	416	473	504	71
43	2.5	0.069	338	567	552	479	417	470	500	72
44	2.5	0.068	337	565	550	475	419	469	494	71
45	2.3	0.068	336	561	547	471	420	467	489	71
46	2.4	0.069	334	557	546	467	423	465	486	71
47	4	0.076	332	556	544	464	424	464	516	72
48	2.3	0.065	332	558	542	457	426	463	482	72
49	2.3	0.067	331	556	541	453	427	461	467	71
50	2.3	0.067	330	553	537	448	428	460	465	71
51	2.3	0.066	328	549	533	445	428	457	463	71
52	2.3	0.066	326	546	529	441	431	454	463	71
53	2.1	0.064	325	542	524	437	430	452	457	71
54	2.3	0.065	323	537	518	433	431	448	454	71
55	2.2	0.063	321	532	512	429	432	445	449	71
56	2.3	0.063	318	528	507	425	432	442	445	71
57	2	0.063	316	522	500	421	431	438	440	71
58	2.2	0.064	314	517	494	417	429	434	435	71
59	2.2	0.063	312	512	488	413	428	431	432	71
60	2.2	0.061	310	506	482	409	427	427	427	71
61	2.1	0.061	307	502	476	406	426	423	424	71
62	2.2	0.06	306	496	472	403	424	420	420	71
63	2.2	0.061	303	492	466	400	424	417	414	71
64	2.2	0.06	301	487	461	397	423	414	410	71
65	2.1	0.06	299	482	456	395	422	411	408	71
66	2.1	0.06	297	478	451	392	420	407	405	71
67	2.1	0.058	295	474	446	389	420	405	403	71
68	2.2	0.06	293	469	442	387	418	402	400	71
69	2.1	0.057	291	465	438	384	418	399	398	71
70	2.1	0.058	289	461	434	382	417	397	395	71
26-Oct-17	2	1	bw	ladera_lo\	11.5	2.30 - 2.87 (lbs)				
0.022	0.036	0.04	0.026	0.03	0.041	0.041	0.026			
90	90	90	90	90	90	90	90			
30	30	30								
ET	SCALE	FLUE	LS TEMP	RS TEMP	BACK	TOP	BOTTOM	AVG T	FLUE	AMB

0	4.4	0.342	498	589	592	1063	391	627	1143	70
1	4.3	0.33	483	603	601	1045	387	624	1099	69
2	4.2	0.305	473	615	608	1025	381	621	1063	70
3	4.1	0.297	465	625	613	1008	377	618	1032	70
4	4	0.293	458	633	617	990	376	615	1002	71
5	3.9	0.27	453	638	619	972	373	611	973	70
6	3.8	0.254	447	643	620	955	372	607	948	70
7	3.8	0.258	443	647	621	936	370	603	925	71
8	3.7	0.237	438	648	621	917	368	598	901	70
9	3.6	0.236	433	649	619	896	367	593	878	71
10	3.6	0.215	429	650	618	873	365	587	859	71
11	3.5	0.204	425	649	616	851	364	581	839	71
12	3.4	0.208	421	648	613	831	362	575	819	71
13	3.4	0.195	417	647	611	812	360	569	801	71
14	3.3	0.177	413	645	608	792	360	564	782	70
15	3.3	0.159	409	644	605	772	358	558	766	70
16	3.3	0.163	404	641	601	751	357	551	752	70
17	3.2	0.146	400	639	597	730	357	544	734	70
18	3.2	0.153	396	636	592	708	356	538	720	70
19	3.2	0.121	392	632	588	689	355	531	705	71
20	3.2	0.131	388	628	584	671	355	525	693	70
21	3.1	0.111	384	625	579	654	354	519	682	70
22	3.1	0.11	380	621	574	639	352	513	670	70
23	3.1	0.096	376	617	569	625	352	508	658	70
24	3.5	0.09	373	613	565	612	352	503	647	70
25	3.1	0.088	370	609	561	599	351	498	635	70
26	3.1	0.084	367	605	557	587	351	493	623	70
27	3	0.079	363	601	553	576	352	489	613	70
28	3	0.077	361	596	549	566	352	485	603	70
29	3	0.077	358	593	546	556	352	481	594	70
30	2.8	0.075	355	589	543	546	353	477	583	69
31	2.9	0.075	353	585	540	537	354	474	573	69
32	2.7	0.075	351	582	537	529	355	471	564	70
33	2.9	0.074	348	577	533	521	356	467	557	70
34	2.9	0.072	347	573	530	514	357	464	548	70
35	2.9	0.074	344	571	527	507	356	461	542	64
36	2.8	0.072	341	567	525	502	359	459	534	66
37	2.8	0.072	339	564	521	496	360	456	526	68
38	2.8	0.071	337	560	518	491	362	454	521	68
39	2.7	0.071	335	556	516	486	363	451	515	68
40	2.7	0.071	333	554	513	482	365	449	508	68
41	2.7	0.069	332	550	512	478	366	447	504	69
42	2.7	0.068	330	546	509	474	368	445	499	69
43	2.7	0.069	328	543	507	470	369	443	495	69
44	2.6	0.069	327	539	505	467	371	442	490	69
45	2.7	0.068	326	537	503	463	372	440	486	69
46	2.7	0.067	324	534	501	460	374	439	482	69
47	2.8	0.074	324	532	499	458	375	438	498	69
48	2.6	0.066	323	537	498	450	378	437	486	70
49	2.7	0.066	323	534	496	446	379	435	463	69
50	2.4	0.065	322	532	494	442	380	434	460	69
51	2.6	0.066	321	528	492	438	381	432	459	69
52	2.6	0.065	319	525	489	434	382	430	456	69
53	2.6	0.064	317	522	486	430	384	428	449	69
54	2.5	0.064	315	518	482	426	385	425	446	69
55	2.2	0.063	313	514	479	422	386	423	442	69
56	2.6	0.062	311	511	475	418	387	420	437	69
57	2.8	0.061	309	507	470	414	387	417	435	69
58	1.7	0.062	307	503	465	411	387	415	431	69
59	2.5	0.061	305	498	462	407	387	412	427	69
60	2.6	0.062	303	494	458	404	387	409	422	69
61	2.5	0.062	301	490	453	401	387	406	418	69
62	2.5	0.061	299	485	449	398	386	403	416	69

63	2.4	0.059	297	481	445	396	385	401	413	69
64	2.4	0.059	295	477	442	393	386	398	409	69
65	2.5	0.059	293	473	438	391	386	396	408	69

11/3/2017

EI	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg T	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.049	0	0	11.8	96.37	413.68	64	71	467	315	437	432	337	398	62	452	4148	0.061	18.17	2.63	0
1	0.174	0.049	0.357	0	11.69	134	393	67	71	462	313	442	414	337	394	62	378	4148	0.054	20.36	0.64	0.13
2	0.358	0.049	0.358	0	11.57	145	349	69	72	457	311	445	396	337	389	62	331	4148	0.055	20.12	0.71	0.24
3	0.545	0.049	0.357	0	11.67	118	366	69	72	450	308	438	389	335	384	62	357	4148	0.056	18.5	2.15	0.87
4	0.725	0.049	0.358	0	11.78	120	392	69	72	444	305	433	380	334	379	62	387	4148	0.058	19.12	1.68	0.1
5	0.912	0.049	0.357	0	11.45	123	438	70	72	437	301	428	385	333	377	62	402	4148	0.064	15.73	4.85	0.05
6	1.098	0.049	0.356	0	11.35	109	429	69	72	429	296	420	382	332	372	62	399	4148	0.065	16.88	3.93	0
7	1.282	0.049	0.358	0	11.34	104	424	69	72	424	291	415	379	332	368	62	407	4148	0.064	17.87	2.93	0
8	1.468	0.049	0.354	0	11.3	101	420	69	72	418	287	409	377	330	364	62	398	4148	0.063	17.99	2.81	0
9	1.65	0.049	0.355	0	11.33	99	416	69	72	413	282	404	373	329	360	62	403	4148	0.063	17.97	2.89	0.03
10	1.833	0.049	0.355	0	11.2	98	414	69	72	407	277	398	370	329	356	62	391	4148	0.064	17.87	2.84	0.24
11	2.015	0.049	0.352	0	11.24	98	411	69	72	402	272	393	366	328	352	62	388	4148	0.062	17.75	3.12	0.21
12	2.198	0.049	0.355	0	11.1	97	411	69	72	397	268	388	363	327	349	62	382	4148	0.063	17.64	3.06	0.44
13	2.383	0.049	0.351	0	11.02	98	411	69	72	392	264	383	363	326	346	62	386	4148	0.063	16.64	4.01	0.51
14	2.561	0.049	0.351	0	11.1	98	418	69	72	387	259	378	370	325	344	62	395	4148	0.064	15.69	4.95	0.45
15	2.743	0.049	0.351	0	10.79	99	427	69	72	384	255	374	384	324	344	62	409	4148	0.066	14.47	6.32	0.13
16	2.924	0.049	0.351	0	10.72	99	433	69	72	380	252	371	397	324	345	62	494	4148	0.068	15.18	5.55	0.1
17	3.106	0.049	0.353	0	10.65	99	445	69	72	377	249	368	402	323	343	62	453	4148	0.067	16.18	4.64	0.02
18	3.285	0.049	0.352	0	10.6	100	456	69	72	374	246	365	423	322	346	62	482	4148	0.069	13.78	7.05	0
19	3.465	0.049	0.348	0	10.41	100	463	69	72	372	243	363	457	321	351	62	507	4148	0.07	13.43	7.36	0
20	3.643	0.049	0.352	0	10.18	101	470	69	72	370	241	361	473	321	353	62	530	4148	0.07	14.28	6.53	0
21	3.822	0.049	0.353	0	10.23	101	476	69	72	368	240	360	470	320	352	62	571	4148	0.073	16.16	4.71	0
22	4	0.049	0.352	0	10.13	101	488	69	73	367	238	358	465	319	349	62	515	4148	0.071	16.8	3.95	0.04
23	4.181	0.049	0.353	0	10.1	101	494	69	73	365	237	357	462	319	348	62	553	4148	0.07	16.04	4.73	0
24	4.359	0.049	0.351	0	10.05	102	500	69	73	365	236	355	461	318	347	62	576	4148	0.074	15.68	5.13	0
25	4.537	0.049	0.349	0	9.94	102	506	69	73	364	234	353	460	317	346	62	596	4148	0.073	15.39	5.41	0
26	4.713	0.049	0.349	0	9.73	103	515	70	73	365	233	351	459	316	345	62	596	4148	0.072	15.34	5.56	0
27	4.891	0.049	0.353	0	9.74	104	521	70	73	366	232	350	463	316	345	62	610	4147	0.073	14.9	6.03	0
28	5.069	0.049	0.349	0	9.58	104	519	70	73	368	231	349	474	315	347	62	619	4147	0.074	14.83	6.12	0
29	5.247	0.049	0.349	0	9.52	103	513	70	73	369	231	347	476	314	348	62	618	4147	0.073	15.43	5.6	0
30	5.427	0.049	0.35	0	9.42	103	512	70	73	370	231	347	476	313	347	62	629	4147	0.073	15.88	4.97	0
31	5.606	0.049	0.35	0	9.36	103	516	70	73	370	230	346	477	313	347	61	630	4147	0.072	15.78	5.05	0
32	5.782	0.049	0.352	0	9.3	104	518	70	73	371	229	346	480	312	348	62	632	4147	0.075	15.62	5.15	0
33	5.959	0.049	0.352	0	9.2	103	520	70	73	371	229	346	483	311	348	62	620	4147	0.075	15.51	5.42	0
34	6.137	0.049	0.352	0	9.09	104	519	70	74	371	228	346	482	310	347	62	615	4147	0.074	15.46	5.5	0
35	6.312	0.049	0.35	0	9.09	105	542	70	74	371	228	346	473	309	345	62	581	4147	0.076	15.62	5	0.12
36	6.49	0.049	0.349	0	8.98	106	566	70	74	371	228	346	469	308	344	62	593	4147	0.079	15.56	5.28	0.16
37	6.669	0.049	0.348	0	8.96	108	588	70	74	371	227	345	467	307	343	62	618	4147	0.079	15.35	5.51	0.08
38	6.847	0.049	0.348	0	8.84	109	603	70	74	371	226	344	466	306	342	61	639	4147	0.102	15.17	5.64	0.24
39	7.026	0.049	0.353	0	8.72	110	621	71	74	371	225	342	465	306	342	62	667	4147	0.08	15.07	5.7	0.32
40	7.203	0.049	0.346	0	8.64	111	634	71	74	372	225	341	465	305	342	61	689	4147	0.1	14.91	5.83	0.48
41	7.379	0.049	0.351	0	8.58	112	649	71	74	373	224	340	467	304	341	61	742	4147	0.126	14.67	6.21	0.38
42	7.555	0.049	0.351	0	8.47	114	666	71	74	373	224	339	469	303	341	61	830	4147	0.14	14.36	6.27	0.63
43	7.731	0.049	0.351	0	8.38	115	683	71	74	375	223	337	471	302	342	61	907	4147	0.132	14.12	6.69	0.69
44	7.904	0.049	0.352	0	8.24	117	709	71	74	377	223	336	475	302	342	61	928	4147	0.16	13.68	7.04	0.8
45	8.08	0.049	0.349	0	8.19	119	731	72	74	378	222	335	480	301	343	61	949	4147	0.183	13.39	7.35	1.17
46	8.258	0.049	0.35	0	8.05	121	764	72	74	380	222	334	487	300	345	61	979	4147	0.211	12.84	7.66	1.52
47	8.435	0.049	0.348	0	7.96	123	794	72	74	382	222	333	495	300	346	61	992	4147	0.198	12.31	7.97	1.62
48	8.609	0.049	0.349	0	8.41	126	835	72	74	385	222	333	505	299	349	61	1022	4147	0.243	11.82	8.46	1.37
49	8.786	0.049	0.354	0	7.72	128	869	73	75	388	222	332	516	298	351	61	1023	4147	0.236	11.66	8.84	0.79
50	8.965	0.049	0.35	0	7.57	130	893	73	75	391	222	331	526	298	354	61	1027	4147	0.249	11.6	8.98	0.49
51	9.14	0.049	0.348	0	7.5	132	910	73	75	395	223	331	536	298	356	61	1027	4147	0.279	11.51	9.12	0.32
52	9.319	0.049	0.351	0	7.3	134	927	73	75	399	223	331	544	297	359	61	1029	4147	0.258	11.75	8.83	0.4
53	9.495	0.049	0.349	0	7.26	136	944	73	75	403	224	332	551	297	361	61	1031	4147	0.264	11.81	8.83	0.26
54	9.67	0.049	0.348	0	7.09	137	944	74	75	407	225	332	556	297	363	61	1021	4147	0.277	12.43	8.06	0.83
55	9.847	0.049	0.35	0	7.03	137	935	74	75	412	226	332	559	296	365	61	1009	4147	0.258	12.93	7.56	1.02
56	10.023	0.049	0.349	0	7	137	920	74	75	415	227	333	560	296	366	61	992	4147	0.272	13.48	6.88	1.2
57	10.197	0.049	0.349	0	6.89	137	899	74	75	418	228	334	558	296	367	61	967	4147	0.255	14.01	6.42	1.1
58	10.374	0.049	0.354	0	6.8	136	878	74	75	421	229	335	555	295	367	61	939	4147	0.258	14.29	6.2	0.96
59	10.549	0.049	0.346	0	6.74	136	861	74	75	424	230	336	550	295	367	61	918	4147	0.234	14.53	6.06	0.76
60	10.724	0.049	0.352	0	6.65	135	847	74	75	426	232	337	545	295	367	61	897	4147	0.217	14.57	6.03	0.58
61	10.903	0.049	0.351	0	6.62	134	832	74	75	427	233	338	539	295	367	61	884	4146	0.204	14.79	5.84	0.5
62	11.078	0.049	0.346	0	6.37	134	819	74	75	428	235	339	534	295	366	61	873	4146	0.189	14.98	5.65	0.56
63	11.254	0.049	0.349	0	6.44	134	810	74	75	429	236	340	529	295	366	61	864	4146	0.185	14.92	5.71	0.34
64	11.431	0.049	0.346	0	6.4	133	799	74	75	430	237	341	524	295	365	61	853	4146	0.209	15.03	5.72	0.38
65	11.604	0.049	0.346	0	6.25	133	788	74	75	430	238	342	519	294	365	61	843	4147	0.179	15.23	5.33	0.42
66	11.78	0.049	0.35	0	6.28	132	776	74	75	431	239	343	515	294	365	61	833	4146	0.183	15.18	5.49	0.25
67	11.958	0.049	0.352	0	6.26	131	769	74	75	431	240	344	511	294	364	61	822	4146	0.168	15.34	5.34	0.17
68	12.134	0.049	0.348	0	6.08	131	755	74	75	432	242	345	506	294	364	61	821	4146	0.164	15.55	5.04	0.32
69	12.309	0.049	0.349	0	6.1	130	743	74	75	431	243	346	502	294	363	61	812	4146	0.164	15.71	4.9	0.27
70	12.485	0.049	0.352	0	5.96	128	730	74	75	431	244	347	497	294	362	61	797	4146	0.16	15.71	4.97	0.08
71	12.661	0.049	0.346	0	5.9	128	716	74	75	431	245	348	492	293	362	61	776	4146	0.134	15.82	4.79	0.21
72	12.838	0.049	0.35	0	5.86	127	706	74	75	431	246	348	486	293	361	61	754	4146	0.134	15.84	4.73	0.17
73	13.017	0.049	0.353	0	5.63	126	698	74	75	431	247	350	481	293	360	61	737	4146	0.128	15.77	4.87	0.05
74	13.195	0.049	0.35	0	5.85	125	689	74	75	430	248	350	476	293	360	61	721	4146	0.134	15.83	4.9	0.07
75	13.372	0.049	0.352	0	5.72	125	682	74	75	430	249	351	472	293	359	61	712	4146	0.111	15.85	4.83	0.08
76	13.548	0.049	0.351	0	5.67	124	678	74	75	430	250	352	469	293	359	61	689	4146	0.113	15.78	4.88	0.02
77	13.726	0.049	0.349	0	5.71	124	673	74	75	430	251	352	465	293	358	61	692	4146	0.132	15.77	4.89	0.04
78	13.901	0.049	0.35	0	5.62	123	667	74	75	429	252	353	462	293	358	61	681	4146	0.108	15.79	4.87	0.02
79	14.076	0.049	0.354	0	5.6	122	661	74	75	429	253	354	460	293	358	61	683	4146	0.102	15.97	4.72	0.13
80	14.254	0.049	0.351	0	5.53	122	661	74	75	429	254	354	457	293	357	61	662	4146	0.113	15.88	4.82	0.01
81	14.43	0.049	0.349	0	5.43	121	653	74	75	429	254	355	455	293	357	61	668	4146	0.098	16.01	4.67	0.13
82	14.606	0.049	0.348	0	5.44	121	649	74	76	428	255	355	452	293	357	61	653	4146	0.123	15.99	4.76	0.11
83	14.781	0.049	0.348	0	5.63	120	644	74	76	427	256	356	452	292	357	61	650	4146	0.104	16	4.65	0.2
84	14.955	0.049	0.348	0	5.3	119	622	74	76	428	256	356	455	292	355	61	614	4146	0.078	15.8	4.82	0
85	15.132	0.049	0.349	0	5.19	118	594	74	76	428	257	357	458	292	359	61	597	4146	0.079	15.42	5.34	0
86	15.307	0.049	0.349	0	5.12	117	577	74	76	430	258	359	464	292	361	61	583	4146	0.078	14.93	5.88	0
87	15.481	0.049	0.349	0	5.16	115	565	74	76	431	259	360	472	292	363	61	588	4146	0.077	14.48	6.42	0
88	15.661	0.049	0.35	0	5.02	115	561	73	76	433	261	361	483	292	366	61	596	4146	0.076	13.99	6.87	0
89	15.839	0.049	0.349	0	5.03	114	561	73	76	435	263	363	495	292	370	61	606	4146	0.074	13.32	7.64	0
90	16.018	0.049	0.349	0	4.92	114	558	73	76	438	266	366	513	292	375	61	628	4146	0.077	13.15	7.72	0
91	16.196	0.049	0.346	0	4.76	113	558	73	76	441	269	368	529	292	380	61	634	4146	0.077	13.27	7.67	0
92	16.371	0.049	0.351	0	4.83	113	556	73	76	444	273	371	544	292	385	61	655	4146	0.075	13.4	7.56	0
93	16.551	0.049	0.352	0	4.59	112	554	73	76	447	276	373	556	292	389	61	661	4146	0.074	13.67	7.16	0
94	16.732	0.049	0.348	0	4.67	111	552	73	76	451	280	376	566	292	393	61	667	4146	0.076	13.62	7.17	0
95	16.91	0.049	0.355	0	4.53	111	550	73	76	453	284	379	575	292	397	61	675	4146	0.073	14.05	6.95	0
96	17.09	0.049	0.351	0	4.45	110	546	73	76	457	288	382	580	292	400	61	665	4146	0.075	14.06	6.95	0
97	17.268	0.049	0.352	0	4.43	110	546	73	76	459	291	385	582	292	402	61	669	4146	0.074	14.31	6.55	0
98	17.444	0.049	0.352	0	4.23	109	539	73	76	461	295	388	581	292	403	61	658	4146	0.073	14.5	6.45	0
99	17.624	0.049	0.349	0	4.3	109	536	73	76	463	297	392	579	292	405	61	658	4146	0.075	14.59	6.16	0
100	17.801	0.049	0.35	0	4.14	108	530	73	76	465	300	395	578	292	406	61	653	4146	0.074	14.66	6.25	0
101	17.974	0.049	0.352	0	4.14	107	530	72	76	468	302	398	575	292	407	61	652	4146	0.075	14.77	6.1	0
102	18.154	0.049	0.35	0	4.03	107	525	72	76	469	304	400	573	292	408	61	655	4146	0.071	14.71	5.95	0
103	18.331	0.049	0.35	0	3.96	106	523	72	76	471	306	403	570	292	408	61	648	4146	0.074	14.83	6.03	0
104	18.505	0.049	0.35	0	3.92	106	525	72	76	473	307	405	567	292	409	61	645	4146	0.072	14.8	5.91	0
105	18.685	0.049	0.353	0	3.96	106	523	72	76	474	308	407	564	291	409	61	647	4146	0.072	14.91	5.94	0
106	18.862	0.049	0.352	0	3.83	105	521	72	76	476	309	409	560	292	409	61	642	4146	0.072	14.95	5.89	0
107	19.039	0.049	0.351	0	3.81	105	517	72	76	477	310	411	557	292	409	61	641	4146	0.072	15.17	5.67	0
108	19.219	0.049	0.35	0	3.72	105	515	72	76	478	311	412	552	292	409	61	638	4146	0.071	15.27	5.51	0
109	19.394	0.049	0.35	0	3.71	105	514	72	76	479	312	414	548	292	409	61	632	4146	0.07	15.39	5.52	0
110	19.571	0.049	0.35	0	2.84	104	513	72	76	480	312	415	543	292	408	61	631	4146	0.072	15.39	5.38	0
111	19.752	0.049	0.352	0	3.62	104	508	72	76	481	313	416	539	292	408	61	624	4146	0.072	15.5	5.23	0
112	19.927	0.049	0.348	0	3.61	103	507	72	76	481	313	417	534	292	407	61	616	4146	0.073	15.65	5.2	0
113	20.101	0.049	0.351	0	3.48	103	507	72	76	482	313	418	529	292	407	61	615	4146	0.069	15.7	5.03	0
114	20.279	0.049	0.354	0	3.47	103	504	72	76	482	313	419	525	292	406	61	613	4146	0.07	15.73	5.07	0
115	20.456	0.049	0.35	0	3.37	102	502	71	76	482	313	419	521	293	406	61	607	4146	0.069	15.82	4.94	0
116	20.634	0.049	0.351	0	3.43	102	498	71	76	482	313	420	517	293	405	61	601	4146	0.069	15.77	4.9	0
117	20.816	0.049	0.349	0	3.25	101	495	71	76	481	313	420	513	293	404	61	600	4146	0.071	15.78	4.86	0
118	20.992	0.049	0.349	0	3.26	101	494	71	76	482	312	420	510	294	404	61	598	4146	0.067	15.77	4.87	0
119	21.17	0.049	0.352	0	3.2	101	491	71	76	481	312	421	507	294	403	61	597	4146	0.07	15.73	4.99	0
120	21.349	0.049	0.347	0	3.23	101	487	71	76	481	311	421	504	294	402	61	591	4146	0.07	16	4.7	0
121	21.529	0.049	0.354	0	3.21	101	484	71	76	480	311	421	501	294	402	61	588	4146	0.069	15.94	4.86	0
122	21.709	0.049	0.35	0	3.13	100	484	71	76	479	311	421	498	295	401	61	583	4146	0.07	15.9	4.84	0
123	21.889	0.049	0.352	0	3.16	100	481	71	76	479	310	421	495	295	400	61	577	4146	0.068	16.11	4.72	0
124	22.068	0.049	0.35	0	3.31	100	478	71	76	478	310	421	493	295	399	61	576	4146	0.068	16.07	4.65	0
125	22.246	0.049	0.352	0	2.97	99	476	71	76	477	309	421	490	295	399	61	571	4146	0.069	16.09	4.73	0

126	22.423	0.049	0.347	0	2.34	99	476	71	76	477	309	421	485	296	398	61	570	4146	0.069	16	4.8	0
127	22.601	0.049	0.352	0	2.94	99	473	71	76	476	309	421	486	296	397	61	563	4146	0.067	15.97	4.7	0
128	22.779	0.049	0.351	0	2.83	99	472	71	76	475	308	421	485	296	397	61	552	4146	0.067	15.96	4.73	0
129	22.956	0.049	0.351	0	2.87	99	470	71	76	475	308	421	484	296	397	61	563	4146	0.067	15.78	4.97	0
130	23.136	0.049	0.354	0	2.81	99	467	71	76	474	307	421	484	296	397	61	562	4146	0.066	15.72	5.04	0
131	23.314	0.049	0.352	0	2.83	98	464	70	76	473	307	421	486	296	397	61	564	4146	0.067	15.61	5.23	0
132	23.493	0.049	0.354	0	2.75	98	463	70	76	472	307	421	488	297	397	61	563	4146	0.066	15.58	5.3	0
133	23.675	0.049	0.351	0	2.66	98	461	70	76	473	307	421	490	296	397	61	562	4146	0.065	15.47	5.14	0
134	23.854	0.049	0.35	0	2.22	98	461	70	76	472	307	422	491	296	398	61	567	4146	0.066	15.47	5.27	0
135	24.029	0.049	0.351	0	2.6	97	459	70	76	473	307	422	493	297	398	61	564	4145	0.067	15.64	5.04	0
136	24.207	0.049	0.351	0	2.83	97	457	70	76	472	306	422	494	297	398	61	564	4145	0.066	15.67	5.13	0
137	24.385	0.049	0.347	0	2.61	97	457	70	76	472	307	422	494	297	398	61	563	4145	0.067	15.64	5.03	0
138	24.564	0.049	0.351	0	2.53	97	458	70	76	472	307	422	495	297	398	61	569	4145	0.064	15.74	5.07	0
139	24.745	0.049	0.356	0	2.52	97	455	70	76	472	307	422	495	297	399	61	563	4145	0.064	15.73	4.99	0
140	24.927	0.049	0.353	0	2.38	96	454	70	76	472	307	422	496	297	399	61	560	4145	0.066	15.57	5.22	0
141	25.105	0.049	0.354	0	2.37	96	454	70	76	471	307	422	496	297	399	61	573	4145	0.066	15.55	5.06	0
142	25.286	0.049	0.352	0	2.34	96	453	70	76	471	308	422	497	296	399	61	569	4145	0.067	15.48	5.27	0
143	25.466	0.049	0.35	0	2.33	96	454	70	76	471	308	422	497	296	399	61	575	4145	0.066	15.41	5.35	0
144	25.645	0.049	0.352	0	2.25	96	455	70	76	471	309	421	497	296	399	61	571	4145	0.064	15.51	5.17	0
145	25.825	0.049	0.352	0	2.22	96	454	70	76	470	309	421	498	296	399	61	579	4145	0.065	15.49	5.18	0
146	26.002	0.049	0.352	0	2.21	96	452	70	76	471	310	421	499	296	399	61	576	4145	0.066	15.43	5.25	0
147	26.181	0.049	0.35	0	2.34	96	450	70	76	471	310	421	498	296	399	61	572	4145	0.064	15.77	4.91	0
148	26.359	0.049	0.348	0	2.17	96	452	70	76	470	311	421	495	296	399	61	573	4145	0.066	16.06	4.58	0
149	26.539	0.049	0.353	0	2.09	95	451	70	76	470	311	421	491	296	398	61	575	4145	0.065	16.28	4.49	0
150	26.718	0.049	0.355	0	2.02	95	450	70	76	470	311	420	487	296	397	61	572	4145	0.064	16.41	4.27	0
151	26.895	0.049	0.355	0	2.11	95	449	70	76	469	311	420	483	297	396	61	567	4145	0.064	16.36	4.44	0
152	27.075	0.049	0.352	0	1.97	95	452	70	76	469	310	419	479	297	395	61	560	4145	0.066	16.41	4.22	0
153	27.256	0.049	0.351	0	2.02	95	448	69	76	467	310	419	474	297	393	61	554	4145	0.067	16.37	4.3	0
154	27.435	0.049	0.348	0	1.99	94	447	69	76	468	309	418	470	297	392	61	551	4145	0.065	16.47	4.15	0
155	27.615	0.049	0.35	0	1.94	95	445	69	76	467	308	418	467	297	391	61	548	4145	0.065	16.45	4.18	0
156	27.795	0.049	0.35	0	1.92	95	443	69	76	465	308	417	463	297	390	61	544	4145	0.065	16.48	4.32	0
157	27.973	0.049	0.35	0	1.88	94	445	69	76	464	307	416	460	298	389	61	540	4145	0.066	16.39	4.19	0
158	28.151	0.049	0.352	0	1.82	94	441	69	76	463	305	416	457	298	388	61	539	4145	0.064	16.34	4.22	0
159	28.333	0.049	0.351	0	1.86	94	440	69	76	462	305	415	454	298	387	61	536	4145	0.064	16.36	4.21	0
160	28.513	0.049	0.351	0	1.82	94	438	69	76	460	304	414	451	299	386	61	536	4145	0.064	16.45	4.35	0
161	28.695	0.049	0.352	0	1.8	94	437	69	76	459	303	413	449	299	385	61	534	4145	0.066	16.39	4.32	0
162	28.872	0.049	0.35	0	1.72	94	437	69	76	458	302	413	447	299	384	61	529	4145	0.064	16.43	4.27	0
163	29.054	0.049	0.352	0	1.7	94	435	69	76	457	301	412	445	300	383	61	530	4145	0.064	16.49	4.23	0
164	29.234	0.049	0.349	0	1.67	94	435	69	76	455	300	411	444	300	382	61	529	4145	0.063	16.47	4.26	0
165	29.416	0.049	0.35	0	1.7	94	435	69	76	454	299	410	442	300	381	61	533	4145	0.063	16.36	4.21	0
166	29.596	0.049	0.353	0	1.62	93	432	69	76	453	298	410	441	301	381	61	532	4145	0.062	16.44	4.23	0
167	29.775	0.049	0.351	0	1.59	93	434	69	76	452	298	409	441	301	380	61	527	4145	0.063	16.5	4.18	0
168	29.951	0.049	0.352	0	1.59	93	436	69	76	451	297	408	440	302	379	61	532	4145	0.061	16.42	4.26	0
169	30.136	0.049	0.351	0	1.56	93	434	69	76	449	297	407	439	302	379	61	525	4145	0.065	16.46	4.39	0
170	30.316	0.049	0.357	0	1.56	93	432	69	76	448	296	406	438	302	378	61	531	4145	0.062	16.39	4.34	0
171	30.5	0.049	0.35	0	1.47	93	431	69	76	446	295	406	437	302	377	61	530	4145	0.064	16.36	4.37	0
172	30.68	0.049	0.351	0	1.45	93	430	69	76	445	294	405	436	303	377	61	530	4145	0.063	16.52	4.12	0
173	30.859	0.049	0.353	0	1.37	93	430	69	76	445	294	404	435	303	376	61	531	4145	0.064	16.52	4.09	0
174	31.04	0.049	0.352	0	1.41	93	432	69	76	444	293	404	436	303	376	61	536	4145	0.063	16.42	4.24	0
175	31.222	0.049	0.354	0	1.43	93	430	69	76	443	293	403	444	303	377	61	533	4145	0.062	15.78	4.97	0
176	31.402	0.049	0.353	0	1.31	93	433	69	76	441	292	402	458	303	379	61	526	4145	0.062	14.53	5.99	0
177	31.581	0.049	0.349	0	1.3	93	434	69	76	439	292	401	472	304	382	61	523	4145	0.065	14.35	6.25	0
178	31.76	0.049	0.348	0	1.24	93	439	69	76	437	292	401	481	304	383	61	534	4145	0.066	14.57	6.03	0
179	31.939	0.049	0.358	0	1.19	93	442	69	76	436	292	400	481	304	383	61	544	4145	0.063	15.46	5.15	0
180	32.122	0.049	0.352	0	1.22	93	442	69	76	435	292	399	478	304	382	61	575	4145	0.063	16.14	4.5	0
181	32.299	0.049	0.351	0	1.22	93	441	69	76	434	292	399	475	305	381	61	569	4145	0.064	16.51	3.96	0
182	32.479	0.049	0.354	0	1.16	93	440	69	76	433	293	398	471	305	380	61	565	4145	0.063	16.5	3.99	0
183	32.66	0.049	0.35	0	1.64	93	438	69	76	432	293	397	468	305	379	61	558	4145	0.063	16.61	3.8	0
184	32.84	0.049	0.351	0	1.18	93	437	69	76	430	293	397	464	306	378	61	554	4145	0.065	16.66	3.92	0
185	33.023	0.049	0.354	0	1.16	93	436	69	76	429	293	396	461	306	377	61	548	4145	0.064	16.64	3.8	0
186	33.203	0.049	0.351	0	1.12	92	434	69	76	428	293	395	457	307	376	61	546	4145	0.064	16.62	3.95	0
187	33.385	0.049	0.351	0	1.14	92	430	69	76	427	292	395	454	308	375	61	540	4145	0.064	16.74	3.88	0
188	33.565	0.049	0.354	0	1.1	92	429	69	76	426	292	393	450	308	374	61	537	4145	0.064	16.63	3.98	0
189	33.741	0.049	0.35	0	1.08	92	430	69	76	424	292	393	447	309	373	61	535	4145	0.063	16.69	3.84	0
190	33.921	0.049	0.349	0	1.02	92	428	69	76	423	292	392	444	310	372	61	528	4145	0.064	16.62	3.94	0
191	34.102	0.049	0.348	0	1.07	92	429	68	76	422	291	391	441	311	371	61	526	4145	0.063	16.62	4.07	0
192	34.283	0.049	0.352	0	1.07	92	426	68	76	421	290	390	438	311	370	61	519	4145	0.062	16.62	4.04	0
193	34.466	0.049	0.348	0	0.95	92	425	68	76	421	290	389	436	312	369	61	525	4145	0.063	16.6	3.95	0
194	34.643	0.049	0.349	0	1.02	92	425	68	76	420	289	388	434	313	369	61	528	4145	0.061	16.65	3.97	0
195	34.821	0.049	0.352	0	0.96	92	425	68	76	418	288	387	432	313	368	61	514	4145	0.061	16.71	3.96	0
196	35.001	0.049	0.352	0	0.96	92	425	68	76	417	288	386	430	314	367	61	517	4145	0.062	16.62	4.03	0
197	35.181	0.049	0.352	0	0.98	92	423	68	76	416	287	385	428	315	366	61	513	4145	0.06	16.73	3.93	0
198	35.36	0.049	0.351	0	0.88	92	424	68	76	415	287	385	426	316	366	61	520	4145	0.063	16.68	4	0
199	35.541	0.049	0.352	0	0.89	91	423	68	76	414	286	384	425	316	365	61	517	4145	0.061	16.74	3.84	0
200	35.719	0.049	0.352	0	1.13	91	423	68	76	413	285	383	423	317	364	61	515	4145	0.06	16.78	3.8	0
201	35.899	0.049	0.351	0	0.87	91	420	68	76	413	285	382	421	317	364	61	517	4145	0.064	16.71	3.86	0
202	36.08	0.049	0.349	0	0.79	91	422	68	76	412	285	381	420	318	363	61	503	4145	0.063	16.69	3.84	0
203	36.259	0.049	0.351	0	0.73	91	421	68	76	411	284	380	419	319	363	61	511	4145	0.061	16.86	3.79	0
204	36.44	0.049	0.354	0	0.83	91	419	68	76	410	283	380	418	320	362	61	507	4145	0.063	16.77	3.89	0
205	36.624	0.049	0.353	0	0	91	417	68	75	409	283	379	416	320	361	61	506	4145	0.061	16.81	3.88	0
206	36.804	0.049	0.351	0	0.79	91	417	68	76	408	282	378	415	321	361	61	493	4145	0.062	16.81	3.82	0
207	36.985	0.049	0.356	0	0.81	91	418	68	75	406	281	378	414	321	360	61	512	4145	0.06	16.85	3.73	0
208	37.165	0.049	0.35	0	0.7	91	417	68	75	406	281	377	413	322	360	61	490	4145	0.062	16.91	3.74	0
209	37.345	0.049	0.35	0	0.77	91	420	68	75	405	280	376	411	323	359	61	503	4145	0.061	17.03	3.6	0
210	37.527	0.049	0.351	0	0.69	91	420	68	76	404	279	375	410	323	358	61	491	4145	0.061	-0.27	0.29	0
211	37.708	0.049	0.352	0	0.76	91	418	68	75	403	279	374	409	324	358	60	482	4145	0.06	-0.26	3.69	0
212	37.894	0.049	0.349	0	0.67	91	417	68	75	403	278	374	408	324	357	61	472	4145	0.063	-0.34	3.7	0
213	38.074	0.049	0.352	0	0.68	91	416	68	75	402	277	373	407	325	357	61	456	4145	0.063	-0.38	3.68	0
214	38.255	0.049	0.348	0	0.65	91	416	68	75	401	277	372	405	325	356	61	484	4145	0.063	-0.31	3.44	0
215	38.436	0.049	0.352	0	0.63	91	416	68	75	400	276	371	404	325	355	61	489	4145	0.06	-0.32	3.4	0
216	38.615	0.049	0.352	0	0.68	91	417	68	75	399	275	371	403	326	355	60	487	4145	0.062	-0.37	3.52	0
217	38.798	0.049	0.35	0	0.68	91	417	68	75	398	275	370	402	326	354	60	471	4145	0.06	-0.26	3.45	0
218	38.982	0.049	0.354	0	0.46	91	415	68	75	397	274	369	400	327	353	60	501	4145	0.06	-0.31	3.44	0
219	39.159	0.049	0.351	0	0.63	90	416	68	75	396	273	368	399	327	353	60	462	4144	0.061	-0.38	3.38	0
220	39.339	0.049	0.35	0	0.6	91	414	68	75	395	273	367	398	327	352	61	503	4144	0.062	-0.33	3.35	0
221	39.519	0.049	0.351	0	0.59	91	413	68	75	394	272	366	396	327	351	60	490	4144	0.061	-0.3	3.35	0
222	39.699	0.049	0.35	0	0.52	91	411	68	75	393	271	365	395	327	350	61	479	4144	0.06	-0.33	3.34	0
223	39.881	0.049	0.351	0	0.56	90	411	68	75	392	271	364	394	327	350	61	487	4144	0.062	-0.33	3.38	0
224	40.062	0.049	0.354	0	0.54	90	412	68	75	391	270	363	393	327	349	60	469	4144	0.06	-0.24	3.32	0
225	40.241	0.049	0.356	0	0.53	90	411	68	75	390	269	362	391	328	348	61	479	4144	0.062	-0.4	3.29	0
226	40.422	0.049	0.351	0	0.48	90	411	68	75	388	268	361	390	327	347	60	463	4144	0.059	-0.3	3.27	0
227	40.601	0.049	0.352	0	0.51	90	410	68	75	388	267	360	389	328	346	60	458	4144	0.06	-0.34	3.31	0
228	40.783	0.049	0.351	0	0.49	90	410	68	75	387	267	359	388	328	346	60	427	4144	0.062	-0.38	3.39	0
229	40.963	0.049	0.354	0	0.43	90	407	68	75	386	266	358	387	328	345	60	448	4144	0.059	-0.32	3.3	0
230	41.145	0.049	0.351	0	0.5	90	408	68	75	385	266	357	386	328	344	60	473	4144	0.062	-0.4	3.32	0
231	41.327	0.049	0.352	0	0.77	90	405	68	75	384	265	356	384	328	343	60	453	4144	0.06	-0.28	3.13	0
232	41.505	0.049	0.351	0	0.41	90	407	68	75	383	264	355	383	327	343	60	452	4144	0.06	-0.3	3.27	0
233	41.686	0.049	0.352	0	0.44	90	407	68	75	382	263	354	382	328	342	60	444	4144	0.06	-0.25	3.21	0
234	41.871	0.049	0.351	0	0.39	90	404	68	75	381	262	353	381	328	341	60	459	4144	0.063	-0.36	3.26	0
235	42.049	0.049	0.353	0	0.48	90	407	68	75	380	262	352	380	327	340	60	471	4144	0.062	-0.36	3.18	0
236	42.232	0.049	0.35	0	0.39	90	409	68	75	379	261	352	378	327	339	60	420	4144	0.061	-0.33	3.08	0
237	42.411	0.049	0.353	0	0.32	90	405	68	75	378	260	351	377	327	339	60	452	4144	0.06	-0.3	2.92	0
238	42.593	0.049	0.351	0	0.25	89	402	68	75	376	260	350	375	327	338	60	452	4144	0.06	-0.33	2.88	0
239	42.773	0.049	0.352	0	0.45	89	400	68	75	376	259	349	374	327	337	60	474	4144	0.06	-0.31	2.87	0
240	42.951	0.049	0.352	0	0.29	89	399	68	75	374	258	348	372	327	336	60	434	4144	0.061	-0.36	3	0
241	43.133	0.049	0.353	0	0.37	89	400	68	75	373	257	347	371	327	335	60	418	4144	0.062	-0.34	3.03	0
242	43.315	0.049	0.351	0	0.25	89	399	68	75	371	256	345	369	327	334	60	445	4144	0.058	-0.32	2.94	0
243	43.495	0.049	0.353	0	0.27	89	398	67	75	370	255	344	367	327	333	60	438	4144	0.059	-0.32	2.85	0
244	43.677	0.049	0.354	0	0.25	89	396	67	75	369	255	343	366	327	332	60	404	4144	0.06	-0.34	2.95	0
245	43.856	0.049	0.352	0	0.22	89	395	67	75	367	254	342	365	327	331	60	416	4144	0.06	-0.26	2.93	0
246	44.036	0.049	0.352	0	0.26	89	393	67	75	366	253	341	363	327	330	60	403	4144	0.059	-0.36	3.02	0
247	44.216	0.049	0.351	0	0.21	89	393	67	75	365	252	340	362	327	329	60	429	4144	0.059	-0.28	2.83	0
248	44.397	0.049	0.351	0	0.1	89	392	67	75	364	251	339	361	326	328	60	403	4144	0.06	-0.34	2.88	0
249	44.579	0.049	0.351	0	0.21	89	392	67	75	363	251	337	360	326	327	60	407	4144	0.059	-0.33	3.02	0
250	44.759	0.049	0.35	0	0.67	89	393	67	75	361	250	336	359	326	326	60	399	4144	0.06	-0.33	2.76	0
251	44.938	0.049	0.352	0	0.66	89	394	67	75	360	249	335	358	326	325	60	385	4144	0.058	-0.3	2.92	0
252	45.12	0.049	0.355	0	0.18	88	393	67	75	358	248	334	356	326	324	60	411	4144	0.058	-0.39	2.8	0
253	45.298	0.049	0.352	0	0.19	88	391	67	75	357	247	333	355	326	324	60	402	4144	0.059	-0.33	2.76	0
254	45.478	0.049	0.351	0	0.1	88	389	67	75	356	246	331	354	325	323	60	390	4144	0.06	-0.41	2.8	0

255	45.662	0.049	0.352	0	0.19	88	387	67	75	355	246	330	353	325	322	60	399	4144	0.058	-0.26	2.65	0
256	45.839	0.049	0.352	0	0.14	88	386	67	75	354	245	329	351	325	321	60	386	4144	0.06	-0.31	2.74	0
257	46.018	0.049	0.352	0	0.14	88	386	67	75	353	244	328	350	324	320	60	421	4144	0.059	-0.31	2.63	0
258	46.196	0.049	0.355	0	0.16	88	384	67	75	352	244	327	349	324	319	60	398	4144	0.057	-0.3	2.7	0
259	46.375	0.049	0.355	0	0.13	88	383	67	75	350	243	326	347	324	318	60	392	4144	0.058	-0.36	2.73	0
260	46.553	0.049	0.352	0	0.06	88	381	67	75	349	242	325	346	323	317	60	387	4144	0.056	-0.33	2.53	0
261	46.733	0.049	0.353	0	0.09	88	379	67	75	348	242	324	345	323	316	60	369	4144	0.059	-0.3	2.54	0
262	46.915	0.049	0.352	0	0.54	88	379	67	75	347	240	323	343	323	315	60	384	4144	0.056	-0.31	2.64	0
263	47.098	0.049	0.352	0	0.15	87	379	67	75	346	240	322	342	323	314	60	380	4144	0.057	-0.31	2.68	0
264	47.276	0.049	0.353	0	0.05	87	378	67	75	344	239	321	341	322	313	60	367	4144	0.058	-0.37	2.6	0
265	47.455	0.049	0.352	0	0.05	87	378	67	75	344	238	320	339	322	313	60	383	4144	0.057	-0.31	2.59	0

11/3/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.049	0	0	11.77	97.26	408.99	66	72	435	299	467	388	330	384	65	463	4150	0.061	-0.29	-0.12	0
1	0.158	0.049	0.36	0	11.9	129	404	68	72	430	310	465	384	335	384	65	390	4150	0.053	-0.33	-0.18	0
2	0.335	0.049	0.357	0	11.94	141	358	70	72	427	318	464	374	339	384	65	328	4150	0.052	-0.31	-0.14	0
3	0.513	0.049	0.354	0	11.7	119	345	71	72	422	326	456	372	341	383	64	375	4150	0.055	20.26	-0.2	0
4	0.692	0.049	0.353	0	11.68	111	370	70	72	417	330	446	370	343	381	64	417	4150	0.056	17.65	2.84	0.3
5	0.871	0.049	0.357	0	11.57	109	392	70	72	410	333	437	369	344	379	64	439	4150	0.059	17.53	3.05	0.16
6	1.049	0.049	0.357	0	11.53	102	377	70	72	404	334	428	368	345	376	64	447	4150	0.057	17.85	2.64	0.19
7	1.228	0.049	0.352	0	11.49	99	370	70	72	397	333	419	368	346	373	64	448	4150	0.058	18.18	2.5	0.12
8	1.405	0.049	0.356	0	11.49	97	366	70	72	390	332	411	369	346	370	63	447	4150	0.056	18.16	2.38	0.27
9	1.585	0.049	0.353	0	11.49	96	362	70	72	383	330	403	368	346	366	63	445	4150	0.057	18.11	2.49	0.25
10	1.763	0.049	0.354	0	11.45	95	357	70	72	376	327	395	368	347	363	64	445	4150	0.056	18.07	2.42	0.41
11	1.939	0.049	0.351	0	11.47	94	353	70	72	369	324	388	367	346	359	63	446	4150	0.056	18.13	2.4	0.54
12	2.116	0.049	0.351	0	11.35	94	350	70	72	363	322	382	366	346	356	63	440	4150	0.054	17.88	2.62	0.48
13	2.291	0.049	0.351	0	11.3	93	348	69	73	357	318	376	364	346	352	63	441	4150	0.053	17.98	2.51	0.57
14	2.466	0.049	0.351	0	10.85	93	345	69	73	350	315	370	363	345	349	63	446	4150	0.054	18.18	2.31	0.69
15	2.642	0.049	0.35	0	11.17	92	341	69	73	345	311	364	361	345	345	63	437	4150	0.054	18.27	2.26	0.78
16	2.816	0.049	0.348	0	11.23	92	337	69	73	339	309	359	359	344	342	63	436	4150	0.056	18.29	2.2	0.9
17	2.986	0.049	0.351	0	11.17	92	332	69	73	335	305	353	357	344	339	63	436	4150	0.053	18.28	2.45	0.82
18	3.16	0.049	0.345	0	11.03	91	329	69	73	330	302	349	356	343	336	63	432	4150	0.053	18.2	2.3	1.03
19	3.334	0.049	0.346	0	11.06	91	327	69	73	325	299	344	355	342	333	63	430	4150	0.054	17.8	2.79	0.9
20	3.503	0.049	0.349	0	10.97	91	323	69	73	321	296	339	355	342	331	63	426	4150	0.051	17.78	2.73	1.01
21	3.674	0.049	0.344	0	11.03	91	324	69	73	317	294	335	355	341	328	63	432	4150	0.053	17.87	2.6	1.18
22	3.845	0.049	0.347	0	10.91	91	326	69	74	313	291	331	356	340	326	63	427	4150	0.051	17.66	3.04	1.02
23	4.015	0.049	0.351	0	10.62	90	327	69	74	309	288	327	357	340	324	63	426	4150	0.055	17.61	2.96	1.12
24	4.189	0.049	0.345	0	10.85	91	330	69	74	306	286	323	358	339	322	63	399	4150	0.054	17.19	3.42	1.21
25	4.357	0.049	0.345	0	10.7	91	333	69	74	303	284	320	361	338	321	63	403	4150	0.054	16.4	4.39	0.9
26	4.526	0.049	0.348	0	10.69	91	339	69	74	302	281	316	372	337	322	62	428	4150	0.055	15.97	4.65	0.47
27	4.697	0.049	0.348	0	10.53	91	350	69	74	300	279	314	380	336	322	63	451	4150	0.056	16.48	4.23	0.4
28	4.865	0.049	0.347	0	10.44	91	364	69	75	298	277	311	387	335	322	62	465	4150	0.057	16.35	4.42	0.1
29	5.034	0.049	0.347	0	10.34	92	374	69	75	297	275	309	394	335	322	62	469	4150	0.059	16.28	4.35	0.23
30	5.202	0.049	0.344	0	10.45	92	382	69	75	296	273	307	399	334	322	62	480	4150	0.059	16.19	4.52	0.24
31	5.372	0.049	0.345	0	10.23	93	391	69	75	294	266	305	403	331	320	63	469	4150	0.06	16.04	4.72	0.15
32	5.54	0.049	0.345	0	10.14	93	397	69	75	295	250	307	399	323	315	69	472	4150	0.06	16.21	4.6	0.07
33	5.705	0.049	0.348	0	10.16	93	404	69	75	296	237	308	395	318	311	70	483	4150	0.064	16.29	4.56	0
34	5.873	0.049	0.345	0	10.07	93	409	69	75	297	227	309	398	314	309	67	472	4149	0.064	15.12	5.52	0.03
35	6.042	0.049	0.346	0	9.88	94	415	69	76	298	220	310	399	311	308	68	484	4149	0.062	15.21	5.64	0
36	6.209	0.049	0.342	0	9.81	95	425	69	76	300	215	312	404	307	308	67	493	4149	0.065	14.88	5.87	0.06
37	6.377	0.049	0.346	0	9.81	95	431	69	76	301	211	314	414	305	309	63	497	4149	0.067	14.43	6.36	0.05
38	6.544	0.049	0.342	0	9.78	96	441	69	76	304	209	316	421	303	311	68	505	4149	0.069	14.58	6.37	0
39	6.71	0.049	0.346	0	9.61	96	448	70	76	306	208	318	431	300	313	68	515	4149	0.07	14.28	6.68	0
40	6.879	0.049	0.349	0	9.57	97	454	70	76	308	207	321	448	298	316	64	526	4149	0.066	13.32	7.53	0
41	7.046	0.049	0.347	0	9.42	98	461	70	76	311	207	324	460	296	320	68	532	4149	0.071	12.89	8.1	0
42	7.214	0.049	0.34	0	8.87	98	471	70	76	314	207	327	469	295	322	68	557	4149	0.068	13.67	7.29	0
43	7.383	0.049	0.344	0	9.09	99	473	70	77	317	208	331	478	294	326	67	560	4149	0.072	13.9	6.92	0
44	7.55	0.049	0.344	0	9.16	99	479	70	77	320	210	334	488	292	329	69	566	4149	0.071	14.03	6.87	0
45	7.717	0.049	0.348	0	9.01	100	480	70	77	324	212	338	502	291	333	67	569	4149	0.068	13.64	7.29	0
46	7.884	0.049	0.344	0	8.94	100	480	70	77	328	213	341	513	289	337	67	575	4149	0.07	13.39	7.37	0
47	8.05	0.049	0.344	0	8.76	100	488	70	77	332	215	345	526	289	341	66	572	4149	0.07	12.92	7.76	0
48	8.215	0.049	0.346	0	8.62	101	491	70	77	336	217	348	542	287	346	68	588	4149	0.07	12.55	8.37	0
49	8.382	0.049	0.344	0	8.57	101	499	70	77	340	219	352	556	286	350	65	586	4149	0.071	12.03	9.04	0
50	8.546	0.049	0.343	0	8.41	102	510	70	77	344	221	357	575	285	356	66	624	4149	0.075	11.39	9.5	0
51	8.711	0.049	0.343	0	8.72	103	520	71	77	348	224	362	595	283	362	68	665	4149	0.075	10.88	10.05	0
52	8.875	0.049	0.339	0	8.2	104	532	71	77	353	227	367	613	282	368	65	711	4149	0.078	10.71	10.37	0
53	9.038	0.049	0.34	0	8.02	104	542	71	78	358	230	373	621	280	373	65	726	4149	0.077	10.99	10.08	0
54	9.202	0.049	0.35	0	7.96	105	549	71	78	363	234	379	630	280	377	68	818	4149	0.076	10.84	10.27	0
55	9.369	0.049	0.348	0	7.79	105	559	71	78	368	238	385	639	279	382	68	821	4149	0.076	10.97	10	0
56	9.534	0.049	0.344	0	7.61	106	560	71	78	374	242	392	647	277	387	65	825	4149	0.077	10.86	10.08	0
57	9.699	0.049	0.34	0	7.5	106	567	71	78	381	247	398	656	276	391	66	829	4149	0.078	11.11	9.85	0
58	9.865	0.049	0.345	0	7.41	107	571	71	78	386	251	405	662	275	396	65	829	4149	0.08	10.78	10.19	0
59	10.028	0.049	0.345	0	7.32	107	573	71	78	393	255	410	668	274	400	65	833	4149	0.079	11.04	10.21	0
60	10.191	0.049	0.347	0	7.16	108	578	71	78	399	259	417	676	273	405	64	837	4149	0.083	10.83	10.16	0
61	10.356	0.049	0.345	0	7.01	109	581	71	78	405	262	423	685	272	409	65	850	4149	0.078	10.46	10.37	0
62	10.52	0.049	0.343	0	7.04	109	587	71	78	411	266	429	699	271	415	64	865	4149	0.078	10.54	10.38	0
63	10.687	0.049	0.34	0	6.73	109	589	71	78	417	269	434	712	270	420	64	883	4149	0.08	10.73	10.24	0
64	10.852	0.049	0.345	0	6.67	110	596	71	78	423	273	439	723	270	425	64	886	4149	0.078	10.76	10.12	0
65	11.018	0.049	0.345	0	6.58	110	598	71	78	429	276	444	731	269	430	65	889	4149	0.079	10.88	9.91	0
66	11.183	0.049	0.347	0	6.49	110	600	71	79	435	279	449	735	267	433	66	880	4149	0.079	11.12	9.68	0
67	11.348	0.049	0.35	0	6.37	110	599	71	79	441	284	454	737	267	436	64	878	4149	0.078	11.31	9.63	0
68	11.514	0.049	0.344	0	6.28	110	597	71	79	446	286	458	740	266	439	64	875	4149	0.078	11.45	9.32	0
69	11.679	0.049	0.348	0	6.12	110	596	71	79	451	289	462	740	265	441	66	867	4149	0.087	11.57	9.44	0
70	11.845	0.049	0.345	0	6	110	594	71	79	455	292	466	738	265	443	65	858	4149	0.096	12.15	8.75	0
71	12.011	0.049	0.349	0	5.14	110	590	71	79	460	294	470	735	264	445	67	851	4149	0.098	12.28	8.46	0
72	12.176	0.049	0.344	0	5.92	109	587	72	79	464	297	474	729	263	445	65	838	4149	0.085	12.62	8.21	0
73	12.344	0.049	0.341	0	5.74	109	582	72	79	467	299	477	721	263	445	66	825	4149	0.076	13.02	7.78	0
74	12.51	0.049	0.347	0	5.71	109	576	72	79	470	301	480	711	262	445	65	814	4149	0.077	13.16	7.63	0
75	12.674	0.049	0.34	0	5.79	109	571	72	79	472	302	482	701	263	444	64	802	4149	0.078	13.19	7.5	0
76	12.838	0.049	0.345	0	5.45	108	568	72	79	474	304	485	691	262	443	66	792	4149	0.074	13.37	7.21	0
77	13.005	0.049	0.345	0	5.38	109	565	72	79	475	305	487	682	262	442	64	783	4149	0.077	13.5	7.18	0
78	13.17	0.049	0.353	0	5.36	108	559	72	79	478	305	490	673	262	441	64	774	4149	0.075	13.54	7.26	0
79	13.333	0.049	0.348	0	5.37	108	556	72	79	478	307	491	664	260	440	64	766	4149	0.077	13.62	7.17	0
80	13.499	0.049	0.341	0	5.22	108	554	72	79	479	308	492	654	260	439	65	760	4149	0.077	13.87	6.69	0
81	13.665	0.049	0.348	0	5.26	107	549	72	79	479	309	494	646	259	437	64	753	4149	0.077	13.88	6.95	0
82	13.825	0.049	0.345	0	5.14	107	544	72	80	480	309	495	636	259	436	66	749	4149	0.077	13.82	6.79	0
83	13.988	0.049	0.348	0	5.12	107	543	72	80	480	310	496	628	259	435	65	741	4149	0.074	13.88	6.74	0
84	14.148	0.049	0.346	0	5.03	107	543	72	80	480	310	496	621	258	433	71	736	4149	0.075	14.05	6.56	0
85	14.308	0.049	0.343	0	4.95	107	542	72	80	479	311	497	612	258	432	69	729	4149	0.077	14.14	6.47	0
86	14.474	0.049	0.35	0	4.92	107	540	72	80	479	311	497	606	258	430	69	726	4149	0.072	13.93	6.65	0
87	14.638	0.049	0.348	0	4.82	107	533	72	80	479	311	497	599	258	429	67	718	4149	0.073	14.16	6.49	0
88	14.8	0.049	0.352	0	4.8	107	532	72	80	478	310	497	594	258	427	65	711	4149	0.073	13.89	6.83	0
89	14.967	0.049	0.347	0	4.67	107	529	72	80	477	310	497	589	258	426	66	707	4149	0.074	13.7	6.93	0
90	15.131	0.049	0.348	0	4.65	106	526	72	80	476	309	498	584	258	425	68	703	4149	0.071	14.02	6.56	0
91	15.295	0.049	0.342	0	4.52	106	521	72	80	477	309	498	580	258	424	65	699	4149	0.075	13.89	6.74	0

11/2/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.049	0	0	12.59	104.37	425.64	76	86	437	402	410	482	392	425	77	551	4170	0.057	17.64	3.19	0
1	0.133	0.049	0.347	0	15.11	145	405	79	86	434	401	414	469	391	422	78	408	4170	0.058	20.23	0.93	0.42
2	0.28	0.049	0.347	0	12.65	128	393	80	86	432	399	411	461	391	419	77	452	4170	0.059	18.09	2.47	1.02
3	0.431	0.049	0.343	0	12.55	121	430	80	86	428	396	407	455	391	415	77	556	4170	0.064	16.62	3.84	0.48
4	0.578	0.049	0.342	0	12.42	121	478	81	86	424	393	402	454	391	413	77	631	4170	0.071	15.98	4.86	0.13
5	0.73	0.049	0.343	0	12.31	123	513	81	86	419	389	398	454	391	410	76	669	4170	0.073	16.06	4.98	0
6	0.881	0.049	0.34	0	12.3	116	477	81	86	414	385	394	451	390	407	76	636	4170	0.065	17.05	3.92	0
7	1.028	0.049	0.344	0	12.37	112	468	80	86	409	381	389	451	389	404	76	618	4170	0.066	16.94	4.12	0
8	1.178	0.049	0.346	0	12.23	111	463	80	86	405	377	385	452	389	402	76	606	4170	0.067	16.53	4.55	0
9	1.325	0.049	0.351	0	12.17	110	464	80	87	400	372	381	452	389	399	76	601	4170	0.064	16.37	4.51	0
10	1.471	0.049	0.353	0	12.31	110	472	80	87	396	368	377	454	389	397	76	592	4170	0.065	15.91	4.85	0
11	1.62	0.049	0.345	0	12.04	110	479	80	87	391	363	374	457	388	395	76	606	4170	0.07	15.71	5.5	0
12	1.766	0.049	0.333	0	12.15	111	488	80	87	387	359	370	461	387	393	76	632	4170	0.074	15.61	5.34	0
13	1.915	0.049	0.348	0	11.78	111	498	81	87	384	355	367	467	387	392	75	637	4170	0.071	15.56	5.3	0.07
14	2.063	0.049	0.343	0	11.78	112	504	81	87	380	351	363	475	386	391	75	630	4170	0.069	15.21	6.03	0
15	2.211	0.049	0.343	0	11.66	113	516	81	87	377	347	360	484	385	391	76	630	4170	0.069	14.53	6.31	0

16	2.359	0.049	0.344	0	11.56	113	524	81	87	375	344	357	499	385	392	76	649	4170	0.076	14.22	6.85	0
17	2.508	0.049	0.348	0	11.39	114	527	81	87	374	341	354	514	385	393	76	669	4170	0.069	14.17	6.73	0
18	2.655	0.049	0.339	0	11.37	114	534	81	87	371	338	352	529	384	395	75	701	4170	0.072	14.03	6.66	0
19	2.8	0.049	0.333	0	11.24	114	539	81	88	369	336	349	544	384	396	75	720	4170	0.077	14.04	6.88	0
20	2.948	0.049	0.338	0	11.19	115	542	81	88	368	334	348	569	383	400	75	756	4170	0.075	13.13	7.45	0
21	3.093	0.049	0.344	0	11.03	116	545	81	88	366	332	346	593	383	404	75	786	4170	0.074	12.32	8.67	0
22	3.239	0.049	0.342	0	10.99	116	554	81	88	367	332	346	608	382	407	75	812	4170	0.078	12.7	8.38	0
23	3.381	0.049	0.345	0	10.81	116	560	82	88	367	331	345	612	382	407	75	831	4170	0.08	13.05	7.77	0
24	3.525	0.049	0.342	0	10.74	116	566	82	88	367	331	345	615	381	408	75	845	4170	0.074	14.4	6.6	0
25	3.67	0.049	0.344	0	10.67	116	564	82	88	367	332	346	623	381	410	75	816	4170	0.076	14.71	6.43	0
26	3.812	0.049	0.339	0	10.61	116	563	82	88	368	332	346	626	380	410	75	803	4170	0.078	14.35	6.48	0
27	3.953	0.049	0.339	0	10.47	116	564	82	88	365	331	347	627	380	411	75	795	4170	0.078	14.18	6.51	0
28	4.097	0.049	0.347	0	10.3	116	566	82	88	368	332	348	631	379	411	75	805	4170	0.073	14.15	6.78	0
29	4.239	0.049	0.339	0	10.26	117	568	82	88	369	332	348	639	379	413	75	806	4170	0.072	13.8	7.14	0
30	4.38	0.049	0.336	0	9.27	117	573	82	89	369	327	349	647	376	414	75	792	4170	0.076	13.33	7.45	0
31	4.523	0.049	0.338	0	9.95	117	575	82	89	372	311	355	646	365	410	79	772	4170	0.079	13.01	7.86	0
32	4.664	0.049	0.333	0	9.91	117	573	82	89	375	296	361	643	358	407	80	743	4170	0.078	13.25	7.66	0
33	4.805	0.049	0.34	0	9.78	117	569	82	89	377	287	366	640	352	404	80	726	4170	0.078	13.16	7.92	0
34	4.948	0.049	0.336	0	9.6	117	569	82	89	379	280	372	637	348	403	81	684	4170	0.075	12.7	8.28	0
35	5.09	0.049	0.339	0	9.69	117	570	82	89	380	276	377	636	343	402	82	678	4170	0.072	12.65	7.99	0
36	5.231	0.049	0.337	0	9.61	117	570	82	89	382	273	382	637	339	403	80	694	4170	0.077	12.89	8.32	0
37	5.374	0.049	0.341	0	9.48	117	574	83	89	384	271	387	633	337	402	80	704	4170	0.074	13.14	7.87	0
38	5.515	0.049	0.343	0	9.41	117	571	82	89	386	270	392	630	334	402	80	701	4170	0.074	12.91	8.21	0
39	5.657	0.049	0.337	0	9.78	118	574	82	89	389	269	396	627	332	402	81	725	4170	0.078	12.63	8.37	0
40	5.799	0.049	0.34	0	8.72	118	573	83	89	391	270	400	627	329	403	83	704	4170	0.078	12.53	8.77	0
41	5.94	0.049	0.338	0	9.03	118	572	83	89	394	270	405	628	327	405	82	711	4170	0.074	12.27	8.68	0
42	6.081	0.049	0.339	0	8.95	118	571	83	90	398	272	409	630	326	407	81	722	4170	0.076	12.35	8.89	0
43	6.221	0.049	0.338	0	8.86	118	572	83	90	400	273	413	633	325	409	81	717	4170	0.079	12.28	8.74	0
44	6.36	0.049	0.338	0	8.65	118	571	83	90	404	275	417	635	323	411	80	710	4170	0.079	12.16	8.79	0
45	6.499	0.049	0.344	0	8.58	118	572	83	90	407	277	421	637	322	413	82	714	4170	0.075	12.1	8.95	0
46	6.635	0.049	0.338	0	8.52	118	572	83	90	411	279	425	641	320	415	80	717	4170	0.079	11.96	9.15	0
47	6.773	0.049	0.342	0	8.36	118	576	83	90	414	282	429	646	319	418	82	723	4170	0.076	11.79	9.31	0
48	6.916	0.049	0.341	0	8.26	118	580	83	90	418	284	433	650	318	420	80	720	4170	0.075	11.43	9.42	0
49	7.055	0.049	0.336	0	8.09	119	580	83	90	421	285	438	657	317	424	80	724	4170	0.078	11.35	9.71	0
50	7.195	0.049	0.337	0	8.04	119	585	83	90	425	287	442	664	316	427	80	744	4170	0.079	10.97	10.34	0
51	7.335	0.049	0.339	0	7.83	119	593	83	90	429	290	446	674	314	431	78	759	4170	0.076	10.55	10.48	0
52	7.474	0.049	0.337	0	7.74	120	601	83	90	433	291	451	686	313	435	80	768	4170	0.078	10.17	10.85	0
53	7.612	0.049	0.339	0	7.7	120	608	83	90	437	294	455	699	312	440	81	800	4170	0.1	10.06	11.25	0
54	7.754	0.049	0.34	0	8.01	120	616	83	90	442	296	460	713	311	445	80	845	4170	0.077	10.01	11.07	0
55	7.892	0.049	0.335	0	7.35	121	622	84	90	447	299	464	727	309	449	83	864	4170	0.111	9.65	11.52	0
56	8.032	0.049	0.346	0	7.21	121	628	83	90	452	301	469	739	308	454	82	884	4170	0.094	9.82	11.13	0.05
57	8.173	0.049	0.338	0	7.14	121	633	83	90	458	303	474	748	307	458	80	935	4170	0.08	10.12	11.09	0
58	8.314	0.049	0.338	0	6.99	121	631	84	91	464	306	479	755	306	462	78	936	4170	0.089	10.29	10.88	0
59	8.453	0.049	0.389	0	6.92	121	634	83	91	469	307	483	758	305	465	78	932	4169	0.096	10.34	10.71	0
60	8.592	0.049	0.342	0	6.8	121	630	84	91	474	310	488	760	305	467	79	922	4169	0.079	10.94	10.06	0
61	8.732	0.049	0.341	0	6.71	121	628	84	91	479	313	492	759	304	469	78	911	4169	0.079	11.39	9.53	0
62	8.873	0.049	0.339	0	6.61	121	621	84	91	484	314	497	755	303	471	78	895	4169	0.078	11.89	9.09	0
63	9.014	0.049	0.337	0	6.47	120	616	84	91	487	317	501	749	302	471	77	881	4169	0.076	12.5	8.37	0
64	9.154	0.049	0.345	0	6.42	120	610	84	91	491	319	504	742	301	472	76	865	4169	0.081	12.59	8.15	0
65	9.297	0.049	0.343	0	6.35	119	606	83	91	494	320	507	733	300	471	76	851	4169	0.079	12.98	7.58	0
66	9.436	0.049	0.339	0	6.24	119	598	83	91	497	321	510	719	299	469	76	832	4169	0.075	13.65	7.14	0
67	9.574	0.049	0.341	0	6.25	118	590	83	91	499	322	512	705	298	467	77	807	4169	0.075	13.83	6.81	0
68	9.715	0.049	0.333	0	6.13	118	584	83	91	500	323	513	692	298	465	76	785	4169	0.074	13.99	6.73	0
69	9.856	0.049	0.338	0	6.08	118	581	83	91	500	323	514	678	296	462	77	755	4169	0.078	14.05	6.66	0
70	9.998	0.049	0.345	0	6.03	117	573	83	91	500	323	515	665	295	460	78	733	4169	0.073	13.59	6.79	0
71	10.139	0.049	0.341	0	5.96	117	564	83	91	501	323	516	654	295	458	77	733	4169	0.076	14.11	6.7	0
72	10.278	0.049	0.339	0	5.87	117	559	83	91	500	323	518	644	294	456	78	703	4169	0.073	14.11	6.83	0
73	10.419	0.049	0.34	0	5.8	116	558	83	91	500	303	519	635	293	454	77	700	4169	0.077	14	6.84	0
74	10.56	0.049	0.342	0	5.74	116	554	83	91	499	323	519	627	292	452	77	691	4169	0.075	14.2	6.55	0
75	10.699	0.049	0.341	0	5.67	116	548	83	91	499	321	519	620	292	450	78	683	4169	0.075	14.23	6.37	0
76	10.84	0.049	0.339	0	6.03	115	547	83	91	498	321	519	613	292	448	76	688	4169	0.071	14.3	6.3	0
77	10.981	0.049	0.334	0	5.63	115	543	83	91	496	321	518	606	291	447	80	672	4169	0.073	14.45	6.3	0
78	11.122	0.049	0.346	0	5.39	115	539	83	91	496	320	518	599	291	445	80	670	4169	0.072	14.48	6.13	0
79	11.261	0.049	0.338	0	5.5	114	536	83	91	494	320	518	592	292	443	78	662	4169	0.071	14.61	6.03	0
80	11.402	0.049	0.341	0	5.42	114	533	83	91	494	320	517	585	291	441	78	645	4170	0.072	14.61	6.05	0
81	11.544	0.049	0.341	0	5.38	114	530	83	91	493	319	517	579	290	440	78	655	4170	0.072	14.85	5.89	0
82	11.682	0.049	0.335	0	5.31	114	529	83	91	492	319	516	573	291	438	79	653	4170	0.074	14.94	5.95	0
83	11.822	0.049	0.343	0	5.3	113	528	83	91	492	318	515	566	290	436	77	664	4170	0.072	14.78	6.09	0
84	11.963	0.049	0.347	0	5.23	113	524	83	91	490	317	513	561	290	434	77	648	4170	0.074	14.88	6.02	0
85	12.104	0.049	0.34	0	5.23	113	524	83	91	490	317	511	556	290	433	79	649	4170	0.073	14.79	6.11	0
86	12.245	0.049	0.34	0	5.11	113	522	83	91	489	316	509	552	290	431	78	654	4170	0.07	14.79	5.87	0
87	12.387	0.049	0.342	0	5.14	113	518	83	91	489	315	507	547	291	430	79	628	4170	0.069	14.69	6.16	0
88	12.527	0.049	0.338	0	5.05	112	517	83	91	488	314	505	542	291	428	80	604	4170	0.068	14.72	6.11	0
89	12.667	0.049	0.344	0	5.03	112	513	83	91	488	314	504	539	292	427	78	610	4170	0.067	14.71	6.07	0
90	12.806	0.049	0.344	0	4.93	112	511	83	91	487	313	503	535	291	426	81	603	4170	0.069	14.6	6.23	0
91	12.945	0.049	0.339	0	4.87	111	506	83	91	486	312	502	531	292	425	78	591	4170	0.067	14.7	6.01	0
92	13.086	0.049	0.34	0	4.74	111	506	83	91	487	312	501	528	293	424	78	596	4170	0.07	14.68	6.04	0
93	13.226	0.049	0.34	0	4.74	111	502	83	91	486	311	499	525	293	423	79	586	4170	0.068	14.73	6.1	0
94	13.367	0.049	0.342	0	4.73	111	500	83	91	486	311	499	522	293	422	81	572	4170	0.069	14.6	6.04	0
95	13.508	0.049	0.344	0	4.66	110	495	83	91	486	310	498	520	294	421	79	576	4169	0.067	14.78	6.08	0
96	13.646	0.049	0.336	0	4.87	110	494	83	91	485	310	497	518	294	421	81	576	4170	0.071	14.49	6.18	0
97	13.788	0.049	0.34	0	4.59	110	493	83	91	485	309	497	516	294	420	79	573	4170	0.066	14.55	6.07	0
98	13.929	0.049	0.343	0	4.47	110	491	82	91	484	309	497	512	294	419	81	564	4169	0.067	14.87	6.01	0
99	14.069	0.049	0.345	0	4.49	110	501	82	91	484	309	496	506	295	418	80	574	4169	0.068	14.79	6.17	0
100	14.211	0.049	0.339	0	4.41	110	508	82	91	484	309	496	501	295	417	81	594	4169	0.073	14.54	6.44	0
101	14.351	0.049	0.342	0	4.45	111	520	82	91	483	308	494	499	296	416	79	619	4169	0.07	14.25	6.59	0
102	14.492	0.049	0.342	0	4.25	111	524	82	91	484	307	493	499	297	416	82	622	4169	0.073	14.61	6.3	0
103	14.633	0.049	0.34	0	4.33	111	529	82	91	483	307	491	498	297	415	82	624	4169	0.071	14.2	6.4	0
104	14.773	0.049	0.343	0	4.15	112	534	82	91	484	307	489	498	297	415	80	631	4169	0.072	14.38	6.33	0.01
105	14.915	0.049	0.339	0	4.21	112	535	82	91	483	307	487	498	298	415	82	641	4169	0.072	14.41	6.44	0
106	15.056	0.049	0.338	0	4.03	112	532	82	91	483	307	486	499	299	415	80	635	4169	0.075	14.28	6.58	0
107	15.194	0.049	0.343	0	3.97	111	529	82	91	483	307	485	499	300	415	83	630	4169	0.069	14.54	6.5	0
108	15.336	0.049	0.338	0	3.97	111	528	82	91	483	307	485	499	300	415	81	625	4169	0.075	14.62	6.39	0
109	15.476	0.049	0.346	0	3.87	111	526	82	91	484	306	484	500	302	415	81	630	4169	0.069	14.48	6.31	0
110	15.615	0.049	0.341	0	3.72	112	522	82	91	483	306	482	498	302	414	80	622	4169	0.069	14.44	6.37	0
111	15.756	0.049	0.343	0	3.78	111	522	82	91	483	306	481	498	303	414	81	640	4169	0.069	14.58	6.19	0
112	15.895	0.049	0.344	0	3.61	111	520	82	91	484	306	480	498	303	414	80	619	4169	0.069	14.57	6.15	0
113	16.036	0.049	0.341	0	2.79	111	515	82	91	483	307	479	498	304	414	80	622	4169	0.07	14.39	6.45	0
114	16.175	0.049	0.344	0	3.59	111	514	82	91	483	307	478	498	305	414	82	604	4169	0.071	14.59	6.41	0
115	16.313	0.049	0.344	0	3.63	111	512	82	91	483	307	478	498	306	414	81	605	4169	0.068	14.56	6.31	0
116	16.453	0.049	0.344	0	3.45	111	510	82	91	483	307	477	498	307	414	82	608	4169	0.068	14.66	6.23	0
117	16.594	0.049	0.339	0	3.48	110	508	82	91	483	307	476	498	308	414	81	600	4169	0.069	14.51	6.31	0
118	16.732	0.049	0.342	0	3.41	110	507	82	91	483	307	475	497	309	414	82	605	4169	0.069	14.58	6.12	0
119	16.872	0.049	0.339	0	3.38	110	507	82	91	483	307	475	497	309	414	82	626	4169	0.072	14.49	6.4	0
120	17.009	0.049	0.341	0	3.28	110	507	82	91	482	307	475	497	310	414	82	611	4169	0.068	14.67	6.21	0
121	17.149	0.049	0.344	0	3.28	110	506	82	91	481	307	474	498	311	414	82	608	4169	0.072	14.46	6.38	0
122	17.289	0.049	0.334	0	3.15	110	508	82	91	482	307	474	499	311	415	81	612	4169	0.071	14.59	6.18	0
123	17.428	0.049	0.345	0	3.14	110	506	82	91	481	307	474	500	312	415	83	617	4169	0.073	14.43	6.49	0
124	17.571	0.049	0.342	0	3.08	110	506	82	91	481	307	473	502	313	415	84	607	4169	0.072	14.34	6.65	0
125	17.712	0.049	0.34	0	2.86	110	504	82	91	480	307	474	506	314	416	82	601	4169	0.07	14.34	6.51	0
126	17.854	0.049	0.34	0	3.03	110	504	82	91	480	307	474	510	314	417	84	600	4169	0.067	14.31	6.53	0
127	17.995	0.049	0.335	0	2.91	110	503	82	91	480	307	473	512	314	417	82	608	4169	0.071	14.31	6.47	0
128	18.134	0.049	0.343	0	2.94	109	501	82	91	479	308	474	513	315	418	81	596	4169	0.068	14.44	6.47	0
129	18.276	0.049	0.342	0	2.85	109	501	82	91	479	308	474	511	315	417	81	618	4169	0.072	14.54	6.19	0
130	18.415	0.049	0.338	0	2.81	109	498	82	91	479	308	474	509	315	417	82	602	4169	0.067	15.04	5.65	0
131	18.557	0.049	0.345	0	2.75	108	495	82	91	479	308	473	505	316	416	82	606	4169	0.07	15.21	5.62	0
132	18.698	0.049	0.335	0	2.76	108	493	82	91	477	309	473	498	316	415	83	603	4169	0.067	15.51	5.43	0
133	18.838	0.049	0.337	0	2.59	108	489	82	91	478	309	474	493	317	414	81	567	4169	0.069	15.72	4.89	0
134	18.981	0.049	0.341	0	2.65	108	484	82	91	477	309	474	486	317	413	83	562	4169	0.069	15.79	5.03	0
135	19.12	0.049	0.336	0	2.66	107	479	82	91	477	309	473	480	317	411	82	548	4169	0.067	15.9	4.8	0
136	19.26	0.049	0.348	0	2.61	107	472	82	91	475	308	472	474	318	409	81	529	4169	0.063	15.87	5	0
137	19.402	0.049	0.338	0	2.61	106	467	82	91	473	307	471	468	318	407	81	527	4169	0.064	15.98	4.78	0
138	19.545	0.049	0.346	0	2.55	106	464	82	91	472	306	471	461	318	406	81	518	4169	0.065	15.97	4.98	0
139	19.686	0.049	0.347	0	2.54	106	462	82	91	471	306	470	456	319	404	81	515	4169	0.063	15.89	5.06	0
140	19.826	0.049	0.336	0	2.45	106	459	82	91	470	305	468	451	319	403	81	507	4169	0.066	15.73	4.99	0
141	19.965	0.049	0.343	0	2.45	105	455	82	91	468	303	467	447	320	401	81	499	4169	0.066	15.9	5.08	0
142	20.106	0.049	0.342	0	2.41	105	456	82	91	467	303	466	443	320	400	80	505	4169	0.067	15.88	4.98	0
143	20.246	0.049	0.339	0	2.37	105	453	82	91	465	301	465	440	320	398	81	501	4169	0.063	15.87	4.87	0
144	20.389	0.049	0.346	0	2.32	105	451	82	91	463	300	463	437	322	397	81	497	4169	0.062	15.75	5.04	0

145	20.529	0.049	0.34	0	2.33	105	448	82	91	462	299	462	434	322	396	82	502	4169	0.065	15.75	5.18	0
146	20.67	0.049	0.34	0	2.32	104	447	81	91	460	298	461	431	323	395	81	500	4169	0.066	15.71	5.05	0
147	20.814	0.049	0.343	0	2.25	104	448	81	91	459	298	460	429	323	394	83	495	4169	0.063	15.58	5.04	0
148	20.955	0.049	0.342	0	2.19	104	446	81	91	458	297	459	428	324	393	82	499	4169	0.062	15.48	5.12	0
149	21.097	0.049	0.345	0	2.2	104	449	81	91	456	296	457	427	324	392	82	515	4169	0.062	15.38	5.36	0
150	21.239	0.049	0.342	0	2.12	104	450	81	91	455	296	456	426	325	392	84	509	4169	0.062	15.39	5.2	0
151	21.379	0.049	0.34	0	2.12	104	449	81	91	454	295	455	426	325	391	83	509	4169	0.062	15.32	5.36	0
152	21.521	0.049	0.349	0	2.08	104	449	81	91	453	296	454	426	325	391	81	506	4169	0.062	15.26	5.48	0
153	21.661	0.049	0.34	0	2.07	104	449	81	91	451	295	453	426	326	390	81	502	4169	0.066	15.27	5.54	0
154	21.801	0.049	0.339	0	1.96	104	448	81	91	450	295	452	427	326	390	82	506	4169	0.064	15.36	5.2	0
155	21.943	0.049	0.348	0	1.97	103	446	81	91	450	295	451	427	327	390	83	499	4169	0.062	15.4	5.42	0
156	22.085	0.049	0.339	0	1.92	103	446	81	91	448	296	450	427	327	389	84	507	4169	0.066	15.57	5.08	0
157	22.227	0.049	0.343	0	1.87	103	448	81	91	448	296	449	427	327	389	83	507	4169	0.062	15.49	5.05	0
158	22.368	0.049	0.344	0	1.89	103	448	81	91	446	297	449	426	328	389	82	502	4169	0.062	15.82	4.84	0
159	22.508	0.049	0.341	0	2.07	103	444	81	91	445	297	447	425	328	388	81	499	4169	0.062	15.68	4.9	0
160	22.651	0.049	0.343	0	1.34	103	443	81	91	444	297	446	423	328	388	81	491	4169	0.062	15.82	4.7	0
161	22.793	0.049	0.338	0	1.83	103	443	81	91	443	298	445	422	328	387	81	502	4169	0.06	15.8	4.89	0
162	22.934	0.049	0.34	0	1.76	103	441	81	91	442	297	444	421	328	387	81	501	4169	0.064	15.7	4.72	0
163	23.075	0.049	0.345	0	1.77	102	441	81	91	440	297	443	421	328	386	82	492	4169	0.065	15.8	4.73	0
164	23.215	0.049	0.336	0	1.68	102	439	81	91	439	297	442	420	329	385	81	490	4169	0.064	16	4.66	0
165	23.358	0.049	0.344	0	1.71	102	436	81	91	437	296	441	419	329	384	82	481	4169	0.061	16.1	4.77	0
166	23.499	0.049	0.343	0	1.48	102	434	81	91	436	296	441	418	329	384	83	473	4169	0.064	15.86	4.71	0
167	23.64	0.049	0.345	0	1.66	101	431	81	91	434	295	440	416	330	383	82	472	4169	0.061	15.88	4.78	0
168	23.78	0.049	0.337	0	1.65	101	426	81	91	432	294	439	415	330	382	83	478	4168	0.059	15.94	4.46	0
169	23.921	0.049	0.346	0	1.64	101	426	81	91	431	292	439	414	331	381	84	467	4168	0.058	16.05	4.54	0
170	24.062	0.049	0.341	0	1.55	101	424	81	91	430	292	438	412	332	381	82	467	4168	0.059	16.12	4.42	0
171	24.202	0.049	0.337	0	1.59	101	422	81	91	428	291	437	411	332	380	82	471	4168	0.06	15.92	4.8	0
172	24.344	0.049	0.342	0	1.58	101	420	81	91	427	291	437	409	332	379	84	467	4168	0.063	15.88	4.57	0
173	24.486	0.049	0.343	0	1.56	100	419	80	91	426	290	436	408	331	378	82	463	4168	0.06	15.89	4.76	0
174	24.628	0.049	0.336	0	1.64	100	419	80	91	424	289	436	407	332	378	83	467	4168	0.062	16.07	4.65	0
175	24.768	0.049	0.341	0	1.55	100	418	80	91	423	289	435	407	332	377	83	458	4168	0.06	15.83	4.65	0
176	24.909	0.049	0.34	0	1.37	100	419	80	91	422	288	435	406	333	377	82	467	4168	0.061	16.1	4.55	0
177	25.051	0.049	0.342	0	1.41	100	418	80	91	421	287	434	405	334	376	83	462	4168	0.063	16.04	4.66	0
178	25.192	0.049	0.333	0	1.42	100	416	80	91	421	287	434	405	333	376	81	461	4168	0.061	16.05	4.45	0
179	25.331	0.049	0.346	0	1.49	100	416	80	91	419	286	433	404	334	375	80	465	4168	0.061	16.2	4.72	0
180	25.476	0.049	0.345	0	1.41	100	416	80	91	418	285	432	404	335	375	84	463	4168	0.059	15.91	4.6	0
181	25.615	0.049	0.335	0	1.34	99	416	80	91	417	285	432	403	335	375	83	467	4168	0.058	16.06	4.53	0
182	25.755	0.049	0.345	0	1.22	99	416	80	91	416	284	431	403	336	374	82	464	4168	0.059	15.9	4.55	0
183	25.897	0.049	0.344	0	1.29	99	416	80	91	416	284	430	402	336	374	83	461	4168	0.06	16.03	4.6	0
184	26.038	0.049	0.341	0	1.38	99	416	80	91	415	284	430	401	336	373	83	459	4168	0.059	16.1	4.81	0
185	26.181	0.049	0.343	0	1.34	99	415	80	91	415	283	429	401	336	373	81	463	4168	0.059	16.23	4.48	0
186	26.321	0.049	0.344	0	1.21	99	415	80	91	414	283	428	400	337	373	83	466	4168	0.059	16.06	4.55	0
187	26.462	0.049	0.342	0	0.92	99	411	80	91	414	282	428	399	337	372	83	459	4168	0.059	16.2	4.46	0
188	26.602	0.049	0.34	0	1.34	99	413	80	91	413	282	427	398	337	371	84	460	4168	0.061	16.09	4.71	0
189	26.741	0.049	0.334	0	1.21	99	409	80	91	412	281	427	397	337	371	82	460	4168	0.06	16.17	4.51	0
190	26.883	0.049	0.348	0	1.25	99	411	80	91	412	281	426	396	338	370	83	461	4168	0.056	16.29	4.48	0
191	27.022	0.049	0.344	0	1.3	99	411	80	91	412	280	425	395	338	370	82	460	4168	0.057	16.15	4.66	0
192	27.162	0.049	0.345	0	1.23	99	409	80	91	412	280	424	394	338	370	82	460	4168	0.057	16.23	4.65	0
193	27.304	0.049	0.342	0	1.16	98	409	80	91	412	279	424	393	339	369	82	461	4168	0.057	16.45	4.3	0
194	27.444	0.049	0.344	0	1.23	98	410	79	91	411	279	423	392	339	369	83	455	4168	0.06	16.39	4.68	0
195	27.583	0.049	0.347	0	1.18	98	406	79	91	411	278	422	391	339	368	82	456	4168	0.056	16.43	4.5	0
196	27.723	0.049	0.343	0	1.2	98	407	79	91	411	278	422	390	339	368	82	457	4168	0.06	16.29	4.65	0
197	27.862	0.049	0.341	0	1.12	98	407	79	91	410	278	421	390	339	368	82	457	4168	0.059	16.31	4.34	0
198	28.004	0.049	0.347	0	1.14	98	407	79	91	411	278	420	389	340	367	82	460	4168	0.06	16.23	4.67	0
199	28.146	0.049	0.338	0	1.1	98	406	79	91	410	277	420	388	339	367	82	457	4168	0.056	16.29	4.44	0
200	28.287	0.049	0.348	0	1.08	98	404	79	91	410	277	419	388	339	366	81	456	4168	0.059	16.26	4.63	0
201	28.428	0.049	0.345	0	1.1	98	406	79	91	409	276	418	387	339	366	83	459	4168	0.061	16.32	4.65	0
202	28.569	0.049	0.344	0	1.05	98	408	79	91	409	277	418	386	340	366	83	459	4168	0.057	16.29	4.59	0
203	28.71	0.049	0.349	0	1.06	98	405	79	91	410	276	417	386	340	365	80	451	4168	0.056	16.4	4.4	0
204	28.851	0.049	0.34	0	1.03	98	406	79	91	410	275	416	385	340	365	82	457	4168	0.06	16.28	4.58	0
205	28.991	0.049	0.346	0	1.03	98	408	79	91	409	275	416	384	341	365	80	457	4168	0.058	16.34	4.34	0
206	29.132	0.049	0.347	0	0.99	98	407	79	91	409	274	415	383	341	365	82	456	4168	0.061	16.21	4.58	0
207	29.272	0.049	0.344	0	1.01	98	409	79	91	409	275	414	383	341	364	81	458	4167	0.06	16.2	4.71	0
208	29.413	0.049	0.342	0	0.89	98	408	79	91	409	274	414	383	340	364	83	458	4167	0.056	16.48	4.29	0
209	29.554	0.049	0.346	0	0.99	98	406	79	91	408	274	413	383	340	364	83	451	4167	0.058	16.36	4.82	0
210	29.694	0.049	0.345	0	0.79	98	402	79	91	408	273	412	383	340	363	83	448	4167	0.055	16.66	4.28	0
211	29.836	0.049	0.348	0	0.93	97	398	79	91	406	273	412	381	340	363	81	445	4167	0.055	16.43	4.38	0
212	29.976	0.049	0.339	0	0.69	97	397	79	91	405	273	411	381	340	362	81	441	4167	0.059	16.65	4.11	0.01
213	30.119	0.049	0.345	0	0.85	97	395	79	91	405	272	410	380	341	361	82	440	4167	0.056	16.41	4.25	0
214	30.259	0.049	0.34	0	0.5	97	394	79	91	404	272	410	379	340	361	83	440	4167	0.055	16.55	4.32	0
215	30.4	0.049	0.342	0	1.09	97	393	79	91	403	272	409	378	341	361	81	442	4167	0.059	16.32	4.45	0
216	30.54	0.049	0.348	0	0.81	97	394	79	91	402	271	408	377	341	360	82	439	4167	0.057	-0.36	4.42	0
217	30.681	0.049	0.342	0	0.83	97	391	79	91	402	271	408	376	341	359	81	436	4167	0.057	-0.39	4.47	0
218	30.824	0.049	0.341	0	0.78	97	390	79	91	401	270	406	375	342	359	81	437	4167	0.056	-0.22	4.12	0
219	30.965	0.049	0.343	0	0.79	96	389	79	91	400	270	405	374	342	358	83	433	4167	0.058	-0.24	4.49	0
220	31.107	0.049	0.343	0	0.77	96	388	79	91	399	270	405	374	342	358	81	436	4167	0.056	-0.42	4.5	0
221	31.251	0.049	0.341	0	0.72	96	390	79	91	399	270	403	374	343	358	82	434	4167	0.057	-0.41	4.62	0
222	31.392	0.049	0.339	0	0.76	96	387	79	91	399	269	403	373	343	357	80	436	4167	0.058	-0.4	4.26	0
223	31.534	0.049	0.344	0	0.68	96	387	78	91	397	268	402	372	343	357	82	437	4167	0.054	-0.18	4.21	0
224	31.676	0.049	0.34	0	0.69	96	386	78	91	397	268	401	372	344	356	82	431	4167	0.06	-0.38	4.43	0
225	31.817	0.049	0.346	0	0.73	96	386	78	91	396	267	400	371	345	356	83	430	4167	0.054	-0.36	4.24	0
226	31.96	0.049	0.345	0	0.66	96	386	78	91	396	268	399	370	344	355	83	433	4167	0.056	-0.27	4.5	0
227	32.101	0.049	0.343	0	0.61	96	385	78	91	396	267	399	370	344	355	81	432	4167	0.054	-0.3	4.36	0
228	32.244	0.049	0.342	0	0.63	96	384	78	91	395	267	398	369	345	355	83	433	4167	0.057	-0.33	4.07	0
229	32.384	0.049	0.341	0	0.68	96	383	78	91	395	267	397	368	345	354	82	433	4167	0.058	-0.33	4.43	0
230	32.525	0.049	0.345	0	0.62	96	383	78	91	394	267	397	367	346	354	82	430	4167	0.054	-0.31	4.27	0
231	32.665	0.049	0.341	0	0.64	96	383	78	91	394	267	396	367	346	354	82	430	4167	0.058	-0.5	4.24	0
232	32.805	0.049	0.342	0	0.56	96	380	78	91	393	267	395	366	347	354	82	430	4167	0.058	-0.41	4.19	0
233	32.947	0.049	0.347	0	0.57	95	380	78	91	393	266	395	365	347	353	82	431	4167	0.054	-0.25	4.15	0
234	33.09	0.049	0.345	0	0.5	95	383	78	91	393	266	394	365	348	353	83	430	4167	0.054	-0.2	4.11	0
235	33.23	0.049	0.348	0	0.59	95	381	78	91	392	265	393	364	348	352	83	432	4167	0.054	-0.25	4.06	0
236	33.371	0.049	0.343	0	0.5	95	381	78	91	391	265	393	364	348	352	83	430	4167	0.053	-0.26	4.3	0
237	33.513	0.049	0.338	0	0.54	95	381	78	91	391	265	392	363	348	352	80	435	4167	0.058	-0.32	4.33	0
238	33.655	0.049	0.343	0	0.42	95	380	78	91	392	264	391	363	348	352	82	432	4167	0.059	-0.28	4.16	0
239	33.797	0.049	0.342	0	0.43	95	381	78	91	391	265	390	362	349	351	81	429	4167	0.058	-0.39	4.21	0
240	33.938	0.049	0.346	0	0.44	95	381	78	91	391	264	390	362	349	351	82	432	4167	0.058	-0.33	4.4	0
241	34.081	0.049	0.344	0	0.48	95	382	78	91	390	264	390	361	349	351	80	429	4166	0.056	-0.38	4.34	0
242	34.222	0.049	0.338	0	0.55	95	380	78	91	390	264	389	360	349	350	81	432	4166	0.056	-0.42	4.39	0
243	34.363	0.049	0.345	0	0.39	95	382	78	91	390	263	389	360	350	350	79	429	4166	0.054	-0.3	3.93	0
244	34.503	0.049	0.336	0	0.38	95	380	78	91	390	263	388	359	350	350	82	426	4166	0.058	-0.35	4.15	0
245	34.643	0.049	0.341	0	0.39	95	380	78	91	389	262	388	359	350	350	83	432	4166	0.055	-0.3	4	0
246	34.787	0.049	0.347	0	0.47	95	383	78	91	389	262	387	359	350	349	82	433	4166	0.058	-0.33	4.08	0
247	34.928	0.049	0.349	0	0.56	95	383	78	91	388	262	387	358	351	349	83	431	4166	0.053	-0.31	3.92	0
248	35.07	0.049	0.338	0	0.36	95	382	78	91	388	262	386	357	351	349	81	430	4166	0.058	-0.33	3.82	0.01
249	35.21	0.049	0.342	0	0.19	95	381	78	91	388	262	385	357	350	348	82	433	4166	0.055	-0.29	3.73	0
250	35.352	0.049	0.348	0	0.31	95	382	78	91	386	261	385	356	351	348	83	429	4166	0.054	-0.21	3.88	0
251	35.493	0.049	0.351	0	0.29	95	382	78	91	386	261	384	355	351	348	83	432	4166	0.054	-0.37	3.92	0
252	35.635	0.049	0.344	0	0.23	95	381	78	91	386	261	383	354	351	347	83	429	4166	0.055	-0.27	3.81	0
253	35.776	0.049	0.348	0	0.23	95	380	78	91	385	261	383	354	351	347	81	428	4166	0.054	-0.36	3.99	0
254	35.917	0.049	0.343	0	0.25	95	381	78	91	385	260	382	353	351	346	83	428	4166	0.057	-0.38	3.81	0
255	36.058	0.049	0.34	0	0.2	95	381	78	91	384	260	381	353	351	346	82	427	4166	0.054	-0.41	3.81	0
256	36.2	0.049	0.347	0	0.04	95	380	78	91	384	260	380	352	351	345	82	428	4166	0.057	-0.33	3.78	0
257	36.342	0.049	0.344	0	0.19	95	382	78	91	383	260	380	351	350	344	84	427	4166	0.056	-0.31	3.64	0
258	36.485	0.049	0.345	0	0.19	95	382	78	91	382	259	379	351	350	344	81	429	4166	0.055	-0.29	3.57	0
259	36.627	0.049	0.344	0	0.22	95	384	78	91	382	259	378	350	350	344	82	431	4166	0.059	-0.42	3.88	0
260	36.768	0.049	0.344	0	0.08	95	385	78	91	381	258	376	349	350	343	82	428	4166	0.056	-0.22	3.53	0.02
261	36.911	0.049	0.338	0	0.15	95	386	78	91	380	258	376	349	350	342	81	431	4166	0.056	-0.31	3.45	0
262	37.052	0.049	0.338	0	0.14	95	387	77	91	380	258	375	348	349	342	81	433	4166	0.057	-0.26	3.48	0
263	37.194	0.049	0.343	0	0	95	387	77	91	378	257	374	348	348	341	81	435	4166	0.058	-0.36	3.9	0
264	37.336	0.049	0.34	0	0.12	95	387	77	91	377	257	373	347	348	341	82	435	4166	0.056	-0.25	3.54	0
265	37.478	0.049	0.346	0	0.07	95	388	77	91	377	256	373	347	347	340	81	439	4166	0.056	-0.36	3.57	0.01
266	37.621	0.049	0.343	0	0.08	95	388	77	91	376	256	372	346	347	339	82	434	4166	0.058	-0.25	3.53	0
267	37.762	0.049	0.341	0	0.48	95	387	77	91	375	256	371	346	347	339	81	438	4166	0.057	-0.3	3.52	0
268	37.904	0.049	0.347	0	0.06	95	388	77	91	374	255	370	345	346	338	82	438	4166	0.057	-0.39	3.67	0
269	38.046	0.049	0.342	0	0	95	390	77	91	373	255	369	345	345	337	81	437	4166	0.055	-0.39	3.64	0
270	38.191	0.049	0.342	0	0.04	95	391	77	91	372	254	368	344	345	337	80	436	4166	0.055	-0.38	3.53	0

11/2/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg 1	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.049	0	0	12.01	101.59	405.68	72	80	441	304	449	356	407	397	72	467	4163	0.059	16.83	3.5	0
1	0.146	0.049	0.348	0	12.61	145	341	75	79	437	313	449	378	411	398	74	351	4163	0.047	20.21	0.53	0.17
2	0.306	0.049	0.347	0	11.97	146	349	78	80	434	322	447	373	415	398	73	364	4163	0.058	19.12	2.14	0.17
3	0.467	0.049	0.347	0	11.92	121	360	77	80	430	328	439	373	417	398	72	389	4163	0.052	18.26	1.98	0.44
4	0.628	0.049	0.344	0	11.83	115	382	77	80	425	332	432	372	419	396	71	418	4163	0.059	17.06	3.29	0.45
5	0.788	0.049	0.341	0	11.89	114	405	77	80	419	335	425	369	420	393	71	428	4163	0.06	17.14	3.3	0.16
6	0.948	0.049	0.342	0	11.74	107	387	76	80	410	335	418	370	420	391	72	408	4163	0.055	16.92	3.3	0.3
7	1.107	0.049	0.343	0	11.76	105	386	76	80	404	335	411	372	421	389	71	413	4163	0.057	17.03	3.24	0.31
8	1.264	0.049	0.342	0	11.65	103	391	76	80	398	334	405	374	421	386	71	421	4163	0.056	16.75	3.56	0.1
9	1.421	0.049	0.336	0	11.55	103	395	76	80	392	333	398	375	421	384	71	424	4163	0.058	17.05	3.31	0.2
10	1.577	0.049	0.344	0	11.58	102	398	76	80	386	331	392	376	421	381	71	427	4163	0.06	17.21	3.15	0.25
11	1.733	0.049	0.338	0	11.51	102	403	76	81	380	329	386	378	420	379	71	440	4163	0.061	16.89	3.46	0.3
12	1.89	0.049	0.341	0	11.51	102	407	76	81	374	326	381	379	420	376	71	435	4163	0.061	16.81	3.54	0.39
13	2.046	0.049	0.345	0	11.49	102	410	76	81	369	324	376	381	419	374	71	451	4163	0.063	16.52	4.03	0.12
14	2.202	0.049	0.341	0	11.37	102	414	76	81	363	322	371	382	418	371	72	454	4163	0.058	16.75	3.64	0.18
15	2.356	0.049	0.339	0	11.4	103	416	76	81	358	319	366	384	417	369	72	447	4163	0.06	16.53	3.67	0.42
16	2.509	0.049	0.34	0	11.36	102	420	76	81	354	317	362	387	416	367	71	455	4163	0.06	16.39	4.13	0.14
17	2.661	0.049	0.346	0	11.73	103	422	76	81	350	314	358	388	416	365	72	460	4163	0.06	15.9	3.96	0.12
18	2.812	0.049	0.344	0	11.14	103	422	76	82	345	312	354	389	415	363	71	454	4163	0.065	15.78	4.07	0.3
19	2.963	0.049	0.347	0	11.28	103	425	76	82	342	309	350	391	414	361	71	454	4163	0.06	15.81	3.94	0.33
20	3.114	0.049	0.343	0	10.99	103	425	76	82	339	307	347	392	413	359	72	463	4163	0.059	15.76	4.09	0.1
21	3.266	0.049	0.346	0	10.99	103	426	77	82	335	305	344	394	411	358	71	456	4163	0.061	15.83	4.21	0.15
22	3.416	0.049	0.345	0	10.9	103	426	77	82	332	303	341	396	410	356	72	459	4163	0.059	15.74	3.9	0.35
23	3.566	0.049	0.342	0	10.8	103	426	77	82	329	301	338	397	409	355	72	467	4163	0.062	15.79	3.9	0.56
24	3.713	0.049	0.34	0	10.67	103	425	77	83	328	300	335	399	409	354	71	462	4163	0.062	15.71	3.66	0.6
25	3.86	0.049	0.339	0	11.07	103	427	77	83	325	298	332	401	408	353	71	469	4163	0.063	15.67	4.33	0.24
26	4.011	0.049	0.347	0	10.69	103	432	77	83	322	296	330	404	407	352	71	479	4163	0.06	15.42	4.2	0.42
27	4.16	0.049	0.338	0	10.59	103	432	77	83	320	295	328	407	406	351	71	490	4163	0.058	15.21	4.8	0.44
28	4.307	0.049	0.338	0	10.35	104	436	77	83	318	293	326	413	405	351	71	512	4163	0.063	15	5.04	0.32
29	4.451	0.049	0.337	0	10.45	104	444	77	83	317	292	324	426	404	353	71	573	4163	0.064	13.9	5.95	0.1
30	4.598	0.049	0.337	0	10.32	105	459	77	84	316	292	322	438	404	354	71	615	4163	0.064	13.54	6.1	0.12
31	4.745	0.049	0.341	0	10.45	106	471	77	84	317	275	323	440	393	350	73	550	4163	0.068	13.34	6.37	0.16
32	4.89	0.049	0.338	0	10.16	107	490	77	84	318	262	325	437	387	346	71	582	4163	0.069	13.86	6.46	0
33	5.037	0.049	0.336	0	10.04	108	506	77	84	319	253	326	438	381	343	71	595	4163	0.073	13.99	6.03	0
34	5.183	0.049	0.336	0	9.9	109	509	77	84	320	247	327	452	378	345	71	590	4163	0.068	13.09	6.74	0
35	5.329	0.049	0.343	0	9.8	109	513	77	84	321	242	329	471	374	347	72	605	4163	0.067	12.11	7.74	0
36	5.475	0.049	0.339	0	9.69	109	517	77	84	323	239	331	482	370	349	71	612	4163	0.072	12.43	7.49	0
37	5.623	0.049	0.342	0	9.68	110	520	77	85	324	238	334	495	368	352	71	604	4163	0.073	12.45	7.65	0
38	5.768	0.049	0.34	0	9.51	110	525	78	85	326	237	337	509	366	355	71	616	4163	0.07	12.78	7.23	0
39	5.913	0.049	0.334	0	8.87	110	527	78	85	329	237	340	516	364	357	71	624	4163	0.075	12.58	7.48	0
40	6.061	0.049	0.343	0	9.38	111	532	78	85	331	237	344	535	361	361	72	633	4163	0.072	11.72	8.43	0
41	6.205	0.049	0.336	0	9.08	111	534	78	85	334	237	348	549	359	365	72	627	4163	0.075	11.53	8.58	0
42	6.349	0.049	0.336	0	9.16	112	536	78	85	337	238	352	556	357	368	72	635	4163	0.071	12.06	8.25	0
43	6.493	0.049	0.341	0	9.01	112	540	78	85	340	239	357	562	356	371	72	657	4163	0.071	11.92	8.28	0
44	6.637	0.049	0.34	0	8.85	113	547	78	85	344	241	362	573	354	375	72	656	4163	0.073	10.83	9.15	0
45	6.781	0.049	0.342	0	8.76	113	551	78	86	349	244	367	585	353	379	72	675	4163	0.073	10.24	10.09	0
46	6.925	0.049	0.34	0	8.86	114	556	78	86	353	246	372	597	352	384	72	692	4164	0.072	9.79	10.23	0
47	7.069	0.049	0.333	0	8.34	114	569	78	86	358	250	378	609	350	389	72	708	4163	0.079	9.56	10.57	0
48	7.213	0.049	0.337	0	8.42	115	576	78	86	363	253	385	624	349	395	72	755	4164	0.078	9.12	11.25	0
49	7.361	0.049	0.344	0	8.47	116	590	78	86	369	257	392	642	347	401	72	780	4164	0.079	8.81	11.45	0
50	7.507	0.049	0.339	0	8.05	117	603	79	86	376	261	399	663	346	409	72	824	4164	0.089	8.27	12.43	0
51	7.654	0.049	0.337	0	7.88	118	624	79	86	383	266	407	685	344	417	72	868	4164	0.111	7.84	12.78	0
52	7.799	0.049	0.337	0	7.8	119	640	79	86	390	270	415	709	343	425	72	898	4164	0.08	7.73	12.81	0
53	7.946	0.049	0.344	0	7.65	119	650	79	86	398	275	423	729	341	433	72	931	4164	0.123	7.84	12.68	0
54	8.094	0.049	0.343	0	7.5	120	657	79	87	406	280	431	744	339	440	72	950	4164	0.08	7.8	12.5	0
55	8.239	0.049	0.333	0	7.25	120	661	79	87	414	284	439	756	337	446	72	949	4164	0.079	8.13	12.11	0
56	8.385	0.049	0.338	0	7.72	121	666	79	87	422	289	447	765	335	452	72	975	4164	0.08	8.44	11.74	0
57	8.531	0.049	0.34	0	6.94	121	666	79	87	431	293	455	772	335	457	72	972	4164	0.083	8.72	11.59	0
58	8.676	0.049	0.342	0	6.95	121	669	79	87	438	297	462	776	332	461	72	966	4164	0.081	8.89	11.31	0
59	8.82	0.049	0.348	0	6.73	122	665	79	87	446	302	469	778	331	465	72	956	4164	0.091	9.16	10.85	0
60	8.965	0.049	0.335	0	6.69	122	662	79	87	453	305	476	780	330	469	72	938	4164	0.136	9.09	11.1	0
61	9.111	0.049	0.337	0	6.59	122	663	79	87	460	309	482	780	329	472	72	943	4164	0.091	9.62	10.59	0
62	9.256	0.049	0.34	0	6.4	122	663	79	87	466	312	489	780	327	475	72	936	4164	0.132	9.47	10.82	0
63	9.401	0.049	0.338	0	6.1	122	660	80	87	472	315	494	779	326	477	72	921	4164	0.104	9.47	10.56	0
64	9.543	0.049	0.338	0	6.23	122	661	80	87	477	319	500	781	324	480	72	934	4164	0.079	9.76	10.39	0
65	9.687	0.049	0.339	0	5.98	122	659	80	88	483	322	505	781	323	483	72	935	4164	0.079	9.66	10.48	0
66	9.832	0.049	0.338	0	5.9	122	658	80	88	487	325	509	783	322	485	72	932	4164	0.079	9.91	10.15	0
67	9.973	0.049	0.338	0	5.83	122	656	80	88	491	328	514	786	321	488	72	932	4164	0.123	9.86	10.27	0
68	10.116	0.049	0.336	0	5.76	122	656	80	88	495	330	518	787	320	490	72	930	4164	0.111	9.93	10.28	0
69	10.261	0.049	0.342	0	5.67	122	653	80	88	498	332	521	788	318	492	72	929	4164	0.113	9.88	10.33	0
70	10.407	0.049	0.339	0	5.5	122	652	80	88	501	334	525	790	318	494	72	930	4164	0.08	10.02	10.19	0
71	10.552	0.049	0.338	0	5.46	122	651	80	88	504	336	528	786	317	494	73	925	4164	0.081	10	9.9	0
72	10.699	0.049	0.337	0	5.37	121	649	80	88	507	338	531	782	316	495	72	910	4164	0.115	10.15	9.82	0
73	10.84	0.049	0.335	0	5.19	121	645	80	88	510	339	535	777	315	495	72	903	4164	0.078	10.49	9.24	0
74	10.984	0.049	0.332	0	4.94	121	641	80	88	512	340	538	772	314	495	72	896	4164	0.094	10.74	8.89	0
75	11.126	0.049	0.34	0	5.09	121	633	80	88	515	342	540	766	314	495	72	885	4164	0.077	11.3	8.59	0
76	11.269	0.049	0.34	0	4.91	121	629	80	88	516	343	542	758	314	494	72	872	4164	0.079	11.5	8.25	0
77	11.41	0.049	0.336	0	4.9	120	620	80	88	517	343	544	747	312	493	73	856	4164	0.077	12.34	7.53	0
78	11.553	0.049	0.34	0	4.8	120	616	80	89	517	344	545	734	312	491	73	825	4165	0.079	12.29	7.22	0
79	11.693	0.049	0.344	0	4.79	119	608	80	89	517	345	546	720	311	488	73	796	4165	0.075	12.54	7.15	0
80	11.835	0.049	0.342	0	4.74	119	603	80	89	518	345	547	706	311	485	72	777	4165	0.074	12.54	7.01	0
81	11.977	0.049	0.346	0	4.64	119	599	80	89	517	345	547	692	310	482	72	778	4165	0.075	12.81	6.6	0
82	12.118	0.049	0.334	0	4.58	119	598	80	89	517	345	547	679	310	479	73	765	4165	0.079	12.97	6.38	0
83	12.26	0.049	0.344	0	4.54	118	594	80	89	516	344	547	668	310	477	73	765	4165	0.074	12.98	6.62	0
84	12.404	0.049	0.34	0	4.61	118	590	80	89	515	343	547	659	309	474	73	742	4165	0.077	12.84	6.79	0
85	12.546	0.049	0.336	0	4.47	117	584	80	89	513	342	546	650	308	472	73	741	4165	0.078	12.98	6.6	0
86	12.689	0.049	0.334	0	4.38	117	579	80	89	511	341	546	642	309	470	73	733	4165	0.073	12.77	6.86	0
87	12.835	0.049	0.344	0	4.33	117	572	80	89	509	340	545	634	308	467	73	711	4165	0.073	12.87	6.44	0
88	12.978	0.049	0.342	0	4.35	117	570	80	89	508	338	544	627	307	465	73	722	4165	0.071	12.95	6.65	0
89	13.122	0.049	0.338	0	4.26	116	564	80	89	506	336	544	620	308	463	73	698	4165	0.071	13.02	6.89	0
90	13.267	0.049	0.343	0	4.13	116	559	80	89	505	335	543	613	307	461	73	692	4165	0.072	13.27	6.28	0.01
91	13.412	0.049	0.342	0	4.08	116	558	80	89	502	334	542	606	307	458	73	685	4165	0.071	13.21	6.12	0
92	13.556	0.049	0.336	0	3.63	115	556	80	89	501	332	541	599	307	456	73	685	4165	0.072	13.06	6.22	0
93	13.699	0.049	0.338	0	3.98	115	554	80	89	500	331	540	594	307	454	73	676	4165	0.071	13.32	6.14	0
94	13.845	0.049	0.333	0	4.04	115	551	80	89	498	330	539	587	307	452	73	671	4165	0.07	13.21	6.39	0
95	13.985	0.049	0.337	0	3.9	115	547	80	89	497	329	538	583	308	451	73	659	4165	0.071	13.18	6.57	0
96	14.132	0.049	0.343	0	3.9	114	546	80	89	496	328	537	576	307	449	74	661	4165	0.07	13.52	6.18	0
97	14.275	0.049	0.339	0	3.74	114	549	80	89	495	327	536	570	308	447	73	633	4165	0.075	13.43	6.26	0
98	14.42	0.049	0.341	0	3.81	114	547	80	89	494	325	535	565	308	445	73	657	4165	0.07	13.59	6.06	0
99	14.564	0.049	0.34	0	3.7	114	546	80	89	493	324	533	559	308	444	73	669	4165	0.069	13.43	6.03	0
100	14.709	0.049	0.338	0	3.75	114	540	80	89	491	324	532	556	308	442	73	644	4165	0.07	13.51	6.32	0
101	14.853	0.049	0.339	0	3.63	113	538	80	89	490	322	530	553	309	441	73	637	4165	0.067	13.6	5.92	0
102	15.001	0.049	0.34	0	3.6	113	537	80	89	490	322	529	550	308	440	73	635	4165	0.071	13.38	6.26	0
103	15.145	0.049	0.336	0	3.62	113	533	80	89	489	321	527	547	308	438	73	633	4165	0.072	13.55	5.97	0
104	15.288	0.049	0.341	0	3.5	112	527	80	90	487	320	525	544	308	437	73	631	4165	0.07	13.65	5.8	0
105	15.437	0.049	0.34	0	3.48	112	526	80	90	486	319	523	542	309	436	73	623	4165	0.073	13.46	6.1	0
106	15.583	0.049	0.337	0	3.45	112	525	80	90	485	318	523	538	309	435	75	619	4165	0.071	13.56	6.07	0
107	15.727	0.049	0.334	0	3.44	112	525	80	90	484	315	521	536	309	434	75	618	4165	0.071	13.47	6.03	0
108	15.872	0.049	0.341	0	3.32	112	523	80	90	483	316	520	534	309	433	79	607	4165	0.073	13.5	5.97	0
109	16.018	0.049	0.343	0	3.32	111	520	80	90	482	316	519	533	309	432	75	602	4166	0.066	13.52	6.17	0
110	16.162	0.049	0.337	0	3.23	111	518	80	90	481	315	518	532	309	431	74	618	4166	0.072	13.13	6.46	0
111	16.306	0.049	0.341	0	3.14	111	516	80	90	480	315	515	530	310	430	74	617	4166	0.065	13.54	6.02	0
112	16.451	0.049	0.334	0	2.96	111	512	80	90	479	314	514	529	309	429	73	598	4166	0.069	13.29	6.32	0
113	16.596	0.049	0.339	0	3.27	111	511	80	90	479	313	512	527	310	428	74	584	4166	0.071	13.28	6.2	0
114	16.741	0.049	0.342	0	3.05	110	512	80	90	478	313	512	526	310	428	73	595	4166	0.072	13.52	6.09	0
115	16.887	0.049	0.341	0	3.07	110	511	80	90	477	313	511	525	310	427	75	619	4166	0.066	13.55	6	0
116	17.033	0.049	0.335	0	3.03	110	508	80	90	477	311	509	523	310	426	75	586	4166	0.069	13.68	6.14	0
117	17.178	0.049	0.345	0	2.96	110	508	80	90	476	312	508	522	310	425	74	608	4166	0.065	13.69	5.88	0
118	17.319	0.049	0.341	0	3.21	110	506	80	90	475	312	508	520	310	425	73	595	4166	0.071	13.54	6.1	0
119	17.462	0.049	0.339	0	2.83	110	506	80	90	475	311	507	519	311	424	74	580	4166	0.068	13.5	6.19	0
120	17.608	0.049	0.34	0	2.89	109	508	80	90	474	310	506	517	310	423	74	593	4166	0.069	13.54	6.26	0
121	17.752	0.049	0.347	0	2.76	109	505	80	90	474	310	506	515	311	423	73	581	4166	0.066	13.51	6.1	0
122	17.895	0.049	0.346	0	2.7	109	508	80	90	473	310	506	514	312	423	73	582	4166	0.065	13.69	5.77	0
123	18.04	0.049	0.341	0	2.67	109	513	80	90	473	310	504	511	311	422	74	587	4166	0.071	13.73	5.91	0
124	18.184	0.049	0.341	0	2.71	109	511	80	90	472	310	503	509	312	421	74	595	4166	0.07	13.52	5.93	0
125	18.326	0.049	0.337	0	2.66	109	513	80	90	472	310	502	508	311	420	74	610	4166	0.074	13.66	5.95	0
126	18.469	0.049	0.34	0	2.61	109	513	79	90	472	309	501	507	311	420	74	612	4166	0.069	13.56	6.01	0

127	18.613	0.049	0.336	0	2.57	109	510	79	90	471	309	500	506	311	419	74	605	4166	0.07	13.59	6.13	0
128	18.758	0.049	0.344	0	2.58	109	511	79	90	471	309	500	504	312	419	74	609	4166	0.07	13.69	5.93	0
129	18.901	0.049	0.341	0	2.46	109	510	79	90	471	309	499	503	312	419	74	600	4166	0.066	13.92	5.54	0
130	19.044	0.049	0.341	0	2.4	109	511	79	90	470	309	498	502	312	418	73	599	4166	0.066	13.73	5.51	0
131	19.191	0.049	0.338	0	2.34	109	509	79	90	470	309	494	500	313	418	73	586	4166	0.066	14.1	5.27	0
132	19.336	0.049	0.337	0	2.37	108	505	79	90	470	309	495	498	313	417	74	575	4166	0.071	13.98	5.6	0
133	19.481	0.049	0.336	0	2.32	108	502	79	90	470	308	494	496	314	416	74	583	4166	0.071	14.06	5.43	0
134	19.628	0.049	0.335	0	2.56	108	501	79	90	470	309	493	493	314	416	74	579	4166	0.07	14.28	5.12	0
135	19.773	0.049	0.337	0	2.29	108	502	79	90	469	309	490	491	315	415	74	608	4166	0.065	14.19	5.28	0
136	19.918	0.049	0.34	0	2.3	108	500	79	90	469	309	489	489	316	414	74	593	4166	0.07	14.05	5.29	0
137	20.064	0.049	0.337	0	2.22	108	500	79	90	468	308	488	486	316	413	74	563	4166	0.069	14.36	5.5	0
138	20.209	0.049	0.337	0	2.15	108	499	79	90	467	308	486	483	317	412	73	575	4166	0.068	14.24	4.96	0
139	20.357	0.049	0.342	0	2.08	107	495	79	90	466	307	484	481	316	411	74	565	4166	0.068	14.41	5	0
140	20.503	0.049	0.343	0	2.11	108	497	79	90	465	306	483	478	317	410	74	574	4166	0.069	14.2	5.34	0
141	20.65	0.049	0.343	0	1.9	107	493	79	90	464	306	481	477	317	409	74	553	4166	0.066	14.33	5.16	0
142	20.795	0.049	0.348	0	2.01	107	491	79	90	462	305	479	475	317	408	74	565	4166	0.063	14.13	5.33	0
143	20.942	0.049	0.338	0	2.02	107	490	79	90	462	304	478	475	318	407	73	564	4166	0.066	13.91	5.42	0
144	21.088	0.049	0.338	0	1.99	107	489	79	90	460	304	476	474	318	406	73	568	4166	0.064	14.06	5.44	0
145	21.233	0.049	0.342	0	1.97	107	487	79	90	459	303	475	474	319	406	73	547	4166	0.069	14	5.64	0
146	21.379	0.049	0.339	0	1.91	107	485	79	90	458	302	473	477	319	406	73	547	4166	0.068	13.55	5.9	0
147	21.522	0.049	0.337	0	1.87	107	482	79	90	458	301	472	480	320	406	73	542	4166	0.061	13.51	5.96	0
148	21.668	0.049	0.343	0	1.88	107	479	79	90	458	302	471	485	321	407	73	552	4166	0.067	13.34	6.42	0
149	21.814	0.049	0.338	0	1.81	107	478	79	90	457	301	471	488	321	407	73	551	4166	0.064	13.15	6.46	0
150	21.958	0.049	0.333	0	1.77	107	477	79	90	457	301	470	492	322	408	73	552	4166	0.068	12.99	6.49	0
151	22.104	0.049	0.335	0	1.74	106	478	79	90	456	301	468	495	322	408	73	546	4166	0.068	13.29	6.36	0
152	22.25	0.049	0.343	0	1.72	106	477	79	90	456	301	468	494	322	409	73	543	4166	0.069	13.62	5.76	0
153	22.393	0.049	0.342	0	1.7	106	478	79	90	455	301	467	492	323	408	73	547	4166	0.067	13.95	5.55	0
154	22.539	0.049	0.343	0	1.66	106	478	79	90	455	301	467	493	323	408	73	541	4166	0.066	13.86	5.55	0
155	22.684	0.049	0.341	0	1.54	106	477	79	90	455	301	467	493	323	408	73	533	4166	0.067	13.93	5.54	0
156	22.825	0.049	0.339	0	1.7	106	473	79	90	455	300	466	488	324	407	73	535	4166	0.064	14.61	4.65	0
157	22.972	0.049	0.341	0	1.64	105	474	79	90	454	300	466	481	324	405	73	526	4166	0.067	14.77	4.8	0
158	23.116	0.049	0.337	0	1.48	105	473	79	90	454	300	465	474	325	404	73	529	4166	0.066	14.88	4.5	0
159	23.262	0.049	0.338	0	1.52	105	468	79	90	453	299	465	468	325	402	73	527	4166	0.067	14.91	4.56	0
160	23.407	0.049	0.338	0	1.47	105	465	79	90	453	299	463	461	325	400	73	513	4166	0.061	14.98	4.32	0
161	23.55	0.049	0.344	0	1.57	105	463	79	90	452	298	462	456	326	399	73	508	4166	0.063	14.92	4.45	0
162	23.694	0.049	0.34	0	1.57	105	461	79	90	452	298	462	450	327	398	73	512	4166	0.061	14.99	4.4	0
163	23.838	0.049	0.337	0	1.74	105	461	79	90	450	296	460	445	327	396	74	509	4166	0.065	15.06	4.32	0
164	23.982	0.049	0.34	0	1.03	105	459	79	90	450	296	459	440	329	395	73	502	4166	0.061	15.28	4.12	0
165	24.126	0.049	0.341	0	1.48	105	457	79	90	449	295	457	435	329	393	74	500	4166	0.063	15.3	4.26	0
166	24.271	0.049	0.334	0	1.48	104	458	79	90	448	294	456	431	329	391	74	501	4166	0.063	15.21	4.06	0
167	24.415	0.049	0.344	0	1.41	104	456	79	90	447	293	454	427	329	390	75	495	4166	0.061	15.26	4.36	0
168	24.56	0.049	0.34	0	1.43	104	454	79	90	445	292	453	424	330	389	74	499	4166	0.066	15.13	4.15	0
169	24.703	0.049	0.34	0	1.33	104	454	78	90	445	291	452	421	331	388	73	494	4166	0.061	15.17	4.14	0
170	24.848	0.049	0.341	0	1.43	104	452	78	90	443	290	450	418	331	386	75	489	4166	0.061	15.23	4.25	0
171	24.995	0.049	0.336	0	1.35	104	450	78	90	442	290	448	415	331	385	74	489	4166	0.065	15.1	4.22	0
172	25.139	0.049	0.335	0	1.34	104	450	78	90	441	288	447	412	333	384	73	486	4166	0.066	15.24	4.31	0
173	25.284	0.049	0.339	0	1.32	103	451	78	90	439	288	445	410	333	383	75	486	4166	0.06	15.35	4	0
174	25.429	0.049	0.338	0	1.34	103	452	78	90	438	287	443	407	333	382	73	482	4166	0.066	15.27	4.21	0
175	25.574	0.049	0.343	0	1.29	103	450	78	90	437	286	442	405	334	381	74	488	4166	0.066	15.33	4.11	0
176	25.72	0.049	0.338	0	1.33	103	449	78	90	436	285	440	403	334	380	73	484	4166	0.065	15.4	4.06	0
177	25.864	0.049	0.337	0	1.26	103	445	78	90	435	284	439	401	334	378	74	481	4166	0.063	15.4	3.81	0.03
178	26.007	0.049	0.348	0	1.21	103	442	78	90	434	283	437	398	334	377	75	480	4166	0.065	15.31	4.07	0
179	26.152	0.049	0.341	0	1.5	103	443	78	90	433	282	436	396	335	376	73	477	4166	0.065	15.34	4.2	0
180	26.296	0.049	0.338	0	1.19	103	441	78	90	433	282	434	394	334	375	75	478	4166	0.063	15.32	3.88	0
181	26.441	0.049	0.34	0	1.25	102	442	78	90	432	281	432	392	335	375	74	471	4166	0.058	15.45	3.99	0
182	26.585	0.049	0.336	0	1.17	102	438	78	90	431	280	431	390	336	374	74	474	4166	0.063	15.32	3.85	0.05
183	26.728	0.049	0.344	0	1.23	102	439	78	90	430	279	429	389	336	373	74	471	4166	0.059	15.23	3.99	0
184	26.874	0.049	0.343	0	1.14	102	437	78	90	429	279	428	387	335	371	73	470	4166	0.062	15.22	3.85	0
185	27.02	0.049	0.342	0	1.17	102	439	78	90	429	278	426	386	335	371	73	474	4166	0.059	15.33	3.92	0
186	27.162	0.049	0.342	0	1.12	102	439	78	90	428	277	424	384	335	370	73	468	4166	0.063	15.24	3.85	0.01
187	27.307	0.049	0.338	0	1.12	102	438	78	90	428	276	423	383	334	369	73	473	4166	0.061	-0.35	3.9	0
188	27.449	0.049	0.337	0	1.08	102	438	78	90	428	276	422	381	334	368	74	474	4166	0.059	-0.28	4.04	0
189	27.592	0.049	0.343	0	1.07	102	437	78	90	426	275	420	380	335	367	73	470	4166	0.061	-0.39	3.83	0
190	27.737	0.049	0.339	0	1.04	102	436	78	90	426	274	419	379	335	367	75	473	4166	0.06	-0.4	3.97	0
191	27.881	0.049	0.336	0	1.05	101	434	78	90	426	274	418	378	335	366	73	455	4166	0.062	-0.18	3.76	0
192	28.025	0.049	0.334	0	1.19	101	434	78	89	426	273	416	377	334	365	73	465	4166	0.063	-0.36	3.77	0
193	28.172	0.049	0.345	0	1.04	101	430	78	89	425	272	415	375	334	364	73	459	4166	0.058	-0.34	3.9	0
194	28.318	0.049	0.337	0	0.99	101	429	78	89	426	271	414	374	334	364	73	462	4166	0.06	-0.29	3.69	0
195	28.463	0.049	0.346	0	1.02	101	428	78	89	426	271	412	372	334	363	73	459	4166	0.058	-0.32	3.84	0
196	28.61	0.049	0.341	0	1.03	101	428	78	89	426	270	411	371	334	363	73	460	4166	0.058	-0.42	3.88	0
197	28.755	0.049	0.339	0	1.05	101	426	78	89	426	270	410	370	334	362	74	457	4166	0.057	-0.3	3.77	0
198	28.903	0.049	0.34	0	0.88	101	425	78	89	426	269	409	369	335	361	72	460	4166	0.061	-0.37	3.68	0
199	29.047	0.049	0.34	0	0.88	101	425	78	89	426	268	408	368	335	361	73	455	4166	0.059	-0.36	3.88	0
200	29.191	0.049	0.342	0	0.88	101	423	78	89	426	267	407	367	335	360	72	457	4166	0.059	-0.27	3.94	0
201	29.338	0.049	0.342	0	0.92	101	424	78	89	425	267	406	366	335	360	72	455	4166	0.063	-0.48	3.93	0
202	29.486	0.049	0.341	0	0.85	100	423	78	89	426	266	404	365	335	359	72	460	4166	0.058	-0.4	3.65	0
203	29.631	0.049	0.338	0	0.3	100	423	78	89	425	265	404	364	335	358	72	458	4166	0.057	-0.33	3.73	0
204	29.778	0.049	0.338	0	0.83	101	422	78	89	426	265	402	363	334	358	73	457	4166	0.057	-0.24	3.65	0
205	29.927	0.049	0.339	0	0.82	101	423	78	89	425	264	401	362	335	358	74	453	4166	0.057	-0.25	3.7	0
206	30.072	0.049	0.342	0	0.83	101	420	78	89	425	263	400	361	335	357	74	456	4166	0.056	-0.39	3.78	0
207	30.219	0.049	0.331	0	0.8	101	421	78	89	425	263	399	360	335	356	74	451	4166	0.057	-0.23	3.65	0
208	30.366	0.049	0.345	0	0.83	101	421	78	89	425	263	398	359	335	356	74	450	4166	0.06	-0.35	3.65	0.01
209	30.511	0.049	0.337	0	0.8	101	417	78	89	425	262	397	359	335	355	75	448	4166	0.058	-0.16	3.6	0
210	30.654	0.049	0.338	0	0.77	101	415	78	89	425	261	396	358	335	355	73	451	4166	0.058	-0.25	3.93	0
211	30.798	0.049	0.335	0	1.16	101	414	78	89	425	261	395	357	335	355	73	449	4166	0.057	-0.2	3.59	0
212	30.942	0.049	0.341	0	0.71	101	415	78	90	425	261	394	356	335	354	74	446	4166	0.059	-0.32	3.94	0
213	31.087	0.049	0.341	0	0.73	101	413	78	90	424	259	393	355	335	353	75	448	4166	0.057	-0.43	3.97	0
214	31.232	0.049	0.344	0	0.68	101	416	78	90	425	259	392	355	335	353	75	449	4166	0.058	-0.29	4.31	0
215	31.377	0.049	0.339	0	0.62	101	412	78	90	424	259	391	355	334	353	75	447	4166	0.06	-0.42	4.34	0
216	31.524	0.049	0.34	0	0.67	101	412	78	90	423	259	390	354	334	352	76	443	4166	0.059	-0.3	4.35	0
217	31.672	0.049	0.347	0	0.65	101	410	78	90	421	259	389	354	333	351	74	443	4166	0.059	-0.29	4.2	0
218	31.818	0.049	0.345	0	0.61	101	409	78	90	419	257	388	354	334	350	75	437	4166	0.055	-0.24	3.77	0
219	31.961	0.049	0.335	0	0.61	100	408	78	90	417	257	387	353	333	350	74	438	4166	0.06	-0.35	4.15	0
220	32.104	0.049	0.348	0	0.61	100	403	78	90	415	257	387	353	332	349	73	436	4166	0.057	-0.33	3.74	0
221	32.25	0.049	0.335	0	0.62	100	404	78	90	413	257	386	353	332	348	74	434	4166	0.061	-0.28	3.96	0
222	32.394	0.049	0.336	0	0.5	100	404	78	90	411	257	385	352	332	347	73	436	4166	0.059	-0.31	3.8	0
223	32.536	0.049	0.344	0	0.55	100	401	78	90	409	256	384	352	332	347	73	432	4166	0.055	-0.24	3.83	0
224	32.679	0.049	0.343	0	0.54	100	400	78	90	407	256	383	351	331	346	75	436	4166	0.06	-0.37	4.05	0
225	32.821	0.049	0.338	0	0.54	100	401	78	90	404	256	382	351	331	345	74	437	4166	0.057	-0.32	3.7	0.01
226	32.965	0.049	0.345	0	0.37	100	402	78	90	402	255	381	350	331	344	75	434	4166	0.054	-0.35	3.65	0
227	33.11	0.049	0.34	0	0.56	99	400	78	90	400	255	380	349	331	343	75	434	4166	0.057	-0.32	3.93	0
228	33.254	0.049	0.34	0	0.52	100	400	78	90	399	254	379	348	330	342	74	435	4166	0.06	-0.37	3.84	0
229	33.397	0.049	0.338	0	0.45	100	398	78	90	397	254	378	347	330	341	74	431	4166	0.055	-0.21	3.75	0
230	33.541	0.049	0.335	0	0.41	99	400	78	90	394	253	377	347	330	340	75	436	4166	0.056	-0.39	3.51	0
231	33.687	0.049	0.343	0	0.37	99	398	78	90	392	253	376	346	330	339	74	432	4166	0.058	-0.38	3.95	0
232	33.831	0.049	0.34	0	0.3	99	400	78	90	392	253	375	345	329	339	75	434	4166	0.057	-0.48	3.83	0
233	33.975	0.049	0.343	0	0.37	99	400	78	90	389	253	374	344	329	338	74	435	4166	0.058	-0.21	3.61	0
234	34.119	0.049	0.347	0	0.67	99	400	78	90	388	252	373	344	330	337	75	435	4166	0.057	-0.41	3.85	0
235	34.262	0.049	0.337	0	0.36	99	400	78	90	387	252	372	343	329	337	74	436	4166	0.058	-0.38	3.86	0
236	34.404	0.049	0.338	0	0.76	99	400	78	90	385	252	371	342	329	336	76	436	4166	0.058	-0.37	3.55	0
237	34.547	0.049	0.338	0	0.3	99	401	78	90	384	252	370	342	329	335	75	435	4166	0.058	-0.32	3.56	0
238	34.69	0.049	0.335	0	0.34	99	400	78	90	383	251	369	341	329	335	74	437	4166	0.056	-0.21	3.48	0
239	34.835	0.049	0.342	0	0.32	99	401	78	90	382	251	368	341	328	334	74	437	4166	0.056	-0.43	3.78	0
240	34.979	0.049	0.345	0	0.26	99	400	78	90	381	251	367	340	328	333	74	437	4166	0.056	-0.3	3.77	0
241	35.121	0.049	0.341	0	0.24	99	403	78	90	380	250	366	339	329	333	75	436	4166	0.06	-0.26	3.79	0
242	35.265	0.049	0.34	0	0.28	99	402	78	90	378	250	365	339	329	332	75	438	4166	0.061	-0.4	3.64	0
243	35.408	0.049	0.341	0	0.23	99	403	78	90	378	249	364	338	329	332	74	442	4166	0.055	-0.22	3.71	0
244	35.551	0.049	0.341	0	0.13	99	404	78	90	377	249	364	338	329	331	74	439	4166	0.061	-0.32	3.82	0
245	35.696	0.049	0.342	0	0.14	99	405	78	90	375	248	363	338	329	331	74	440	4166	0.055	-0.24	3.66	0
246	35.837	0.049	0.336	0	0.28	99	404	78	90	375	248	362	337	328	330	76	440	4166	0.055	-0.41	3.61	0
247	35.982	0.049	0.336	0	0.19	99	405	78	90	374	248	361	337	327	329	74	441	4166	0.056	-0.29	3.31	0
248	36.125	0.049	0.339	0	0.14	99	404	78	91	372	247	360	336	328	329	73	439	4166	0.059	-0.47	3.67	0
249	36.268	0.049	0.336	0	0.17	99	405	78	91	372	248	360	335	328	329	74	434	4166	0.055	-0.27	3.42	0
250	36.413	0.049	0.343	0	0.18	99	404	78	91	371	248	359	335	328	328	77	438	4166	0.055	-0.28	3.54	0
251	36.557	0.049	0.339	0	0.01	99	402	78	91	370	246	358	334	328	327	75	438	4166	0.055	-0.37	3.43	0

ET	VOL A.	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg T	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.049	0.001	0	12.27	107.21	414.82	75	84	446	366	474	452	387	425	74	501	4167	0.057	17.03	3.44	0
1	0.14	0.049	0.349	0	6.79	159	331	79	84	442	370	476	431	388	422	77	377	4167	0.04	19.89	0.58	0.19
2	0.296	0.049	0.347	0	12.05	178	340	82	84	439	374	477	418	390	419	79	379	4167	0.058	19.12	1.66	0.01
3	0.452	0.049	0.35	0	11.94	204	400	85	84	435	377	476	414	391	419	77	397	4167	0.066	18.6	2.18	0.04
4	0.607	0.049	0.341	0	11.15	216	561	88	84	434	379	472	444	392	424	75	651	4167	0.136	14.55	6.44	0.59
5	0.759	0.049	0.339	0	11.36	166	568	86	84	432	380	462	468	392	427	75	704	4167	0.076	13.93	6.58	0
6	0.915	0.049	0.342	0	11.36	140	529	85	84	431	379	454	472	393	426	75	680	4167	0.069	15.57	5.09	0
7	1.069	0.049	0.333	0	11.26	129	512	83	84	431	378	448	477	393	425	75	660	4167	0.07	16.37	4.15	0
8	1.22	0.049	0.339	0	11.08	124	497	83	84	428	368	442	479	390	421	75	574	4167	0.071	16.5	3.87	0
9	1.372	0.049	0.341	0	11.04	120	488	82	84	428	346	439	472	381	413	75	551	4167	0.066	16.45	3.85	0.01
10	1.526	0.049	0.337	0	11	118	483	82	84	427	327	436	463	376	406	75	531	4167	0.067	16.31	3.92	0.11
11	1.678	0.049	0.344	0	11.12	116	479	82	84	424	313	434	454	372	399	75	526	4167	0.069	16.18	4.3	0
12	1.827	0.049	0.34	0	10.94	115	476	82	85	421	302	431	446	369	394	75	523	4167	0.071	16.22	4.27	0.07
13	1.979	0.049	0.34	0	10.82	115	475	82	85	417	295	428	439	367	389	75	517	4167	0.07	16.43	4.16	0.16
14	2.127	0.049	0.34	0	10.83	114	474	82	85	413	288	425	433	365	385	75	509	4167	0.068	16.33	4.34	0.1
15	2.275	0.049	0.339	0	10.73	113	469	82	85	408	282	423	428	363	381	75	510	4167	0.063	16.22	4.02	0.42
16	2.424	0.049	0.335	0	10.68	113	466	82	85	405	277	420	425	361	377	75	503	4167	0.067	15.97	4.7	0.02
17	2.573	0.049	0.34	0	10.56	113	461	82	85	401	273	417	422	360	375	75	498	4167	0.063	15.61	4.6	0.38
18	2.72	0.049	0.337	0	10.56	113	469	82	85	397	269	414	417	358	371	75	526	4167	0.066	16.41	4.14	0.58
19	2.866	0.049	0.335	0	10.39	113	478	82	85	394	266	412	414	357	368	75	535	4167	0.067	16.49	3.77	0.88
20	3.013	0.049	0.334	0	10.37	113	483	82	86	390	262	408	411	356	366	75	543	4167	0.069	16.37	3.85	0.84
21	3.155	0.049	0.342	0	10.64	113	491	82	86	386	260	405	409	355	363	75	549	4167	0.067	16.17	4.3	0.41
22	3.298	0.049	0.334	0	10.15	114	497	82	86	382	257	402	407	354	360	75	551	4168	0.067	16.19	4.33	0.44
23	3.445	0.049	0.342	0	10.24	114	500	82	86	378	254	399	405	353	358	75	562	4168	0.07	16.08	4.5	0.51
24	3.59	0.049	0.335	0	10.1	114	505	82	86	375	253	396	403	352	356	75	562	4168	0.07	16.13	4.24	0.75
25	3.737	0.049	0.332	0	9.99	115	509	82	86	372	250	393	402	350	353	74	564	4168	0.07	16	4.26	0.76
26	3.882	0.049	0.34	0	9.92	115	514	82	86	369	248	390	401	350	352	74	577	4168	0.069	15.84	4.37	0.67
27	4.026	0.049	0.335	0	9.94	115	521	82	87	366	246	388	400	349	350	74	581	4168	0.073	15.65	4.61	0.44
28	4.172	0.049	0.331	0	9.83	116	526	82	87	364	244	385	400	348	348	74	584	4168	0.073	15.81	4.58	0.71
29	4.314	0.049	0.324	0	9.79	116	533	82	87	361	242	382	401	347	347	74	598	4168	0.071	15.61	4.76	0.75
30	4.456	0.049	0.344	0	9.7	116	540	82	87	358	241	379	401	346	345	74	602	4168	0.07	15.6	5.04	0.42
31	4.602	0.049	0.341	0	9.63	117	544	82	87	357	239	377	403	345	344	74	610	4168	0.07	15.59	4.95	0.55
32	4.745	0.049	0.33	0	9.75	118	551	82	87	354	238	375	404	344	343	74	615	4168	.0.077	15.3	5.22	0.57
33	4.887	0.049	0.334	0	9.56	118	557	83	87	352	236	373	405	343	342	74	621	4168	0.076	15.15	5.2	0.63
34	5.031	0.049	0.33	0	9.46	119	566	83	88	350	236	371	406	342	341	74	631	4168	0.075	15.2	5.46	0.31
35	5.174	0.049	0.34	0	9.27	119	575	83	88	349	235	369	408	341	340	74	637	4168	0.076	15.05	5.55	0.38
36	5.318	0.049	0.328	0	9.23	120	577	83	88	348	234	367	410	339	340	74	648	4168	0.074	15.1	5.24	0.69
37	5.46	0.049	0.329	0	9.18	121	590	83	88	347	233	366	413	338	339	74	661	4168	0.078	14.92	5.48	0.65
38	5.602	0.049	0.328	0	9.43	122	599	83	88	345	233	364	416	337	339	74	667	4168	0.081	14.66	5.65	0.67
39	5.743	0.049	0.335	0	9.29	123	610	83	88	345	232	363	419	336	339	74	687	4168	0.076	14.62	6.1	0.2
40	5.884	0.049	0.333	0	8.95	123	627	83	89	344	232	362	423	335	339	74	698	4168	0.078	14.28	6.09	0.33
41	6.026	0.049	0.329	0	8.9	125	644	83	89	344	231	360	427	334	339	74	729	4168	0.079	14.17	6.64	0.03
42	6.166	0.049	0.335	0	8.79	126	663	84	89	344	231	360	432	333	340	74	752	4168	0.08	13.75	6.95	0.02
43	6.308	0.049	0.341	0	8.76	127	682	84	89	344	230	359	438	333	341	74	782	4168	0.094	13.37	7.32	0.02
44	6.446	0.049	0.333	0	8.64	129	702	84	89	344	230	359	445	332	342	74	838	4168	0.119	13.01	7.68	0.08
45	6.589	0.049	0.326	0	8.46	131	726	84	89	345	230	358	453	331	344	74	879	4168	0.155	12.72	7.78	0.5
46	6.728	0.049	0.325	0	8.37	132	749	84	89	345	231	358	464	329	345	74	918	4168	0.183	12.29	8.18	0.5
47	6.871	0.049	0.331	0	8.08	134	777	84	89	347	231	357	475	329	348	74	954	4168	0.185	11.85	8.58	0.62
48	7.013	0.049	0.327	0	8.21	136	804	85	89	349	232	358	488	328	351	74	1070	4168	0.169	11.44	9.01	0.57
49	7.154	0.049	0.334	0	8.02	138	836	85	90	351	232	358	503	327	354	74	1145	4168	0.175	10.74	9.62	0.29
50	7.295	0.049	0.328	0	7.97	140	865	85	90	354	234	359	521	326	358	74	1225	4168	0.241	10.46	10.25	0
51	7.434	0.049	0.325	0	7.81	142	884	85	90	357	235	360	538	324	363	74	1218	4168	0.223	10.61	9.8	0.14
52	7.575	0.049	0.332	0	7.74	143	900	86	90	361	236	361	552	324	367	74	1205	4168	0.232	11.19	9.45	0
53	7.712	0.049	0.334	0	7.63	144	914	86	90	365	238	363	560	323	370	74	1197	4168	0.213	11.72	8.78	0.1
54	7.852	0.049	0.332	0	7.54	145	909	86	90	369	239	365	564	323	372	74	1167	4168	0.234	12.17	8.03	0.49
55	7.992	0.049	0.332	0	7.43	146	909	86	90	373	240	367	564	322	373	74	1095	4168	0.26	12.64	8.02	0.47
56	8.133	0.049	0.336	0	7.38	147	903	86	90	376	242	370	561	321	374	74	1075	4168	0.219	12.56	7.91	0.37
57	8.271	0.049	0.327	0	7.15	147	899	86	90	379	243	372	559	320	375	74	1060	4169	0.243	12.64	7.98	0.39
58	8.41	0.049	0.331	0	7.21	148	900	87	91	382	244	374	557	320	375	74	1028	4168	0.245	12.55	7.87	0.62
59	8.549	0.049	0.332	0	7.25	148	903	87	91	384	246	376	556	319	376	74	1024	4168	0.262	12.2	8.21	0.52
60	8.687	0.049	0.332	0	7.05	149	902	87	91	386	247	377	555	319	377	74	1026	4169	0.247	12.33	8.02	0.49
61	8.827	0.049	0.334	0	6.92	149	903	87	91	388	248	379	554	318	378	74	1014	4168	0.258	12.49	7.9	0.58
62	8.967	0.049	0.33	0	6.81	149	902	87	91	391	249	381	553	318	378	74	1028	4169	0.211	12.69	7.54	0.62
63	9.105	0.049	0.334	0	6.7	149	893	87	91	393	250	382	551	318	379	74	1002	4168	0.196	12.87	7.47	0.63
64	9.245	0.049	0.336	0	6.6	150	887	87	91	395	250	384	549	318	379	74	976	4168	0.202	13.19	7.15	0.63
65	9.385	0.049	0.33	0	6.43	149	880	87	91	397	251	386	547	318	380	74	965	4168	0.213	13.14	7.41	0.25
66	9.525	0.049	0.326	0	6.49	151	872	87	91	399	252	387	543	318	380	74	940	4168	0.228	-0.38	-0.32	0
67	9.661	0.049	0.328	0	6.43	151	861	88	91	401	253	388	539	319	380	74	921	4168	0.223	-0.35	-0.02	0
68	9.798	0.049	0.336	0	6.34	151	848	88	91	403	253	389	535	318	380	74	896	4168	0.168	-0.46	-0.2	0
69	9.935	0.049	0.335	0	6.2	150	840	88	91	405	254	390	530	318	379	74	897	4168	0.157	-0.33	-0.27	0
70	10.073	0.049	0.326	0	6.23	150	831	88	91	406	255	391	526	318	379	74	881	4169	0.206	-0.4	-0.1	0
71	10.209	0.049	0.336	0	6.16	149	826	88	92	407	256	392	521	318	379	74	870	4168	0.157	-0.28	-0.25	0
72	10.349	0.049	0.333	0	6.14	149	817	88	92	408	256	393	517	318	378	74	862	4168	0.172	-0.37	-0.33	0
73	10.487	0.049	0.336	0	6.03	149	806	88	92	410	256	394	513	319	378	74	847	4168	0.145	-0.23	-0.31	0
74	10.627	0.049	0.324	0	5.98	148	800	88	92	411	257	394	509	319	378	74	830	4168	0.175	-0.32	-0.25	0
75	10.765	0.049	0.338	0	5.9	148	793	88	92	412	258	395	506	318	378	74	836	4168	0.172	-0.39	-0.02	0
76	10.904	0.049	0.334	0	5.8	147	787	88	92	412	258	396	502	319	377	74	817	4169	0.134	-0.37	-0.32	0
77	11.041	0.049	0.336	0	5.73	146	779	88	92	414	259	396	499	319	377	74	816	4168	0.183	-0.4	-0.02	0
78	11.177	0.049	0.328	0	5.7	145	765	88	92	414	259	397	501	320	378	74	778	4168	0.166	-0.37	-0.18	0
79	11.314	0.049	0.331	0	5.67	144	730	88	92	415	260	398	503	320	379	74	726	4168	0.138	-0.37	0.08	0
80	11.45	0.049	0.334	0	5.57	144	708	88	92	416	261	398	502	320	379	74	699	4168	0.098	-0.27	0.03	0
81	11.588	0.049	0.334	0	5.52	143	695	88	92	416	262	399	506	320	381	74	688	4168	0.121	-0.32	0.09	0
82	11.726	0.049	0.334	0	5.45	142	692	88	92	418	264	401	509	321	382	74	697	4168	0.085	-0.35	-0.23	0
83	11.864	0.049	0.333	0	5.29	142	730	88	92	418	265	403	505	321	382	74	813	4168	0.177	-0.38	0.07	0
84	11.999	0.049	0.329	0	5.28	143	751	88	92	420	268	405	509	321	384	74	842	4168	0.17	-0.34	-0.12	0
85	12.138	0.049	0.327	0	5.16	143	756	88	92	422	270	407	512	321	386	74	848	4168	0.177	-0.42	-0.11	0
86	12.28	0.049	0.332	0	5.16	142	753	88	92	423	271	408	513	321	387	74	827	4168	0.17	-0.31	0.09	0
87	12.421	0.049	0.328	0	5.02	142	747	88	92	425	272	410	512	320	388	74	825	4168	0.157	-0.35	0.2	0
88	12.562	0.049	0.331	0	4.96	141	742	88	91	426	273	411	510	321	388	74	814	4168	0.128	-0.4	0.2	0
89	12.702	0.049	0.327	0	4.98	141	736	88	91	426	274	412	508	320	388	74	795	4168	0.162	-0.35	-0.03	0
90	12.843	0.049	0.336	0	4.88	141	728	88	91	427	275	413	504	320	388	74	780	4168	0.091	-0.41	-0.05	0
91	12.983	0.049	0.333	0	4.83	140	724	88	91	428	275	414	501	321	388	74	778	4168	0.143	-0.44	0.2	0
92	13.123	0.049	0.334	0	4.78	139	716	88	91	428	275	414	497	322	387	74	768	4168	0.128	-0.33	-0.03	0
93	13.262	0.049	0.339	0	4.72	139	714	88	91	428	276	415	492	322	387	74	744	4168	0.14	-0.28	0.22	0
94	13.403	0.049	0.326	0	4.63	138	706	87	91	429	275	415	488	322	386	74	734	4168	0.136	-0.4	0.04	0
95	13.543	0.049	0.335	0	5.03	138	702	87	91	429	275	415	484	321	385	74	736	4168	0.094	-0.22	0.04	0
96	13.682	0.049	0.336	0	4.87	137	695	87	91	429	276	415	480	322	384	74	726	4168	0.089	-0.42	0.19	0
97	13.825	0.049	0.335	0	4.46	137	693	87	91	429	274	415	480	323	384	74	713	4168	0.128	-0.36	0.17	0
98	13.964	0.049	0.343	0	4.48	136	667	87	91	428	275	415	482	323	384	74	663	4168	0.078	-0.31	0.33	0
99	14.104	0.049	0.329	0	4.37	134	645	87	91	428	274	414	483	323	384	74	645	4168	0.076	-0.17	0.09	0
100	14.244	0.049	0.334	0	3.83	133	629	87	91	429	275	415	483	323	385	74	612	4168	0.075	-0.39	-0.03	0
101	14.386	0.049	0.338	0	4.28	133	624	87	91	429	275	415	483	323	385	74	614	4168	0.077	-0.38	0.27	0
102	14.528	0.049	0.332	0	4.3	132	615	87	91	430	275	415	483	323	385	74	604	4168	0.077	-0.51	0.31	0
103	14.666	0.049	0.338	0	4.07	131	614	87	91	430	276	417	480	324	385	74	617	4168	0.078	-0.29	0.04	0
104	14.806	0.049	0.336	0	4.08	132	637	87	91	431	277	417	476	324	385	74	685	4168	0.108	-0.45	0.28	0
105	14.946	0.049	0.342	0	4.04	132	654	87	91	431	277	418	476	324	385	74	700	4168	0.079	-0.34	0.05	0
106	15.088	0.049	0.333	0	4.12	132	655	87	91	432	278	418	481	324	387	74	667	4168	0.098	-0.38	0.45	0
107	15.229	0.049	0.331	0	3.93	131	632	87	91	432	279	419	482	324	387	74	630	4168	0.076	-0.43	0.08	0
108	15.369	0.049	0.335	0	3.82	131	633	87	91	433	279	419	477	324	386	74	653	4168	0.1	-0.43	0.23	0
109	15.511	0.049	0.333	0	3.8	130	642	87	91	433	279	419	473	325	386	74	679	4168	0.079	-0.27	0.04	0
110	15.654	0.049	0.332	0	3.75	131	647	87	91	433	280	420	471	325	386	74	701	4168	0.077	-0.25	0.1	0
111	15.797	0.049	0.337	0	3.78	130	647	87	91	433	279	420	469	325	385	74	697	4168	0.089	-0.46	0.54	0
112	15.94	0.049	0.324	0	3.71	130	645	86	91	434	279	420	467	326	385	74	685	4168	0.083	-0.24	0.13	0
113	16.084	0.049	0.33	0	3.63	130	646	86	91	433	279	420	464	326	384	74	677	4168	0.081	-0.35	0.13	0
114	16.228	0.049	0.332	0	3.56	130	642	86	91	433	279	420	462	325	384	74	670	4169	0.104	-0.39	0.46	0
115	16.371	0.049	0.337	0	3.61	130	641	86	91	433	279	420	459	324	383	74	669	4168	0.076	-0.27	0.29	0
116	16.511	0.049	0.333	0	3.58	129	639	86	90	432	279	419	456	324	382	74	659	4168	0.077	-0.32	0.45	0
117	16.655	0.049	0.336	0	3.55	129	633	86	90	431	278	418	453	324	381	74	662	4168	0.096	-0.42	0.5	0
118	16.795	0.049	0.329	0	3.51	129	633	86	90	431	278	418	451	324	380	74	650	4167	0.079	-0.37	0.57	0
119	16.936	0.049	0.336	0	3.39	128	628	86	90	430	277	418	448	324	379	74	644	4168	0.076	-0.27	0.37	0
120	17.079	0.049	0.333	0	3.15	128	628	86	90	429	277	417	445	324	378	74	643	4167	0.076	-0.25	0.23	0
121	17.222	0.049	0.33	0	3.26	128	617	86	90	429	276	416	445	324	378	74	623	4167	0.078	-0.4	0.54	0
122	17.362	0.049	0.328	0	3.28	127	602	86	90	427	276	416	446	324	378	74	598	4167	0.078	-0.55	0.36	0
123	17.503	0.049	0.337	0	3.26	126	590	86	90	427	275	415	444	323	377	74	589	4167	0.072	-0.35	0.37	0
124	17.647	0.049	0.341	0	3.25	125	586	86	90	426	275	414	443	324	376	74	579	4167	0.074	-0.5	0.55	0
125	17.788	0.049	0.331	0	3.19	125	576	86	90	425	274	414	443	323	376	74	571	4167	0.076	-0.38	0.57	0
126	17.93	0.049	0.331	0	3.18	125	575	86	90	424	274	414	440	324	375	74	568	4167	0.075	-0.34	0.59	0
127	18.071	0.049	0.338	0	3.1	125	585	86	90	423	274	414	436	324	374	74	593	4167	0.073	-0.4	0.24	0

128	18.213	0.049	0.335	0	2.54	124	595	86	90	422	273	413	434	324	373	74	608	4167	0.072	-0.36	0.42	0
129	18.355	0.049	0.334	0	3.03	125	596	86	90	422	273	413	433	323	373	74	619	4167	0.073	-0.4	0.45	0
130	18.497	0.049	0.332	0	2.94	124	599	85	90	423	273	413	432	323	373	74	620	4167	0.078	-0.34	0.64	0
131	18.639	0.049	0.339	0	2.96	124	600	85	90	421	273	412	431	324	372	74	614	4167	0.075	-0.35	0.59	0
132	18.781	0.049	0.339	0	2.88	125	601	85	90	422	272	411	430	323	372	74	623	4167	0.078	-0.3	0.29	0
133	18.924	0.049	0.331	0	2.89	125	602	85	90	422	271	411	429	323	371	74	621	4167	0.077	-0.33	0.67	0
134	19.065	0.049	0.333	0	2.84	125	603	85	90	422	271	411	428	323	371	74	624	4167	0.074	-0.25	0.37	0
135	19.206	0.049	0.339	0	2.67	125	601	85	90	423	271	410	427	322	370	74	630	4167	0.079	-0.32	0.64	0
136	19.35	0.049	0.333	0	2.67	125	603	85	90	423	270	409	427	322	370	74	618	4167	0.077	-0.36	0.3	0.02
137	19.489	0.049	0.329	0	2.67	125	606	85	90	423	270	408	426	322	370	74	622	4167	0.079	-0.41	0.69	0
138	19.631	0.049	0.332	0	2.58	125	607	85	90	424	270	407	426	321	369	74	628	4167	0.075	-0.21	0.33	0
139	19.773	0.049	0.332	0	2.61	125	610	85	90	424	269	407	425	321	369	73	628	4167	0.087	-0.41	0.53	0
140	19.915	0.049	0.33	0	2.56	125	612	85	90	425	269	406	425	322	369	74	629	4167	0.074	-0.29	0.53	0
141	20.057	0.049	0.333	0	2.51	125	611	85	90	425	268	406	424	321	369	74	631	4167	0.078	-0.39	0.71	0
142	20.199	0.049	0.335	0	2.46	125	617	85	90	425	267	405	425	321	369	74	635	4167	0.073	-0.33	0.53	0
143	20.34	0.049	0.331	0	2.7	125	617	85	90	425	267	404	425	320	368	74	636	4167	0.079	-0.34	0.83	0
144	20.479	0.049	0.332	0	2.37	125	619	85	90	426	266	404	425	320	368	74	635	4167	0.075	-0.41	0.47	0
145	20.62	0.049	0.328	0	2.34	125	625	85	90	426	266	403	425	320	368	73	645	4167	0.074	-0.2	0.57	0
146	20.761	0.049	0.336	0	2.3	126	629	85	90	427	266	403	426	320	368	73	658	4167	0.077	-0.36	0.69	0
147	20.903	0.049	0.342	0	2.23	126	633	85	90	427	265	402	427	320	368	73	658	4167	0.075	-0.29	0.46	0
148	21.045	0.049	0.337	0	2.14	126	636	85	90	428	265	401	429	318	368	74	678	4167	0.078	-0.39	0.38	0
149	21.188	0.049	0.332	0	2.17	127	641	85	89	429	265	401	431	318	369	73	675	4167	0.079	-0.24	0.43	0
150	21.33	0.049	0.332	0	2.14	127	647	85	89	430	265	401	433	317	369	73	694	4167	0.104	-0.25	0.63	0
151	21.474	0.049	0.329	0	2.05	127	655	85	89	431	264	401	435	317	370	73	696	4167	0.081	-0.31	0.43	0
152	21.616	0.049	0.325	0	2.03	128	654	85	89	431	264	400	438	317	370	73	723	4167	0.113	-0.37	0.51	0
153	21.761	0.049	0.329	0	1.92	128	667	85	89	432	264	400	441	317	371	73	729	4167	0.078	-0.37	0.53	0
154	21.904	0.049	0.333	0	1.9	128	672	85	89	433	264	400	444	316	371	73	749	4167	0.1	-0.35	0.52	0
155	22.049	0.049	0.333	0	1.84	129	675	85	89	434	264	400	446	316	372	73	747	4167	0.123	-0.28	0.79	0
156	22.191	0.049	0.329	0	1.83	129	675	85	89	434	264	400	448	315	372	73	748	4167	0.108	-0.27	0.52	0
157	22.334	0.049	0.331	0	1.75	129	674	85	89	435	264	400	449	315	373	73	757	4167	0.126	-0.41	0.85	0
158	22.478	0.049	0.335	0	1.71	129	674	85	89	436	264	399	450	315	373	73	744	4167	0.113	-0.35	0.81	0
159	22.621	0.049	0.335	0	1.7	129	670	85	89	437	264	399	449	314	373	73	738	4167	0.078	-0.34	0.52	0
160	22.766	0.049	0.335	0	1.62	129	666	85	89	438	264	399	448	315	373	73	740	4167	0.119	-0.37	0.83	0
161	22.909	0.049	0.324	0	1.5	129	661	85	89	438	264	399	446	314	372	73	732	4167	0.115	-0.34	0.6	0.02
162	23.052	0.049	0.329	0	1.58	129	664	85	89	438	264	399	444	314	372	73	746	4167	0.077	-0.25	0.76	0
163	23.195	0.049	0.339	0	1.5	129	658	85	89	438	264	398	443	313	371	73	732	4167	0.078	-0.22	0.69	0
164	23.339	0.049	0.336	0	1.41	129	655	85	89	438	264	398	440	313	371	73	713	4167	0.106	-0.35	0.87	0
165	23.482	0.049	0.326	0	1.45	129	651	85	89	438	263	397	438	313	370	73	733	4167	0.079	-0.28	0.51	0
166	23.624	0.049	0.327	0	1.34	128	646	85	89	437	264	397	436	313	369	73	697	4167	0.094	-0.31	0.65	0
167	23.767	0.049	0.334	0	1.32	128	643	85	89	437	264	397	434	313	369	73	680	4167	0.076	-0.46	0.8	0
168	23.912	0.049	0.339	0	1.41	128	635	85	89	437	263	396	431	313	368	73	663	4167	0.08	-0.39	0.91	0
169	24.056	0.049	0.322	0	1.21	128	628	85	89	436	263	396	428	313	367	73	649	4167	0.077	-0.31	0.5	0
170	24.2	0.049	0.328	0	1.44	127	625	85	89	435	263	395	425	313	366	73	649	4167	0.08	-0.36	0.62	0
171	24.343	0.049	0.329	0	1.22	127	622	85	89	434	262	394	422	313	365	73	634	4167	0.078	-0.51	0.97	0
172	24.488	0.049	0.338	0	1.17	126	617	85	89	433	262	393	418	313	364	73	624	4167	0.075	-0.24	0.87	0
173	24.633	0.049	0.324	0	1.17	126	613	85	89	432	262	393	416	314	363	74	616	4167	0.08	-0.38	0.9	0
174	24.778	0.049	0.326	0	1.21	126	608	85	89	430	261	392	413	313	362	73	613	4167	0.076	-0.29	0.57	0.04
175	24.92	0.049	0.327	0	1.08	126	608	85	89	429	261	392	410	312	361	73	611	4167	0.076	-0.4	0.56	0
176	25.064	0.049	0.334	0	1.07	125	600	85	89	428	260	391	408	314	360	73	595	4167	0.075	-0.29	0.93	0
177	25.206	0.049	0.338	0	1.1	125	595	85	89	427	260	391	405	313	359	73	577	4167	0.073	-0.38	0.58	0
178	25.35	0.049	0.335	0	0.95	124	589	85	89	426	260	390	403	314	358	73	572	4167	0.073	-0.34	0.89	0
179	25.492	0.049	0.335	0	0.97	124	582	85	89	425	259	389	400	315	358	73	564	4167	0.074	-0.38	0.96	0
180	25.635	0.049	0.329	0	1.4	123	578	85	89	424	259	388	398	314	357	73	559	4166	0.071	-0.42	0.82	0
181	25.778	0.049	0.331	0	0.93	122	572	84	89	422	259	388	395	314	356	73	547	4167	0.072	-0.34	0.6	0
182	25.921	0.049	0.329	0	0.97	122	565	84	89	421	258	387	392	314	354	73	537	4166	0.074	-0.27	0.66	0
183	26.065	0.049	0.331	0	0.87	122	560	84	89	420	257	386	389	315	353	73	535	4166	0.075	-0.37	0.96	0
184	26.209	0.049	0.323	0	0.9	121	555	84	89	419	257	386	386	315	352	73	524	4166	0.074	-0.49	1.04	0
185	26.352	0.049	0.335	0	0.81	121	548	84	89	419	256	384	384	315	351	73	514	4166	0.071	-0.45	1.01	0
186	26.495	0.049	0.328	0	0.81	120	542	84	89	417	255	384	381	315	350	73	518	4166	0.069	-0.44	0.94	0
187	26.638	0.049	0.334	0	0.77	120	534	84	89	415	255	383	379	314	349	73	512	4166	0.07	-0.21	0.6	0
188	26.781	0.049	0.332	0	0	119	533	84	89	414	254	382	376	314	348	73	504	4166	0.07	-0.33	0.68	0
189	26.925	0.049	0.332	0	0.73	119	528	84	89	413	254	381	374	314	347	73	504	4166	0.071	-0.44	0.64	0.04
190	27.067	0.049	0.326	0	0.74	118	524	84	89	412	253	380	372	315	346	73	496	4166	0.072	-0.46	0.82	0
191	27.211	0.049	0.331	0	0.72	118	522	84	89	410	251	379	369	315	345	73	494	4166	0.071	-0.41	0.78	0
192	27.353	0.049	0.326	0	0.71	117	516	84	89	408	250	378	365	315	344	73	494	4166	0.072	-0.35	0.93	0
193	27.494	0.049	0.331	0	0.68	117	513	84	89	407	249	376	366	315	343	73	485	4166	0.069	-0.31	0.66	0.03
194	27.638	0.049	0.33	0	0.73	116	512	83	89	406	249	376	364	315	342	73	486	4166	0.071	-0.37	1.02	0
195	27.78	0.049	0.333	0	0.56	116	506	83	89	404	248	375	362	315	341	73	477	4166	0.067	-0.27	0.66	0
196	27.921	0.049	0.324	0	0.71	116	503	83	89	403	248	374	360	314	340	73	481	4166	0.069	-0.43	1.1	0
197	28.065	0.049	0.334	0	0.6	115	499	83	88	401	248	373	358	314	339	73	474	4166	0.064	-0.29	0.9	0
198	28.208	0.049	0.334	0	0.61	115	498	83	88	400	247	372	357	314	338	73	481	4166	0.065	-0.41	0.69	0
199	28.351	0.049	0.337	0	0.81	115	492	83	88	399	247	371	355	313	337	73	474	4166	0.065	-0.2	0.7	0
200	28.494	0.049	0.329	0	0.59	114	491	83	88	398	246	370	354	314	336	73	473	4166	0.069	-0.37	1.07	0
201	28.637	0.049	0.338	0	0.64	114	488	83	88	397	245	369	352	314	335	73	472	4166	0.066	-0.43	1.13	0
202	28.781	0.049	0.343	0	0.59	113	486	83	88	396	245	367	351	313	334	73	468	4166	0.064	-0.32	0.88	0
203	28.925	0.049	0.331	0	0.61	113	483	83	88	396	244	366	349	313	334	73	468	4166	0.066	-0.28	0.7	0.01
204	29.068	0.049	0.323	0	0.59	113	482	83	88	394	243	365	348	313	333	73	465	4166	0.067	-0.23	0.73	0.02
205	29.213	0.049	0.331	0	0.56	113	480	83	88	394	243	365	346	312	332	73	463	4166	0.063	-0.4	1.07	0
206	29.359	0.049	0.329	0	0.61	112	478	83	88	394	242	363	345	312	331	72	461	4166	0.063	-0.23	0.76	0
207	29.501	0.049	0.334	0	0.56	112	476	83	88	393	241	362	344	311	330	73	460	4166	0.063	-0.33	1.07	0
208	29.645	0.049	0.325	0	0.57	112	472	82	88	392	241	361	343	311	329	73	461	4166	0.068	-0.53	1.11	0
209	29.79	0.049	0.332	0	0.49	111	472	82	88	391	241	360	341	310	329	73	461	4166	0.061	-0.5	0.9	0
210	29.936	0.049	0.335	0	0.98	111	469	82	88	390	240	359	340	310	328	72	461	4166	0.063	-0.19	0.69	0
211	30.08	0.049	0.339	0	0.52	111	469	82	88	389	240	358	339	310	327	73	454	4166	0.065	-0.42	1.17	0
212	30.224	0.049	0.332	0	0.45	111	462	82	88	389	239	357	338	309	326	73	454	4166	0.067	-0.47	1.14	0
213	30.368	0.049	0.327	0	0.42	110	464	82	88	387	238	356	337	310	326	73	452	4166	0.066	-0.5	1.1	0
214	30.512	0.049	0.333	0	0.39	110	463	82	88	387	238	355	336	309	325	72	456	4166	0.061	-0.23	0.99	0
215	30.657	0.049	0.343	0	0.43	110	460	82	88	387	237	354	335	308	324	73	451	4166	0.066	-0.41	1.24	0
216	30.803	0.049	0.324	0	0.2	110	460	82	88	386	237	353	334	308	324	72	454	4166	0.065	-0.26	0.84	0.05
217	30.948	0.049	0.331	0	0.45	109	459	82	88	386	236	352	333	307	323	72	454	4166	0.066	-0.55	1.11	0
218	31.092	0.049	0.328	0	0.38	109	459	82	88	385	236	351	332	306	322	72	455	4166	0.062	-0.43	1.06	0
219	31.238	0.049	0.332	0	0.39	110	466	82	88	384	235	350	331	306	321	72	469	4166	0.067	-0.35	0.9	0
220	31.382	0.049	0.337	0	0.3	110	465	82	88	384	234	349	332	306	321	73	454	4166	0.06	-0.37	0.98	0
221	31.528	0.049	0.337	0	0.33	109	451	82	88	383	234	348	333	305	321	72	439	4166	0.061	-0.4	1.23	0
222	31.674	0.049	0.336	0	0.27	108	437	82	88	382	233	347	332	306	320	72	426	4166	0.058	-0.3	0.85	0
223	31.822	0.049	0.337	0	0.69	108	428	82	88	382	233	347	331	305	320	72	423	4166	0.059	-0.25	0.78	0
224	31.967	0.049	0.331	0	0.19	107	424	81	88	381	233	346	331	305	319	72	422	4166	0.057	-0.26	1.08	0
225	32.11	0.049	0.322	0	0.22	107	420	81	88	379	233	346	330	305	319	73	421	4166	0.062	-0.43	1.13	0
226	32.255	0.049	0.335	0	0.27	106	419	81	88	378	233	345	329	305	318	72	418	4165	0.056	-0.31	1.12	0
227	32.403	0.049	0.329	0	0.37	106	417	81	88	377	232	345	329	306	318	73	413	4165	0.062	-0.39	1.03	0
228	32.548	0.049	0.336	0	0.27	106	416	81	88	376	233	345	328	307	318	72	420	4165	0.056	-0.27	1.05	0
229	32.693	0.049	0.336	0	0.17	106	416	81	88	375	233	345	328	306	318	72	422	4165	0.058	-0.41	1.2	0
230	32.839	0.049	0.333	0	0.07	105	416	81	88	375	234	345	328	306	318	72	418	4165	0.062	-0.47	1.09	0
231	32.985	0.049	0.339	0	0.1	105	414	81	88	374	234	345	328	308	318	72	421	4165	0.062	-0.26	1.23	0
232	33.13	0.049	0.335	0	0.08	105	414	81	88	374	234	345	328	309	318	72	422	4165	0.062	-0.4	1.14	0
233	33.274	0.049	0.335	0	0.11	105	413	81	88	373	233	345	328	310	318	72	419	4165	0.057	-0.26	1.08	0
234	33.419	0.049	0.33	0	0.02	104	413	81	88	372	233	346	328	311	318	72	424	4165	0.059	-0.31	0.86	0.03

11/1/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg 1	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.049	0	0	12.08	100.85	407.2	73	75	451	300	472	391	408	404	71	438	4160	0.061	16.92	3.6	0
1	0.156	0.049	0.349	0	12.84	145	347	75	75	451	312	473	381	418	407	73	350	4160	0.045	20.04	0.97	0.18
2	0.322	0.049	0.35	0	12.09	166	311	77	75	446	324	473	369	425	407	73	341	4160	0.049	19.57	1.36	0.17
3	0.489	0.049	0.346	0	11.95	182	336	79	75	441	335	471	370	429	409	74	352	4160	0.053	19.27	1.46	0.28
4	0.655	0.049	0.344	0	11.24	188	474	81	76	436	343	467	401	434	416	72	709	4160	0.075	16.07	4.48	0.23
5	0.82	0.049	0.345	0	11.4	146	514	80	76	433	350	455	416	436	418	71	613	4160	0.07	14.84	5.64	0.04
6	0.985	0.049	0.344	0	11.51	126	476	79	76	428	354	445	419	438	417	71	573	4160	0.067	16.1	4.51	0
7	1.151	0.049	0.346	0	11.46	117	456	78	76	423	358	436	425	440	416	71	574	4160	0.062	16.7	3.95	0
8	1.313	0.049	0.348	0	11.43	113	445	78	76	418	361	428	428	441	415	71	569	4160	0.061	16.72	3.99	0
9	1.478	0.049	0.342	0	11.35	110	437	78	76	412	361	421	430	442	413	71	562	4160	0.063	16.76	4.05	0
10	1.638	0.049	0.342	0	11.22	109	432	77	76	406	362	414	430	444	411	71	559	4160	0.061	16.75	3.81	0.17
11	1.796	0.049	0.343	0	11.24	107	427	77	77	400	362	407	430	445	409	71	555	4160	0.062	16.67	3.79	0.29
12	1.958	0.049	0.345	0	11.21	104	421	77	77	394	362	401	429	445	406	71	550	4160	0.062	16.69	3.93	0.34
13	2.119	0.049	0.341	0	11.17	106	417	77	77	388	360	396	428	446	404	71	553	4160	0.062	16.65	4.05	0.3
14	2.279	0.049	0.347	0	11.08	105	412	77	77	382	359	391	427	447	401	71	558	4160	0.058	16.67	4.07	0.4
15	2.438	0.049	0.346	0	11.03	105	407	77	78	376	357	386	426	447	398	71	551	4160	0.057	16.53	3.93	0.65
16	2.598	0.049	0.341	0	10.91	104	405	77	78	371	356	382	425	447	396	71	559	4160	0.058	16.47	3.94	0.85

17	2.756	0.049	0.344	0	10.99	104	401	77	78	366	354	377	424	447	394	71	557	4160	0.057	16.48	4.2	0.72
18	2.913	0.049	0.339	0	10.89	103	398	77	78	361	353	373	424	447	392	71	560	4160	0.06	16.39	4.37	0.73
19	3.073	0.049	0.344	0	10.79	103	399	77	78	357	351	369	423	446	389	71	564	4160	0.056	16.52	3.97	1.08
20	3.23	0.049	0.341	0	10.68	103	398	77	79	353	350	366	423	446	388	71	573	4160	0.057	16.2	4.32	0.91
21	3.387	0.049	0.339	0	10.69	103	399	77	79	349	348	363	424	445	386	71	576	4160	0.06	16.43	4.33	0.91
22	3.543	0.049	0.341	0	10.7	103	404	77	79	346	346	360	424	445	384	71	583	4160	0.059	16.45	3.96	1.14
23	3.7	0.049	0.342	0	10.84	103	406	77	79	343	345	357	424	445	383	71	590	4160	0.059	16.33	4.33	0.79
24	3.857	0.049	0.342	0	10.51	103	409	77	79	339	344	354	425	444	381	71	596	4160	0.061	16.36	4.02	1.12
25	4.011	0.049	0.342	0	10.41	103	410	77	80	337	342	352	426	443	380	71	603	4160	0.061	16.31	4.11	1.17
26	4.165	0.049	0.348	0	10.69	103	413	77	80	335	341	349	427	443	379	71	613	4160	0.059	16.16	4.42	0.89
27	4.32	0.049	0.341	0	10.38	103	420	77	80	331	339	347	428	442	378	70	621	4160	0.06	15.96	4.7	0.71
28	4.473	0.049	0.337	0	10.14	104	426	77	80	328	338	345	429	442	376	70	627	4160	0.059	16.13	4.45	0.83
29	4.625	0.049	0.339	0	10.3	104	433	77	80	326	336	343	432	441	376	71	638	4160	0.061	15.75	4.99	0.49
30	4.778	0.049	0.336	0	10.09	104	439	77	81	324	335	341	434	440	375	71	638	4160	0.066	15.69	4.96	0.64
31	4.931	0.049	0.338	0	10.06	104	445	77	81	323	313	341	430	430	368	71	672	4160	0.063	15.39	5.29	0.46
32	5.085	0.049	0.339	0	9.9	104	450	77	81	324	296	343	425	423	362	71	679	4160	0.065	15.29	5.4	0.62
33	5.236	0.049	0.334	0	9.9	105	463	77	81	323	284	344	421	418	358	71	717	4160	0.067	14.49	5.95	0.72
34	5.389	0.049	0.332	0	9.74	106	482	77	81	324	276	345	424	415	357	71	733	4160	0.067	14.17	6.67	0.23
35	5.542	0.049	0.335	0	9.5	107	504	77	82	326	269	346	432	411	357	71	728	4160	0.071	13.56	7.13	0.07
36	5.694	0.049	0.327	0	9.71	109	517	78	82	327	265	348	458	408	361	71	655	4160	0.074	12.31	8.54	0
37	5.845	0.049	0.342	0	9.32	109	518	78	82	329	262	349	481	405	365	71	645	4160	0.069	12.5	8.21	0
38	5.994	0.049	0.344	0	9.42	110	522	78	82	331	259	351	500	402	369	71	636	4160	0.069	12.22	8.82	0
39	6.144	0.049	0.337	0	9.29	110	525	78	82	333	258	355	519	400	373	71	648	4160	0.075	12.24	8.72	0
40	6.293	0.049	0.334	0	9.48	111	524	78	83	335	259	358	536	398	377	71	642	4160	0.075	12.11	8.7	0
41	6.443	0.049	0.342	0	9.07	111	527	78	83	338	260	362	552	396	382	71	639	4160	0.07	12.26	8.68	0
42	6.593	0.049	0.336	0	8.96	111	529	78	83	341	261	366	565	393	385	71	641	4160	0.069	12.37	8.72	0
43	6.744	0.049	0.333	0	8.8	111	532	78	83	344	263	370	576	392	389	71	649	4160	0.076	12.14	8.67	0
44	6.892	0.049	0.336	0	8.67	111	537	78	83	346	265	374	588	390	393	71	651	4160	0.072	12.13	8.67	0
45	7.044	0.049	0.341	0	8.55	112	538	78	83	350	267	379	598	388	396	71	664	4160	0.074	12.08	8.82	0
46	7.193	0.049	0.326	0	8.43	112	544	78	84	353	269	384	606	385	399	71	654	4161	0.078	11.86	9.18	0
47	7.343	0.049	0.333	0	8.39	113	550	79	84	356	271	389	618	384	404	71	665	4161	0.078	11.08	9.91	0
48	7.488	0.049	0.34	0	8.3	113	553	79	84	360	274	394	628	381	407	71	657	4161	0.075	10.72	10.38	0
49	7.638	0.049	0.337	0	8.12	114	561	79	84	364	276	400	637	379	411	71	673	4161	0.074	10.75	10.31	0
50	7.786	0.049	0.342	0	8.02	114	566	79	84	369	279	406	646	376	415	71	681	4161	0.078	10.68	10.51	0
51	7.935	0.049	0.338	0	7.89	114	570	79	84	373	281	412	654	375	419	71	680	4161	0.075	10.7	10.03	0
52	8.083	0.049	0.335	0	7.72	114	575	79	84	379	284	418	662	373	423	71	704	4161	0.077	10.84	9.9	0
53	8.231	0.049	0.332	0	7.63	115	579	79	85	384	286	425	667	371	427	71	700	4161	0.075	10.73	9.97	0
54	8.382	0.049	0.336	0	7.19	115	582	79	85	388	289	431	672	369	430	71	713	4161	0.074	10.72	10.22	0
55	8.527	0.049	0.336	0	7.44	116	582	79	85	393	291	437	675	367	433	72	692	4161	0.075	10.67	10.09	0
56	8.676	0.049	0.337	0	7.3	116	585	79	85	398	294	443	679	365	436	72	710	4161	0.08	10.57	10.08	0
57	8.826	0.049	0.336	0	7.14	116	586	79	85	404	297	449	683	363	439	72	691	4161	0.083	10.62	10.26	0
58	8.972	0.049	0.337	0	7.1	116	590	79	85	409	299	455	687	361	442	71	701	4161	0.077	10.53	10.61	0
59	9.12	0.049	0.34	0	7.01	116	592	79	85	413	301	460	692	360	445	72	743	4161	0.079	10.44	10.63	0
60	9.268	0.049	0.336	0	6.76	117	594	79	85	418	304	466	696	358	448	72	718	4161	0.075	10.76	10.03	0
61	9.416	0.049	0.337	0	6.69	117	596	79	85	423	305	472	697	356	451	72	731	4161	0.089	11.01	9.83	0
62	9.561	0.049	0.341	0	6.64	117	595	79	86	427	307	478	698	354	453	72	717	4161	0.076	10.96	9.91	0
63	9.709	0.049	0.333	0	6.55	117	596	80	86	432	309	483	698	352	455	72	711	4161	0.087	11.17	9.82	0
64	9.855	0.049	0.332	0	6.35	117	595	80	86	436	311	488	696	351	456	72	730	4161	0.076	11.56	9.2	0
65	10.001	0.049	0.339	0	6.22	117	593	80	86	440	313	492	694	350	458	72	706	4161	0.087	11.51	9.41	0
66	10.148	0.049	0.338	0	6.25	117	593	80	86	444	314	497	691	348	459	72	697	4161	0.078	11.74	9	0.02
67	10.294	0.049	0.335	0	6.1	117	590	80	86	448	315	501	689	347	460	72	714	4161	0.078	11.63	9.56	0
68	10.441	0.049	0.33	0	5.97	117	588	80	86	451	316	505	688	346	461	72	696	4161	0.081	11.63	9.16	0
69	10.588	0.049	0.342	0	5.87	117	587	80	86	454	317	508	688	344	462	72	677	4161	0.074	11.65	9.17	0
70	10.736	0.049	0.338	0	6.01	117	593	80	86	458	318	511	689	344	464	72	713	4161	0.074	11.59	9.38	0
71	10.885	0.049	0.336	0	5.97	117	591	80	86	460	319	515	690	342	465	72	704	4161	0.081	11.49	9.35	0
72	11.032	0.049	0.344	0	5.58	117	592	80	87	463	320	518	690	340	466	72	697	4161	0.074	11.47	9.42	0
73	11.18	0.049	0.341	0	5.5	117	592	80	87	466	321	521	692	339	468	72	697	4161	0.074	11.35	9.4	0
74	11.327	0.049	0.332	0	5.13	118	591	80	87	468	322	523	694	338	469	73	703	4161	0.079	11.44	9.16	0.01
75	11.474	0.049	0.335	0	5.28	118	591	80	87	470	323	526	695	336	470	72	703	4161	0.079	11.38	9.21	0
76	11.621	0.049	0.341	0	5.28	117	590	80	87	473	324	528	697	336	471	73	704	4161	0.076	11.38	9.36	0
77	11.767	0.049	0.337	0	5.01	117	590	80	87	476	324	530	696	336	472	73	702	4161	0.083	11.81	9.01	0
78	11.914	0.049	0.333	0	4.95	117	588	80	87	478	325	532	692	334	472	72	687	4162	0.078	12.3	8.18	0
79	12.061	0.049	0.348	0	4.98	117	585	80	87	480	326	534	687	333	472	73	701	4162	0.074	12.7	7.94	0
80	12.21	0.049	0.338	0	4.89	116	580	80	87	481	326	536	682	332	471	73	704	4162	0.073	13.09	7.55	0
81	12.357	0.049	0.346	0	4.81	116	576	80	87	483	326	537	676	331	471	73	677	4162	0.077	13.22	7.56	0
82	12.504	0.049	0.341	0	4.83	116	573	80	87	484	327	538	666	329	469	72	600	4162	0.077	13.61	7.12	0
83	12.655	0.049	0.339	0	4.68	115	569	80	87	485	326	539	654	329	467	73	677	4162	0.077	14.27	6.27	0
84	12.801	0.049	0.334	0	4.59	115	564	80	87	485	327	540	644	327	465	73	659	4162	0.073	14.27	6.11	0
85	12.949	0.049	0.345	0	4.57	115	560	80	87	485	326	540	633	326	462	72	637	4162	0.071	14.47	5.92	0
86	13.098	0.049	0.341	0	4.48	115	559	80	88	485	326	540	619	325	459	72	653	4162	0.075	15.34	5.07	0.08
87	13.246	0.049	0.339	0	4.53	115	574	80	88	484	326	539	604	324	455	72	703	4162	0.087	15.11	5.28	0.04
88	13.394	0.049	0.338	0	4.41	116	588	80	88	483	325	538	593	323	452	72	709	4162	0.074	15.25	5.32	0
89	13.54	0.049	0.339	0	4.41	116	595	80	88	481	323	536	583	322	449	72	717	4162	0.085	15.3	5.26	0
90	13.689	0.049	0.341	0	4.33	116	597	80	88	479	322	534	573	321	446	72	715	4162	0.078	15.26	5.28	0
91	13.837	0.049	0.332	0	4.13	116	600	80	88	476	320	531	563	320	442	72	701	4162	0.094	15.54	4.85	0.14
92	13.985	0.049	0.341	0	4.23	116	600	80	88	474	318	528	554	319	439	72	697	4162	0.075	15.79	4.63	0.09
93	14.134	0.049	0.333	0	3.68	116	598	80	88	471	316	525	544	319	435	72	688	4162	0.076	15.5	4.61	0.13
94	14.283	0.049	0.336	0	4.15	117	594	80	88	468	314	522	536	319	432	72	669	4162	0.074	15.67	4.68	0
95	14.429	0.049	0.34	0	4.21	116	592	80	88	466	311	519	527	317	428	72	652	4162	0.078	15.6	4.97	0
96	14.576	0.049	0.344	0	4.12	117	591	80	88	463	310	515	519	318	425	72	656	4162	0.074	15.65	4.83	0
97	14.724	0.049	0.334	0	4.1	117	587	80	88	460	307	512	511	317	421	72	649	4162	0.079	15.74	4.74	0.05
98	14.874	0.049	0.339	0	4.05	116	585	80	88	457	305	508	504	317	418	72	640	4162	0.075	15.65	4.53	0.1
99	15.023	0.049	0.343	0	3.96	117	583	80	88	454	303	505	497	317	415	72	637	4162	0.08	15.55	4.75	0.01
100	15.171	0.049	0.334	0	3.96	116	579	80	88	451	301	501	492	317	412	72	614	4162	0.072	15.48	4.97	0
101	15.318	0.049	0.335	0	3.94	116	566	80	88	448	299	497	487	317	410	72	594	4162	0.076	15.12	5.31	0
102	15.467	0.049	0.337	0	3.83	116	557	80	88	446	297	494	483	317	407	72	579	4162	0.075	14.95	5.52	0
103	15.612	0.049	0.335	0	3.82	115	550	80	88	442	296	491	480	316	405	72	576	4162	0.076	15.09	5.45	0
104	15.758	0.049	0.337	0	3.83	115	543	80	88	440	294	488	478	316	403	72	565	4162	0.073	14.98	5.68	0
105	15.904	0.049	0.348	0	3.64	114	539	80	88	438	293	485	475	316	401	72	553	4162	0.068	15.11	5.25	0
106	16.051	0.049	0.337	0	3.55	114	531	80	88	436	292	482	473	316	400	73	554	4162	0.072	15.26	5.23	0.08
107	16.195	0.049	0.333	0	3.66	114	530	80	88	434	292	480	471	316	399	72	550	4162	0.073	15.11	5.26	0.05
108	16.34	0.049	0.341	0	3.65	114	527	80	88	432	291	479	469	316	397	72	540	4162	0.073	14.97	5.54	0
109	16.486	0.049	0.345	0	3.57	114	524	80	88	431	290	476	467	317	396	72	537	4162	0.071	15.1	5.67	0
110	16.634	0.049	0.341	0	3.45	113	522	80	88	429	290	473	466	316	395	72	542	4162	0.067	15.07	5.34	0
111	16.777	0.049	0.335	0	3.52	113	522	80	88	428	290	471	465	317	394	72	543	4162	0.074	15.05	5.46	0
112	16.926	0.049	0.339	0	3.47	113	519	80	89	427	289	469	463	317	393	72	544	4162	0.067	15.25	5.41	0
113	17.072	0.049	0.333	0	3.45	113	518	80	89	426	289	468	462	317	392	72	540	4162	0.073	14.99	5.42	0
114	17.216	0.049	0.337	0	3.22	112	516	80	89	425	289	467	461	317	392	72	537	4162	0.073	15.01	5.53	0
115	17.363	0.049	0.335	0	3.17	112	518	80	89	425	288	466	460	318	391	72	542	4162	0.071	15.09	5.2	0.05
116	17.511	0.049	0.334	0	3.41	112	514	80	89	424	288	464	459	318	391	72	539	4162	0.075	15.03	5.41	0.04
117	17.658	0.049	0.338	0	3.34	112	515	80	89	423	288	462	458	319	390	72	539	4162	0.067	15.12	5.5	0
118	17.805	0.049	0.339	0	3.22	112	515	80	89	423	288	460	457	318	389	72	541	4162	0.068	15.18	5.64	0
119	17.95	0.049	0.337	0	3.19	112	516	80	89	423	287	460	456	319	389	72	540	4162	0.073	15.04	5.51	0
120	18.098	0.049	0.341	0	3.19	111	513	80	89	422	287	458	455	319	388	72	539	4162	0.071	14.89	5.65	0
121	18.244	0.049	0.343	0	3.1	111	512	80	89	422	287	457	454	320	388	72	540	4162	0.07	14.84	5.84	0
122	18.391	0.049	0.334	0	3.03	111	510	80	89	422	286	456	453	320	387	72	543	4162	0.069	14.92	5.26	0.09
123	18.537	0.049	0.344	0	3.13	111	508	80	89	422	286	454	452	320	387	72	538	4162	0.072	14.96	5.58	0
124	18.685	0.049	0.337	0	3.44	111	507	80	89	422	286	453	452	320	387	72	541	4162	0.069	15.12	5.38	0.12
125	18.832	0.049	0.337	0	3.01	111	509	80	89	422	286	453	451	321	387	72	541	4162	0.07	14.94	5.66	0
126	18.978	0.049	0.342	0	2.86	111	508	80	89	422	286	452	451	321	386	72	539	4162	0.068	14.98	5.32	0.04
127	19.124	0.049	0.346	0	2.89	111	509	80	89	421	286	451	451	321	386	72	542	4162	0.067	15.01	5.37	0.06
128	19.269	0.049	0.339	0	2.72	111	508	80	89	422	286	450	451	322	386	72	542	4162	0.067	14.97	5.37	0.04
129	19.415	0.049	0.34	0	2.74	111	509	80	89	422	286	450	450	322	386	72	554	4162	0.065	14.96	5.39	0
130	19.562	0.049	0.335	0	2.78	111	506	80	89	422	286	449	450	323	386	72	542	4163	0.073	15.01	5.52	0.02
131	19.706	0.049	0.335	0	2.65	111	509	80	89	422	286	448	449	323	386	72	545	4163	0.069	15	5.38	0.1
132	19.849	0.049	0.336	0	2.66	111	510	80	89	422	285	447	448	323	385	72	547	4163	0.067	15.2	5.13	0.05
133	19.999	0.049	0.333	0	2.6	111	511	80	89	422	285	447	447	323	385	71	543	4163	0.069	14.97	5.39	0.14
134	20.145	0.049	0.332	0	2.53	111	511	80	89	422	286	446	447	323	385	72	546	4163	0.07	15.21	5.24	0.09
135	20.291	0.049	0.335	0	2.59	110	511	80	89	422	286	445	446	324	385	72	549	4163	0.069	15.15	5.29	0.1
136	20.438	0.049	0.341	0	2	111	511	80	89	422	285	445	446	324	384	72	549	4163	0.067	15.06	5.36	0
137	20.585	0.049	0.334	0	1.81	111	513	80	89	422	285	445	446	325	385	72	554	4163	0.073	14.81	5.62	0
138	20.728	0.049	0.331	0	2.37	111	512	80	89	422	285	444	447	325	384	71	549	4163	0.073	14.95	5.57	0
139	20.874	0.049	0.34	0	2.45	111	512	80	89	422	285	444	447	324	384	72	555	4163	0.068	14.83	5.43	0.11
140	21.018	0.049	0.337	0	2.28	111	511	80	89	422	286	444	448	324	385	72	541	4163	0.069	14.87	5.44	0.1
141	21.163	0.049	0.34	0	2.34	111	511	80	89	422	286	444	450	323	385	72	547	4163	0.067	14.69	5.89	0
142	21.307	0.049	0.341	0	2.27	111	510	80	89	422	286	444	453	323	386	72	546	4163	0.073	14.29	6.2	0
143	21.454	0.049	0.334	0	2.26	111	510	80	89	422	286	444	456	324	386	72	544	4163	0.072	14.51	6.09	0
144	21.599	0.049	0.332	0	2.18	111	510	80	89	423	286	444	459	324	387	72	543	4163	0.071	14.23	6.12	0.06
145	21.747	0.049	0.335	0	2.09	111	507	80	89	423	286	444	465	325	389	72	543	4163	0.068	14.21	6.13	0.03

146	21.893	0.049	0.336	0	2.12	110	505	80	89	424	287	445	470	325	390	72	538	4163	0.067	13.93	6.81	0
147	22.04	0.049	0.336	0	2.07	110	503	80	89	424	287	445	475	326	391	72	539	4163	0.069	13.93	6.7	0
148	22.188	0.049	0.342	0	1.92	110	501	80	89	425	287	445	482	326	393	72	539	4163	0.067	13.93	6.88	0
149	22.336	0.049	0.339	0	1.95	110	500	80	89	426	288	445	486	326	394	72	546	4163	0.067	13.93	6.57	0
150	22.481	0.049	0.336	0	2	110	498	80	89	427	289	447	492	326	396	72	542	4163	0.07	14.19	6.04	0.01
151	22.63	0.049	0.341	0	1.82	109	497	80	89	428	289	448	495	326	397	72	541	4163	0.065	14.53	6	0
152	22.779	0.049	0.336	0	1.81	109	495	80	89	429	290	449	496	326	398	72	538	4163	0.071	14.4	6.05	0
153	22.924	0.049	0.341	0	1.77	109	494	80	89	430	291	450	496	326	398	72	546	4163	0.064	14.76	5.68	0
154	23.072	0.049	0.342	0	1.75	109	492	80	89	430	291	450	494	326	398	72	538	4163	0.064	15.01	5.44	0
155	23.219	0.049	0.34	0	1.72	109	493	80	89	431	291	451	492	327	398	72	535	4163	0.065	14.97	5.27	0
156	23.366	0.049	0.34	0	1.72	108	492	80	89	431	292	450	489	326	398	72	531	4163	0.066	15.26	5.19	0
157	23.514	0.049	0.341	0	1.62	108	489	80	89	431	292	451	485	326	397	72	529	4163	0.064	15.61	4.77	0
158	23.659	0.049	0.349	0	1.65	108	489	80	89	432	292	451	480	326	396	72	531	4163	0.068	15.61	4.88	0
159	23.805	0.049	0.333	0	1.59	108	486	80	89	433	291	451	474	326	395	72	526	4163	0.065	15.8	4.36	0
160	23.951	0.049	0.342	0	1.54	108	490	80	89	432	291	450	468	326	393	72	528	4163	0.066	16.21	4.08	0
161	24.098	0.049	0.34	0	1.61	108	488	80	89	432	290	449	461	326	392	72	530	4163	0.065	16.22	4.2	0
162	24.246	0.049	0.336	0	1.64	108	488	80	89	432	290	449	455	326	390	72	531	4163	0.071	16.24	4.18	0
163	24.393	0.049	0.339	0	1.57	108	490	80	89	432	289	447	449	326	389	72	527	4163	0.068	16.1	3.95	0.14
164	24.54	0.049	0.341	0	1.67	108	490	80	89	432	288	446	444	327	387	72	528	4163	0.068	16.16	4.37	0
165	24.684	0.049	0.333	0	1.34	108	489	80	89	432	286	444	439	326	386	72	525	4163	0.069	16.25	4.22	0
166	24.832	0.049	0.342	0	1.54	108	488	80	89	432	285	443	434	327	384	72	523	4163	0.065	16.26	4.08	0
167	24.979	0.049	0.342	0	2.43	108	487	80	89	431	284	441	430	326	383	72	521	4163	0.066	16.35	3.84	0.1
168	25.126	0.049	0.339	0	1.48	107	485	80	89	430	283	440	426	326	381	72	520	4163	0.069	16.29	4.17	0
169	25.274	0.049	0.34	0	1.49	107	484	80	89	430	282	438	422	327	380	72	514	4163	0.065	16.36	4.01	0
170	25.42	0.049	0.337	0	1.45	107	483	80	89	429	281	435	418	327	378	72	512	4163	0.068	16.41	3.83	0.16
171	25.566	0.049	0.336	0	1.45	107	483	80	89	428	279	433	414	327	377	72	510	4163	0.069	16.43	3.92	0.05
172	25.713	0.049	0.343	0	1.42	107	481	80	89	427	278	431	411	327	375	72	510	4163	0.064	16.4	4.09	0
173	25.86	0.049	0.346	0	1.43	107	477	80	89	426	278	429	408	327	374	72	503	4163	0.067	16.34	4.11	0
174	26.007	0.049	0.344	0	1.41	107	474	80	89	425	276	427	405	327	372	72	497	4163	0.065	16.44	3.75	0.06
175	26.152	0.049	0.347	0	1.27	107	473	80	89	425	275	425	402	327	371	72	502	4163	0.064	16.39	4.02	0
176	26.3	0.049	0.335	0	1.3	107	473	80	89	423	274	423	399	328	370	72	495	4163	0.064	16.39	3.7	0.02
177	26.446	0.049	0.338	0	1.34	107	472	80	89	422	274	421	397	327	368	72	498	4163	0.065	16.39	4.11	0
178	26.592	0.049	0.334	0	1.32	107	471	80	89	421	273	420	394	327	367	72	497	4163	0.066	16.4	3.81	0.08
179	26.743	0.049	0.343	0	1.28	107	468	80	89	420	272	418	392	328	366	72	491	4163	0.064	16.4	4.11	0
180	26.888	0.049	0.334	0	1.34	107	469	80	89	419	271	416	390	328	365	72	493	4163	0.068	16.21	4.11	0
181	27.035	0.049	0.342	0	1.27	106	469	80	89	418	270	415	388	328	364	72	494	4163	0.066	16.38	3.76	0.11
182	27.181	0.049	0.333	0	1.19	106	466	80	89	417	269	412	387	328	363	72	495	4163	0.069	16.35	4.07	0
183	27.328	0.049	0.338	0	1.27	106	465	80	89	417	268	411	385	329	362	72	494	4163	0.067	16.38	4.13	0
184	27.475	0.049	0.343	0	1.56	106	466	80	89	417	267	409	383	328	361	72	489	4163	0.067	16.33	4.24	0
185	27.624	0.049	0.332	0	1.18	106	465	80	89	416	267	408	382	328	360	72	493	4163	0.069	16.3	3.97	0.06
186	27.77	0.049	0.336	0	1.48	107	465	80	89	416	266	406	380	329	359	72	487	4163	0.062	16.39	4.07	0
187	27.917	0.049	0.337	0	1.23	106	462	80	89	416	265	405	379	329	359	72	485	4163	0.061	16.53	3.93	0
188	28.064	0.049	0.336	0	1.14	106	462	80	89	415	264	403	378	329	358	72	486	4163	0.063	-0.27	-0.45	0.01
189	28.211	0.049	0.341	0	1.17	106	460	80	89	415	264	402	376	329	357	72	487	4163	0.062	-0.26	4.01	0
190	28.358	0.049	0.342	0	1.18	106	457	80	89	415	264	400	375	328	356	72	482	4163	0.065	-0.34	4.08	0
191	28.505	0.049	0.342	0	1.12	106	457	80	89	415	263	399	374	328	356	72	480	4163	0.062	-0.32	4.04	0
192	28.652	0.049	0.334	0	1.13	106	458	80	90	415	262	397	372	329	355	72	480	4163	0.066	-0.15	3.76	0.08
193	28.799	0.049	0.344	0	1.07	106	456	80	90	415	262	396	371	329	354	72	478	4163	0.065	-0.36	3.81	0.1
194	28.945	0.049	0.338	0	1.1	106	454	80	90	415	261	395	370	328	354	72	482	4163	0.067	-0.24	3.78	0.15
195	29.09	0.049	0.339	0	1.08	106	456	80	90	415	261	393	369	328	353	72	479	4163	0.063	-0.48	4.09	0
196	29.236	0.049	0.344	0	1.03	105	453	80	90	415	260	391	368	328	352	72	477	4163	0.062	-0.3	3.74	0.03
197	29.383	0.049	0.337	0	1.01	105	455	80	90	415	259	390	367	328	352	72	474	4163	0.066	-0.23	3.84	0.08
198	29.53	0.049	0.334	0	1.07	105	454	80	90	415	259	389	366	328	352	72	479	4163	0.061	-0.21	4.04	0
199	29.675	0.049	0.333	0	0.94	105	455	80	90	414	259	388	366	328	351	72	475	4163	0.063	-0.28	3.68	0.09
200	29.823	0.049	0.342	0	1.04	105	454	80	90	415	258	387	365	329	351	72	473	4163	0.067	-0.42	4.01	0
201	29.971	0.049	0.337	0	0.97	105	453	79	90	415	257	386	364	328	350	72	472	4163	0.066	-0.34	4.02	0
202	30.118	0.049	0.338	0	1.01	105	452	79	90	415	257	384	363	329	350	72	474	4163	0.06	-0.28	3.87	0
203	30.265	0.049	0.337	0	0.94	105	450	79	90	414	257	383	362	328	349	72	468	4163	0.064	-0.32	4.07	0
204	30.412	0.049	0.344	0	0.87	105	449	79	90	414	256	382	361	329	349	72	471	4163	0.061	-0.36	3.63	0.01
205	30.559	0.049	0.342	0	0.11	105	447	79	90	415	256	381	361	328	348	72	471	4164	0.066	-0.43	3.92	0
206	30.706	0.049	0.335	0	0.88	105	449	79	90	414	256	380	360	328	348	72	469	4164	0.062	-0.14	3.68	0.04
207	30.857	0.049	0.344	0	0.87	105	446	79	90	414	255	379	359	327	347	72	466	4164	0.065	-0.49	3.96	0
208	31.003	0.049	0.336	0	0.9	105	445	79	90	413	255	378	358	328	346	72	468	4164	0.066	-0.25	3.83	0
209	31.151	0.049	0.345	0	0.85	104	443	79	90	414	254	377	357	328	346	72	463	4164	0.065	-0.35	3.66	0.07
210	31.297	0.049	0.337	0	0.98	104	443	79	90	414	254	376	356	328	346	72	462	4164	0.059	-0.44	3.77	0
211	31.443	0.049	0.344	0	0.81	104	439	79	90	413	254	375	355	329	345	72	464	4164	0.06	-0.29	3.59	0.09
212	31.591	0.049	0.333	0	0.76	104	438	79	90	413	254	375	354	328	345	72	458	4164	0.062	-0.4	3.46	0.12
213	31.738	0.049	0.345	0	0.17	104	438	79	90	413	253	373	353	328	344	72	458	4164	0.061	-0.43	3.87	0
214	31.885	0.049	0.341	0	0.75	104	436	79	90	412	253	373	352	328	344	72	460	4164	0.061	-0.23	3.45	0.11
215	32.033	0.049	0.333	0	0.76	104	436	79	90	412	253	372	351	329	343	72	459	4164	0.06	-0.25	3.48	0.03
216	32.18	0.049	0.34	0	0.72	104	434	79	90	412	252	370	350	329	343	72	456	4164	0.058	-0.38	3.53	0
217	32.327	0.049	0.335	0	0.68	104	433	79	90	411	252	370	349	329	342	72	453	4164	0.063	-0.36	3.45	0.11
218	32.474	0.049	0.337	0	0.67	104	432	79	90	410	252	369	348	329	342	72	450	4164	0.058	-0.3	3.48	0
219	32.622	0.049	0.337	0	0.79	104	431	79	90	410	251	368	347	329	341	72	451	4164	0.06	-0.46	3.76	0
220	32.769	0.049	0.343	0	0.74	103	428	79	90	410	251	367	346	330	341	72	448	4164	0.058	-0.32	3.63	0
221	32.915	0.049	0.339	0	0.77	103	426	79	90	409	251	366	345	330	340	72	443	4164	0.064	-0.42	3.69	0
222	33.062	0.049	0.339	0	0.87	103	422	79	90	409	250	365	344	329	339	72	438	4164	0.058	-0.33	3.76	0
223	33.206	0.049	0.344	0	0.59	103	422	79	90	409	250	364	343	329	339	73	440	4164	0.059	-0.34	3.47	0.07
224	33.354	0.049	0.335	0	0.66	103	419	79	90	408	250	364	342	330	339	72	442	4164	0.063	-0.27	3.66	0
225	33.5	0.049	0.341	0	0.62	103	417	79	90	409	250	363	340	330	338	72	438	4164	0.062	-0.34	3.66	0
226	33.643	0.049	0.338	0	0.89	103	417	79	90	408	250	362	339	330	338	72	435	4164	0.06	-0.24	3.58	0.09
227	33.789	0.049	0.342	0	0.62	102	414	79	90	409	249	361	339	330	337	72	430	4164	0.057	-0.29	3.53	0.06
228	33.934	0.049	0.335	0	0.55	102	412	79	90	408	248	360	338	330	337	72	433	4164	0.056	-0.29	3.7	0
229	34.081	0.049	0.342	0	0.61	102	412	79	90	408	248	359	337	331	337	72	430	4164	0.062	-0.36	3.97	0
230	34.227	0.049	0.341	0	0.52	102	411	79	90	409	248	358	337	331	336	72	432	4164	0.056	-0.32	3.86	0
231	34.373	0.049	0.338	0	0.54	102	412	79	90	409	248	358	336	331	336	72	434	4164	0.063	-0.46	3.87	0
232	34.519	0.049	0.339	0	0.48	102	413	79	90	410	248	357	336	331	336	72	436	4164	0.056	-0.26	3.58	0.05
233	34.665	0.049	0.343	0	0.5	102	410	79	90	410	248	356	336	331	336	72	427	4164	0.059	-0.3	3.64	0.08
234	34.809	0.049	0.334	0	0.49	102	407	79	90	412	248	355	336	330	336	72	431	4164	0.06	-0.26	3.71	0.04
235	34.955	0.049	0.342	0	0.5	101	406	79	90	413	247	355	335	330	336	72	428	4164	0.056	-0.23	3.62	0.02
236	35.102	0.049	0.336	0	0.51	101	404	79	90	414	247	354	335	331	336	72	429	4164	0.058	-0.21	3.58	0.04
237	35.25	0.049	0.339	0	0.5	101	406	79	90	415	247	353	335	331	336	72	426	4164	0.057	-0.3	3.93	0
238	35.398	0.049	0.343	0	0.45	101	406	79	90	415	247	353	334	331	336	72	426	4164	0.06	-0.44	3.86	0
239	35.545	0.049	0.337	0	0.34	101	404	79	90	417	247	352	334	331	336	72	429	4164	0.056	-0.22	3.49	0.02
240	35.689	0.049	0.341	0	0.41	101	403	79	90	418	248	352	334	331	336	72	427	4164	0.054	-0.32	3.63	0
241	35.835	0.049	0.342	0	0.41	101	405	79	90	418	247	351	334	331	336	72	430	4164	0.058	-0.39	3.92	0
242	35.979	0.049	0.344	0	0.43	101	402	79	90	418	247	350	333	331	336	72	427	4164	0.055	-0.42	3.79	0
243	36.126	0.049	0.338	0	0.46	101	401	79	90	419	247	350	333	332	336	72	427	4164	0.057	-0.29	4.01	0
244	36.273	0.049	0.34	0	0.37	101	401	79	90	419	247	349	333	332	336	72	425	4164	0.059	-0.44	3.96	0
245	36.418	0.049	0.339	0	0.28	101	400	79	90	419	246	349	332	332	336	72	423	4164	0.055	-0.19	3.89	0
246	36.564	0.049	0.336	0	0.37	101	400	79	90	419	247	348	332	332	336	72	426	4164	0.061	-0.26	3.97	0
247	36.712	0.049	0.341	0	0.33	101	400	79	90	419	247	348	332	332	335	72	426	4164	0.06	-0.21	3.96	0
248	36.856	0.049	0.338	0	0.28	101	399	79	90	419	247	347	332	333	336	72	426	4164	0.061	-0.41	3.83	0
249	37.002	0.049	0.34	0	0.3	101	398	79	90	419	247	347	332	333	336	72	425	4164	0.059	-0.26	3.55	0.12
250	37.149	0.049	0.335	0	0.34	101	400	79	90	419	247	346	332	333	336	72	427	4164	0.061	-0.36	3.85	0
251	37.296	0.049	0.342	0	0.21	100	402	79	90	418	247	346	332	333	335	72	429	4164	0.057	-0.45	3.95	0
252	37.439	0.049	0.337	0	0.21	101	401	79	90	419	247	345	332	334	335	72	434	4164	0.055	-0.33	3.64	0
253	37.586	0.049	0.344	0	0.24	101	404	79	90	418	248	345	333	334	335	72	432	4164	0.057	-0.3	3.93	0
254	37.733	0.049	0.33	0	0.2	101	402	79	90	418	248	345	332	334	335	72	425	4164	0.059	-0.35	3.61	0.06
255	37.878	0.049	0.345	0	0.15	101	401	79	90	417	248	345	332	333	335	72	427	4164	0.056	-0.43	3.85	0
256	38.024	0.049	0.343	0	0.14	100	401	79	90	416	248	344	332	333	335	72	429	4164	0.055	-0.28	3.63	0
257	38.168	0.049	0.334	0	0.16	100	399	79	90	417	248	344	332	333	335	72	429	4164	0.061	-0.48	3.79	0
258	38.316	0.049	0.345	0	0.28	100	399	79	90	416	248	343	332	334	335	72	425	4164	0.06	-0.28	3.81	0
259	38.461	0.049	0.342	0	0.15	100	399	79	90	417	249	343	332	334	335	72	426	4164	0.055	-0.18	3.6	0
260	38.605	0.049	0.342	0	0.14	100	398	79	90	416	249	343	331	335	335	72	426	4164	0.059	-0.28	3.81	0
261	38.751	0.049	0.346	0	0.23	100	397	79	90	415	248	343	331	334	334	72	425	4164	0.06	-0.44	3.8	0
262	38.898	0.049	0.341	0	0	100	397	79	90	415	249	343	331	335	334	72	427	4164	0.054	-0.23	3.5	0

10/31/2017

Et	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.049	0	0	12.84	100.92	408.53	70	80	445	297	471	394	335	388	69	451	4155	0.061	17.94	2.63	0
1	0.159	0.049	0.359	0	13.25	148	343	73	80	441	308	470	384	342	389	70	349	4155	0.05	20.18	0.66	0.11
2	0.328	0.049	0.358	0	12.64	173	332	76	80	437	319	471	377	347	390	70	348	4155	0.059	19.53	0.98	0.27
3	0.493	0.049	0.353	0	12.68	201	403	79	80	432	328	470	385	350	393	69	391	4155	0.077	18.87	1.53	0.27
4	0.659	0.049	0.351	0	12.58	190	582	80	80	430	335	464	437	354	404	69	706	4155	0.073	14.76	5.71	0
5	0.826	0.049	0.348	0	12.27	152	590	79	80	429	341	452	445	356	405	69	703	4155	0.078	15.34	5.12	0
6	0.991	0.049	0.351	0	12.12	130	524	78	80	429	344	444	450	357	405	69	641	4155	0.072	16.58	4.16	0

7	1.153	0.049	0.349	0	12.11	121	501	77	80	427	347	437	456	359	405	69	617	4155	0.073	17.58	3.06	0
8	1.318	0.049	0.35	0	12.16	116	491	77	80	422	348	430	459	360	404	68	606	4156	0.068	17.51	3.1	0
9	1.48	0.049	0.348	0	12.01	114	485	76	80	418	349	424	459	361	402	69	616	4156	0.071	17.42	3.29	0
10	1.643	0.049	0.349	0	11.89	113	485	76	80	413	349	418	459	362	400	69	613	4156	0.071	17.59	3.12	0
11	1.803	0.049	0.344	0	11.88	111	481	76	80	407	348	412	458	362	397	69	601	4156	0.07	17.44	3.12	0.08
12	1.966	0.049	0.354	0	11.82	110	476	76	80	402	347	407	457	363	395	68	603	4156	0.066	17.31	3.25	0.08
13	2.128	0.049	0.346	0	11.68	110	474	76	81	395	346	402	455	364	392	68	591	4156	0.07	17.23	3.17	0.22
14	2.288	0.049	0.352	0	11.62	109	472	76	81	390	344	397	454	365	390	68	579	4156	0.066	17.46	3.27	0.1
15	2.447	0.049	0.348	0	11.6	108	466	76	81	384	343	393	452	365	387	69	572	4156	0.065	17.27	3.33	0.35
16	2.605	0.049	0.344	0	11.6	108	461	76	81	379	341	388	451	365	385	69	573	4156	0.068	17.17	3.26	0.67
17	2.763	0.049	0.343	0	11.32	108	457	76	81	373	339	384	449	365	382	69	576	4156	0.068	17.16	3.48	0.58
18	2.921	0.049	0.343	0	11.39	107	453	76	81	368	337	380	449	366	380	69	559	4156	0.069	17.13	3.32	0.75
19	3.081	0.049	0.347	0	11.4	107	450	76	81	363	336	376	448	366	378	69	569	4156	0.064	17.17	3.34	0.77
20	3.237	0.049	0.345	0	11.33	107	448	76	81	359	333	373	447	365	376	69	560	4156	0.067	16.93	3.71	0.67
21	3.393	0.049	0.346	0	11.21	107	450	76	81	355	332	370	447	365	374	68	583	4156	0.068	16.89	3.67	0.76
22	3.552	0.049	0.35	0	10.95	107	452	76	81	351	330	367	448	365	372	69	585	4156	0.069	16.78	3.79	0.74
23	3.709	0.049	0.346	0	11.06	107	458	76	82	347	329	364	448	365	371	68	595	4156	0.064	16.64	3.69	0.78
24	3.864	0.049	0.344	0	10.91	107	458	76	82	343	320	361	448	363	367	68	544	4156	0.069	16.51	4.07	0.59
25	4.02	0.049	0.345	0	10.96	106	463	76	82	343	300	362	441	355	360	68	543	4156	0.069	16.61	4.14	0.47
26	4.177	0.049	0.343	0	10.79	106	467	76	82	342	284	363	434	349	354	69	538	4156	0.066	16.28	4.09	0.54
27	4.334	0.049	0.345	0	10.81	107	470	76	82	341	272	363	429	345	350	68	535	4156	0.068	16.16	4.19	0.67
28	4.49	0.049	0.339	0	10.64	107	476	76	82	339	264	363	427	342	347	69	544	4156	0.068	15.87	4.51	0.58
29	4.648	0.049	0.337	0	10.54	107	480	76	82	338	257	363	426	340	345	69	551	4156	0.071	15.95	4.66	0.55
30	4.804	0.049	0.338	0	10.57	107	487	76	82	337	252	362	431	338	344	69	555	4156	0.073	15.7	4.85	0.45
31	4.962	0.049	0.344	0	10.42	108	501	77	82	337	249	362	438	336	344	69	566	4156	0.069	15.4	5.19	0.18
32	5.118	0.049	0.339	0	10.27	109	511	77	82	336	246	362	457	334	347	69	563	4156	0.075	13.96	6.7	0
33	5.274	0.049	0.336	0	10.16	110	518	77	83	336	244	362	474	332	350	68	565	4156	0.076	14.35	6.37	0
34	5.43	0.049	0.342	0	9.54	110	523	77	83	337	243	363	486	331	352	68	573	4156	0.075	14.37	6.15	0
35	5.586	0.049	0.34	0	10	110	527	77	83	338	242	364	496	330	354	69	572	4156	0.072	14.61	6.19	0
36	5.739	0.049	0.34	0	9.91	110	530	77	83	339	242	366	500	329	355	68	581	4156	0.071	14.76	5.94	0
37	5.892	0.049	0.345	0	9.85	111	534	77	83	340	242	367	498	327	355	69	615	4156	0.074	15.14	5.54	0
38	6.049	0.049	0.341	0	9.71	111	547	77	83	341	242	369	501	326	356	69	616	4156	0.076	15.33	5.26	0
39	6.204	0.049	0.34	0	9.78	112	551	77	83	342	243	371	504	325	357	68	619	4156	0.074	15.24	5.45	0
40	6.359	0.049	0.34	0	9.5	113	557	77	83	343	243	372	516	324	360	69	610	4156	0.076	13.38	7.3	0
41	6.513	0.049	0.344	0	9.35	114	558	78	83	345	243	374	532	323	363	69	602	4156	0.073	12.9	7.8	0
42	6.668	0.049	0.337	0	9.3	115	568	78	83	346	244	377	553	322	369	69	632	4157	0.076	11.03	9.86	0
43	6.822	0.049	0.334	0	9.14	116	580	78	83	351	246	382	577	321	375	69	692	4157	0.076	10.7	9.95	0
44	6.977	0.049	0.335	0	8.92	117	596	78	84	356	249	387	602	320	383	69	705	4157	0.113	10.47	10.38	0
45	7.13	0.049	0.341	0	8.83	117	605	78	84	362	253	393	625	319	390	69	731	4157	0.076	10.6	10.18	0
46	7.285	0.049	0.334	0	8.68	118	613	78	84	368	258	401	648	317	398	69	753	4157	0.079	10.57	10.27	0
47	7.434	0.049	0.335	0	8.52	118	627	78	84	375	263	408	668	316	406	68	799	4157	0.138	10.54	10.4	0
48	7.589	0.049	0.34	0	8.41	119	637	78	84	382	268	416	686	315	413	69	791	4157	0.096	10.44	10.17	0
49	7.742	0.049	0.344	0	8.22	120	643	78	84	389	273	423	704	314	421	69	847	4157	0.14	10.18	10.63	0
50	7.894	0.049	0.337	0	8.12	120	650	78	84	397	277	431	722	312	428	69	846	4157	0.094	10.3	10.6	0
51	8.044	0.049	0.333	0	7.95	121	658	79	84	405	282	439	740	312	436	69	881	4157	0.155	10.14	10.73	0
52	8.195	0.049	0.343	0	7.75	121	663	79	84	413	287	447	756	310	443	69	836	4157	0.168	10.3	10.48	0
53	8.344	0.049	0.339	0	7.59	122	670	79	84	421	292	454	768	309	449	69	907	4157	0.121	10.35	10.28	0.01
54	8.495	0.049	0.34	0	7.47	122	673	79	84	428	296	462	778	308	454	69	910	4157	0.121	10.6	10.09	0.06
55	8.646	0.049	0.343	0	7.36	123	676	79	84	436	300	469	785	307	459	69	900	4157	0.104	10.62	10.07	0
56	8.796	0.049	0.334	0	7.28	122	678	79	84	443	304	476	788	305	463	69	904	4157	0.138	11	9.99	0
57	8.947	0.049	0.338	0	7.16	123	673	79	85	449	308	483	789	305	467	69	895	4157	0.128	11.22	9.33	0
58	9.098	0.049	0.341	0	7	123	672	79	85	456	312	490	788	304	470	70	879	4157	0.098	11.25	9.3	0
59	9.251	0.049	0.338	0	6.86	123	669	79	85	462	315	496	785	303	472	70	868	4157	0.147	11.24	9.12	0
60	9.402	0.049	0.336	0	6.73	122	662	79	85	467	318	502	783	302	474	70	843	4157	0.136	11.5	9.18	0
61	9.553	0.049	0.338	0	6.7	122	659	79	85	472	321	508	781	301	477	70	842	4157	0.157	11.66	8.77	0
62	9.706	0.049	0.345	0	6.53	122	655	79	85	477	323	513	777	300	478	70	843	4157	0.13	11.78	9	0
63	9.861	0.049	0.341	0	6.38	122	653	79	85	482	326	518	773	300	480	70	838	4157	0.145	11.78	8.69	0
64	10.013	0.049	0.335	0	6.19	122	650	79	85	486	328	522	770	299	481	70	841	4157	0.123	12.17	8.35	0
65	10.166	0.049	0.342	0	6.17	122	648	79	85	489	331	526	765	298	482	70	813	4157	0.111	12.25	8.25	0
66	10.317	0.049	0.339	0	5.72	122	645	80	85	494	332	529	761	297	483	70	810	4158	0.126	12.05	8.24	0
67	10.468	0.049	0.336	0	6.08	122	639	80	85	496	334	534	757	296	484	70	788	4158	0.117	12.49	7.97	0
68	10.619	0.049	0.337	0	5.75	121	638	80	85	499	335	537	753	296	484	70	789	4158	0.138	12.43	8.09	0
69	10.773	0.049	0.342	0	5.88	121	633	80	85	501	337	540	747	295	484	70	799	4158	0.085	12.72	7.53	0
70	10.923	0.049	0.34	0	5.79	121	628	80	85	504	338	542	742	295	484	70	793	4158	0.078	13.01	7.58	0
71	11.077	0.049	0.343	0	5.61	121	624	80	85	506	339	545	737	293	484	70	803	4158	0.078	13.11	7.33	0
72	11.23	0.049	0.337	0	5.74	120	619	80	85	508	340	546	729	293	483	70	822	4158	0.115	13.42	7.11	0
73	11.382	0.049	0.331	0	5.5	120	614	80	86	510	341	548	722	293	483	71	757	4158	0.104	13.8	6.57	0
74	11.533	0.049	0.334	0	5.47	120	610	80	86	511	341	549	712	292	481	70	773	4158	0.077	14	6.29	0
75	11.683	0.049	0.346	0	5.36	119	603	80	86	512	342	549	701	291	479	70	735	4158	0.076	14.29	6.08	0
76	11.833	0.049	0.35	0	5.11	119	596	80	86	512	342	550	690	291	477	70	717	4158	0.075	14.41	5.93	0
77	11.984	0.049	0.334	0	5.16	118	590	80	86	512	341	550	679	290	474	70	708	4158	0.079	14.64	5.62	0
78	12.132	0.049	0.34	0	5.15	118	586	80	86	512	341	550	668	289	472	70	695	4158	0.08	14.7	5.84	0
79	12.282	0.049	0.343	0	5.06	118	586	80	86	510	340	550	656	289	469	70	689	4158	0.078	14.95	5.6	0
80	12.43	0.049	0.337	0	4.98	117	587	80	86	510	339	550	642	289	466	70	674	4158	0.078	15.03	5.15	0.03
81	12.579	0.049	0.338	0	5.03	117	589	80	86	509	337	549	631	289	463	70	667	4158	0.076	15.13	5.26	0
82	12.729	0.049	0.339	0	4.95	117	586	80	86	507	336	548	621	288	460	71	673	4158	0.075	15.27	5.08	0
83	12.878	0.049	0.343	0	4.91	117	581	80	86	506	335	547	608	287	456	70	653	4159	0.075	15.5	4.93	0
84	13.028	0.049	0.334	0	4.77	117	595	80	86	504	332	545	595	287	453	71	691	4159	0.106	15.46	4.86	0.09
85	13.176	0.049	0.339	0	4.78	118	608	80	86	502	331	543	585	287	449	70	712	4159	0.102	15.42	5.03	0
86	13.325	0.049	0.339	0	4.68	118	611	80	86	500	328	541	577	286	447	70	709	4159	0.078	15.83	4.55	0.02
87	13.472	0.049	0.339	0	4.61	118	616	80	86	498	326	538	569	286	443	71	702	4159	0.078	15.73	4.4	0.1
88	13.619	0.049	0.341	0	5.09	118	616	80	86	496	323	535	560	286	440	70	702	4159	0.077	15.84	4.49	0
89	13.769	0.049	0.344	0	4.57	118	615	80	86	493	321	531	552	286	437	70	694	4159	0.08	15.86	4.69	0
90	13.918	0.049	0.337	0	4.48	118	615	80	86	490	318	528	544	286	433	70	688	4159	0.1	15.9	4.39	0.08
91	14.067	0.049	0.339	0	4.72	118	612	80	86	487	316	525	536	286	430	70	676	4159	0.079	16.04	4.54	0
92	14.221	0.049	0.349	0	4.43	118	609	80	87	485	314	521	529	285	427	70	674	4159	0.108	15.91	4.37	0.06
93	14.371	0.049	0.334	0	4.45	119	606	80	87	482	311	518	521	285	424	70	660	4159	0.08	15.89	4.57	0
94	14.52	0.049	0.341	0	4.41	118	608	80	87	480	309	514	514	286	421	70	652	4159	0.079	15.95	4.61	0
95	14.668	0.049	0.347	0	4.33	119	606	80	87	478	307	510	508	285	418	70	653	4159	0.076	15.85	4.5	0
96	14.818	0.049	0.34	0	4.27	118	604	80	87	475	305	506	502	285	415	70	647	4159	0.076	15.88	4.3	0
97	14.968	0.049	0.331	0	4.54	118	603	80	87	473	303	502	497	285	412	70	631	4159	0.098	15.92	4.59	0
98	15.115	0.049	0.341	0	4.25	118	597	80	87	471	301	499	491	285	409	70	641	4159	0.076	15.99	4.43	0
99	15.265	0.049	0.336	0	4.19	118	596	80	87	469	299	495	486	285	407	70	630	4159	0.078	16.04	4.62	0
100	15.413	0.049	0.34	0	4.12	118	594	80	87	466	298	492	482	285	405	70	629	4159	0.078	15.82	4.24	0.07
101	15.56	0.049	0.336	0	4.19	118	594	80	87	464	296	488	478	286	402	70	631	4159	0.079	15.87	4.68	0
102	15.709	0.049	0.341	0	4.06	118	593	80	87	463	294	484	474	285	400	71	611	4159	0.075	16.04	4.46	0
103	15.857	0.049	0.329	0	4.02	118	591	80	87	462	293	481	470	284	398	70	612	4159	0.085	15.91	4.44	0.02
104	16.006	0.049	0.341	0	4.03	118	590	80	87	460	292	478	467	286	396	70	621	4159	0.083	15.9	4.66	0
105	16.156	0.049	0.335	0	3.91	118	589	80	87	459	290	474	464	286	395	71	617	4159	0.081	15.8	4.41	0
106	16.303	0.049	0.341	0	3.69	118	588	80	87	458	289	472	461	286	393	70	615	4160	0.077	15.89	4.33	0.07
107	16.447	0.049	0.346	0	4	119	593	80	87	457	288	469	459	286	392	70	611	4160	0.074	21.19	-0.35	0
108	16.593	0.049	0.342	0	3.88	119	592	80	87	456	287	466	456	287	390	70	605	4160	0.075	21.34	-0.41	0
109	16.741	0.049	0.336	0	3.83	119	590	80	87	455	286	463	455	287	389	70	603	4160	0.079	21.18	-0.05	0
110	16.885	0.049	0.335	0	3.65	118	581	80	87	454	286	460	454	287	388	70	588	4160	0.079	21.23	-0.21	0
111	17.029	0.049	0.337	0	3.76	118	570	80	87	453	284	457	452	287	387	70	579	4160	0.078	21.13	-0.15	0
112	17.176	0.049	0.343	0	3.71	117	563	80	87	453	284	455	450	288	386	70	571	4160	0.077	21.35	-0.33	0
113	17.322	0.049	0.335	0	3.62	117	558	80	87	452	283	453	450	289	385	70	563	4160	0.077	21.24	-0.05	0
114	17.469	0.049	0.346	0	3.52	117	553	80	87	451	282	451	449	289	385	70	555	4160	0.076	21.29	-0.3	0
115	17.615	0.049	0.334	0	3.55	117	547	80	87	451	281	449	450	290	384	70	552	4160	0.076	21.27	-0.2	0
116	17.762	0.049	0.339	0	3.51	116	544	80	87	450	282	448	451	290	384	70	551	4160	0.075	8.4	-0.37	0
117	17.908	0.049	0.338	0	3.01	116	539	80	87	449	282	447	453	290	384	70	541	4160	0.074	-0.36	-0.46	0
118	18.054	0.049	0.339	0	3.4	116	537	80	87	448	281	447	455	291	384	70	537	4160	0.075	-0.42	-0.14	0
119	18.201	0.049	0.341	0	3.33	115	535	80	87	448	281	446	457	291	385	70	539	4160	0.071	-0.33	-0.42	0
120	18.347	0.049	0.342	0	3.27	115	534	80	87	447	281	446	459	292	385	70	535	4160	0.069	-0.37	-0.43	0
121	18.493	0.049	0.337	0	3.51	115	530	80	87	447	281	446	461	292	385	70	546	4160	0.072	-0.41	-0.45	0
122	18.639	0.049	0.341	0	3.15	114	531	80	87	447	281	447	462	292	386	70	540	4160	0.074	-0.32	-0.34	0
123	18.783	0.049	0.344	0	3.14	114	530	80	87	446	282	448	464	291	386	70	550	4160	0.073	-0.34	-0.47	0
124	18.93	0.049	0.341	0	3.11	114	530	80	87	447	282	448	466	291	387	70	546	4160	0.067	-0.35	-0.31	0
125	19.075	0.049	0.343	0	2.87	114	532	80	87	447	282	449	466	291	387	70	561	4160	0.072	-0.3	-0.48	0
126	19.221	0.049	0.346	0	3.03	114	540	80	87	448	283	450	465	292	388	71	564	4160	0.077	-0.32	-0.05	0
127	19.369	0.049	0.334	0	2.95	114	542	80	87	448	283	451	466	291	388	71	580	4160	0.077	-0.47	-0.27	0
128	19.516	0.049	0.333	0	2.86	114	549	80	87	449	284	451	467	292	389	70	601	4160	0.071	-0.23	-0.41	0
129	19.661	0.049	0.339	0	2.9	115	553	80	87	449	285	451	468	292	389	71	599	4160	0.076	-0.43	-0.1	0
130	19.807	0.049	0.348	0	2.48	115	553	80	87	449	285	452	468	292	389	71	595	4160	0.072	-0.21	-0.33	0
131	19.954	0.049	0.342	0	2.71	115	561	80	87	451	285	453	469	292	390	71	600	4160	0.074	-0.34	-0.02	0
132	20.1	0.049	0.343	0	2.73	115	557	80	87	451	286	452	470	292	390	71	598	4160	0.076	-0.45	-0.27	0
133	20.248	0.049	0.343	0	2.71	115	556	80	87	452	286	452	471	292	391	71	591	4160	0.079	-0.31	0	0
134	20.396	0.049	0.342	0	2.65	115	552	80	87	452	287	453	472	292	391	71	589	4160	0.075	-0.35	-0.04	0
135	20.543	0.049	0.337	0	2.56	115	555	80	87	453	287	453	469	292	391	71	610	4161	0.076	-0.3	-0.07	0

136	20.69	0.049	0.344	0	2.17	116	575	80	87	453	288	453	468	292	391	71	638	4161	0.074	-0.37	-0.28	0
137	20.836	0.049	0.348	0	2.48	117	593	81	87	453	288	453	470	292	391	71	684	4161	0.075	-0.22	-0.32	0
138	20.981	0.049	0.337	0	2.4	117	601	81	87	454	287	453	472	293	392	71	692	4161	0.079	-0.31	-0.45	0
139	21.127	0.049	0.34	0	2.08	118	613	81	87	454	287	453	474	292	392	71	713	4161	0.102	-0.36	-0.08	0
140	21.273	0.049	0.34	0	2.34	119	622	81	87	454	287	452	477	292	393	71	721	4161	0.079	-0.31	-0.43	0
141	21.422	0.049	0.342	0	2.59	119	628	81	87	455	287	451	479	292	393	71	736	4161	0.102	-0.41	-0.01	0
142	21.567	0.049	0.342	0	2.26	120	631	81	87	455	287	451	481	292	393	71	741	4161	0.077	-0.3	-0.02	0
143	21.717	0.049	0.334	0	2.5	120	635	81	87	455	287	450	481	292	393	71	725	4161	0.113	-0.3	-0.16	0
144	21.863	0.049	0.34	0	2.5	120	633	81	87	455	287	449	481	292	393	71	709	4161	0.08	-0.19	-0.39	0
145	22.01	0.049	0.344	0	2.62	120	626	81	87	456	286	448	479	292	392	71	695	4161	0.077	-0.3	-0.35	0
146	22.16	0.049	0.335	0	1.68	120	618	81	86	456	286	447	476	292	392	71	665	4161	0.1	-0.34	-0.27	0
147	22.308	0.049	0.341	0	2.07	120	613	81	86	456	286	447	473	292	391	71	651	4161	0.089	-0.52	-0.07	0
148	22.455	0.049	0.341	0	1.96	120	605	81	86	456	286	445	468	292	389	71	637	4161	0.091	-0.39	-0.11	0
149	22.602	0.049	0.337	0	1.96	119	599	81	86	455	285	444	464	292	388	71	626	4161	0.079	-0.17	-0.32	0
150	22.754	0.049	0.342	0	1.94	119	598	81	86	455	285	443	460	291	387	71	620	4161	0.074	-0.3	-0.32	0
151	22.904	0.049	0.336	0	1.84	119	592	81	86	454	284	441	456	292	385	71	608	4161	0.078	-0.34	-0.35	0
152	23.049	0.049	0.34	0	1.69	119	591	81	86	454	283	440	452	291	384	71	606	4161	0.085	-0.27	-0.16	0
153	23.198	0.049	0.344	0	1.92	119	586	81	86	453	283	438	449	292	383	71	612	4161	0.078	-0.41	0.05	0
154	23.343	0.049	0.345	0	1.79	119	556	81	86	452	282	437	446	292	382	71	599	4161	0.075	-0.45	0.03	0
155	23.491	0.049	0.342	0	1.81	119	581	81	86	451	282	436	443	292	381	71	601	4161	0.078	-0.37	-0.26	0
156	23.637	0.049	0.345	0	1.77	119	579	81	86	451	281	434	442	292	380	71	594	4161	0.073	-0.45	-0.28	0
157	23.784	0.049	0.336	0	2.19	118	563	81	86	450	281	433	441	292	379	71	554	4161	0.071	-0.38	-0.04	0
158	23.932	0.049	0.331	0	1.92	117	551	81	86	449	281	431	439	293	379	71	540	4161	0.072	-0.38	-0.38	0
159	24.08	0.049	0.347	0	1.72	116	540	81	86	448	280	430	437	293	378	71	529	4161	0.069	-0.34	-0.28	0
160	24.226	0.049	0.339	0	1.77	116	534	81	86	447	279	429	436	293	377	71	524	4161	0.073	-0.48	0	0
161	24.375	0.049	0.34	0	1.32	115	528	81	86	446	279	427	434	293	376	71	515	4161	0.071	-0.43	0.11	0
162	24.523	0.049	0.341	0	1.64	115	520	81	86	445	279	427	432	294	375	71	508	4161	0.071	-0.42	0.05	0
163	24.67	0.049	0.336	0	1.57	114	516	81	86	444	279	426	428	294	374	71	516	4161	0.071	-0.44	0.01	0
164	24.821	0.049	0.335	0	1.53	114	513	81	86	442	278	425	425	294	373	71	509	4161	0.073	-0.35	-0.15	0
165	24.968	0.049	0.345	0	1.59	113	507	81	86	441	278	423	421	295	372	71	501	4161	0.07	-0.35	0.06	0
166	25.115	0.049	0.337	0	1.6	113	502	81	86	439	277	422	418	295	370	71	497	4161	0.066	-0.36	-0.33	0
167	25.263	0.049	0.338	0	1.54	112	496	81	86	439	277	422	414	295	369	71	495	4162	0.066	-0.32	-0.11	0
168	25.408	0.049	0.338	0	1.65	112	495	81	86	435	276	420	410	295	368	71	492	4162	0.071	-0.33	-0.26	0
169	25.558	0.049	0.34	0	1.45	112	492	81	86	436	275	419	406	295	366	71	488	4162	0.071	-0.44	0.08	0
170	25.705	0.049	0.335	0	1.57	111	492	81	86	434	274	418	403	296	365	71	491	4162	0.069	-0.35	0.07	0
171	25.852	0.049	0.344	0	1.44	111	492	81	86	432	273	417	400	296	364	71	490	4162	0.07	-0.43	0.04	0
172	26.001	0.049	0.337	0	1.43	111	491	81	86	431	273	417	397	296	363	71	491	4162	0.071	-0.36	-0.12	0
173	26.148	0.049	0.336	0	1.41	111	488	81	86	429	272	415	394	296	361	71	488	4162	0.067	-0.27	0.09	0
174	26.293	0.049	0.338	0	1.43	111	487	81	86	427	271	414	391	296	360	71	488	4162	0.07	-0.33	-0.27	0
175	26.442	0.049	0.335	0	1.4	110	482	81	86	426	270	412	389	296	359	71	485	4162	0.066	-0.43	-0.4	0
176	26.591	0.049	0.344	0	1.53	110	480	80	86	426	269	411	386	297	358	71	482	4162	0.066	-0.15	-0.33	0
177	26.74	0.049	0.343	0	1.26	110	479	80	86	423	268	410	384	297	356	71	480	4162	0.066	-0.35	-0.31	0
178	26.887	0.049	0.343	0	1.37	110	476	80	86	422	267	408	382	297	355	71	480	4162	0.063	-0.34	-0.04	0
179	27.034	0.049	0.343	0	1.23	109	474	80	86	420	266	407	380	297	354	71	478	4162	0.064	-0.31	-0.29	0
180	27.182	0.049	0.347	0	1.31	109	472	80	86	419	265	406	378	297	353	71	476	4162	0.063	-0.2	-0.03	0
181	27.33	0.049	0.338	0	1.29	109	471	80	86	418	265	405	376	297	352	71	479	4162	0.065	-0.17	-0.35	0
182	27.476	0.049	0.337	0	1.24	109	469	80	86	416	263	403	374	297	351	71	475	4162	0.062	-0.28	-0.26	0
183	27.621	0.049	0.339	0	1.31	108	468	80	86	415	262	402	372	297	350	71	469	4162	0.067	-0.31	0.16	0
184	27.767	0.049	0.343	0	1.28	108	465	80	86	414	262	400	370	297	349	71	469	4162	0.062	-0.26	-0.25	0
185	27.915	0.049	0.345	0	1.2	108	463	80	86	412	261	399	369	297	348	71	469	4162	0.068	-0.4	-0.14	0
186	28.06	0.049	0.341	0	1.22	108	463	80	86	411	260	397	367	297	347	71	466	4162	0.063	-0.51	0.13	0
187	28.206	0.049	0.34	0	1.27	108	459	80	86	410	259	396	365	297	346	71	464	4162	0.068	-0.32	-0.08	0
188	28.352	0.049	0.343	0	1.24	107	457	80	86	409	258	395	364	297	345	71	463	4162	0.063	-0.39	0.07	0
189	28.5	0.049	0.333	0	1.18	107	453	80	86	408	258	394	362	297	344	71	462	4162	0.067	-0.4	-0.06	0
190	28.646	0.049	0.342	0	1.17	107	450	80	86	406	257	392	361	297	342	71	462	4162	0.06	-0.37	-0.14	0
191	28.793	0.049	0.337	0	1.1	107	448	80	86	405	256	390	359	297	341	71	460	4162	0.066	-0.27	-0.16	0
192	28.94	0.049	0.34	0	1.08	107	448	80	86	404	256	389	358	297	341	71	459	4162	0.066	-0.5	0.01	0
193	29.088	0.049	0.345	0	1.2	106	444	80	86	403	255	388	356	296	340	71	454	4162	0.06	-0.14	-0.24	0
194	29.234	0.049	0.34	0	1.43	106	443	80	86	401	254	386	354	296	339	71	453	4162	0.063	-0.26	-0.33	0
195	29.383	0.049	0.34	0	1.08	106	443	80	86	400	254	385	353	296	338	71	451	4162	0.066	-0.28	0	0
196	29.532	0.049	0.341	0	1.08	106	440	80	86	400	253	383	352	296	337	71	453	4162	0.065	-0.4	-0.11	0
197	29.68	0.049	0.339	0	1.01	105	439	80	86	399	252	382	350	295	336	71	452	4162	0.065	-0.41	0.07	0
198	29.828	0.049	0.343	0	1.09	105	439	80	86	399	251	381	349	295	335	71	446	4162	0.065	-0.32	0.06	0
199	29.973	0.049	0.336	0	1.03	105	435	80	86	398	251	380	348	295	334	71	448	4162	0.059	-0.2	-0.21	0
200	30.119	0.049	0.334	0	1.03	105	435	80	86	397	250	378	346	295	333	71	449	4162	0.065	-0.38	-0.14	0
201	30.268	0.049	0.338	0	1.05	105	432	80	86	396	249	377	345	294	332	71	446	4162	0.058	-0.37	-0.1	0
202	30.415	0.049	0.34	0	1.14	105	431	80	86	395	249	376	344	294	331	71	445	4162	0.058	-0.39	0	0
203	30.563	0.049	0.343	0	1.23	104	429	80	86	394	248	375	343	294	331	71	441	4162	0.062	-0.34	0.17	0
204	30.71	0.049	0.34	0	0.97	104	429	80	86	393	248	373	342	294	330	71	445	4162	0.059	-0.28	-0.24	0
205	30.859	0.049	0.339	0	0.98	104	428	80	86	393	247	372	341	294	329	71	443	4162	0.064	-0.34	-0.01	0
206	31.007	0.049	0.345	0	1.23	104	427	80	86	392	246	371	340	293	329	71	445	4162	0.062	-0.34	0.19	0
207	31.152	0.049	0.341	0	0.94	104	427	80	86	391	246	370	339	293	328	71	441	4162	0.063	-0.28	-0.2	0
208	31.301	0.049	0.344	0	0.91	104	426	80	86	390	245	369	339	293	327	71	437	4162	0.061	-0.44	0.2	0
209	31.448	0.049	0.331	0	0.52	104	424	80	86	390	245	368	338	292	327	71	440	4162	0.063	-0.44	0.11	0
210	31.595	0.049	0.335	0	0.94	104	426	79	86	389	245	367	337	292	326	71	442	4162	0.06	-0.36	-0.27	0
211	31.742	0.049	0.344	0	0.93	103	425	79	86	359	244	366	336	291	325	71	437	4162	0.057	-0.25	0	0
212	31.889	0.049	0.34	0	0.87	103	421	79	86	389	244	365	335	291	325	71	437	4162	0.058	-0.4	-0.14	0
213	32.034	0.049	0.345	0	0.91	103	422	79	86	388	243	364	334	291	324	71	439	4162	0.064	-0.31	0.07	0
214	32.182	0.049	0.341	0	0.84	103	420	79	86	387	242	363	334	291	324	71	432	4162	0.06	-0.23	-0.3	0
215	32.329	0.049	0.339	0	0.85	103	418	79	86	387	243	363	333	291	323	71	437	4162	0.062	-0.41	-0.19	0
216	32.474	0.049	0.335	0	1.05	103	416	79	86	386	242	362	332	291	323	71	436	4162	0.063	-0.35	-0.01	0
217	32.622	0.049	0.343	0	0.53	103	416	79	86	386	242	361	331	291	322	71	432	4162	0.061	-0.36	0.2	0
218	32.766	0.049	0.343	0	0.86	103	416	79	86	386	242	360	330	290	322	71	437	4162	0.063	-0.26	-0.03	0
219	32.915	0.049	0.344	0	0.77	103	415	79	86	386	241	359	330	290	321	71	435	4162	0.061	-0.37	-0.28	0
220	33.064	0.049	0.343	0	0.38	102	415	79	86	386	240	358	329	290	321	71	431	4162	0.06	-0.44	0.16	0
221	33.21	0.049	0.339	0	1.13	102	415	79	86	386	239	357	328	290	320	71	434	4162	0.058	-0.31	0.12	0
222	33.355	0.049	0.336	0	0.74	102	412	79	86	386	239	356	327	289	320	71	431	4162	0.06	-0.36	0.17	0
223	33.5	0.049	0.338	0	0.81	102	411	79	86	386	239	356	327	289	319	71	430	4162	0.061	-0.4	0.2	0
224	33.648	0.049	0.34	0	0.7	102	411	79	86	385	239	355	326	289	319	71	433	4162	0.063	-0.43	0.15	0
225	33.794	0.049	0.337	0	0.55	102	412	79	86	385	238	354	325	289	318	71	430	4162	0.061	-0.36	-0.22	0
226	33.941	0.049	0.337	0	0.65	102	413	79	86	386	238	353	325	288	318	71	426	4162	0.061	-0.27	-0.17	0
227	34.09	0.049	0.34	0	0.63	102	408	79	86	386	238	352	324	288	318	71	424	4162	0.06	-0.28	-0.2	0
228	34.238	0.049	0.341	0	0.61	102	404	79	86	386	237	352	323	288	317	71	418	4162	0.059	-0.41	-0.2	0
229	34.386	0.049	0.341	0	0.57	101	400	79	86	384	238	351	323	288	317	71	415	4162	0.059	-0.21	-0.13	0
230	34.533	0.049	0.332	0	0.59	101	399	79	86	383	237	351	322	287	316	71	416	4162	0.059	-0.25	-0.24	0
231	34.68	0.049	0.341	0	0.66	101	397	79	86	382	237	350	321	287	315	71	415	4162	0.056	-0.33	0.13	0
232	34.826	0.049	0.344	0	0.6	101	394	79	86	381	237	349	321	287	315	71	412	4162	0.059	-0.43	0.21	0
233	34.971	0.049	0.336	0	0.59	101	395	79	86	380	237	349	320	287	315	71	412	4162	0.06	-0.33	0.12	0
234	35.117	0.049	0.345	0	0.57	101	391	79	86	378	236	348	319	287	314	71	411	4162	0.054	-0.25	-0.2	0
235	35.265	0.049	0.331	0	0.59	100	390	79	86	377	236	348	319	287	313	71	411	4162	0.06	-0.26	-0.09	0
236	35.412	0.049	0.337	0	0.52	100	389	79	86	375	235	347	318	287	313	71	409	4162	0.056	-0.38	0.2	0
237	35.558	0.049	0.345	0	0.43	100	389	79	86	374	236	347	317	287	312	71	413	4162	0.054	-0.24	-0.17	0
238	35.705	0.049	0.34	0	0.52	100	390	79	86	373	235	346	316	287	312	71	410	4162	0.054	-0.21	-0.02	0
239	35.85	0.049	0.336	0	0.57	100	388	79	86	371	235	346	316	287	311	71	412	4162	0.058	-0.39	0.27	0
240	36	0.049	0.343	0	0.55	100	386	79	86	371	234	345	315	287	311	71	409	4162	0.055	-0.42	0.1	0
241	36.147	0.049	0.336	0	0.45	100	386	79	86	369	234	345	315	287	310	71	408	4162	0.054	-0.32	-0.03	0
242	36.292	0.049	0.345	0	0.49	99	387	79	86	367	234	345	314	287	309	71	406	4162	0.058	-0.27	-0.17	0
243	36.44	0.049	0.343	0	0.55	99	387	79	86	366	233	344	313	287	309	71	407	4162	0.057	-0.39	0.2	0
244	36.588	0.049	0.344	0	0.44	99	386	79	86	364	233	344	313	287	308	71	407	4162	0.058	-0.48	0.21	0
245	36.735	0.049	0.331	0	0.43	99	383	79	86	363	233	343	312	287	308	71	407	4162	0.057	-0.35	-0.27	0.02
246	36.882	0.049	0.335	0	0.43	99	384	79	86	362	232	342	311	287	307	71	405	4162	0.054	-0.39	0.11	0
247	37.026	0.049	0.34	0	0.66	99	383	79	86	361	232	342	311	287	306	71	406	4162	0.057	-0.47	0.21	0
248	37.175	0.049	0.338	0	0.47	99	382	79	86	360	232	341	310	286	306	71	407	4162	0.056	-0.3	0.14	0
249	37.32	0.049	0.336	0	0.41	99	380	79	86	359	231	340	310	286	305	71	402	4162	0.057	-0.44	0.18	0
250	37.469	0.049	0.345	0	0.84	99	381	79	86	358	230	340	309	286	305	71	403	4162	0.058	-0.3	0.25	0
251	37.615	0.049	0.342	0	0.39	99	382	78	86	357	229	339	309	286	304	71	403	4162	0.059	-0.41	0.13	0
252	37.763	0.049	0.343	0	0.37	99	380	78	86	356	229	338	308	286	304	71	407	4162	0.056	-0.33	0.22	0
253	37.911	0.049	0.341	0	0.33	99	381	78	86	355	229	338	307	286	303	71	406	4162	0.053	-0.32	-0.08	0
254	38.057	0.049	0.336	0	0.39	99	380	78	86	355	229	337	307	285	303	71	400	4162	0.056	-0.23	-0.24	0
255	38.202	0.049	0.338	0	0.29	99	382	78	86	353	228	336	306	286	302	71	397	4162	0.054	-0.28	-0.17	0
256	38.348	0.049	0.348	0	0.38	99	382	78	86	352	228	336	306	285	301	71	406	4162	0.054	-0.4	0.21	0
257	38.496	0.049	0.337	0	0.3	99	381	78	86	352	228	335	305	285	301	71	406	4162	0.053	-0.37	-0.13	0
258	38.642	0.049	0.335	0	0.47	99	382	78	86	351	227	334	305	285	300	71	405	4162	0.054	-0.19	-0.22	0.01
259	38.789	0.049	0.343	0	0.3	99	383	78	86	350	226	333	304	285	300	71	403	4162	0.058	-0.49	0.27	0
260	38.936	0.049	0.34	0	0.23	99	383	78	86	349	226	332	304	285	299	71	408	4162	0.053	-0.26	0.03	0
261	39.082	0.049	0.339	0	0.22	99	384	78	86	348	225	331	303	285	299	71	405	4162	0.059	-0.45	0.17	0
262	39.229	0.049	0.34	0	0.16	99	384	78	86	346	225	331	303	285	298	71	409	4163	0.058	-0.27	-0.14	0
263	39.379	0.049	0.337	0	0.2	99	383	78	86	345	225	330	302	284	297	71	407	4163	0.056	-0.37	0.18	0
264	39.524	0.049	0.332	0	0.21	99	383	78	86	345	225	329	302	284	297	71	406	4162	0.058	-0.37	-0.2	0.01

265	39.671	0.049	0.338	0	0.25	98	382	78	86	344	224	329	301	283	296	71	406	4162	0.053	-0.23	-0.1	0
266	39.816	0.049	0.336	0	0.25	98	381	78	86	344	224	328	301	283	296	71	402	4163	0.057	-0.37	0.26	0
267	39.966	0.049	0.338	0	0.2	98	381	78	86	343	224	327	300	283	295	71	403	4163	0.052	-0.22	0.04	0
268	40.114	0.049	0.343	0	0.13	98	379	78	86	343	224	326	300	283	295	71	398	4163	0.056	-0.23	-0.12	0
269	40.262	0.049	0.331	0	0.24	98	378	78	86	341	223	325	299	282	294	71	403	4163	0.059	-0.33	0	0
270	40.409	0.049	0.331	0	0.14	98	378	78	86	341	223	325	298	282	294	71	401	4163	0.058	-0.34	0.01	0
271	40.555	0.049	0.338	0	0.1	98	377	78	86	340	223	324	298	282	293	71	400	4163	0.057	-0.28	-0.1	0
272	40.701	0.049	0.343	0	0.16	98	378	78	86	339	223	323	297	282	293	71	398	4163	0.054	-0.37	0.24	0
273	40.848	0.049	0.341	0	0.12	98	377	78	86	338	222	322	296	282	292	71	401	4163	0.058	-0.2	0.14	0
274	40.994	0.049	0.337	0	0.03	98	375	78	86	337	222	322	296	281	292	71	402	4163	0.055	-0.25	-0.18	0

10/31/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0	0	0	11.65	95.76	406.64	67	73	447	291	471	386	367	392	64	417	4148	0.042	-0.27	3.28	0
1	0.165	0	0.359	0	4.18	145	330	69	73	447	302	472	373	376	394	66	338	4148	0.052	-0.32	1.23	0.03
2	0.345	0	0.355	0	12.28	156	275	72	73	443	314	472	398	383	394	64	318	4148	0.048	-0.39	0.74	0
3	0.526	0	0.354	0	11.89	159	265	73	73	439	325	468	349	388	394	65	305	4148	0.048	-0.39	0.82	0
4	0.704	0	0.355	0	11.8	165	282	74	73	432	333	464	344	392	393	65	309	4148	0.055	-0.38	0.96	0
5	0.88	0	0.353	0	11.65	164	320	75	74	425	339	459	346	395	393	64	351	4148	0.055	-0.36	1.37	0.01
6	1.055	0	0.351	0	11.43	121	326	74	74	420	342	447	351	398	391	64	337	4148	0.055	-0.32	3.08	0.87
7	1.229	0	0.348	0	11.55	107	331	73	74	414	343	435	353	399	389	64	346	4148	0.056	-0.32	2.67	0.54
8	1.404	0	0.35	0	11.46	102	335	72	74	409	342	425	356	400	386	64	362	4148	0.056	-0.31	3	0.36
9	1.576	0	0.352	0	11.48	98	336	71	74	402	342	416	357	401	384	64	380	4148	0.053	-0.32	2.79	0.58
10	1.751	0	0.353	0	11.4	96	336	71	74	395	340	408	358	401	381	64	400	4148	0.053	-0.27	2.73	0.57
11	1.923	0	0.354	0	11.34	95	334	71	74	387	337	401	359	401	377	64	411	4148	0.052	-0.34	2.71	0.69
12	2.096	0	0.348	0	11.29	93	331	71	74	382	335	394	359	401	374	64	407	4148	0.053	-0.27	2.63	0.83
13	2.274	0	0.347	0	11.28	93	330	70	75	377	332	387	360	401	371	63	424	4148	0.052	-0.33	2.65	0.84
14	2.445	0	0.352	0	11.15	92	327	70	75	372	330	380	359	401	368	63	429	4148	0.051	-0.34	2.82	0.76
15	2.62	0	0.348	0	11.19	92	324	70	75	367	327	374	358	401	365	63	421	4148	0.053	-0.34	2.77	0.79
16	2.791	0	0.345	0	11.09	92	321	70	75	361	325	369	358	400	363	63	417	4148	0.051	-0.23	2.6	1
17	2.96	0	0.349	0	11.07	91	320	70	75	357	322	364	357	400	360	63	416	4148	0.05	-0.28	2.69	0.82
18	3.13	0	0.352	0	11.13	91	316	70	75	352	320	359	356	399	357	63	399	4148	0.05	-0.27	2.58	0.86
19	3.301	0	0.348	0	10.94	90	312	70	76	348	318	354	355	398	355	63	387	4148	0.05	-0.32	2.45	0.97
20	3.468	0	0.346	0	10.87	90	309	70	76	343	315	349	354	397	352	63	379	4148	0.052	-0.34	2.57	0.9
21	3.636	0	0.349	0	10.91	89	306	70	76	339	313	345	352	396	349	63	376	4148	0.051	-0.32	2.46	1.1
22	3.804	0	0.343	0	10.56	89	303	70	76	335	311	341	351	395	347	63	372	4148	0.048	-0.28	2.56	1.01
23	3.97	0	0.351	0	10.81	88	300	70	76	332	309	337	349	394	344	63	371	4148	0.05	-0.29	2.65	0.97
24	4.137	0	0.344	0	10.67	88	296	70	76	329	307	333	347	392	342	63	367	4148	0.048	-0.32	2.23	1.05
25	4.304	0	0.343	0	10.67	87	294	70	76	325	306	330	345	391	339	63	363	4148	0.05	-0.3	2.54	0.86
26	4.472	0	0.345	0	10.59	87	292	70	77	323	304	327	343	390	337	63	364	4148	0.049	-0.28	2.32	1.16

10/30/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
2	0.289	0	0.331	0	13.43	204	351	80	84	402	270	431	498	331	387	69	403	4159	0.062	19.98	0.77	0.06
3	0.444	0	0.35	0	13.15	232	435	76	84	402	270	435	476	332	383	67	430	4159	0.085	19.1	1.91	0
4	0.598	0	0.346	0	12.84	233	594	81	84	402	270	435	505	331	389	67	577	4159	0.076	15.72	6.76	0
5	0.753	0	0.342	0	12.71	168	592	82	84	404	269	429	488	329	384	67	651	4159	0.096	16.99	3.89	0
6	0.903	0	0.34	0	12.5	140	544	81	84	405	267	425	472	330	380	67	588	4159	0.078	17.69	3.19	0
7	1.056	0	0.349	0	12.98	128	531	80	84	404	265	422	461	330	376	67	563	4159	0.072	17.99	2.86	0
8	1.211	0	0.343	0	12.53	122	516	79	84	402	262	418	450	330	372	67	537	4159	0.072	18.2	2.66	0
9	1.369	0	0.345	0	12.48	118	508	78	84	399	259	414	438	330	368	66	530	4159	0.075	17.92	2.74	0
10	1.523	0	0.347	0	12.26	116	500	78	84	396	257	410	428	328	364	67	518	4159	0.071	17.94	2.76	0.01
11	1.68	0	0.341	0	12.38	114	496	78	84	392	254	406	418	328	359	66	507	4159	0.074	17.92	3.07	0
12	1.835	0	0.349	0	12.24	113	459	77	84	388	251	401	410	327	355	66	503	4159	0.071	17.66	2.92	0.26
13	1.994	0	0.347	0	12.23	112	488	77	84	384	248	396	405	326	352	66	498	4158	0.074	17.46	3.39	0.29
14	2.148	0	0.344	0	12.28	111	486	77	84	380	245	392	403	326	349	67	505	4158	0.07	16.96	3.86	0.25
15	2.304	0	0.342	0	12.17	111	489	77	84	376	243	387	404	325	347	66	519	4158	0.07	16.74	4.01	0.37
16	2.461	0	0.346	0	11.96	111	500	77	84	372	240	383	404	325	345	66	541	4158	0.071	16.78	3.84	0.39
17	2.617	0	0.346	0	11.81	112	509	77	84	368	238	378	406	325	343	66	545	4158	0.074	16.51	4.07	0.42
18	2.773	0	0.337	0	11.88	112	515	77	84	365	236	375	414	325	343	66	547	4158	0.075	16.16	4.58	0.24
19	2.93	0	0.341	0	11.73	112	518	77	84	363	234	371	421	325	343	66	541	4158	0.077	15.78	4.96	0
20	3.087	0	0.342	0	11.64	113	528	77	84	360	231	368	430	326	343	66	565	4158	0.077	15.45	5.48	0
21	3.241	0	0.339	0	11.53	113	535	77	84	357	231	366	442	326	344	67	594	4158	0.078	15.22	5.46	0
22	3.395	0	0.339	0	11.42	114	537	77	84	356	230	363	462	326	347	68	576	4158	0.077	14.82	5.79	0
23	3.55	0	0.347	0	11.47	114	539	77	84	355	229	361	469	326	348	68	592	4158	0.077	15.34	5.59	0
24	3.706	0	0.343	0	11.24	113	543	77	84	355	230	360	465	326	347	68	606	4158	0.098	16.33	4.56	0
25	3.858	0	0.341	0	11.12	114	563	78	84	354	230	359	460	325	346	69	620	4158	0.078	16.42	4.32	0.03
26	4.011	0	0.345	0	11.09	115	574	78	84	354	229	357	461	325	345	68	644	4158	0.076	16.18	4.81	0
27	4.162	0	0.339	0	10.97	116	578	78	84	354	229	356	462	324	345	69	663	4158	0.078	16.13	4.71	0.01
28	4.312	0	0.341	0	10.88	117	594	78	84	354	229	355	456	323	343	69	681	4158	0.096	15.9	5.19	0
29	4.465	0	0.336	0	10.83	119	625	78	84	354	228	354	454	323	343	68	715	4158	0.155	15.43	5.55	0
30	4.616	0	0.334	0	10.52	121	658	78	85	354	227	353	455	323	343	68	761	4158	0.157	14.97	5.92	0.14
31	4.767	0	0.345	0	10.53	123	695	79	85	355	227	352	460	323	343	69	833	4158	0.132	14.45	6.32	0.2
32	4.918	0	0.337	0	10.45	125	728	79	85	356	226	351	466	321	344	69	879	4158	0.217	14.16	6.5	0.34
33	5.07	0	0.345	0	10.39	128	753	79	85	358	226	351	475	321	346	69	938	4158	0.166	14.12	6.61	0.37
34	5.222	0	0.332	0	10.23	129	775	79	85	360	226	350	483	320	348	69	953	4158	0.245	13.78	6.96	0.29
35	5.373	0	0.346	0	10.15	131	794	80	85	363	225	349	492	320	350	69	982	4158	0.215	13.81	7.24	0.17
36	5.524	0	0.344	0	9.9	133	820	80	85	366	226	349	500	319	352	69	1020	4158	0.249	13.58	7.02	0.52
37	5.673	0	0.332	0	9.76	134	842	80	85	370	225	349	509	318	354	69	1045	4158	0.266	13.45	7.12	0.5
38	5.821	0	0.338	0	9.71	136	859	80	85	374	226	349	516	318	357	69	1065	4158	0.236	13.34	7.29	0.38
39	5.97	0	0.339	0	9.61	138	877	81	85	378	227	350	524	317	359	69	1108	4158	0.255	13.65	7.1	0.32
40	6.119	0	0.335	0	9.63	139	864	81	85	382	227	351	553	317	366	69	982	4158	0.264	13.03	7.98	0
41	6.266	0	0.341	0	9.3	139	811	81	85	386	229	352	581	316	373	69	926	4158	0.192	11.87	9.21	0.13
42	6.413	0	0.339	0	9.51	139	787	81	86	390	231	354	606	316	379	69	884	4158	0.157	11.27	9.6	0
43	6.56	0	0.335	0	9.07	138	773	81	86	394	235	358	628	316	386	69	861	4158	0.223	11.47	9.73	0
44	6.708	0	0.338	0	8.75	137	755	81	86	400	240	364	647	316	393	69	856	4158	0.166	11.51	9.73	0
45	6.855	0	0.339	0	8.74	137	751	81	86	405	245	370	664	315	400	69	873	4158	0.209	11.23	9.86	0
46	7.002	0	0.344	0	8.63	136	744	81	86	411	250	377	680	315	406	70	868	4158	0.217	11.39	9.69	0
47	7.149	0	0.335	0	8.39	136	743	82	86	417	256	384	695	314	413	70	894	4158	0.16	11.23	9.8	0
48	7.299	0	0.339	0	7.7	135	739	82	86	424	261	392	710	314	420	69	902	4158	0.179	11.52	9.3	0.02
49	7.446	0	0.342	0	8.19	134	735	82	86	431	266	400	722	314	427	70	921	4158	0.198	11.44	9.72	0
50	7.595	0	0.336	0	7.9	134	732	82	86	437	272	408	733	313	432	70	919	4158	0.157	11.62	9.2	0
51	7.741	0	0.339	0	7.86	133	724	82	86	444	276	415	741	312	438	70	915	4158	0.132	11.73	9.06	0
52	7.886	0	0.337	0	7.69	133	724	82	86	451	281	423	747	311	443	70	919	4158	0.168	12	8.77	0
53	8.031	0	0.34	0	7.59	132	717	82	87	458	286	430	751	311	447	70	906	4159	0.164	11.85	9	0
54	8.176	0	0.339	0	7.58	132	709	82	87	463	290	437	753	309	450	70	916	4159	0.157	12.05	9.06	0
55	8.321	0	0.335	0	7.4	131	704	81	87	469	294	444	755	308	454	70	888	4159	0.181	12.11	9	0
56	8.466	0	0.334	0	7.29	130	698	81	87	475	297	450	753	307	457	70	869	4159	0.183	12.5	8.47	0
57	8.608	0	0.346	0	7.16	130	687	81	87	480	301	456	751	306	459	70	853	4159	0.17	12.79	8.04	0
58	8.752	0	0.345	0	7.08	129	681	81	87	485	304	462	748	306	461	70	847	4159	0.134	12.99	8.05	0
59	8.898	0	0.34	0	6.88	129	677	81	87	489	307	468	744	306	463	70	828	4159	0.128	13.1	7.51	0
60	9.043	0	0.339	0	6.8	128	669	81	87	493	310	473	739	305	464	70	828	4159	0.128	13.01	7.63	0
61	9.186	0	0.338	0	6.73	128	666	81	87	496	312	478	739	304	466	70	847	4159	0.157	12.46	8.32	0
62	9.328	0	0.342	0	6.59	128	670	81	87	500	314	483	742	304	469	70	871	4159	0.104	12.05	8.64	0
63	9.475	0	0.349	0	6.56	128	672	81	87	503	317	487	743	303	471	70	894	4159	0.13	12.12	8.79	0
64	9.619	0	0.345	0	6.87	127	667	81	87	507	319	491	743	303	473	70	872	4159	0.098	12.56	8.3	0
65	9.763	0	0.336	0	6.33	126	662	81	88	510	320	496	740	302	474	70	843	4159	0.155	12.58	8.32	0
66	9.91	0	0.345	0	6.25	126	657	81	88	514	323	500	733	302	474	70	802	4159	0.119	12.91	7.86	0
67	10.055	0	0.342	0	6.39	125	651	81	88	517	324	505	726	301	474	70	793	4159	0.113	13.42	7.26	0
68	10.201	0	0.333	0	6.1	124	644	81	88	520	326	508	713	301	474	70	795	4159	0.14	14.04	6.76	0
69	10.348	0	0.337	0	5.97	124	636	81	88	522	327	511	702	301	473	70	769	4159	0.1	14.31	6.14	0
70	10.495	0	0.343	0	5.85	123	627	81	88	524	328	514	691	301	471	70	760	4159	0.098	14.5	6.38	0
71	10.641	0	0.337	0	5.79	123	620	81	88	525	328	517	680	301	470	71	733	4159	0.123	14.64	6.32	0
72	10.787	0	0.347	0	5.78	122	615	81	88	526	329	519	668	301	468	70	699	4159	0.117	14.75	5.86	0
73	10.934	0	0.339	0	5.58	122	611	81	88	526	329	520	659	300	467	70	671	4159	0.079	14.85	5.81	0
74	11.081	0	0.339	0	5.57	121	607	81	88	525	330	522	650	300	465	70	659	4159	0.078	15	5.58	0
75	11.226	0	0.339	0	5.56	121	605	81	88	525	329	523	641	300	464	70	663	4159	0.079	14.81	5.65	0
76	11.374	0	0.347	0	5.45	121	607	81	88	524	329	523	628	300	461	70	667	4159	0.079	14.77	5.86	0
77	11.522	0	0.338	0	5.41	121	610	81	88	523	329	523	618	301	459	70	686	4159	0.1	14.59	5.55	0.05
78	11.669	0	0.338	0	5.37	121	608	81	88	523	327	523	609	301	457	70	674	4159	0.113	14.59	6.05	0
79	11.819	0	0.342	0	5.3	121	612	81	88	523	328	524	600	302	455	70	676	4159	0.083	14.77	6.07	0
80	11.967	0	0.336	0	5.28	120	610	81	88	523	327	523	594	302	454	71	679	4160	0.138	14.94	5.59	0.05
81	12.113	0	0.342	0	5.14	121	607	81	88	523	326	523	588	302	452	70	660	4160	0.077	14.7	5.99	0
82	12.262	0	0.342	0	5.05	121	604	81	88	523	325	522	581	303	451	70	674	4160	0.115	14.77	5.7	0
83	12.411	0	0.344	0	5.05	120	604	81	88	522	325	521	575	303	449	70	658	4160	0.091	14.68	5.97	0

84	12.557	0	0.34	0	4.9	120	601	81	88	523	324	521	569	303	448	71	670	4160	0.094	14.97	5.5	0.07
85	12.705	0	0.341	0	4.77	120	601	81	88	523	324	520	563	304	447	70	653	4160	0.132	14.68	5.86	0
86	12.854	0	0.343	0	4.85	119	599	81	88	524	324	519	558	305	446	70	660	4160	0.079	15.08	5.5	0.02
87	13.001	0	0.337	0	4.76	119	594	81	88	524	323	519	552	305	445	71	650	4160	0.08	15.07	5.53	0
88	13.151	0	0.342	0	4.71	119	590	81	88	525	323	518	548	306	444	70	652	4160	0.094	14.88	5.53	0.06
89	13.299	0	0.337	0	4.52	119	589	81	88	526	322	517	543	307	443	71	634	4160	0.078	15.14	5.42	0.03
90	13.447	0	0.347	0	4.53	118	587	81	88	527	322	516	538	308	442	70	632	4160	0.078	14.95	5.75	0
91	13.598	0	0.336	0	4.45	118	584	81	88	528	322	514	534	308	441	70	625	4160	0.108	14.97	5.47	0
92	13.747	0	0.339	0	4.45	118	579	81	88	529	321	514	530	309	441	71	633	4160	0.089	15.11	5.62	0
93	13.895	0	0.341	0	4.39	117	575	80	88	529	321	513	526	310	440	70	620	4160	0.076	15.05	5.69	0
94	14.044	0	0.343	0	4.56	117	576	80	88	530	321	512	523	311	439	70	615	4160	0.098	15.09	5.57	0
95	14.194	0	0.342	0	4.24	117	573	80	88	531	321	511	520	312	439	70	619	4160	0.077	15.08	5.24	0.03
96	14.344	0	0.338	0	4.23	117	569	80	88	530	320	509	517	313	438	71	604	4160	0.079	15.05	5.69	0
97	14.493	0	0.342	0	4.1	116	565	80	88	529	321	509	514	314	437	70	612	4160	0.074	15.25	5.31	0.03
98	14.64	0	0.331	0	4.01	117	564	80	88	529	320	508	512	315	437	70	605	4160	0.08	15.01	5.49	0
99	14.786	0	0.345	0	4.27	116	560	80	89	529	320	507	510	316	436	70	602	4160	0.073	15.12	5.51	0
100	14.936	0	0.341	0	3.95	116	560	80	89	529	319	506	507	318	436	70	609	4160	0.074	15.03	5.37	0
101	15.084	0	0.338	0	3.9	116	557	80	89	529	320	505	506	319	436	71	594	4160	0.079	14.95	5.62	0
102	15.231	0	0.342	0	3.88	115	555	80	89	529	320	505	504	319	435	70	584	4160	0.075	15.28	5.65	0
103	15.38	0	0.343	0	3.86	115	553	80	89	529	320	504	502	321	435	70	596	4160	0.077	15.04	5.63	0
104	15.528	0	0.347	0	3.14	114	552	80	89	529	320	503	501	322	435	70	599	4160	0.073	15.25	5.41	0
105	15.677	0	0.343	0	3.57	114	551	80	89	529	320	502	499	323	435	70	591	4160	0.076	15.45	5.11	0.06
106	15.826	0	0.344	0	3.65	114	547	80	89	529	320	501	498	324	434	70	587	4160	0.078	15.33	5.28	0
107	15.974	0	0.341	0	3.53	114	544	80	89	528	320	500	496	325	434	70	574	4160	0.074	15.47	5.35	0
108	16.122	0	0.338	0	3.48	114	541	80	89	527	320	499	493	327	433	70	577	4160	0.077	15.27	5.29	0
109	16.27	0	0.349	0	3.72	113	543	80	89	527	320	499	491	327	433	70	575	4160	0.074	15.25	5.43	0
110	16.419	0	0.342	0	3.35	113	541	80	89	526	320	498	490	329	433	70	569	4160	0.071	15.16	5.17	0
111	16.569	0	0.346	0	3.46	113	541	80	89	526	321	498	489	330	433	70	567	4160	0.071	15.24	5.42	0
112	16.716	0	0.339	0	3.17	113	538	80	89	525	320	497	490	330	433	70	564	4160	0.073	15.1	5.26	0.06
113	16.863	0	0.336	0	3.3	113	538	80	89	525	320	497	490	332	433	70	556	4160	0.076	15.14	5.29	0
114	17.011	0	0.343	0	3.4	112	538	80	89	524	320	497	492	333	433	70	567	4160	0.077	14.86	5.69	0
115	17.16	0	0.345	0	3.14	113	538	80	89	524	320	496	493	334	433	70	574	4160	0.072	14.77	5.66	0
116	17.307	0	0.337	0	3.08	112	539	80	89	523	320	496	495	334	434	70	575	4160	0.076	14.81	5.89	0
117	17.454	0	0.34	0	3.01	112	536	80	89	522	321	496	499	335	434	70	573	4160	0.071	14.72	5.81	0
118	17.604	0	0.333	0	2.94	112	537	79	89	522	321	496	502	336	435	70	576	4160	0.075	14.75	5.73	0.02
119	17.751	0	0.339	0	2.49	112	533	79	89	520	321	496	506	337	436	70	577	4160	0.074	14.75	5.78	0
120	17.897	0	0.348	0	2.87	112	532	79	89	520	321	496	511	337	437	70	582	4160	0.073	14.63	6.06	0
121	18.046	0	0.348	0	2.8	111	532	79	89	520	322	496	511	339	438	70	577	4160	0.073	15.16	5.22	0
122	18.194	0	0.338	0	2.74	111	527	79	89	520	322	497	508	340	437	70	572	4160	0.073	15.48	4.77	0.02
123	18.341	0	0.341	0	2.77	110	522	79	89	519	323	497	505	341	437	70	558	4160	0.075	15.5	5.12	0
124	18.487	0	0.341	0	2.7	110	519	79	89	519	323	498	501	342	436	70	553	4160	0.072	15.69	4.56	0.04
125	18.636	0	0.347	0	2.68	110	514	79	89	518	323	498	497	342	436	70	548	4159	0.068	15.7	4.76	0
126	18.781	0	0.344	0	2.63	109	508	79	89	517	323	498	493	343	435	70	538	4159	0.069	15.72	4.56	0
127	18.928	0	0.343	0	2.59	109	506	79	89	516	323	497	490	344	434	70	537	4160	0.072	15.85	4.58	0.01
128	19.077	0	0.342	0	2.53	109	502	79	89	514	323	497	486	345	433	70	534	4159	0.068	15.83	4.76	0
129	19.227	0	0.346	0	2.9	109	498	79	89	513	323	496	483	346	432	70	525	4160	0.068	15.75	4.84	0
130	19.378	0	0.347	0	2.4	108	493	79	89	512	323	495	480	347	432	70	529	4159	0.067	15.88	4.69	0
131	19.526	0	0.345	0	2.92	108	492	79	89	511	323	494	477	348	431	70	521	4159	0.072	15.67	4.82	0
132	19.674	0	0.346	0	2.2	107	489	79	89	511	322	494	475	349	430	70	522	4159	0.069	15.73	4.81	0
133	19.823	0	0.336	0	2.35	107	487	79	89	510	322	493	473	350	429	70	516	4159	0.072	15.82	4.57	0
134	19.971	0	0.34	0	2.43	107	486	79	89	509	322	492	471	351	429	70	515	4159	0.069	15.73	4.55	0.03
135	20.12	0	0.34	0	2.32	107	485	79	89	507	322	491	469	352	428	70	512	4159	0.07	15.81	4.89	0
136	20.267	0	0.347	0	2.27	106	484	79	89	506	322	491	467	354	428	70	509	4159	0.072	15.75	4.75	0
137	20.416	0	0.34	0	2.24	106	483	79	89	505	321	490	466	355	427	70	516	4159	0.067	15.81	4.47	0.01
138	20.563	0	0.352	0	2.21	106	480	78	89	505	320	489	464	355	427	70	509	4159	0.066	15.85	4.86	0
139	20.711	0	0.339	0	2.14	106	482	78	89	505	321	488	462	355	426	70	513	4159	0.07	15.81	4.64	0
140	20.857	0	0.341	0	2.12	106	479	78	89	505	321	488	462	357	427	69	509	4159	0.065	15.76	4.78	0
141	21.007	0	0.339	0	2.07	106	480	78	89	505	320	486	462	358	426	70	511	4159	0.07	15.66	4.88	0
142	21.154	0	0.342	0	2.05	106	479	78	89	505	320	485	462	358	426	70	509	4159	0.071	15.47	5.15	0
143	21.302	0	0.34	0	2.12	106	479	78	89	506	320	484	461	359	426	70	509	4159	0.071	15.51	5.02	0
144	21.452	0	0.345	0	1.92	105	475	78	89	506	320	484	462	360	426	70	511	4159	0.07	15.33	5.17	0
145	21.599	0	0.343	0	1.95	105	477	78	89	507	320	483	462	362	427	70	509	4159	0.071	15.28	5.29	0
146	21.747	0	0.339	0	1.9	105	473	78	89	508	320	482	463	363	427	70	505	4159	0.07	15.46	4.89	0
147	21.895	0	0.341	0	1.83	104	468	78	89	509	319	482	463	363	427	70	502	4159	0.064	15.71	4.75	0
148	22.043	0	0.341	0	1.76	104	467	78	89	510	319	482	460	365	427	70	500	4159	0.067	16.01	4.32	0
149	22.188	0	0.341	0	1.65	104	466	78	89	510	319	482	458	365	427	70	502	4159	0.065	16.05	4.37	0
150	22.336	0	0.336	0	1.73	104	464	78	89	510	318	482	455	366	426	70	499	4159	0.068	16.26	4.03	0.03
151	22.486	0	0.342	0	1.76	104	462	78	89	510	318	481	452	367	426	69	496	4159	0.07	16.39	4.16	0
152	22.637	0	0.349	0	1.74	103	463	78	89	509	318	481	449	368	425	69	495	4159	0.064	16.6	3.79	0
153	22.785	0	0.348	0	1.7	103	460	78	89	508	317	480	445	369	424	70	492	4159	0.065	16.71	3.96	0
154	22.934	0	0.343	0	1.76	103	458	78	89	506	316	478	441	370	422	69	485	4159	0.068	16.65	4.07	0
155	23.084	0	0.342	0	1.69	103	454	78	89	503	315	477	437	370	421	69	484	4159	0.068	16.54	4.03	0
156	23.233	0	0.345	0	1.61	103	453	78	89	502	314	476	433	372	419	70	481	4159	0.065	16.53	4.03	0
157	23.38	0	0.342	0	1.56	102	450	78	89	499	313	474	430	373	418	70	475	4159	0.068	16.61	4.02	0
158	23.53	0	0.345	0	1.59	102	447	78	89	496	312	472	426	374	416	70	474	4159	0.064	16.62	3.52	0
159	23.678	0	0.346	0	1.61	102	447	78	89	494	311	470	423	375	414	70	472	4159	0.063	16.71	3.83	0
160	23.828	0	0.346	0	1.56	102	445	78	89	492	310	468	420	376	413	70	472	4159	0.068	16.89	3.68	0
161	23.978	0	0.34	0	1.51	102	444	78	89	490	309	465	417	376	411	70	473	4159	0.066	16.7	3.53	0.09
162	24.127	0	0.337	0	1.53	102	443	78	89	488	308	463	414	377	410	69	468	4159	0.066	16.8	3.9	0
163	24.274	0	0.341	0	1.5	102	441	77	89	485	307	461	412	377	408	70	466	4159	0.067	16.7	3.83	0
164	24.423	0	0.338	0	1.45	101	440	77	89	483	305	458	409	378	407	69	468	4159	0.062	16.84	3.58	0
165	24.57	0	0.333	0	1.46	101	441	77	89	480	304	456	407	379	405	69	463	4159	0.063	16.87	3.5	0.03
166	24.717	0	0.343	0	1.53	101	439	77	89	477	303	453	404	380	404	69	468	4159	0.068	16.59	3.81	0
167	24.867	0	0.339	0	1.36	101	439	77	89	475	301	451	402	381	402	69	459	4159	0.063	16.8	3.47	0.01
168	25.014	0	0.346	0	1.49	101	436	77	89	474	300	449	401	382	401	69	462	4159	0.063	16.74	3.94	0
169	25.163	0	0.35	0	1.47	100	435	77	89	472	299	447	399	382	400	69	460	4159	0.063	16.74	3.58	0.01
170	25.31	0	0.344	0	1.39	101	433	77	89	469	298	445	397	383	398	69	460	4159	0.061	16.54	3.6	0
171	25.458	0	0.346	0	1.44	100	431	77	89	467	297	442	395	383	397	69	460	4159	0.064	16.52	3.97	0
172	25.608	0	0.348	0	1.35	100	431	77	89	465	296	441	394	384	396	69	460	4159	0.066	16.57	3.73	0
173	25.757	0	0.345	0	1.72	100	430	77	88	464	295	439	393	384	395	69	454	4159	0.066	16.68	3.79	0
174	25.906	0	0.348	0	1.33	100	430	77	88	462	293	437	391	385	394	69	458	4159	0.065	16.65	3.66	0
175	26.056	0	0.346	0	1.3	100	428	77	88	460	292	435	390	385	393	69	458	4159	0.06	16.78	3.7	0
176	26.204	0	0.342	0	1.3	100	428	77	88	459	291	433	389	386	392	70	458	4159	0.066	16.56	3.89	0
177	26.352	0	0.34	0	1.19	99	428	77	88	457	291	432	388	386	391	69	456	4159	0.066	16.63	3.85	0
178	26.501	0	0.34	0	1.34	99	429	77	88	454	290	431	387	387	390	69	454	4159	0.065	-0.38	3.95	0
179	26.648	0	0.337	0	1.3	100	427	77	88	454	289	429	387	387	389	69	452	4159	0.066	-0.32	3.73	0
180	26.797	0	0.342	0	1.21	99	425	77	88	452	288	427	386	388	388	69	450	4159	0.066	-0.34	3.77	0
181	26.946	0	0.339	0	1.23	99	423	77	88	450	287	426	385	388	387	69	450	4159	0.062	-0.48	3.88	0
182	27.093	0	0.349	0	1.16	99	421	77	88	449	286	424	384	389	386	69	444	4159	0.059	-0.42	3.64	0
183	27.241	0	0.344	0	1.16	99	417	77	88	448	285	423	383	390	386	69	449	4159	0.063	-0.13	3.49	0.02
184	27.387	0	0.339	0	1.16	99	416	77	88	446	284	421	382	390	385	69	448	4159	0.06	-0.16	3.46	0
185	27.536	0	0.341	0	1.09	99	416	77	88	443	283	420	381	391	384	69	441	4159	0.059	-0.25	3.59	0
186	27.685	0	0.343	0	1.21	99	414	77	88	442	283	419	380	391	383	69	441	4159	0.062	-0.36	3.9	0
187	27.834	0	0.347	0	1.42	98	413	77	88	441	282	418	379	391	382	69	438	4159	0.061	-0.41	3.94	0
188	27.982	0	0.34	0	1.07	98	408	77	88	439	281	416	379	392	382	69	439	4159	0.061	-0.35	3.49	0.02
189	28.131	0	0.341	0	1.11	98	406	77	88	437	281	415	378	393	381	69	433	4159	0.06	-0.34	3.92	0
190	28.277	0	0.341	0	1.21	98	405	77	88	436	280	413	377	394	380	69	432	4159	0.061	-0.38	3.87	0
191	28.424	0	0.356	0	1.11	98	405	76	88	435	279	413	377	394	380	69	435	4159	0.058	-0.36	3.83	0
192	28.571	0	0.344	0	1.07	97	404	76	88	434	279	411	376	395	379	69	433	4159	0.059	-0.22	3.54	0
193	28.72	0	0.343	0	1.02	97	403	76	88	433	278	411	375	397	379	69	433	4159	0.058	-0.19	3.5	0
194	28.871	0	0.347	0	1.05	97	402	76	88	431	277	410	375	397	378	69	433	4159	0.062	-0.27	3.89	0
195	29.016	0	0.341	0	0.96	97	401	76	88	431	277	409	374	399	378	69	434	4159	0.061	-0.28	3.55	0
196	29.163	0	0.339	0	0.97	97	401	76	88	429	277	408	374	400	377	69	429	4159	0.063	-0.46	3.75	0
197	29.31	0	0.342	0	0.9	97	399	76	88	428	276	407	373	401	377	69	433	4159	0.06	-0.43	3.89	0
198	29.458	0	0.343	0	0.94	97	400	76	88	428	276	406	373	402	377	69	429	4159	0.063	-0.48	3.64	0
199	29.604	0	0.343	0	0.81	97	399	76	88	427	275	405	372	403	377	69	432	4159	0.062	-0.39	3.54	0.02
200	29.752	0	0.34	0	0.87	97	401	76	88	426	275	405	372	404	376	69	430	4159	0.058	-0.26	3.46	0
201	29.898	0	0.344	0	0.77	97	398	76	88	425	274	404	371	405	376	69	429	4159	0.059	-0.2	3.4	0.04
202	30.047	0	0.352	0	0.79	96	397	76	88	424	274	403	371	407	376	69	431	4159	0.057	-0.38	3.49	0
203	30.195	0	0.346	0	0.81	96	397	76	88	424	273	402	370	408	375	69	430	4159	0.056	-0.31	3.54	0
204	30.345	0	0.342	0	0.79	96	397	76	88	423	273	401	369	408	375	69	433	4159	0.059	-0.14	3.39	0
205	30.493	0	0.351	0	0.75	96	396	76	88	422	272	400	369	409	375	69	428	4159	0.056	-0.35	3.55	0
206	30.641	0	0.336	0	0.81	96	393	76	88	421	272	400	369	409	374	69	428	4158	0.058	-0.34	3.78	0
207	30.789	0	0.351	0	0.8	96	391	76	88	420	272	399	369	410	374	69	425	4158	0.056	-0.39	3.52	0
208	30.938	0	0.345	0	0.72	96	392	76	88	419	272	399	368	410	374	69	427	4158	0.059	-0.28	3.39	0.01
209	31.088	0	0.341	0	0.7	96	393	76	88	418	271	398	367	411	373	69	426	4158	0.063	-0.39	3.6	0
210	31.236	0	0.34	0	0.72	96	391	76	88	417	270	397	367	412	373	69	425	4158	0.056	-0.35	3.43	0
211	31.386	0	0.349	0	1.09	96	391	76	88	416	270	396	366	412	372	69	424	4158	0.06	-0.22	3.74	0
212	31.533	0	0.343	0	0.72	96	391	76	88	414	269	396	366	413	372	69	423	4158	0.057	-0.29	3.7	0

213	31.681	0	0.343	0	0.67	96	390	76	88	414	269	395	365	414	371	69	428	4158	0.057	-0.29	3.27	0
214	31.831	0	0.343	0	0.77	95	390	76	88	414	268	394	364	414	371	69	421	4158	0.061	-0.32	3.42	0
215	31.977	0	0.341	0	0.67	96	391	76	88	413	268	394	364	415	371	69	424	4158	0.063	-0.34	3.56	0
216	32.126	0	0.344	0	0.6	95	389	76	88	411	267	393	363	416	370	69	424	4158	0.059	-0.23	3.3	0.01
217	32.273	0	0.349	0	0.62	95	390	76	88	410	268	392	362	416	370	69	426	4158	0.062	-0.23	3.54	0
218	32.423	0	0.347	0	0.63	95	390	76	88	409	267	391	362	416	369	69	425	4158	0.062	-0.41	3.52	0
219	32.572	0	0.348	0	0.59	95	391	76	88	408	267	391	361	417	369	69	426	4158	0.062	-0.34	3.63	0
220	32.722	0	0.342	0	0.54	95	390	76	88	407	267	391	361	418	369	69	428	4158	0.061	-0.4	3.54	0
221	32.872	0	0.347	0	0.56	95	389	76	88	407	266	389	362	418	369	69	424	4158	0.056	-0.31	3.49	0
222	33.021	0	0.344	0	0.57	95	389	76	88	406	266	389	362	419	368	69	426	4158	0.056	-0.28	3.49	0
223	33.167	0	0.344	0	0.99	95	390	76	88	405	265	388	363	419	368	69	428	4158	0.061	-0.39	3.8	0
224	33.313	0	0.348	0	0.53	95	389	76	88	404	264	388	363	419	368	69	430	4158	0.061	-0.41	3.77	0
225	33.465	0	0.345	0	0.42	95	392	76	88	403	264	387	363	419	367	69	430	4158	0.056	-0.32	3.57	0
226	33.611	0	0.347	0	0.52	95	390	76	88	402	263	386	363	418	367	69	429	4158	0.061	-0.35	3.7	0
227	33.76	0	0.348	0	0.7	95	391	76	88	401	263	386	363	418	366	69	431	4158	0.057	-0.52	3.71	0
228	33.912	0	0.348	0	0.46	95	391	75	88	399	263	385	362	418	365	69	427	4158	0.057	-0.37	3.36	0
229	34.06	0	0.342	0	0.45	95	390	75	88	399	262	384	362	417	365	69	428	4158	0.06	-0.28	3.64	0
230	34.212	0	0.346	0	0.85	95	392	75	88	398	262	384	362	417	365	69	429	4158	0.056	-0.25	3.35	0
231	34.362	0	0.348	0	0.44	95	392	75	88	397	261	383	362	416	364	69	432	4158	0.061	-0.51	3.73	0
232	34.511	0	0.346	0	0.45	95	391	75	88	396	261	383	361	416	363	69	435	4158	0.056	-0.24	3.43	0
233	34.663	0	0.341	0	0.35	95	390	75	88	395	261	382	361	416	363	69	429	4158	0.055	-0.36	3.38	0
234	34.814	0	0.345	0	0.41	95	391	75	88	394	261	382	361	415	362	69	433	4158	0.061	-0.29	3.68	0
235	34.966	0	0.345	0	0.35	95	390	75	88	393	260	381	360	415	362	69	428	4158	0.059	-0.38	3.66	0
236	35.117	0	0.353	0	0.36	95	393	75	88	393	260	380	360	414	361	69	432	4158	0.056	-0.3	3.49	0
237	35.265	0	0.347	0	0.33	95	391	75	88	392	258	379	360	415	361	69	427	4158	0.061	-0.28	3.59	0
238	35.415	0	0.348	0	0.29	95	392	75	88	391	259	379	359	414	360	69	431	4158	0.056	-0.35	3.63	0
239	35.564	0	0.34	0	0.25	95	393	75	88	390	258	378	359	414	360	69	434	4158	0.058	-0.4	3.32	0.02
240	35.712	0	0.344	0	0.46	95	394	75	88	390	257	378	359	413	359	69	433	4158	0.06	-0.42	3.76	0
241	35.864	0	0.34	0	0.7	95	393	75	88	389	258	377	358	412	359	69	430	4158	0.056	-0.25	3.52	0
242	36.012	0	0.343	0	0.23	95	393	75	88	388	257	377	358	412	359	69	433	4158	0.062	-0.44	3.58	0
243	36.161	0	0.348	0	0.28	95	394	75	88	387	257	376	358	411	358	69	429	4158	0.059	-0.36	3.75	0
244	36.31	0	0.346	0	0.22	95	393	75	88	386	257	376	357	411	357	68	429	4158	0.062	-0.39	3.52	0
245	36.46	0	0.343	0	0.03	95	391	75	88	386	256	375	357	411	357	68	429	4158	0.062	-0.32	3.3	0
246	36.611	0	0.346	0	0.02	95	392	75	88	385	256	374	356	411	356	69	429	4158	0.062	-0.39	3.28	0
247	36.761	0	0.339	0	0.16	95	390	75	88	384	255	374	355	410	356	69	427	4158	0.062	-0.32	3.16	0
248	36.91	0	0.35	0	0.2	95	389	75	88	384	255	373	354	410	355	69	429	4158	0.059	-0.21	3.32	0
249	37.061	0	0.34	0	0.33	95	389	75	88	383	255	372	353	410	354	68	427	4158	0.062	-0.33	3.06	0
250	37.213	0	0.34	0	0.12	95	388	75	88	382	254	372	351	410	354	69	429	4158	0.062	-0.45	3.23	0
251	37.363	0	0.349	0	0.1	94	387	75	88	381	253	371	350	409	353	69	423	4158	0.057	-0.26	2.84	0
252	37.516	0	0.342	0	0.12	95	387	75	88	380	253	370	349	408	352	68	422	4158	0.055	-0.36	3.04	0
253	37.669	0	0.339	0	0.07	95	388	75	88	378	252	370	348	408	351	68	424	4158	0.062	-0.5	3.02	0
254	37.822	0	0.347	0	0.1	95	389	75	88	377	252	369	347	407	350	69	418	4158	0.06	-0.37	2.86	0
255	37.975	0	0.334	0	0	95	387	75	88	376	251	368	346	406	350	68	423	4158	0.06	-0.34	2.81	0.07
256	38.125	0	0.34	0	0	95	387	75	88	375	251	367	345	406	349	68	423	4158	0.055	-0.24	2.9	0
257	38.278	0	0.347	0	0.05	95	388	75	88	373	250	366	344	406	348	68	421	4158	0.061	-0.27	3.26	0
258	38.428	0	0.346	0	0.02	95	385	75	88	372	249	365	343	405	347	68	419	4158	0.061	-0.49	3.22	0
259	38.581	0	0.338	0	0.02	95	385	75	88	371	249	364	342	405	346	68	419	4158	0.061	-0.4	3.02	0
260	38.732	0	0.342	0	0.03	94	385	75	88	369	247	363	341	404	345	68	418	4158	0.061	-0.33	3.08	0
261	38.884	0	0.341	0	0	94	385	75	88	368	247	362	340	403	344	68	418	4158	0.061	-0.44	2.92	0
262	39.033	0	0.349	0	0	94	384	75	88	367	246	362	339	402	343	68	415	4158	0.055	-0.23	2.92	0
263	39.185	0	0.347	0	0	94	384	75	88	366	245	361	338	402	342	68	416	4158	0.061	-0.52	3.1	0
264	39.336	0	0.338	0	0	94	385	75	88	365	245	360	337	401	342	68	415	4158	0.061	-0.46	2.98	0
265	39.486	0	0.341	0	0	94	384	75	88	364	244	359	337	401	341	68	419	4158	0.055	-0.31	2.95	0
266	39.636	0	0.348	0	0	94	385	75	88	363	244	358	336	401	340	68	418	4158	0.057	-0.15	2.83	0
267	39.786	0	0.34	0	0	94	386	75	88	362	243	357	335	400	339	68	419	4158	0.059	-0.45	3.24	0
268	39.938	0	0.347	0	0	94	386	75	88	361	243	356	335	399	339	68	417	4158	0.06	-0.27	2.85	0
269	40.089	0	0.341	0	0	94	387	75	88	360	242	356	334	399	338	68	417	4158	0.058	-0.29	2.79	0.02
270	40.238	0	0.343	0	0	94	387	75	88	359	241	354	333	398	337	68	420	4158	0.056	-0.27	2.89	0
271	40.392	0	0.351	0	0	94	385	75	88	359	240	354	333	397	336	68	414	4158	0.056	-0.33	3.13	0
272	40.543	0	0.348	0	0	94	386	75	88	358	239	353	332	397	336	68	420	4158	0.057	-0.47	3	0
273	40.696	0	0.344	0	0	95	387	75	88	357	239	352	331	396	335	68	419	4158	0.059	-0.26	3.16	0
274	40.844	0	0.347	0	0	94	388	75	88	356	239	352	330	395	334	68	421	4157	0.056	-0.18	2.73	0
275	40.994	0	0.343	0	0	94	387	75	88	356	238	351	329	395	334	68	415	4157	0.062	-0.44	2.98	0
276	41.145	0	0.341	0	0	94	386	75	88	355	238	350	328	394	333	68	414	4157	0.062	-0.2	2.79	0
277	41.295	0	0.337	0	0	94	386	75	88	353	237	349	327	393	332	68	412	4157	0.058	-0.13	2.33	0.02
278	41.444	0	0.344	0	0	94	382	75	88	353	236	348	325	393	331	68	410	4157	0.061	-0.33	2.53	0
279	41.594	0	0.344	0	0	94	381	75	88	352	236	347	323	392	330	68	405	4157	0.056	-0.27	2.63	0
280	41.744	0	0.342	0	0	94	378	75	88	351	235	346	322	392	329	68	404	4157	0.06	-0.33	2.74	0
281	41.897	0	0.34	0	0	94	378	75	88	350	234	345	320	391	328	68	407	4157	0.055	-0.23	2.28	0
282	42.048	0	0.343	0	0	94	374	75	88	349	234	344	319	390	327	68	402	4157	0.059	-0.48	2.6	0
283	42.201	0	0.342	0	0	94	370	75	88	347	232	343	317	389	326	68	401	4157	0.058	-0.32	2.22	0.12
284	42.354	0	0.35	0	0	93	365	75	88	346	232	342	316	389	325	68	397	4157	0.053	-0.32	2.33	0
285	42.506	0	0.336	0	0	93	364	75	88	344	231	341	314	388	324	68	392	4157	0.057	-0.24	2.03	0.23
286	42.654	0	0.344	0	0	93	361	75	88	343	230	340	312	387	322	68	389	4157	0.058	-0.27	2.07	0.18
287	42.807	0	0.35	0	0	93	358	75	88	342	229	339	310	386	321	68	385	4157	0.058	-0.28	2.32	0
288	42.957	0	0.344	0	0	93	356	74	88	340	229	337	308	385	320	68	380	4157	0.052	-0.35	2.21	0
289	43.108	0	0.341	0	0	92	353	74	88	338	228	336	307	384	318	68	380	4157	0.056	-0.21	1.95	0.36
290	43.259	0	0.349	0	0	92	350	74	88	337	227	335	305	383	317	68	360	4157	0.058	-0.48	2.19	0.23
291	43.409	0	0.345	0	0	92	348	74	88	335	226	334	304	381	316	68	378	4157	0.054	-0.24	1.89	0.44
292	43.561	0	0.343	0	0	92	344	74	88	333	226	332	302	380	315	68	375	4157	0.055	-0.26	1.84	0.47
293	43.713	0	0.344	0	0	92	342	74	88	332	223	331	301	379	313	68	371	4157	0.053	-0.44	2.24	0.1
294	43.863	0	0.335	0	0	91	340	74	88	330	223	330	299	377	312	68	372	4157	0.054	-0.18	1.89	0.53
295	44.017	0	0.343	0	0	91	339	74	88	329	222	328	297	376	311	68	363	4157	0.056	-0.35	2.16	0.31
296	44.167	0	0.342	0	0	91	336	74	88	327	221	327	296	374	309	68	365	4157	0.054	-0.32	1.87	0.45
297	44.318	0	0.345	0	0	91	334	74	88	326	220	325	295	373	308	68	364	4157	0.053	-0.26	2.25	0.15
298	44.469	0	0.338	0	0	91	334	74	88	324	220	324	293	372	307	68	365	4157	0.055	-0.36	1.97	0.45
299	44.621	0	0.347	0	0	91	333	74	88	323	219	323	292	370	305	68	362	4157	0.051	-0.34	1.81	0.47
300	44.773	0	0.349	0	0	90	331	74	88	322	218	321	291	369	304	68	362	4157	0.051	-0.33	1.77	0.5
301	44.925	0	0.341	0	0	90	329	74	88	320	218	320	290	367	303	68	364	4157	0.052	-0.27	1.88	0.54
302	45.075	0	0.343	0	0	90	327	74	88	319	217	319	288	366	302	68	361	4157	0.054	-0.41	2.14	0.29
303	45.229	0	0.345	0	0	90	326	74	88	317	216	317	287	365	300	68	358	4157	0.048	-0.39	1.85	0.46
304	45.382	0	0.341	0	0	90	325	74	88	316	215	316	286	364	299	68	354	4157	0.053	-0.51	2.17	0.38
305	45.532	0	0.351	0	0	90	321	74	88	314	215	315	285	362	298	68	353	4157	0.049	-0.29	1.99	0.41
306	45.683	0	0.345	0	0	89	318	74	88	313	214	313	284	361	297	68	353	4157	0.053	-0.26	1.91	0.75
307	45.834	0	0.343	0	0	89	316	74	88	311	213	312	282	359	296	68	355	4157	0.046	-0.25	1.97	0.55
308	45.987	0	0.35	0	0	89	313	74	88	311	213	311	281	359	295	68	351	4157	0.047	-0.27	1.83	0.55
309	46.139	0	0.338	0	0	89	312	74	88	309	212	310	280	357	294	68	350	4157	0.046	-0.22	1.68	0.63
310	46.29	0	0.346	0	0	89	309	74	88	308	211	309	279	356	292	68	340	4157	0.046	-0.46	1.65	0.65
311	46.441	0	0.347	0	0	88	306	74	88	307	210	308	277	355	291	68	338	4157	0.046	-0.34	1.79	0.66
312	46.594	0	0.35	0	0	88	302	74	88	306	210	307	276	354	290	68	337	4157	0.051	-0.31	1.57	0.96
313	46.743	0	0.343	0	0	88	299	74	88	304	209	305	274	353	289	68	333	4157	0.047	-0.36	1.86	0.69
314	46.896	0	0.346	0	0	88	296	74	88	303	207	303	273	352	288	68	329	4157	0.048	-0.27	1.81	0.76
315	47.046	0	0.341	0	0	87	295	73	88	301	206	302	271	350	286	68	326	4157	0.044	-0.38	1.63	0.81
316	47.198	0	0.345	0	0	87	291	73	88	300	206	301	270	349	285	68	320	4157	0.048	-0.3	1.43	1.18
317	47.348	0	0.345	0	0	87	286	73	88	298	206	300	268	348	284	68	319	4157	0.049	-0.32	1.8	0.97
318	47.5	0	0.34	0	0	87	285	73	88	297	205	299	267	346	283	68	315	4157	0.047	-0.23	1.43	1.22
319	47.652	0	0.348	0	0	87	283	73	88	296	204	298	266	345	282	68	312	4157	0.048	-0.39	1.76	0.94
320	47.802	0	0.345	0	0	86	281	73	88	294	203	297	264	344	280	68	317	4157	0.044	-0.28	1.73	0.83
321	47.953	0	0.347	0	0	86	279	73	88	293	202	296	263	343	279	68	313	4156	0.043	-0.35	1.65	0.84
322	48.107	0	0.348	0	0	86	279	73	88	292	201	294	262	342	278	68	310	4156	0.046	-0.41	1.79	0.81
323	48.258	0	0.351	0	0	86	277	73	88	290	200	293	261	340	277	68	315	4156	0.042	-0.28	1.4	1.11
324	48.41	0	0.348	0	0	86	274	73	88	289	200	292	260	339	276	68	312	4156	0.043	-0.34	1.73	0.77
325	48.562	0	0.346	0	0	85	274	73	88	288	198	290	259	338	275	68	307	4156	0.044	-0.27	1.77	0.8
326	48.713	0	0.35	0	0	85	273	73	88	287	198	290	258	338	274	68	312	4156	0.044	-0.28	1.39	1.18
327	48.865	0	0.351	0	0	85	271	73	87	285	197	288	257	336	273	68	308	4156	0.045	-0.47	1.78	0.88
328	49.018	0	0.342	0	0	85	270	73	87	284	197	287	256	335	272	68	307	4156	0.043	-0.3	1.3	1.16
329	49.169	0	0.349	0	0	85	268	73	87	283	196	286	254	334	271	68	310	4156	0.04	-0.22	1.37	1.06
330	49.32	0	0.343	0	0	85	266	73	87	282	194	285	254	333	270	68	303	4156	0.044	-0.49	1.72	0.86
331	49.472	0	0.345	0	0	84	265	73	87	280	195	284	253	332	269	68	304	4156	0.04	-0.2	1.38	1.02
332	49.624	0	0.346	0	0	84	262	73	87	279	194	283	251	331	268	68	304	4156	0.042	-0.32	1.24	1.17
333	49.774	0	0.342	0	0	84	261	73	87	278	193	282	251	330	267	68	301	4156	0.041	-0.28	1.25	1.2
334	49.923	0	0.341	0	0	84	259	73	87	277	192	281	249	329	266	68	296	4156	0.044	-0.39	1.57	0.96
335	50.074	0	0.352	0	0	84	257	73	87	276	192	280	248	328	265	68	293	4156	0.039	-0.39	1.52	0.98
336	50.227	0	0.341	0	0	84	254	73	87	274	192	279	247	327	264	68	287	4156	0.044	-0.39	1.25	1.29
337	50.379	0	0.345	0	0	83	252	73	87	273	191	277	246	326	263	68	280	4156	0.038	-0.4	1.08	1.22
338	50.53	0	0.344	0	0	83	250	73	87	272	190	276	244	325	262	68	276	4156	0.042	-0.24	1.23	1.35
339	50.68	0	0.347	0	0	83	248	72	87	271	190	276	243	324	261	67	273	4156	0.036	-0.29	1.12	1.23
340	50.834	0	0.348	0	0	83	245	72	87	270	189	275	241	323	260	67	270	4156	0.042	-0.47	1.1	1.31
341	50.985	0	0.34	0	0	83	242	72	87	268	188	273	240	323	258	68	264	4156	0.042	-0.32	1.28	1.14

342	51.137	0	0.348	0	0	82	241	72	87	267	188	272	238	322	257	68	265	4156	0.036	-0.34	1.18	1.11
343	51.291	0	0.35	0	0	82	239	72	87	266	187	271	236	320	256	68	264	4156	0.04	-0.39	1.35	1.07
344	51.443	0	0.341	0	0	82	237	72	87	265	187	270	235	319	255	68	260	4156	0.04	-0.31	0.94	1.34
345	51.594	0	0.341	0	0	82	235	72	87	264	187	269	233	317	254	67	257	4156	0.041	-0.39	1.18	1.08
346	51.75	0	0.341	0	0	82	233	72	87	262	185	268	232	316	253	68	257	4156	0.04	-0.27	0.89	1.32
347	51.902	0	0.344	0	0	82	232	72	87	261	184	266	231	315	252	68	254	4156	0.036	-0.3	0.78	1.26
348	52.055	0	0.357	0	0	81	231	72	87	260	184	265	230	314	250	68	253	4156	0.038	-0.38	1.02	1.09
349	52.21	0	0.339	0	0	81	230	72	87	258	184	264	228	313	249	68	253	4156	0.04	-0.32	1.13	1.08
350	52.36	0	0.349	0	0	81	228	72	87	257	183	262	227	311	248	67	251	4156	0.037	-0.28	0.81	1.33
351	52.515	0	0.349	0	0	81	226	72	87	256	182	261	226	310	247	67	251	4156	0.033	-0.4	0.94	0.99
352	52.668	0	0.349	0	0	81	225	72	87	254	182	260	224	308	246	68	248	4156	0.035	-0.24	0.72	1.23
353	52.821	0	0.35	0	0	81	224	72	87	252	181	259	223	307	244	67	246	4156	0.033	-0.21	0.75	1.19
354	52.977	0	0.342	0	0	81	222	72	87	252	180	257	222	305	243	68	246	4156	0.039	-0.23	0.99	0.99
355	53.13	0	0.342	0	0	80	221	72	87	250	179	256	221	304	242	68	243	4156	0.038	-0.49	0.87	0.83
356	53.285	0	0.352	0	0	80	219	72	87	249	178	255	220	302	241	68	242	4156	0.035	-0.47	1.05	0.66
357	53.439	0	0.344	0	0	80	218	72	87	248	177	254	219	301	240	68	240	4156	0.032	-0.27	0.71	0.82
358	53.591	0	0.344	0	0	80	217	72	87	246	176	252	217	299	238	68	240	4156	0.034	-0.22	0.56	0.95
359	53.746	0	0.344	0	0	80	216	72	87	244	176	251	216	298	237	68	239	4156	0.034	-0.28	0.94	0.59
360	53.9	0	0.34	0	0	80	215	72	87	243	175	250	215	296	236	68	237	4156	0.037	-0.4	0.95	0.64
361	54.053	0	0.344	0	0	80	214	72	87	241	174	248	214	295	235	68	236	4156	0.032	-0.32	0.6	0.87
362	54.207	0	0.344	0	0	79	213	71	87	240	173	247	212	293	233	68	236	4156	0.031	-0.31	0.67	0.49
363	54.361	0	0.346	0	0	79	211	71	87	238	172	246	211	292	232	68	233	4156	0.034	-0.3	0.38	0.72
364	54.515	0	0.347	0	0	79	209	71	87	237	171	244	210	290	230	69	230	4155	0.035	-0.4	0.48	0.63
365	54.67	0	0.351	0	0	79	207	71	87	235	169	243	208	288	229	68	228	4155	0.034	-0.39	0.77	0.23
366	54.824	0	0.344	0	0	79	206	71	87	234	169	241	206	287	227	68	226	4155	0.034	-0.32	0.42	0.61
367	54.98	0	0.35	0	0	79	204	71	87	232	168	240	205	285	226	68	225	4155	0.035	-0.3	0.56	0.41
368	55.132	0	0.342	0	0	79	203	71	87	231	167	238	203	284	225	69	222	4155	0.033	-0.35	0.76	0.26
369	55.289	0	0.342	0	0	79	201	71	87	229	166	237	201	282	223	68	220	4155	0.034	-0.31	0.39	0.56
370	55.442	0	0.347	0	0	79	198	71	87	227	166	236	199	280	222	68	218	4155	0.028	-0.29	0.53	0.33
371	55.594	0	0.348	0	0	78	197	71	87	226	165	234	198	279	220	68	217	4155	0.028	-0.4	0.42	0.47
372	55.749	0	0.336	0	0	78	196	71	87	224	164	233	196	277	219	69	214	4155	0.034	-0.39	0.38	0.63
373	55.902	0	0.345	0	0	78	194	71	87	222	163	231	194	275	217	68	214	4155	0.036	-0.15	0.53	0.34
374	56.054	0	0.34	0	0	78	193	71	87	221	162	230	193	274	216	68	213	4155	0.034	-0.28	0.58	0.37
375	56.208	0	0.342	0	0	78	192	71	87	219	161	228	191	272	214	69	211	4155	0.033	-0.37	0.56	0.35
376	56.361	0	0.351	0	0	78	191	71	87	218	161	227	190	270	213	69	208	4155	0.028	-0.37	0.58	0.17
377	56.516	0	0.35	0	0	78	189	71	87	216	160	225	188	268	212	68	207	4155	0.032	-0.45	0.56	0.25
378	56.671	0	0.349	0	0	78	187	71	87	215	159	224	187	267	210	68	205	4155	0.027	-0.42	0.54	0.15
379	56.826	0	0.352	0	0	78	186	71	87	213	158	222	185	265	209	68	202	4155	0.026	-0.35	0.28	0.41
380	56.985	0	0.347	0	0	77	184	71	87	211	157	221	184	264	207	70	203	4155	0.031	-0.4	0.56	0.27
381	57.139	0	0.347	0	0	77	183	71	87	210	156	219	183	262	206	69	201	4155	0.031	-0.38	0.31	0.44
382	57.291	0	0.348	0	0	77	182	71	87	208	156	218	181	260	205	69	200	4155	0.029	-0.45	0.53	0.08
383	57.447	0	0.348	0	0	77	181	71	87	207	155	216	180	258	203	69	198	4155	0.03	-0.56	0.44	0.11
384	57.601	0	0.35	0	0	77	180	71	87	205	154	215	178	257	202	69	195	4155	0.028	-0.25	0.44	0
385	57.76	0	0.346	0	0	77	178	71	87	204	152	213	177	255	200	69	193	4155	0.03	-0.44	0.25	0.11
386	57.916	0	0.341	0	0	77	177	71	87	202	152	212	176	254	199	69	193	4155	0.024	-0.27	-0.01	0.19
387	58.071	0	0.348	0	0	77	175	71	87	200	151	211	174	252	198	69	191	4155	0.025	-0.36	0.36	0
388	58.228	0	0.345	0	0	77	174	71	87	199	150	209	173	250	196	69	188	4155	0.029	-0.46	0.34	0
389	58.382	0	0.343	0	0	76	172	71	87	198	149	207	172	248	195	69	187	4155	0.028	-0.31	0.32	0
390	58.538	0	0.347	0	0	76	171	71	87	196	148	206	170	247	193	69	186	4155	0.029	-0.41	0.28	0
391	58.692	0	0.338	0	0	76	170	71	87	195	147	205	169	245	192	69	184	4155	0.028	-0.44	0.19	0.08
392	58.847	0	0.342	0	0	76	168	70	87	193	146	203	167	243	190	70	183	4155	0.024	-0.3	0.27	0
393	59.003	0	0.347	0	0	76	167	70	87	191	146	201	166	241	189	69	182	4155	0.026	-0.3	-0.02	0.18
394	59.156	0	0.344	0	0	76	166	70	87	190	145	200	165	240	188	69	180	4155	0.027	-0.23	0.01	0.18
395	59.309	0	0.344	0	0	76	164	70	87	188	144	198	163	238	186	69	180	4155	0.024	-0.25	-0.12	0.18
396	59.464	0	0.348	0	0	75	163	70	87	187	143	197	162	236	185	70	178	4155	0.023	-0.28	-0.09	0.22
397	59.618	0	0.345	0	0	75	162	70	87	186	142	196	160	234	184	69	176	4155	0.026	-0.32	0.02	0.11
398	59.772	0	0.35	0	0	75	161	70	87	184	142	194	159	233	182	70	175	4155	0.021	-0.3	-0.02	0.04
399	59.926	0	0.349	0	0	75	159	70	87	183	140	192	158	231	181	69	173	4155	0.023	-0.2	-0.15	0.17
400	60.081	0	0.349	0	0	75	159	70	87	182	139	191	157	229	180	70	171	4155	0.023	-0.36	0.3	0
401	60.235	0	0.352	0	0	75	157	70	87	180	139	189	155	228	178	70	172	4155	0.02	-0.31	0.19	0
402	60.389	0	0.344	0	0	75	156	70	87	178	138	188	154	226	177	70	169	4155	0.023	-0.3	0.3	0
403	60.545	0	0.343	0	0	75	155	70	87	177	137	187	153	224	176	69	170	4155	0.021	-0.41	0.22	0
404	60.699	0	0.341	0	0	75	153	70	87	176	136	185	152	223	174	70	166	4155	0.021	-0.35	-0.15	0.14
405	60.852	0	0.345	0	0	75	152	70	87	174	135	184	151	221	173	70	166	4155	0.021	-0.23	0.26	0
406	61.006	0	0.347	0	0	75	151	70	87	173	134	182	150	219	172	69	165	4155	0.018	-0.3	-0.17	0
407	61.157	0	0.335	0	0	74	150	70	87	172	134	181	149	217	171	70	164	4155	0.024	-0.4	-0.08	0.03
408	61.308	0	0.345	0	0	74	149	70	87	171	133	180	147	216	169	70	161	4155	0.021	-0.37	-0.22	0.11
409	61.463	0	0.343	0	0	74	148	70	87	170	132	179	146	214	168	70	162	4155	0.021	-0.31	0.19	0
410	61.615	0	0.34	0	0	74	147	70	87	168	132	177	145	212	167	70	161	4155	0.023	-0.22	-0.13	0.05
411	61.769	0	0.34	0	0	74	146	70	87	167	130	176	144	210	166	70	158	4155	0.021	-0.4	-0.17	0.06
412	61.921	0	0.347	0	0	74	145	70	87	166	130	174	143	209	164	70	157	4155	0.017	-0.16	-0.1	0
413	62.072	0	0.338	0	0	74	144	70	87	165	128	173	142	207	163	70	155	4155	0.023	-0.42	0.12	0
414	62.226	0	0.341	0	0	74	143	70	87	163	128	172	141	206	162	70	156	4154	0.022	-0.36	0.15	0
415	62.379	0	0.341	0	0	74	142	70	87	162	127	170	140	204	161	70	153	4154	0.017	-0.34	-0.23	0
416	62.532	0	0.347	0	0	74	141	69	87	161	126	169	139	202	159	70	152	4154	0.021	-0.34	-0.13	0.02
417	62.685	0	0.345	0	0	74	140	69	87	160	125	168	138	201	158	70	152	4154	0.022	-0.27	-0.05	0
418	62.84	0	0.343	0	0	73	139	69	87	159	124	167	137	199	157	70	150	4154	0.021	-0.26	-0.18	0.01
419	62.993	0	0.35	0	0	73	138	69	87	158	123	165	136	197	156	69	149	4154	0.017	-0.19	-0.3	0
420	63.145	0	0.346	0	0	73	137	69	87	156	123	164	135	196	155	70	150	4154	0.022	-0.3	-0.08	0
421	63.296	0	0.351	0	0	73	137	69	87	155	122	163	134	194	154	70	146	4154	0.021	-0.32	0.01	0
422	63.448	0	0.348	0	0	73	135	69	87	154	121	162	134	193	153	69	148	4154	0.016	-0.32	-0.18	0
423	63.6	0	0.347	0	0	73	135	69	87	153	120	161	133	191	152	69	147	4154	0.017	-0.31	0.19	0
424	63.752	0	0.346	0	0	73	134	69	87	152	120	159	132	190	150	69	145	4154	0.016	-0.19	-0.18	0.01
425	63.907	0	0.342	0	0	73	133	69	87	151	119	158	131	188	149	69	145	4154	0.02	-0.44	-0.09	0
426	64.062	0	0.349	0	0	73	132	69	87	150	119	157	130	187	148	69	144	4154	0.015	-0.38	-0.2	0.02
427	64.216	0	0.353	0	0	73	131	69	87	149	118	156	129	185	147	69	142	4154	0.017	-0.47	0.14	0
428	64.371	0	0.349	0	0	73	130	69	87	148	117	155	128	184	146	69	141	4154	0.014	-0.24	-0.15	0
429	64.527	0	0.347	0	0	73	129	69	87	146	117	154	128	182	145	69	141	4154	0.013	-0.25	-0.19	0
430	64.681	0	0.347	0	0	73	129	69	87	145	116	153	127	181	144	70	141	4154	0.013	-0.23	0.01	0
431	64.837	0	0.342	0	0	72	128	69	87	144	116	151	126	180	143	70	140	4154	0.018	-0.39	-0.18	0
432	64.992	0	0.338	0	0	72	127	69	87	143	115	150	125	179	143	69	138	4154	0.015	-0.27	-0.23	0.03
433	65.15	0	0.343	0	0	72	127	69	87	143	114	149	124	177	142	69	136	4154	0.014	-0.26	-0.21	0
434	65.306	0	0.346	0	0	72	126	69	87	142	114	148	124	176	141	69	135	4154	0.013	-0.32	0.02	0
435	65.467	0	0.342	0	0	72	125	69	87	141	113	147	123	175	140	69	136	4154	0.017	-0.37	-0.13	0
436	65.623	0	0.342	0	0	72	125	69	87	140	113	146	122	174	139	69	134	4154	0.016	-0.16	-0.22	0.03
437	65.78	0	0.347	0	0	72	124	69	87	139	112	145	121	172	138	69	135	4154	0.013	-0.24	0.06	0
438	65.935	0	0.346	0	0	72	123	69	87	139	111	144	121	171	137	69	131	4154	0.017	-0.48	0.11	0
439	66.09	0	0.348	0	0	72	122	69	87	137	110	143	120	170	136	69	132	4154	0.018	-0.33	0.02	0
440	66.246	0	0.346	0	0	72	122	69	87	136	110	142	119	169	135	69	131	4153	0.017	-0.29	-0.07	0
441	66.402	0	0.338	0	0	72	121	69	87	136	110	141	119	168	134	69	131	4153	0.018	-0.36	0.04	0
442	66.555	0	0.344	0	0	72	120	69	87	135	109	140	118	166	134	69	130	4153	0.016	-0.26	-0.26	0.02
443	66.712	0	0.347	0	0	72	119	69	87	135	111	140	118	167	134	68	116	4153	0.014	-0.43	0.1	0
444	66.869	0	0.342	0	0	72	119	69	87	135	112	140	118	168	135	67	117	4153	0.014	-0.23	-0.32	0.02
445	67.026	0	0.346	0	0	72	119	69	87	135	114	139	119	169	135	67	117	4153	0.012	-0.38	-0.02	0
446	67.181	0	0.349	0	0	72	118	69	87	135	115	139	119	169	135	67	117	4153	0.015	-0.33	-0.26	0
447	67.337	0	0.35	0	0	72	117	69	87	135	116	138	119	169	136	67	118	4153	0.01	-0.37	-0.29	0
448	67.494	0	0.348	0	0	71	117	69	87	134	117	137	120	169	136	66	118	4153	0.017	-0.47	-0.18	0
449	67.652	0	0.353	0	0	71	116	69	87	134	118	137	120	169	135	66	118	4153	0.011	-0.42	-0.05	0
450	67.806	0	0.347	0	0	71	116	69	87	134	118	136	120	168	135	66	118	4153	0.013	-0.18	-0.31	0.01
451	67.961	0	0.342	0	0	71	115	69	87	133	119	136	120	168	135	65	122	4153	0.012	-0.21	0.04	0
452	68.116	0	0.344	0	0	71	114	68	87	132	115	134	119	165	133	68	125	4153	0.016	-0.34	-0.14	0
453	68.27	0	0.344	0	0	71	114	68	87	131	111	133	118	162	131	67	125	4153	0.015	-0.43	0.12	0
454	68.428	0	0.347	0	0	71	113	68	87	131	111	133	117	161	131	67	114	4153	0.012	-0.37	0.05	0
455	68.585	0	0.348	0	0	71	113	68	87	131	112	132	117	162	131	66	115	4153	0.01	-0.26	-0.3	0
456	68.739	0	0.347	0	0	71	112	68	87	130	113	132	117	162	131	66	115	4153	0.009	-0.46	-0.13	0
457	68.891	0	0.351	0	0	71	112	65	87	130	114	131	117	161	131	66	115	4153	0.009	-0.37	-0.33	0
458	69.044	0	0.347	0	0	71	112	68	87	129	114	131	117	161	130	65	118	4153	0.01	-0.32	-0.25	0
459	69.2	0	0.35	0	0	71	111	68	87	129	115	130	117	160	130	65	122	4153	0.005	-0.28	-0.19	0
460	69.355	0	0.347	0	0	71	111	68	87	128	115	129	117	160	130	65	116	4153	0.01	-0.35	-0.29	0
461	69.511	0	0.349	0	0	71	110	68	87	128	115	129	117	159	130	65	115	4153	0.009	-0.39	-0.22	0
462	69.667	0	0.342	0	0	71	110	68	87	127	115	128	117	158	129	65	115	4153	0.009	-0.27	-0.24	0
463	69.819	0	0.352	0	0	71	109	68	87	127	115	127	117	158	129	65	115	4153	0.01	-0.43	0.05	0
464	69.974	0	0.349	0	0	71	109	68	87	127	115	127	117	157	129	65	114	4153	0.01	-0.24	-0.26	0
465	70.13	0	0.345	0	0	71	109	68	87	126	115	126	117	156	128	65	117	4153	0.009	-0.26	-0.04	0
466	70.286	0	0.354	0	0	71	108	68	87	126	115	126	116	156	128	65	114	4153	0.008	-0.32	-0.05	0
467	70.441	0	0.343	0	0	71	108	68	87	125	115	125	116	155	127	65	116	4153	0.011	-0.38	-0.3	0
468	70.593	0	0.35	0	0	71	107	68	87	125	115	124	116	154	127	65	114	4153	0.014	-0.43	0.13	0
469	70.749	0	0.348	0	0	71	107	68	87	125	114	124	116	154	126	65	114	4153	0.013	-0.36	-0.23	0.03
470	70.902	0	0.35	0	0	70	106	68	87	124	114	123	116	153	126	65	116	4153	0.012	-0.33	0.1	0

471	71.056	0	0.338	0	0	70	106	68	87	124	114	123	115	152	126	65	115	4153	0.013	-0.23	-0.16	0
472	71.212	0	0.348	0	0	70	106	68	87	123	113	122	115	151	125	65	116	4153	0.009	-0.24	-0.3	0
473	71.366	0	0.349	0	0	70	105	69	87	123	113	122	115	151	125	65	117	4153	0.009	-0.23	-0.24	0.03
474	71.522	0	0.346	0	0	70	105	68	87	123	113	121	115	150	124	65	113	4152	0.01	-0.23	-0.25	0.06
475	71.678	0	0.342	0	0	70	105	68	87	122	113	121	114	149	124	65	113	4152	0.009	-0.33	-0.24	0.09
476	71.831	0	0.345	0	0	70	104	68	87	122	112	120	114	149	123	65	115	4152	0.01	-0.27	-0.26	0.11
477	71.988	0	0.35	0	0	70	104	68	87	121	112	119	114	148	123	65	114	4152	0.007	-0.27	-0.16	0
478	72.143	0	0.342	0	0	70	103	68	87	121	112	119	114	147	123	65	111	4152	0.012	-0.4	-0.11	0.12
479	72.296	0	0.349	0	0	70	103	68	87	121	111	118	114	147	122	65	112	4152	0.01	-0.35	0.33	0
480	72.452	0	0.35	0	0	70	103	68	87	120	111	118	113	146	122	65	111	4152	0.009	-0.31	0.2	0
481	72.605	0	0.344	0	0	70	103	68	87	120	111	118	113	145	121	65	113	4152	0.007	-0.3	0.1	0
482	72.761	0	0.35	0	0	70	103	68	87	120	110	117	113	145	121	65	114	4152	0.007	-0.32	-0.07	0
483	72.918	0	0.347	0	0	70	103	68	87	119	110	117	113	144	121	65	115	4152	0.013	-0.29	0.05	0
484	73.07	0	0.34	0	0	70	102	68	87	119	110	116	113	144	120	65	115	4152	0.013	-0.38	0.1	0
485	73.223	0	0.346	0	0	70	102	68	87	119	110	116	112	143	120	65	114	4152	0.012	-0.52	0.21	0
486	73.376	0	0.35	0	0	70	102	68	87	119	109	115	112	143	120	65	110	4152	0.013	-0.44	0.09	0
487	73.53	0	0.344	0	0	70	102	68	87	118	109	115	112	142	119	64	111	4152	0.007	-0.34	0.09	0
488	73.684	0	0.346	0	0	70	101	68	87	118	109	115	112	142	119	64	112	4152	0.007	-0.29	-0.19	0.02
489	73.837	0	0.346	0	0	70	101	68	87	118	108	114	112	141	119	64	109	4152	0.007	-0.23	-0.02	0
490	73.992	0	0.346	0	0	70	101	68	87	118	108	114	111	141	118	64	112	4152	0.01	-0.2	-0.17	0.07
491	74.144	0	0.346	0	0	70	101	68	87	118	108	113	111	140	118	64	113	4152	0.007	-0.3	-0.14	0.02
492	74.297	0	0.348	0	0	70	100	67	87	117	108	113	111	140	118	64	110	4152	0.006	-0.32	0.07	0
493	74.449	0	0.341	0	0	70	100	67	87	117	107	113	111	139	117	64	109	4152	0.011	-0.45	0.23	0
494	74.603	0	0.357	0	0	70	100	67	87	117	107	112	111	139	117	64	109	4152	0.007	-0.29	0.17	0
495	74.758	0	0.347	0	0	70	100	67	87	117	107	112	110	138	117	64	112	4152	0.007	-0.28	-0.14	0.04
496	74.912	0	0.349	0	0	70	99	67	87	116	107	112	110	138	117	64	110	4152	0.009	-0.37	0.25	0
497	75.064	0	0.346	0	0	70	99	67	87	116	106	111	110	137	116	64	113	4152	0.011	-0.33	0.25	0
498	75.219	0	0.344	0	0	70	99	67	87	116	106	111	110	137	116	64	108	4152	0.012	-0.37	0.31	0
499	75.372	0	0.343	0	0	70	99	67	87	116	106	111	110	137	116	64	107	4152	0.006	-0.35	0.14	0
500	75.527	0	0.35	0	0	70	99	67	87	116	106	110	110	136	115	64	110	4152	0.005	-0.34	0.11	0
501	75.682	0	0.352	0	0	70	99	67	87	115	105	110	109	136	115	64	107	4152	0.006	-0.35	0.04	0
502	75.836	0	0.349	0	0	70	99	67	87	115	105	110	109	136	115	64	109	4152	0.011	-0.29	-0.08	0.13
503	75.99	0	0.345	0	0	70	99	67	87	115	105	109	109	135	115	64	108	4151	0.006	-0.28	0.02	0
504	76.141	0	0.344	0	0	70	98	67	87	115	105	109	109	135	115	64	109	4151	0.012	-0.32	0.08	0.01
505	76.296	0	0.348	0	0	70	98	67	87	115	105	109	109	135	114	64	107	4151	0.007	-0.32	-0.11	0.07
506	76.452	0	0.353	0	0	70	98	67	87	115	105	108	109	134	114	64	110	4151	0.01	-0.55	0.33	0
507	76.605	0	0.345	0	0	70	98	67	87	114	105	108	109	134	114	64	107	4151	0.01	-0.36	0.31	0
508	76.762	0	0.344	0	0	70	98	67	87	114	105	108	108	134	114	64	111	4151	0.01	-0.3	-0.06	0.14
509	76.914	0	0.352	0	0	70	98	67	87	114	105	108	108	134	114	64	106	4151	0.007	-0.35	0.31	0
510	77.068	0	0.34	0	0	70	98	67	87	114	104	107	108	133	114	64	106	4151	0.011	-0.4	0.29	0
511	77.224	0	0.346	0	0	70	98	67	87	114	104	107	108	133	113	64	105	4151	0.006	-0.3	-0.07	0.11
512	77.38	0	0.343	0	0	70	98	67	87	114	104	107	108	133	113	64	105	4151	0.01	-0.26	0.06	0.12
513	77.535	0	0.346	0	0	70	97	67	86	114	104	107	108	133	113	64	105	4151	0.007	-0.27	0.08	0.18
514	77.689	0	0.34	0	0	70	97	67	86	114	104	106	108	133	113	64	105	4151	0.01	-0.28	0.59	0
515	77.844	0	0.354	0	0	70	97	67	86	114	104	106	108	132	113	64	106	4151	0.007	-0.45	0.66	0.01
516	78	0	0.343	0	0	70	97	67	86	114	104	106	108	132	113	64	108	4151	0.01	-0.21	0.47	0.38
517	78.159	0	0.341	0	0	70	97	67	86	114	104	106	108	132	113	64	106	4151	0.009	-0.28	0.45	0.47
518	78.314	0	0.347	0	0	70	97	67	86	114	104	105	109	132	113	64	106	4151	0.006	-0.36	0.74	0.21
519	78.47	0	0.344	0	0	70	98	67	86	114	105	105	109	131	113	64	106	4151	0.009	-0.21	0.59	0.51
520	78.624	0	0.352	0	0	70	98	67	86	115	105	105	109	131	113	64	106	4151	0.006	-0.31	0.81	0.25
521	78.781	0	0.352	0	0	69	98	67	86	115	105	105	109	131	113	64	106	4151	0.007	-0.26	0.53	0.44
522	78.934	0	0.35	0	0	69	99	67	86	115	105	105	110	131	113	64	107	4151	0.006	-0.36	0.76	0.07
523	79.088	0	0.34	0	0	69	99	67	86	116	105	105	110	131	113	64	107	4151	0.011	-0.26	0.79	0.07
524	79.244	0	0.347	0	0	69	99	67	86	116	106	105	110	131	114	64	108	4151	0.012	-0.27	0.67	0.07
525	79.398	0	0.342	0	0	70	99	67	86	116	106	105	111	131	114	64	108	4151	0.006	-0.32	0.34	0.19
526	79.553	0	0.346	0	0	70	99	67	86	117	106	105	111	131	114	64	109	4151	0.009	-0.47	0.64	0
527	79.709	0	0.344	0	0	70	100	67	86	117	107	105	111	131	114	64	109	4151	0.012	-0.42	0.61	0
528	79.863	0	0.342	0	0	70	100	67	86	118	107	105	112	131	114	64	109	4151	0.011	-0.42	0.57	0
529	80.021	0	0.347	0	0	69	100	67	86	118	107	104	112	130	114	64	109	4151	0.009	-0.26	0.15	0.27
530	80.175	0	0.342	0	0	69	100	67	86	118	107	104	112	131	115	64	109	4151	0.012	-0.3	0.34	0.04
531	80.329	0	0.346	0	0	69	100	67	86	119	108	104	112	131	115	64	109	4151	0.006	-0.38	0.27	0
532	80.487	0	0.345	0	0	69	100	67	86	119	108	104	112	131	115	64	109	4151	0.009	-0.2	-0.01	0.13
533	80.645	0	0.354	0	0	69	100	67	86	119	108	104	112	131	115	64	110	4151	0.01	-0.3	0.46	0
534	80.8	0	0.347	0	0	69	100	67	86	119	108	104	112	130	115	64	114	4150	0.008	-0.39	0.39	0
535	80.956	0	0.343	0	0	69	100	67	86	119	108	104	112	130	115	64	110	4150	0.012	-0.39	0.36	0
536	81.11	0	0.346	0	0	69	100	67	86	120	109	104	112	130	115	64	110	4150	0.011	-0.46	0.12	0.09
537	81.267	0	0.345	0	0	69	100	67	86	120	109	104	112	130	115	64	111	4150	0.013	-0.35	0.13	0.05
538	81.423	0	0.349	0	0	69	100	67	86	120	109	104	112	130	115	64	110	4150	0.01	-0.47	0.38	0
539	81.578	0	0.344	0	0	69	100	67	86	120	109	103	112	130	115	64	110	4150	0.011	-0.4	-0.03	0.1
540	81.737	0	0.351	0	0	69	100	67	86	120	109	103	112	130	115	64	109	4150	0.006	-0.46	0.1	0
541	81.892	0	0.343	0	0	69	100	67	86	120	109	103	112	130	115	64	114	4150	0.01	-0.32	-0.01	0.07
542	82.051	0	0.347	0	0	69	100	67	86	120	109	103	112	130	115	64	115	4150	0.006	-0.27	0.21	0
543	82.207	0	0.342	0	0	69	100	66	86	120	109	103	112	130	115	64	109	4150	0.011	-0.37	-0.04	0.1
544	82.363	0	0.351	0	0	69	99	66	86	120	109	103	111	130	115	64	109	4150	0.011	-0.38	0.42	0
545	82.52	0	0.344	0	0	69	99	66	86	120	108	103	111	130	115	64	109	4150	0.012	-0.25	0.1	0.04
546	82.673	0	0.343	0	0	69	99	66	86	120	108	103	111	130	114	64	109	4150	0.006	-0.11	-0.07	0.06
547	82.831	0	0.352	0	0	69	99	65	86	120	108	102	111	130	114	64	113	4150	0.007	-0.4	0.18	0
548	82.983	0	0.351	0	0	69	99	66	86	120	108	102	111	130	114	63	109	4150	0.009	-0.26	0.29	0
549	83.14	0	0.346	0	0	69	99	66	86	120	108	102	111	130	114	64	108	4150	0.008	-0.31	0.18	0
550	83.296	0	0.349	0	0	69	99	66	86	120	108	102	110	130	114	63	110	4150	0.007	-0.28	-0.21	0
551	83.452	0	0.342	0	0	69	98	66	86	120	108	102	110	130	114	64	113	4150	0.012	-0.4	0.08	0
552	83.608	0	0.34	0	0	69	98	66	86	119	108	102	110	130	114	64	108	4150	0.012	-0.27	-0.09	0
553	83.763	0	0.348	0	0	69	98	66	86	119	108	101	110	130	114	63	109	4150	0.011	-0.45	0.13	0
554	83.916	0	0.353	0	0	69	98	66	86	119	107	101	110	129	113	63	111	4150	0.01	-0.42	0.12	0
555	84.076	0	0.348	0	0	69	97	66	86	119	107	101	109	129	113	63	111	4150	0.011	-0.48	-0.16	0
556	84.233	0	0.348	0	0	69	97	66	86	118	107	101	109	129	113	63	107	4150	0.011	-0.31	0.07	0
557	84.39	0	0.352	0	0	69	97	66	86	118	107	101	109	129	113	63	110	4150	0.006	-0.27	-0.16	0
558	84.546	0	0.344	0	0	69	96	66	86	118	107	100	108	129	112	63	108	4150	0.01	-0.43	-0.31	0
559	84.7	0	0.344	0	0	69	96	66	86	117	106	100	108	129	112	63	110	4150	0.012	-0.22	-0.28	0
560	84.855	0	0.346	0	0	69	96	66	86	117	106	100	108	129	112	63	109	4150	0.011	-0.38	-0.24	0
561	85.011	0	0.345	0	0	69	96	66	86	116	106	100	107	128	111	63	108	4150	0.008	-0.32	0	0
562	85.167	0	0.349	0	0	69	96	66	86	116	105	99	107	128	111	63	108	4150	0.011	-0.35	-0.1	0
563	85.323	0	0.342	0	0	69	95	66	86	116	105	99	106	128	111	63	108	4150	0.01	-0.44	0.04	0
564	85.48	0	0.346	0	0	69	95	66	86	115	105	99	106	127	110	63	105	4150	0.005	-0.2	-0.47	0
565	85.634	0	0.35	0	0	69	94	66	86	114	104	99	106	127	110	63	106	4150	0.009	-0.14	-0.46	0
566	85.789	0	0.344	0	0	69	94	66	86	114	104	99	105	127	110	63	104	4150	0.011	-0.25	-0.24	0
567	85.944	0	0.353	0	0	69	94	66	86	113	104	98	105	126	109	63	105	4150	0.004	-0.34	-0.38	0
568	86.098	0	0.352	0	0	69	94	66	86	113	103	98	104	126	109	63	102	4150	0.009	-0.47	-0.06	0
569	86.254	0	0.347	0	0	69	93	66	86	112	103	98	104	125	109	63	104	4150	0.004	-0.38	-0.31	0
570	86.41	0	0.354	0	0	69	93	66	86	112	103	98	104	125	108	63	105	4150	0.009	-0.39	-0.05	0
571	86.566	0	0.341	0	0	69	93	66	86	111	102	97	103	124	108	63	104	4150	0.004	-0.34	-0.21	0
572	86.722	0	0.342	0	0	69	92	66	86	111	102	97	103	124	107	63	104	4150	0.008	-0.36	-0.5	0
573	86.877	0	0.351	0	0	69	92	66	86	110	102	97	102	123	107	63	101	4149	0.008	-0.34	-0.45	0
574	87.034	0	0.349	0	0	69	91	66	86	110	101	97	102	123	106	63	102	4150	0.01	-0.37	-0.17	0
575	87.19	0	0.35	0	0	69	91	66	86	109	101	96	102	122	106	63	102	4149	0.004	-0.38	-0.31	0
576	87.347	0	0.347	0	0	69	91	66	86	109	101	96	101	121	105	63	101	4149	0.01	-0.37	-0.27	0
577	87.503	0	0.346	0	0	69	90	66	86	108	100	96	101	121	105	63	101	4149	0.009	-0.24	-0.41	0
578	87.662	0	0.346	0	0	69	90	66	86	108	100	96	100	120	105	63	101	4149	0.005	-0.26	-0.12	0
579	87.818	0	0.352	0	0	69	90	66	86	107	100	95	100	119	104	63	100	4149	0.007	-0.26	-0.06	0
580	87.974	0	0.352	0	0	69	90	66	85	106	99	95	100	119	104	63	100	4149	0.003	-0.37	-0.19	0
581	88.134	0	0.348	0	0	69	89	66	85	106	99	95	99	118	103	63	99	4149	0.004	-0.32	-0.38	0
582	88.29	0	0.347	0	0	69	89	66	85	105	99	94	99	118	103	63	99	4149	0.005	-0.29	-0.41	0
583	88.448	0	0.347	0	0	69	89	66	85	105	98	94	99	117	103	63	98	4149	0.009	-0.2	-0.29	0
584	88.606	0	0.35	0	0	69	89	66	85	104	98	94	98	116	102	63	99	4149	0.01	-0.5	-0.11	0
585	88.762	0	0.345	0	0	69	88	66	85	104	98	94	98	116	102	63	98	4149	0.01	-0.3	-0.36	0
586	88.922	0	0.347	0	0	69	88	66	85	103	97	93	97	115	101	63	97	4149	0.007	-0.35	-0.09	0
587	89.082	0	0.343	0	0	69	88	66	85	103	97	93	97	114	101	63	97	4149	0.008	-0.29	-0.41	0
588	89.24	0	0.351	0	0	69	87	66	85	103	97	93	97	114	100	63	97	4149	0.003	-0.28	-0.3	0
589	89.397	0	0.345	0	0	69	87	66	85	102	96	93	96	113	100	63	96	4149	0.007	-0.25	-0.04	0
590	89.555	0	0.345	0	0	69	87	66	85	102	96	92	96	113	100	63	96	4149	0.006	-0.39	-0.01	0
591	89.713	0	0.345	0	0	69	87	66	85	101	96	92	96	112	99	63	94	4149	0.007	-0.36	-0.45	0
592	89.869	0	0.35	0	0	69	86	66	85	101	95	92	95	111	99	63	95	4149	0.004	-0.37	-0.14	0
593	90.029	0	0.356	0	0	69	86	66	85	100	95	92	95	111	99	63	95	4149	0.006	-0.32	-0.09	0
594	90.187	0	0.343	0	0	69	86	66	85	100	95	91	95	110	98	63	95	4149	0.006	-0.42	-0.46	0.07
595	90.344	0	0.353	0	0	69	86	66	85	99	94	91	94	110	98	63	94	4149	0.006	-0.41	-0.05	0
596	90.505	0	0.348	0	0	69	85	66	85	99	94	91	94	109	97	63	94	4149	0.003	-0.29	-0.47	0
597	90.665	0	0.341	0	0	69	85	66	85	99	94	91	94	108	97	63	93	4149	0.009	-0.36	-0.26	0
598	90.823	0	0.351	0	0	69	85	66	85	98	93	90	93	108	97	63	94	4149	0.009	-0.44	-0.21	0
599	90.985	0	0.347	0	0	69	85	66	85	98	93	90	93	107	96	63	93	4149	0.001	-0.31	-0.42	0

600	91.144	0	0.343	0	0	69	84	66	85	97	93	90	93	107	96	63	91	4149	0.009	-0.45	-0.19	0
601	91.303	0	0.345	0	0	69	84	66	85	97	92	90	93	106	96	63	92	4149	0.005	-0.34	-0.27	0
602	91.462	0	0.348	0	0	69	84	66	85	96	92	90	92	106	95	63	91	4149	0.009	-0.38	-0.32	0
603	91.62	0	0.348	0	0	69	84	66	85	96	92	89	92	105	95	63	91	4149	0.002	-0.23	-0.34	0
604	91.781	0	0.345	0	0	69	84	66	85	96	92	89	92	105	95	63	92	4149	0.009	-0.45	-0.23	0
605	91.94	0	0.349	0	0	69	83	66	85	95	91	89	91	104	94	63	91	4149	0.002	-0.28	-0.36	0
606	92.098	0	0.346	0	0	69	83	66	85	95	91	89	91	104	94	63	91	4149	0.004	-0.21	-0.51	0
607	92.254	0	0.345	0	0	69	83	66	85	95	91	88	91	103	94	63	90	4149	0.008	-0.26	-0.11	0
608	92.413	0	0.344	0	0	68	83	66	85	94	90	88	90	103	93	63	90	4149	0.008	-0.44	-0.12	0
609	92.573	0	0.346	0	0	68	82	66	85	94	90	88	90	102	93	63	90	4149	0.007	-0.38	-0.45	0
610	92.732	0	0.352	0	0	68	82	66	85	93	90	88	90	102	92	63	90	4149	0.001	-0.3	-0.23	0
611	92.891	0	0.346	0	0	68	82	66	85	93	90	87	90	101	92	63	89	4149	0.007	-0.31	-0.3	0
612	93.051	0	0.344	0	0	68	82	66	85	93	89	87	89	101	92	63	89	4149	0.006	-0.37	-0.04	0
613	93.207	0	0.355	0	0	68	82	66	85	93	89	87	89	100	92	63	88	4149	0.003	-0.32	-0.12	0
614	93.367	0	0.354	0	0	68	81	66	85	92	89	87	89	100	91	63	89	4149	0.002	-0.33	-0.25	0
615	93.528	0	0.35	0	0	68	81	66	85	92	88	87	89	99	91	63	88	4149	0.002	-0.26	-0.13	0
616	93.688	0	0.355	0	0	68	81	66	85	92	88	86	88	99	91	63	88	4149	0.003	-0.24	-0.12	0
617	93.849	0	0.341	0	0	68	81	66	85	91	88	86	88	98	90	63	88	4149	0.007	-0.37	-0.34	0
618	94.008	0	0.348	0	0	68	81	65	85	91	88	86	88	98	90	63	88	4149	0.007	-0.53	-0.11	0
619	94.168	0	0.349	0	0	68	80	65	85	91	88	86	88	98	90	63	87	4148	0.008	-0.35	-0.19	0
620	94.329	0	0.347	0	0	68	80	65	85	90	87	86	87	97	90	63	86	4148	0.005	-0.51	0.01	0
621	94.485	0	0.353	0	0	68	80	65	85	90	87	85	87	97	89	63	87	4148	0.003	-0.45	-0.1	0
622	94.645	0	0.344	0	0	68	80	65	85	90	87	85	87	96	89	63	86	4148	0.004	-0.32	-0.04	0
623	94.805	0	0.344	0	0	68	80	65	85	89	87	85	87	96	89	63	87	4148	0.007	-0.34	-0.29	0
624	94.964	0	0.35	0	0	68	80	65	85	89	86	85	86	96	88	62	86	4148	0.005	-0.17	-0.47	0
625	95.123	0	0.347	0	0	68	79	65	85	89	86	85	86	95	88	63	85	4148	0.001	-0.37	-0.22	0
626	95.28	0	0.344	0	0	68	79	65	85	89	86	84	86	95	88	63	85	4148	0.006	-0.3	-0.44	0
627	95.44	0	0.35	0	0	68	79	65	85	88	86	84	86	94	88	62	86	4148	0.001	-0.36	-0.23	0
628	95.601	0	0.341	0	0	68	79	65	85	88	85	84	86	94	87	62	85	4148	0.003	-0.39	-0.47	0
629	95.759	0	0.346	0	0	68	79	65	85	88	85	84	85	94	87	62	85	4148	0.007	-0.37	-0.24	0
630	95.921	0	0.345	0	0	68	79	65	85	88	85	84	85	93	87	62	85	4148	0	-0.22	-0.28	0
631	96.079	0	0.346	0	0	68	78	65	85	87	85	83	85	93	87	62	85	4148	0.001	-0.3	-0.3	0
632	96.24	0	0.346	0	0	68	78	65	85	87	85	83	85	93	86	62	84	4148	0.001	-0.22	-0.47	0
633	96.399	0	0.353	0	0	68	78	65	85	87	84	83	85	92	86	62	84	4148	0.001	-0.42	-0.27	0
634	96.555	0	0.342	0	0	68	78	65	85	87	84	83	84	92	86	62	84	4148	0.007	-0.32	-0.16	0
635	96.717	0	0.352	0	0	68	78	65	85	86	84	83	84	91	86	62	84	4148	0.001	-0.38	-0.19	0
636	96.875	0	0.349	0	0	68	78	65	85	86	84	82	84	91	85	62	83	4148	0.002	-0.25	-0.15	0
637	97.034	0	0.35	0	0	68	77	65	85	86	84	82	84	91	85	62	83	4148	0.002	-0.44	-0.12	0
638	97.196	0	0.337	0	0	68	77	65	85	86	83	82	84	90	85	62	83	4148	0.007	-0.23	-0.41	0
639	97.356	0	0.352	0	0	68	77	65	85	85	83	82	83	90	85	62	83	4148	0.003	-0.35	-0.06	0
640	97.518	0	0.344	0	0	68	77	65	85	85	83	82	83	90	85	62	82	4148	0.006	-0.25	-0.33	0
641	97.677	0	0.343	0	0	68	77	65	85	85	83	82	83	90	84	62	83	4148	0.005	-0.43	-0.03	0
642	97.837	0	0.344	0	0	68	77	65	85	85	83	81	83	89	84	62	83	4148	0.001	-0.28	-0.14	0
643	97.997	0	0.349	0	0	68	77	65	85	84	82	81	83	89	84	62	82	4148	0.001	-0.36	-0.19	0
644	98.154	0	0.342	0	0	68	76	65	85	84	82	81	82	89	84	62	82	4148	0.006	-0.42	-0.29	0
645	98.315	0	0.352	0	0	68	76	65	85	84	82	81	82	88	83	62	82	4148	0.001	-0.21	-0.12	0
646	98.474	0	0.348	0	0	68	76	65	85	84	82	81	82	88	83	62	82	4148	0.003	-0.48	-0.05	0
647	98.631	0	0.35	0	0	68	76	65	85	84	82	81	82	88	83	62	82	4148	0.007	-0.45	-0.21	0
648	98.792	0	0.351	0	0	68	76	65	85	83	81	80	82	87	83	62	81	4148	0.007	-0.28	-0.16	0
649	98.952	0	0.352	0	0	68	76	65	85	83	81	80	82	87	83	62	81	4148	0	-0.37	-0.26	0
650	99.112	0	0.351	0	0	68	76	65	85	83	81	80	81	87	82	62	81	4148	0.004	-0.45	-0.07	0
651	99.274	0	0.346	0	0	68	75	65	85	83	81	80	81	87	82	62	80	4148	0.001	-0.19	-0.46	0
652	99.433	0	0.346	0	0	68	75	65	85	83	81	80	81	86	82	62	80	4148	0.006	-0.37	-0.36	0
653	99.595	0	0.354	0	0	68	75	65	85	82	81	80	81	86	82	62	80	4148	0	-0.17	-0.33	0
654	99.754	0	0.346	0	0	68	75	65	85	82	80	80	81	86	82	62	80	4148	0.001	-0.35	-0.08	0
655	99.913	0	0.34	0	0	68	75	65	85	82	80	79	80	85	81	62	80	4148	0.006	-0.24	-0.24	0
656	100.075	0	0.348	0	0	68	75	65	85	82	80	79	80	85	81	62	80	4148	0.006	-0.33	-0.23	0
657	100.234	0	0.343	0	0	68	75	65	85	82	80	79	80	85	81	62	80	4147	0.005	-0.4	-0.38	0
658	100.395	0	0.353	0	0	68	75	65	85	81	80	79	80	85	81	62	79	4147	0	-0.44	-0.31	0
659	100.557	0	0.345	0	0	68	74	65	85	81	80	79	80	84	81	62	79	4147	0.001	-0.4	-0.48	0
660	100.716	0	0.348	0	0	68	74	65	85	81	79	79	80	84	81	62	79	4147	0	-0.25	-0.4	0
661	100.877	0	0.347	0	0	68	74	65	85	81	79	79	80	84	80	62	78	4147	0	-0.28	-0.14	0
662	101.037	0	0.347	0	0	68	74	65	85	81	79	78	79	84	80	62	79	4147	0	-0.3	-0.26	0
663	101.195	0	0.352	0	0	68	74	65	84	80	79	78	79	84	80	62	78	4147	0.004	-0.26	-0.43	0
664	101.357	0	0.351	0	0	68	74	65	84	80	79	78	79	83	80	62	78	4147	0.001	-0.36	-0.07	0
665	101.518	0	0.343	0	0	68	74	65	84	80	79	78	79	83	80	62	78	4147	0.005	-0.37	-0.39	0
666	101.677	0	0.351	0	0	68	74	65	84	80	78	78	79	83	80	62	78	4147	0	-0.34	-0.33	0
667	101.841	0	0.342	0	0	68	73	65	84	80	78	78	79	83	79	62	77	4147	0.006	-0.35	-0.16	0
668	102.001	0	0.353	0	0	68	73	65	84	80	78	78	78	82	79	62	77	4147	0.005	-0.31	-0.07	0
669	102.163	0	0.349	0	0	68	73	65	84	79	78	77	78	82	79	62	77	4147	0	-0.24	-0.15	0
670	102.323	0	0.345	0	0	68	73	65	84	79	78	77	78	82	79	62	78	4147	0.001	-0.25	-0.46	0
671	102.485	0	0.347	0	0	67	73	65	84	79	78	77	78	82	79	62	77	4147	0.005	-0.32	-0.1	0
672	102.646	0	0.344	0	0	67	73	65	84	79	78	77	78	81	79	62	77	4147	0.005	-0.46	-0.24	0
673	102.806	0	0.345	0	0	67	73	65	84	79	77	77	78	81	78	62	78	4147	0.006	-0.4	-0.18	0
674	102.968	0	0.345	0	0	67	73	65	84	79	77	77	78	81	78	62	77	4147	0.001	-0.32	-0.16	0
675	103.13	0	0.347	0	0	67	73	65	84	78	77	77	77	81	78	62	77	4147	0.006	-0.25	-0.31	0
676	103.291	0	0.348	0	0	67	73	65	84	78	77	76	77	81	78	62	76	4147	0.006	-0.4	-0.14	0
677	103.452	0	0.353	0	0	67	72	65	84	78	77	76	77	80	78	62	77	4147	0.003	-0.32	-0.52	0
678	103.612	0	0.345	0	0	67	72	65	84	78	77	76	77	80	78	62	76	4147	0.006	-0.24	-0.34	0
679	103.773	0	0.35	0	0	67	72	65	84	78	77	76	77	80	77	62	76	4147	-0.001	-0.34	-0.32	0
680	103.935	0	0.346	0	0	67	72	65	84	78	76	76	77	80	77	62	76	4147	0.005	-0.28	-0.21	0
681	104.094	0	0.35	0	0	67	72	65	84	78	76	76	77	80	77	62	76	4147	0	-0.44	-0.49	0
682	104.256	0	0.347	0	0	67	72	65	84	77	76	76	77	80	77	62	76	4147	0.005	-0.34	-0.23	0
683	104.416	0	0.346	0	0	67	72	65	84	77	76	76	76	79	77	62	76	4147	0	-0.25	-0.24	0
684	104.576	0	0.354	0	0	67	72	65	84	77	76	76	76	79	77	62	76	4147	-0.001	-0.28	-0.3	0
685	104.737	0	0.347	0	0	67	72	65	84	77	76	75	76	79	77	62	76	4147	0.002	-0.15	-0.55	0
686	104.899	0	0.351	0	0	67	72	65	84	77	76	75	76	79	77	62	76	4147	0.001	-0.38	-0.43	0
687	105.061	0	0.342	0	0	67	71	65	84	77	76	75	76	79	76	62	76	4147	0.004	-0.27	-0.37	0
688	105.219	0	0.349	0	0	67	71	65	84	77	75	75	76	78	76	62	75	4147	0	-0.2	-0.16	0
689	105.381	0	0.35	0	0	67	71	65	84	76	75	75	76	78	76	62	75	4147	0.004	-0.36	-0.36	0
690	105.542	0	0.346	0	0	67	71	65	84	76	75	75	76	78	76	62	75	4147	0.005	-0.28	-0.24	0
691	105.702	0	0.35	0	0	67	71	65	84	76	75	75	75	78	76	62	75	4147	0.001	-0.4	-0.52	0
692	105.862	0	0.351	0	0	67	71	65	84	76	75	75	75	78	76	62	75	4147	0.001	-0.29	-0.06	0
693	106.026	0	0.341	0	0	67	71	65	84	76	75	74	75	78	76	62	75	4147	0	-0.3	-0.48	0
694	106.189	0	0.351	0	0	67	71	65	84	76	75	74	75	77	75	62	74	4147	0	-0.21	-0.46	0
695	106.352	0	0.349	0	0	67	71	64	84	76	75	74	75	77	75	62	74	4147	0	-0.46	-0.12	0
696	106.515	0	0.344	0	0	67	71	64	84	76	75	74	75	77	75	62	74	4147	0.002	-0.26	-0.54	0
697	106.676	0	0.337	0	0	67	71	64	84	75	74	74	75	77	75	62	75	4147	0.005	-0.27	-0.29	0
698	106.837	0	0.343	0	0	67	71	64	84	75	74	74	75	77	75	62	74	4146	0.005	-0.26	-0.29	0
699	106.996	0	0.341	0	0	67	70	64	84	75	74	74	75	77	75	62	74	4147	0.003	-0.33	-0.46	0.01
700	107.158	0	0.349	0	0	67	70	64	84	75	74	74	74	76	75	62	74	4146	0.001	-0.28	-0.49	0
701	107.316	0	0.345	0	0	67	70	64	84	75	74	74	74	76	75	62	74	4146	0.005	-0.39	-0.22	0
702	107.482	0	0.349	0	0	67	70	64	84	75	74	74	74	76	74	62	74	4146	0	-0.35	-0.17	0
703	107.643	0	0.352	0	0	67	70	64	84	75	74	73	74	76	74	62	74	4146	0.004	-0.45	-0.34	0
704	107.804	0	0.345	0	0	67	70	64	84	75	74	73	74	76	74	62	73	4146	0.004	-0.48	-0.12	0
705	107.964	0	0.349	0	0	67	70	64	84	74	74	73	74	76	74	62	73	4146	0	-0.3	-0.45	0
706	108.124	0	0.352	0	0	67	70	64	84	74	73	73	74	75	74	61	73	4146	0.004	-0.4	-0.32	0
707	108.285	0	0.348	0	0	67	70	64	84	74	73	73	74	75	74	62	73	4146	0.002	-0.37	-0.46	0
708	108.446	0	0.35	0	0	67	70	64	84	74	73	73	74	75	74	62	73	4146	-0.001	-0.29	-0.26	0
709	108.607	0	0.348	0	0	67	70	64	84	74	73	73	73	75	74	61	73	4146	0.005	-0.31	-0.19	0
710	108.768	0	0.352	0	0	67	70	64	84	74	73	73	73	75	74	62	73	4146	0	-0.32	-0.46	0
711	108.932	0	0.345	0	0	67	70	64	84	74	73	73	73	75	73	61	73	4146	0.005	-0.44	-0.23	0
712	109.093	0	0.349	0	0	67	69	64	84	74	73	73	73	75	73	61	73	4146	-0.001	-0.27	-0.32	0
713	109.253	0	0.345	0	0	67	69	64	84	74	73	72	73	74	73	61	73	4146	0.004	-0.4	-0.05	0
714	109.416	0	0.348	0	0	67	69	64	84	73	73	72	73	74	73	61	72	4146	-0.001	-0.28	-0.25	0
715	109.577	0	0.352	0	0	67	69	64	84	73	73	72	73	74	73	61	73	4146	0.002	-0.23	-0.42	0
716	109.74	0	0.345	0	0	67	69	64	84	73	72	72	73	74	73	61	72	4146	0	-0.23	-0.47	0
717	109.901	0	0.355	0	0	67	69	64	84	73	72	72	73	74	73	61	72	4146	0.003	-0.37	-0.42	0
718	110.064	0	0.356	0	0	67	69	64	84	73	72	72	73	74	73	61	72	4146	-0.001	-0.38	-0.32	0
719	110.228	0	0.356	0	0	67	69	64	84	73	72	72	73	74	73	61	72	4146	0.002	-0.42	0.01	0
720	110.388	0	0.346	0	0	67	69	64	84	73	72	72	72	74	73	61	72	4146	0.003	-0.31	-0.43	0
721	110.551	0	0.352	0	0	67	69	64	84	73	72	72	72	73	72	61	72	4146	-0.001	-0.32	-0.36	0
722	110.711	0	0.347	0	0	67	69	64	84	73	72	72	72	73	72	61	72	4146	0.004	-0.29	-0.14	0
723	110.871	0	0.348	0	0	67	69	64	84	73	72	72	72	73	72	61	72	4146	-0.001	-0.28	-0.36	0
724	111.035	0	0.344	0	0	67	69	64	84	72	72	71	72	73	72	61	72	4146	0.003	-0.28	-0.37	0
725	111.195	0	0.346	0	0	67	69	64	84	72	72	71	72	73	72	61	72	4146	0	-0.23	-0.18	0
726	111.358	0	0.348	0	0	67	69	64	84	72	72	71	72	73	72	61	72	4146	0.001	-0.32	-0.46	0
727	111.521	0	0.342	0	0	67	68	64	84	72	71	71	72	73	72	61	72	4146	0	-0.27	-0.42	0
728	111.683	0	0.353	0	0	67	68	64	84	72	71	71	72	73	72	61	71	4146	0.003	-0.45	-0.06	0

729	111.845	0	0.353	0	0	67	68	64	84	72	71	71	72	73	72	61	71	4146	0.002	-0.32	-0.04	0
730	112.008	0	0.348	0	0	67	68	64	84	72	71	71	72	72	72	61	71	4146	0.004	-0.43	-0.11	0
731	112.172	0	0.348	0	0	67	68	64	84	72	71	71	71	72	72	61	71	4146	0	-0.31	-0.46	0
732	112.333	0	0.347	0	0	67	68	64	84	72	71	71	71	72	71	61	71	4146	0	-0.36	-0.47	0
733	112.497	0	0.347	0	0	67	68	64	84	72	71	71	71	72	71	61	71	4146	0.002	-0.31	-0.45	0
734	112.661	0	0.345	0	0	67	68	64	84	72	71	71	71	72	71	61	71	4146	0	-0.19	-0.41	0
735	112.823	0	0.342	0	0	67	68	64	84	71	71	71	71	72	71	61	71	4146	0	-0.32	-0.46	0
736	112.984	0	0.342	0	0	67	68	64	84	71	71	71	71	72	71	61	71	4146	0.005	-0.4	-0.12	0
737	113.148	0	0.344	0	0	67	68	64	84	71	71	70	71	72	71	61	71	4146	0.004	-0.47	-0.2	0
738	113.313	0	0.351	0	0	67	68	64	84	71	71	70	71	72	71	61	71	4146	0.003	-0.37	-0.38	0
739	113.477	0	0.354	0	0	67	68	64	84	71	70	70	71	71	71	61	70	4146	0.003	-0.38	-0.09	0
740	113.641	0	0.342	0	0	67	68	64	84	71	70	70	71	71	71	61	70	4146	0.004	-0.19	-0.31	0
741	113.804	0	0.343	0	0	67	68	64	84	71	70	70	71	71	71	61	70	4146	0.003	-0.41	-0.12	0
742	113.968	0	0.351	0	0	67	68	64	84	71	70	70	71	71	71	61	70	4146	0.001	-0.27	-0.05	0
743	114.129	0	0.344	0	0	67	68	64	84	71	70	70	70	71	70	61	70	4146	0.004	-0.31	-0.25	0
744	114.292	0	0.344	0	0	67	67	64	84	71	70	70	70	71	70	61	70	4146	0.003	-0.2	-0.42	0
745	114.454	0	0.347	0	0	67	67	64	84	71	70	70	70	71	70	61	70	4146	0	-0.25	-0.45	0
746	114.615	0	0.35	0	0	67	67	64	84	71	70	70	70	71	70	61	70	4146	-0.001	-0.33	-0.24	0
747	114.781	0	0.352	0	0	67	67	64	84	70	70	70	70	71	70	61	70	4145	0	-0.36	-0.54	0
748	114.945	0	0.354	0	0	67	67	64	84	70	70	70	70	71	70	61	70	4145	0.002	-0.41	-0.06	0
749	115.109	0	0.339	0	0	67	67	64	84	70	70	70	70	70	70	61	70	4145	0.004	-0.31	-0.3	0
750	115.273	0	0.345	0	0	67	67	64	84	70	70	69	70	70	70	61	70	4145	-0.001	-0.27	-0.37	0
751	115.436	0	0.342	0	0	67	67	64	84	70	70	69	70	70	70	61	70	4145	0.001	-0.38	-0.43	0
752	115.604	0	0.343	0	0	67	67	64	84	70	69	69	70	70	70	61	69	4145	0.004	-0.27	-0.34	0
753	115.768	0	0.34	0	0	67	67	64	84	70	69	69	70	70	70	61	69	4145	-0.001	-0.24	-0.45	0
754	115.931	0	0.342	0	0	67	67	64	84	70	69	69	70	70	70	61	69	4145	0	-0.34	-0.48	0
755	116.095	0	0.35	0	0	67	67	64	83	70	69	69	70	70	70	61	69	4145	0	-0.3	-0.47	0
756	116.259	0	0.344	0	0	67	67	64	84	70	69	69	70	70	70	61	69	4145	-0.001	-0.25	-0.34	0
757	116.421	0	0.348	0	0	67	67	64	83	70	69	69	69	70	69	61	69	4145	0.003	-0.33	-0.42	0
758	116.582	0	0.352	0	0	67	67	64	83	70	69	69	69	70	69	61	69	4145	0.001	-0.28	-0.44	0
759	116.745	0	0.35	0	0	67	67	64	83	70	69	69	69	70	69	61	69	4145	0.001	-0.4	-0.51	0
760	116.908	0	0.349	0	0	66	67	64	83	70	69	69	69	69	69	61	69	4145	0.004	-0.26	-0.14	0
761	117.071	0	0.347	0	0	66	67	64	83	69	69	69	69	69	69	61	69	4145	0.003	-0.31	-0.08	0
762	117.236	0	0.342	0	0	67	67	64	83	69	69	69	69	69	69	61	69	4145	0.004	-0.51	-0.31	0
763	117.4	0	0.345	0	0	66	67	64	83	69	69	69	69	69	69	61	69	4145	0	-0.24	-0.5	0
764	117.56	0	0.341	0	0	67	67	64	83	69	69	69	69	69	69	61	69	4145	0.004	-0.4	-0.22	0
765	117.725	0	0.342	0	0	66	67	64	83	69	69	68	69	69	69	61	69	4145	0.003	-0.37	-0.39	0
766	117.89	0	0.353	0	0	66	66	64	83	69	69	68	69	69	69	61	69	4145	-0.001	-0.17	-0.46	0
767	118.054	0	0.348	0	0	67	66	64	83	69	68	68	69	69	69	61	69	4145	0.003	-0.42	-0.1	0
768	118.219	0	0.343	0	0	66	66	64	83	69	68	68	69	69	69	61	68	4145	0.003	-0.34	-0.42	0
769	118.382	0	0.346	0	0	67	66	64	83	69	68	68	69	69	69	61	68	4145	0	-0.33	-0.12	0
770	118.547	0	0.347	0	0	66	66	63	83	69	68	68	69	69	69	61	68	4145	0.001	-0.39	-0.06	0
771	118.708	0	0.344	0	0	66	66	63	83	69	68	68	69	69	68	61	68	4145	-0.001	-0.21	-0.41	0
772	118.87	0	0.348	0	0	66	66	63	83	69	68	68	69	69	68	61	68	4145	-0.001	-0.23	-0.3	0
773	119.038	0	0.35	0	0	67	66	64	83	69	68	68	68	68	68	61	68	4145	0.002	-0.38	-0.06	0
774	119.202	0	0.349	0	0	67	66	63	83	69	68	68	68	68	68	61	68	4145	0.003	-0.55	-0.12	0
775	119.365	0	0.353	0	0	67	66	63	83	69	68	68	68	68	68	61	68	4145	0.003	-0.35	-0.16	0
776	119.532	0	0.351	0	0	66	66	63	83	68	68	68	68	68	68	61	68	4145	-0.001	-0.35	-0.12	0
777	119.697	0	0.346	0	0	66	66	63	83	68	68	68	68	68	68	61	68	4145	0	-0.33	-0.49	0
778	119.859	0	0.349	0	0	66	66	63	83	68	68	68	68	68	68	61	68	4145	-0.001	-0.38	-0.45	0
779	120.021	0	0.348	0	0	66	66	63	83	68	68	68	68	68	68	61	68	4145	0	-0.48	-0.08	0
780	120.183	0	0.346	0	0	66	66	63	83	68	68	68	68	68	68	61	68	4145	0.001	-0.38	-0.08	0
781	120.35	0	0.348	0	0	66	66	63	83	68	68	68	68	68	68	61	68	4145	-0.001	-0.27	-0.2	0
782	120.516	0	0.347	0	0	66	66	63	83	68	68	67	68	68	68	61	68	4145	0.004	-0.38	-0.26	0
783	120.679	0	0.343	0	0	66	66	63	83	68	68	67	68	68	68	61	68	4145	0.002	-0.22	-0.4	0
784	120.846	0	0.355	0	0	66	66	63	83	68	67	67	68	68	68	61	68	4145	-0.001	-0.26	-0.42	0
785	121.01	0	0.344	0	0	66	66	63	83	68	67	67	68	68	68	61	67	4145	0.002	-0.42	-0.4	0
786	121.175	0	0.351	0	0	66	66	63	83	68	67	67	68	68	68	61	67	4145	-0.001	-0.25	-0.35	0
787	121.339	0	0.345	0	0	66	66	63	83	68	67	67	68	67	67	61	67	4145	-0.001	-0.3	-0.11	0
788	121.505	0	0.347	0	0	66	66	63	83	68	67	67	68	67	67	61	67	4145	0.001	-0.26	-0.45	0
789	121.671	0	0.356	0	0	66	66	63	83	68	67	67	68	67	67	61	67	4145	-0.001	-0.35	-0.43	0
790	121.837	0	0.343	0	0	66	66	63	83	68	67	67	67	67	67	61	67	4145	0	-0.26	-0.46	0
791	122.002	0	0.347	0	0	66	66	63	83	68	67	67	67	67	67	61	67	4145	0	-0.31	-0.47	0
792	122.169	0	0.345	0	0	66	66	63	83	67	67	67	67	67	67	61	67	4145	0.003	-0.24	-0.12	0
793	122.334	0	0.346	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4145	0.002	-0.28	-0.38	0
794	122.499	0	0.35	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4145	-0.001	-0.3	-0.15	0
795	122.663	0	0.343	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4145	0.003	-0.48	-0.23	0
796	122.827	0	0.349	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4145	-0.001	-0.28	-0.25	0
797	122.992	0	0.353	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4144	0	-0.24	-0.16	0
798	123.156	0	0.343	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4144	-0.001	-0.26	-0.52	0
799	123.322	0	0.345	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4144	-0.001	-0.16	-0.4	0
800	123.488	0	0.345	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4144	0.004	-0.38	-0.2	0
801	123.653	0	0.345	0	0	66	65	63	83	67	67	67	67	67	67	61	67	4144	-0.002	-0.33	-0.39	0
802	123.819	0	0.352	0	0	66	65	63	83	67	67	66	67	67	67	61	67	4144	-0.001	-0.37	-0.24	0
803	123.982	0	0.341	0	0	66	65	63	83	67	66	66	67	66	67	61	66	4144	0.003	-0.21	-0.35	0
804	124.149	0	0.349	0	0	66	65	63	83	67	66	66	67	66	67	61	67	4144	0.002	-0.34	-0.41	0
805	124.313	0	0.347	0	0	66	65	63	83	67	66	66	67	66	67	61	66	4144	0.002	-0.45	-0.44	0
806	124.477	0	0.349	0	0	66	65	63	83	67	66	66	67	66	66	61	66	4144	0.001	-0.36	-0.09	0
807	124.642	0	0.349	0	0	66	65	63	83	67	66	66	67	66	66	61	66	4144	0.003	-0.35	-0.2	0
808	124.807	0	0.341	0	0	66	65	63	83	67	66	66	67	66	66	61	66	4144	0.001	-0.34	-0.07	0
809	124.968	0	0.345	0	0	66	65	63	83	67	66	66	67	66	66	61	66	4144	0.003	-0.23	-0.36	0
810	125.13	0	0.349	0	0	66	65	63	83	67	66	66	66	66	66	61	66	4144	0	-0.46	-0.05	0
811	125.296	0	0.344	0	0	66	65	63	83	67	66	66	66	66	66	61	66	4144	0.002	-0.41	-0.41	0
812	125.463	0	0.347	0	0	66	65	63	83	66	66	66	66	66	66	61	66	4144	0.003	-0.46	-0.2	0
813	125.627	0	0.345	0	0	66	65	63	83	66	66	66	66	66	66	61	66	4144	0	-0.3	-0.09	0
814	125.789	0	0.345	0	0	66	65	63	83	66	66	66	66	66	66	61	66	4144	0.003	-0.4	-0.17	0
815	125.957	0	0.349	0	0	66	65	63	83	66	66	66	66	66	66	61	66	4144	0.002	-0.46	-0.09	0
816	126.122	0	0.344	0	0	66	65	63	83	66	66	66	66	66	66	61	66	4144	0	-0.21	-0.45	0
817	126.285	0	0.35	0	0	66	65	63	83	66	66	66	66	66	66	61	66	4144	-0.001	-0.19	-0.32	0
818	126.45	0	0.354	0	0	66	65	63	82	66	66	66	66	66	66	61	66	4144	0.001	-0.36	-0.07	0
819	126.614	0	0.349	0	0	66	65	63	82	66	66	66	66	66	66	61	66	4144	-0.001	-0.38	-0.42	0
820	126.783	0	0.351	0	0	66	65	63	82	66	66	66	66	65	66	61	66	4144	0	-0.29	-0.1	0
821	126.95	0	0.35	0	0	66	65	63	82	66	66	66	66	65	66	61	66	4144	0	-0.31	-0.44	0
822	127.118	0	0.35	0	0	66	65	63	82	66	66	66	66	65	66	61	66	4144	-0.001	-0.28	-0.37	0
823	127.287	0	0.348	0	0	66	65	63	82	66	66	65	66	65	66	61	65	4144	0.002	-0.31	-0.42	0
824	127.456	0	0.35	0	0	66	65	63	82	66	65	65	66	65	66	61	65	4144	0.001	-0.36	-0.41	0
825	127.626	0	0.35	0	0	66	65	63	82	66	65	65	66	65	66	60	65	4144	-0.001	-0.25	-0.3	0
826	127.793	0	0.351	0	0	66	65	63	82	66	65	65	66	65	65	61	66	4144	-0.001	-0.37	-0.3	0
827	127.962	0	0.355	0	0	66	65	63	82	66	65	65	66	65	65	61	65	4144	-0.001	-0.23	-0.2	0
828	128.135	0	0.351	0	0	66	65	63	82	66	65	65	66	65	65	60	65	4144	-0.001	-0.41	-0.3	0
829	128.303	0	0.349	0	0	66	65	62	82	66	65	65	66	65	65	60	65	4144	0.001	-0.33	-0.41	0
830	128.473	0	0.348	0	0	66	65	62	81	66	65	65	66	65	65	60	65	4144	-0.001	-0.32	-0.19	0
831	128.646	0	0.348	0	0	65	65	62	81	66	65	65	66	65	65	60	65	4144	0.003	-0.4	-0.16	0
832	128.818	0	0.349	0	0	65	65	62	81	65	65	65	65	65	65	60	65	4144	0.002	-0.37	-0.15	0
833	128.988	0	0.35	0	0	65	64	62	81	65	65	65	65	65	65	60	65	4144	0.002	-0.39	-0.14	0
834	129.162	0	0.345	0	0	65	64	62	81	65	65	65	65	65	65	60	65	4144	0.003	-0.33	-0.22	0
835	129.333	0	0.346	0	0	65	64	62	81	65	65	65	65	65	65	60	65	4144	0.002	-0.4	-0.19	0
836	129.505	0	0.352	0	0	65	64	62	81	65	65	65	65	65	65	60	65	4143	0	-0.34	-0.09	0
837	129.676	0	0.352	0	0	65	64	62	81	65	65	65	65	64	65	60	65	4143	0	-0.34	-0.14	0
838	129.847	0	0.354	0	0	65	64	62	81	65	65	65	65	64	65	60	65	4143	-0.001	-0.37	-0.21	0
839	130.02	0	0.345	0	0	65	64	62	81	65	65	65	65	64	65	60	65	4143	0	-0.27	-0.44	0
840	130.19	0	0.353	0	0	65	64	62	81	65	65	65	65	64	65	60	65	4143	-0.001	-0.36	-0.27	0
841	130.362	0	0.352	0	0	65	64	62	81	65	65	65	65	64	65	60	65	4143	0	-0.33	-0.4	0
842	130.533	0	0.345	0	0	65	64	62	80	65	65	65	65	64	65	60	65	4143	0.001	-0.42	-0.15	0
843	130.705	0	0.349	0	0	65	64	62	80	65	65	64	65	64	65	60	65	4143	0.002	-0.3	-0.23	0
844	130.88	0	0.349	0	0	65	64	62	80	65	65	64	65	64	65	60	65	4143	-0.001	-0.35	-0.21	0
845	131.052	0	0.353	0	0	65	64	62	80	65	64	64	65	64	65	60	65	4143	0	-0.32	-0.12	0
846	131.225	0	0.351	0	0	65	64	62	80	65	64	64	65	64	64	60	65	4143	0.001	-0.32	-0.12	0
847	131.401	0	0.348	0	0	65	64	62	80	65	64	64	65	64	64	60	65	4143	0	-0.43	-0.41	0
848	131.573	0	0.347	0	0	65	64	62	80	65	64	64	65	64	64	60	64	4143	0.002	-0.38	-0.34	0
849	131.751	0	0.347	0	0	65	64	62	80	65	64	64	65	64	64	60	64	4143	0.001	-0.32	-0.13	0
850	131.925	0	0.344	0	0	65	64	62	80	65	64	64	65	64	64	60	64	4143	0.003	-0.46	-0.31	0
851	132.097	0	0.345	0	0	65	64	62	80	65	64	64	65	64	64	60	64	4143	0.002	-0.28	-0.25	0
852	132.272	0	0.352	0	0	65	64	62	80	65	64	64	65	64	64	60	64	4143	-0.001	-0.32	-0.15	0
853	132.447	0	0.347	0	0	65	64	62	80	65	64	64	65	64	64	60	64	4143	0.002	-0.27	-0.37	0
854	132.618	0	0.348	0	0	65	64	62	80	64	64	64	65	64	64	60	64	4143	0.002	-0.35	-0.26	0
855	132.794	0	0.345	0	0	65	64	62	80	64	64	64	64	64	64	60	64	4143	-0.001	-0.32	-0.26	0
856	132.967	0	0.351	0	0	65	64	62	80	64	64	64	64	64	64	60	64	4143	0	-0.32	-0.13	0
857	133.142	0	0.352	0	0	65	64	62	80	64	64	64	64	64	64	60	64	4143	-0.001	-0.34	-0.34	0

858	133.313	0	0.347	0	0	65	64	62	80	64	64	64	64	64	64	60	64	4143	0.002	-0.36	-0.22	0
859	133.489	0	0.344	0	0	65	64	62	80	64	64	64	64	63	64	60	64	4143	-0.001	-0.21	-0.44	0
860	133.664	0	0.35	0	0	64	64	62	79	64	64	64	64	63	64	60	64	4143	0.002	-0.45	-0.14	0
861	133.84	0	0.352	0	0	64	64	62	79	64	64	64	64	63	64	60	64	4143	-0.001	-0.29	-0.28	0
862	134.013	0	0.35	0	0	64	64	62	79	64	64	64	64	63	64	60	64	4143	0	-0.4	-0.17	0
863	134.189	0	0.35	0	0	64	64	61	79	64	64	64	64	63	64	60	64	4142	-0.001	-0.33	-0.28	0
864	134.365	0	0.349	0	0	64	64	61	79	64	64	64	64	63	64	60	64	4142	0.002	-0.4	-0.18	0
865	134.544	0	0.35	0	0	63	64	61	79	64	64	64	64	63	64	60	64	4142	-0.001	-0.33	-0.27	0
866	134.725	0	0.348	0	0	63	64	61	79	64	64	64	64	63	64	60	64	4142	0	-0.28	-0.39	0
867	134.9	0	0.347	0	0	63	64	61	79	64	64	64	64	63	64	60	64	4142	-0.001	-0.32	-0.3	0
868	135.077	0	0.348	0	0	63	63	61	79	64	64	63	64	63	64	60	64	4142	0.002	-0.36	-0.26	0
869	135.256	0	0.348	0	0	63	63	61	79	64	64	63	64	63	64	60	64	4142	0.001	-0.27	-0.39	0
870	135.435	0	0.352	0	0	63	63	61	78	64	63	63	64	63	64	59	64	4142	-0.001	-0.38	-0.18	0
871	135.613	0	0.348	0	0	63	63	61	78	64	63	63	64	63	63	59	64	4142	-0.001	-0.31	-0.32	0
872	135.791	0	0.35	0	0	63	63	61	78	64	63	63	64	63	63	59	64	4142	0.002	-0.42	-0.27	0
873	135.974	0	0.346	0	0	63	63	61	78	64	63	63	64	63	63	59	64	4142	0.001	-0.33	-0.36	0
874	136.152	0	0.344	0	0	63	63	61	78	64	63	63	64	63	63	59	64	4142	0.002	-0.27	-0.29	0
875	136.33	0	0.352	0	0	63	63	61	78	64	63	63	64	63	63	59	63	4142	-0.001	-0.29	-0.29	0
876	136.513	0	0.351	0	0	63	63	61	78	64	63	63	64	63	63	59	63	4142	0.001	-0.38	-0.35	0
877	136.692	0	0.348	0	0	63	63	61	78	64	63	63	64	63	63	59	63	4142	0	-0.32	-0.14	0
878	136.875	0	0.351	0	0	63	63	61	78	64	63	63	64	63	63	59	63	4141	0.002	-0.38	-0.2	0
879	137.053	0	0.349	0	0	62	63	61	77	63	63	63	64	63	63	59	63	4141	0.001	-0.38	-0.29	0

10/30/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.048	0	0	11.01	102	416	72	79	472	300	480	397	377	405	70	432	4159	0.062	-0.4	0.01	0
1	0.146	0.048	0.358	0	17.56	154	321	69	78	467	311	484	380	384	405	72	346	4159	0.046	-0.29	-0.36	0
2	0.308	0.048	0.357	0	11.12	163	282	73	78	462	322	483	367	390	405	71	326	4159	0.047	-0.39	-0.07	0
3	0.468	0.048	0.353	0	10.89	168	291	76	78	456	332	480	357	393	404	71	322	4159	0.05	-0.23	-0.22	0
4	0.627	0.048	0.351	0	10.79	173	312	78	78	449	339	476	362	396	404	71	332	4159	0.051	20.51	-0.33	0
5	0.789	0.048	0.353	0	10.7	139	334	78	78	442	344	467	358	398	402	70	343	4159	0.052	18.75	1.94	0
6	0.95	0.048	0.352	0	10.67	116	330	77	78	434	346	455	355	399	398	70	358	4159	0.054	18.52	2.19	0.6
7	1.112	0.048	0.352	0	10.57	109	327	76	78	426	347	444	353	400	394	70	359	4159	0.054	18.67	1.85	0.5
8	1.272	0.048	0.354	0	10.59	105	326	76	78	417	346	435	353	401	390	70	367	4159	0.051	18.67	2.15	0.25
9	1.434	0.048	0.356	0	10.53	102	323	75	79	409	344	427	352	401	387	70	377	4159	0.049	18.71	1.98	0.44
10	1.596	0.048	0.353	0	10.43	100	321	75	79	401	343	419	351	401	383	70	374	4159	0.051	18.69	2.11	0.39
11	1.757	0.048	0.346	0	10.56	99	318	75	79	394	340	412	351	401	379	70	373	4159	0.051	18.62	1.93	0.64
12	1.915	0.048	0.35	0	10.41	98	316	75	79	388	337	405	349	400	376	70	366	4159	0.049	18.74	2.07	0.51
13	2.075	0.048	0.348	0	10.45	97	314	75	79	382	335	399	348	400	373	70	368	4159	0.048	18.65	1.98	0.57
14	2.233	0.048	0.341	0	10.34	96	311	75	79	375	331	393	347	400	369	70	356	4159	0.049	18.73	2.04	0.64
15	2.39	0.048	0.349	0	10.27	96	308	75	79	370	329	387	345	399	366	70	345	4159	0.05	18.68	2.12	0.62
16	2.548	0.048	0.347	0	10.29	96	305	75	79	365	326	381	344	398	363	70	360	4159	0.05	18.68	2.18	0.61
17	2.704	0.048	0.347	0	10.23	95	304	75	79	360	323	377	342	397	360	70	359	4159	0.049	18.66	2.13	0.69
18	2.859	0.048	0.346	0	10.19	95	302	75	80	355	320	371	341	396	357	69	356	4159	0.047	18.55	2.17	0.67
19	3.015	0.048	0.345	0	10.07	94	300	75	80	350	318	367	340	395	354	70	352	4159	0.051	18.59	2.11	0.98
20	3.169	0.048	0.344	0	10.05	94	298	75	80	344	310	362	337	393	349	70	340	4159	0.049	18.46	2.31	0.77
21	3.32	0.048	0.349	0	10.03	93	296	75	80	341	289	360	330	385	341	69	328	4159	0.05	18.41	2.34	0.89
22	3.474	0.048	0.346	0	9.96	92	294	75	80	338	272	357	323	380	334	69	327	4159	0.051	18.35	2.32	0.96
23	3.628	0.048	0.344	0	9.88	92	292	75	80	335	260	355	317	376	328	69	322	4159	0.05	18.25	2.4	1
24	3.78	0.048	0.342	0	9.82	92	292	75	81	331	251	353	311	371	323	69	319	4159	0.05	18.35	2.56	0.93
25	3.931	0.048	0.344	0	9.8	93	302	75	81	328	244	351	308	368	320	69	322	4159	0.046	18.18	2.58	1.06
26	4.083	0.048	0.342	0	9.74	104	320	75	81	325	238	350	304	366	316	70	342	4159	0.05	17.62	2.77	1.09
27	4.23	0.048	0.336	0	9.49	97	312	75	81	322	234	348	309	363	315	70	336	4159	0.048	16.32	4.15	1.19
28	4.379	0.048	0.336	0	9.84	110	351	75	81	320	231	346	309	361	313	71	387	4159	0.055	19.52	1.6	0.31
29	4.526	0.048	0.336	0	9.31	108	430	76	81	319	229	345	357	359	322	70	549	4159	0.072	10.66	9.7	0.23
30	4.675	0.048	0.338	0	9.19	107	485	76	82	320	228	343	403	356	330	70	590	4159	0.059	11.41	9.41	0.09
31	4.821	0.048	0.341	0	9.09	104	480	76	82	322	229	343	433	354	336	70	592	4159	0.071	14.24	6.98	0
32	4.974	0.048	0.332	0	8.93	103	486	76	82	324	231	345	438	352	338	70	607	4159	0.075	16.18	4.66	0.03
33	5.126	0.048	0.335	0	8.92	104	508	76	82	328	232	347	440	350	340	70	611	4159	0.072	16.7	4.31	0
34	5.277	0.048	0.348	0	8.89	105	521	76	82	330	234	349	442	348	340	70	613	4159	0.073	16.8	3.95	0
35	5.427	0.048	0.338	0	8.14	105	525	76	82	332	234	350	446	347	342	70	605	4159	0.07	16.53	4.34	0
36	5.578	0.048	0.334	0	8.66	110	532	76	83	333	234	352	451	346	343	70	575	4159	0.069	16.55	4.44	0
37	5.726	0.048	0.34	0	8.59	107	512	76	83	334	233	352	459	344	344	70	573	4159	0.074	15.44	5.2	0
38	5.875	0.048	0.338	0	10.4	123	554	77	83	336	233	353	467	344	347	70	692	4159	0.106	14.99	5.7	0
39	6.023	0.048	0.334	0	8.34	122	536	77	83	338	234	356	492	343	352	70	585	4159	0.073	11.92	9.22	0.28

11/30/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.048	0	0	11.33	99.38	409.96	69	75	451	288	462	383	382	393	67	423	4154	0.06	18.09	2.79	0
1	0.143	0.048	0.355	0	10.7	148	341	71	74	449	300	464	373	387	395	69	343	4154	0.049	20.14	1.06	0
2	0.311	0.048	0.347	0	11.15	171	321	74	75	445	311	466	362	392	395	70	334	4154	0.058	19.76	1.21	0.05
3	0.478	0.048	0.347	0	11.22	186	348	76	75	442	321	465	363	395	397	69	340	4154	0.061	19.61	1.4	0
4	0.643	0.048	0.351	0	13.45	203	440	79	75	439	329	461	383	398	402	68	472	4154	0.069	18.85	1.97	0.08
5	0.809	0.048	0.347	0	10.58	144	502	77	75	438	335	451	396	400	404	68	516	4154	0.073	17.21	3.69	0
6	0.974	0.048	0.347	0	10.61	123	465	76	75	436	338	442	399	401	403	68	498	4154	0.068	17.64	3.18	0
7	1.138	0.048	0.348	0	10.55	115	452	75	75	433	340	435	403	403	403	68	529	4154	0.067	18	3.04	0
8	1.3	0.048	0.347	0	10.49	110	444	75	75	429	340	428	406	403	401	68	530	4154	0.067	18.16	2.71	0
9	1.463	0.048	0.345	0	10.5	108	437	74	75	423	340	422	408	403	399	68	538	4154	0.063	18.37	2.7	0
10	1.625	0.048	0.346	0	10.47	106	432	74	75	417	339	416	409	403	397	68	535	4154	0.063	18.27	2.69	0
11	1.793	0.048	0.347	0	10.3	105	428	74	75	411	338	409	409	403	394	68	511	4154	0.066	18.15	2.68	0.07
12	1.957	0.048	0.343	0	10.33	104	422	74	76	406	337	404	408	403	392	68	508	4154	0.066	18.21	2.84	0
13	2.118	0.048	0.342	0	10.22	103	417	74	76	399	335	399	407	403	389	68	509	4154	0.064	18.22	2.61	0.26
14	2.279	0.048	0.344	0	10.18	103	411	74	76	393	333	393	406	403	386	68	512	4154	0.064	18.23	2.57	0.36
15	2.437	0.048	0.344	0	10.21	102	405	74	76	388	332	389	405	402	383	68	529	4154	0.06	18.18	2.61	0.37
16	2.598	0.048	0.342	0	10.14	101	399	74	76	383	329	384	403	402	380	68	521	4154	0.063	18.32	2.57	0.52
17	2.758	0.048	0.346	0	10.09	101	392	74	76	377	327	380	401	402	377	68	510	4154	0.062	18.13	2.73	0.44
18	2.917	0.048	0.349	0	9.83	100	387	74	77	372	325	376	398	401	374	68	518	4154	0.058	18.2	2.63	0.51
19	3.076	0.048	0.347	0	10.29	100	382	74	77	367	323	372	396	400	372	68	494	4154	0.061	18.24	2.77	0.52
20	3.234	0.048	0.343	0	9.89	99	379	74	77	361	321	368	394	400	369	68	490	4154	0.056	18.08	2.67	0.69
21	3.393	0.048	0.343	0	9.92	99	378	74	77	358	319	364	392	399	366	68	457	4154	0.056	18.13	2.83	0.51
22	3.552	0.048	0.35	0	10.09	99	374	74	77	353	317	361	391	398	364	68	440	4154	0.056	18.13	2.73	0.66
23	3.71	0.048	0.339	0	9.71	99	372	74	78	349	315	357	389	397	361	68	441	4154	0.06	18.2	2.86	0.65
24	3.868	0.048	0.34	0	9.68	98	371	74	78	347	313	354	388	396	360	68	436	4154	0.057	18.2	2.63	0.75
25	4.026	0.048	0.338	0	9.58	98	371	74	78	344	312	351	387	395	358	68	444	4154	0.06	18.1	2.83	0.7
26	4.184	0.048	0.35	0	9.6	98	369	74	78	341	310	348	386	394	356	67	441	4154	0.058	18.09	2.94	0.47
27	4.343	0.048	0.336	0	29.24	133	365	75	78	339	310	347	381	393	354	69	373	4154	0.063	19.46	1.04	0.55
28	4.499	0.048	0.32	0	6.87	318	1045	90	79	335	310	347	506	394	378	69	726	4154	0.375	14.45	6.39	0.42
29	4.648	0.048	0.303	0	6.25	195	777	81	79	336	310	341	544	394	385	68	739	4154	0.215	9.62	10.31	3.77
30	4.794	0.048	0.281	0	5.97	170	787	80	79	338	312	339	584	394	393	68	841	4154	0.228	9.7	10.59	2.48
31	4.915	0.048	0.129	0.37	8.16	164	812	78	79	344	315	342	636	393	406	69	951	4154	0.219	9.81	10.67	2.27
32	5.005	0.048	0.075	1.96	8.72	150	783	76	79	352	321	346	684	393	419	68	1044	4154	0.262	10.23	10.74	1.63
33	5.086	0.048	0.053	2.87	7.8	171	892	76	79	359	327	351	750	392	436	69	883	4154	0.298	10.8	9.75	0.36

10/26/2017

ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg t	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.048	0	0	11.74	102.2	399.84	68	77	443	291	446	375	415	394	70	407	4155	0.059	-0.25	-0.25	0
1	0.143	0.048	0.355	0	13.18	149	322	71	77	440	303	448	363	421	395	72	328	4155	0.048	-0.38	-0.02	0
2	0.304	0.048	0.353	0	11.8	168	310	74	77	435	315	450	354	425	396	71	327	4155	0.053	16.15	6.52	0
3	0.465	0.048	0.354	0	11.6	179	320	76	77	432	325	448	350	428	397	71	327	4155	0.059	19.37	1.54	0
4	0.628	0.048	0.353	0	10.92	205	401	79	77	427	333	446	357	431	399	71	414	4155	0.065	18.86	2	0
5	0.791	0.048	0.347	0	11.21	146	463	77	78	425	339	435	377	433	402	71	590	4155	0.067	16.21	4.2	0.12
6	0.952	0.048	0.349	0	11.21	125	455	77	78	422	343	425	382	434	401	71	565	4156	0.067	17.18	3.6	0
7	1.114	0.048	0.345	0	10.86	118	449	76	78	417	346	417	389	435	401	71	559	4156	0.066	17.54	3.34	0
8	1.274	0.048	0.346	0	11.08	115	443	75	78	412	347	409	394	435	399	71	553	4156	0.062	17.59	3.23	0
9	1.434	0.048	0.349	0	10.9	112	437	75	78	406	347	402	397	435	398	71	556	4156	0.065	17.77	3.01	0.03
10	1.594	0.048	0.351	0	11.01	111	435	75	78	400	348	395	400	434	395	71	559	4156	0.063	17.8	3.2	0
11	1.754	0.048	0.344	0	10.8	110	430	75	78	394	347	389	402	434	393	71	560	4156	0.06	17.79	2.87	0.2
12	1.91	0.048	0.343	0	10.73	109	425	75	79	388	346	383	404	434	391	71	570	4156	0.064	17.83	3.07	0.25
13	2.068	0.048	0.347	0	10.79	108	423	75	79	383	345	377	405	433	389	71	577	4157	0.062	17.86	2.91	0.46
14	2.227	0.048	0.348	0	10.69	108	419	75	79	377	344	372	407	433	386	71	584	4157	0.059	17.85	2.91	0.49
15	2.384	0.048	0.347	0	10.67	108	420	75	79	372	342	367	408	432	384	71	593	4157	0.06	17.86	2.92	0.53
16	2.536	0.048	0.345	0	10.48	107	420	76	79	366	340	362	409	431	382	71	599	4157	0.059	17.8	3.05	0.41
17	2.69	0.048	0.349	0	10.47	107	420	76	80	361	339	358	410	430	380	71	603	4157	0.061	17.73	3.24	0.33

18	2.844	0.048	0.343	0	10.7	107	422	76	80	356	337	354	411	429	377	71	609	4157	0.058	17.76	2.96	0.52
19	2.995	0.048	0.342	0	10.39	107	421	76	80	352	335	350	411	428	375	71	609	4157	0.059	17.83	3.04	0.55
20	3.148	0.048	0.341	0	10.31	107	423	76	80	349	333	346	412	427	374	71	612	4157	0.064	17.64	3.31	0.51
21	3.3	0.048	0.338	0	10.21	107	423	76	80	345	332	343	413	426	372	71	619	4157	0.065	17.53	3.29	0.48
22	3.451	0.048	0.337	0	9.78	107	426	76	81	342	330	340	413	424	370	71	623	4158	0.065	17.73	3.24	0.64
23	3.602	0.048	0.349	0	10.16	107	429	76	81	338	329	337	414	423	368	71	631	4158	0.06	17.76	3.16	0.59
24	3.75	0.048	0.339	0	10.02	107	431	76	81	335	327	334	415	422	367	71	640	4158	0.065	17.51	3.21	0.7
25	3.896	0.046	0.342	0	10.3	107	435	76	81	332	325	331	416	421	365	71	648	4158	0.061	17.4	3.59	0.38
26	4.046	0.048	0.334	0	9.94	108	440	76	82	330	324	329	417	420	364	71	654	4158	0.061	17.53	3.24	0.66
27	4.195	0.048	0.341	0	9.9	107	445	77	82	329	305	328	414	411	357	71	525	4158	0.066	17.18	3.49	0.56
28	4.344	0.048	0.346	0	9.85	108	449	77	82	328	287	328	408	404	351	71	513	4158	0.065	17.12	3.92	0.24
29	4.491	0.048	0.343	0	9.7	109	456	77	82	327	274	329	403	399	346	71	524	4158	0.068	17.01	4.15	0.38
30	4.639	0.045	0.341	0	9.67	109	466	77	83	327	265	329	403	394	343	71	545	4158	0.066	16.45	4.51	0.21
31	4.784	0.048	0.337	0	9.43	111	486	77	83	326	258	329	409	390	342	71	599	4158	0.067	15.53	5.41	0.03
32	4.929	0.048	0.335	0	9.4	112	512	77	83	326	253	329	423	387	344	71	719	4159	0.069	14.54	6.29	0
33	5.074	0.048	0.341	0	9.25	114	535	77	83	326	250	330	441	384	346	71	723	4159	0.07	14.13	6.78	0
34	5.219	0.048	0.337	0	9.12	114	541	78	84	328	249	332	461	381	350	71	719	4159	0.071	13.96	6.81	0
35	5.363	0.048	0.341	0	9.01	115	548	78	84	330	249	335	477	379	354	71	725	4159	0.076	14.51	6.9	0
36	5.51	0.048	0.337	0	8.94	115	546	78	84	334	250	339	489	376	358	71	735	4159	0.072	14.85	6.36	0
37	5.655	0.045	0.337	0	8.8	116	550	78	84	337	251	342	498	374	361	71	707	4159	0.074	14.97	5.85	0
38	5.797	0.048	0.335	0	8.77	116	553	78	84	341	253	346	504	372	363	72	737	4159	0.073	15.13	5.75	0
39	5.939	0.048	0.339	0	8.71	116	555	78	85	344	255	349	510	369	365	72	755	4159	0.076	15.27	5.82	0
40	6.079	0.048	0.343	0	8.53	117	556	78	85	347	256	353	515	367	368	72	739	4159	0.078	15.24	5.7	0
41	6.22	0.048	0.342	0	8.25	117	559	78	85	350	258	356	519	365	370	72	718	4159	0.074	15.43	5.55	0
42	6.364	0.048	0.333	0	8.35	117	562	79	85	353	260	359	525	363	372	72	728	4159	0.075	15.24	6	0
43	6.507	0.048	0.338	0	8.23	118	562	79	86	356	261	362	532	361	375	72	736	4159	0.078	15.17	5.95	0
44	6.646	0.048	0.338	0	8.12	118	562	79	86	358	263	366	540	359	377	72	754	4160	0.074	15.03	6.27	0
45	6.79	0.048	0.343	0	8.03	118	563	79	86	362	265	369	549	357	380	72	743	4160	0.078	14.58	6.61	0
46	6.931	0.048	0.342	0	7.87	119	570	79	86	365	267	373	564	356	385	72	739	4160	0.074	13.47	7.47	0
47	7.071	0.048	0.338	0	7.72	121	590	79	86	369	269	376	592	353	392	72	784	4160	0.075	11.97	9.15	0
48	7.209	0.048	0.339	0	7.61	122	617	80	87	373	271	380	618	352	399	72	831	4160	0.078	11.52	9.62	0
49	7.35	0.048	0.346	0	7.87	124	642	80	87	378	274	385	641	350	406	72	845	4160	0.079	11.45	9.61	0
50	7.492	0.048	0.342	0	7.17	125	663	80	87	384	277	391	665	348	413	72	861	4160	0.094	11.24	9.85	0
51	7.632	0.048	0.335	0	7.05	126	679	80	87	390	281	397	687	347	420	72	909	4160	0.104	11.32	9.78	0.01
52	7.772	0.048	0.338	0	7	127	686	80	87	397	285	404	706	345	428	72	940	4160	0.121	11.36	9.91	0
53	7.913	0.048	0.343	0	6.77	128	694	80	88	405	289	412	722	342	434	72	947	4160	0.145	11.56	9.79	0
54	8.051	0.048	0.338	0	7.1	129	699	81	88	412	293	420	737	340	441	72	953	4161	0.162	11.61	9.74	0
55	8.188	0.048	0.34	0	6.51	129	700	81	88	420	298	429	748	339	447	73	948	4161	0.113	11.81	9.44	0
56	8.326	0.048	0.335	0	6.43	130	710	81	88	428	303	437	757	337	452	73	984	4161	0.121	11.72	9.23	0
57	8.466	0.048	0.338	0	6.2	130	714	81	88	436	307	446	767	335	458	73	987	4161	0.162	11.63	9.43	0
58	8.606	0.048	0.339	0	6.09	131	715	81	89	443	311	454	772	333	463	73	983	4161	0.132	11.77	9.32	0
59	8.742	0.048	0.338	0	6	131	717	81	89	451	315	462	777	332	467	73	975	4161	0.147	20.66	-0.08	0
60	8.877	0.048	0.334	0	5.77	132	717	81	89	458	319	469	778	330	471	73	951	4161	0.102	21.62	-0.25	0
61	9.016	0.048	0.338	0	5.77	132	714	82	89	464	323	477	776	329	474	73	948	4161	0.119	21.54	-0.16	0
62	9.152	0.048	0.338	0	5.48	132	707	82	89	471	326	484	773	327	476	73	939	4161	0.157	21.7	-0.29	0
63	9.29	0.048	0.336	0	5.5	131	698	82	89	477	329	491	766	326	478	73	923	4161	0.132	21.56	-0.06	0
64	9.427	0.048	0.334	0	5.5	131	691	82	89	482	332	498	758	324	479	73	915	4162	0.138	21.66	-0.3	0
65	9.566	0.048	0.335	0	5.27	131	681	82	89	487	334	504	751	322	480	73	896	4162	0.14	21.47	-0.09	0
66	9.703	0.048	0.342	0	5.18	130	675	82	89	491	336	509	744	321	480	73	863	4162	0.121	21.56	-0.03	0
67	9.841	0.048	0.336	0	5.11	130	672	82	89	494	338	514	735	320	480	73	869	4162	0.083	21.68	-0.27	0
68	9.978	0.048	0.342	0	5	130	661	82	90	497	339	519	727	318	480	73	861	4162	0.115	21.5	-0.08	0
69	10.117	0.048	0.348	0	4.74	129	657	82	90	499	340	523	720	317	480	73	864	4162	0.091	21.63	-0.05	0
70	10.256	0.048	0.336	0	4.89	129	652	82	90	501	341	526	709	316	479	73	841	4162	0.115	21.43	-0.11	0
71	10.394	0.048	0.331	0	4.85	128	649	82	90	502	342	530	693	315	477	73	832	4162	0.078	21.54	-0.34	0
72	10.532	0.048	0.34	0	4.8	128	646	82	90	503	342	532	678	314	474	73	818	4162	0.079	21.48	-0.13	0
73	10.67	0.048	0.337	0	4.72	128	641	82	90	504	342	535	663	313	471	73	801	4162	0.111	21.55	-0.09	0
74	10.806	0.048	0.338	0	4.55	127	636	82	90	503	341	536	650	313	469	74	794	4162	0.111	21.58	-0.08	0
75	10.941	0.048	0.34	0	4.65	127	631	82	90	503	340	538	637	312	466	74	787	4162	0.078	21.61	-0.08	0
76	11.077	0.048	0.343	0	4.52	127	628	82	90	502	339	538	625	311	463	74	780	4162	0.075	21.6	-0.26	0
77	11.215	0.048	0.339	0	4.47	126	622	83	90	501	338	538	614	311	460	74	774	4163	0.051	21.62	-0.12	0
78	11.352	0.048	0.338	0	4.36	126	620	83	90	499	337	538	605	310	458	74	767	4163	0.077	21.63	-0.36	0
79	11.488	0.048	0.347	0	4.28	126	616	83	90	498	336	538	597	310	456	74	759	4163	0.077	21.58	-0.13	0
80	11.626	0.048	0.334	0	4.29	126	610	83	90	496	335	537	590	309	454	74	761	4163	0.079	21.69	-0.17	0
81	11.764	0.048	0.336	0	4.26	126	609	83	90	495	334	536	584	309	451	74	747	4163	0.079	21.6	-0.02	0
82	11.902	0.048	0.342	0	4.15	126	605	83	90	493	332	534	578	309	449	74	730	4163	0.075	21.6	-0.32	0
83	12.041	0.048	0.344	0	4.03	125	604	83	90	492	332	533	572	309	447	74	731	4163	0.076	21.65	-0.06	0
84	12.178	0.048	0.336	0	3.87	125	600	83	90	491	330	531	567	309	446	74	713	4163	0.085	21.67	-0.21	0
85	12.316	0.048	0.34	0	4	125	598	83	90	490	330	528	562	308	444	74	735	4163	0.075	21.75	-0.38	0
86	12.456	0.048	0.343	0	3.9	124	597	83	90	488	329	527	557	308	442	74	732	4163	0.075	21.64	-0.4	0
87	12.596	0.048	0.345	0	3.85	124	597	83	90	488	327	525	553	308	440	75	706	4163	0.073	21.64	-0.35	0
88	12.736	0.048	0.331	0	3.79	124	595	83	90	487	327	524	549	308	439	74	722	4163	0.077	21.52	-0.04	0
89	12.872	0.048	0.338	0	3.77	124	595	83	90	486	326	521	545	309	437	74	720	4164	0.077	-0.35	-0.37	0
90	13.012	0.048	0.34	0	3.74	123	593	83	90	485	324	520	540	309	436	74	728	4164	0.079	-0.36	-0.14	0
91	13.15	0.048	0.338	0	3.7	123	589	83	90	484	324	518	537	309	434	74	710	4164	0.077	-0.4	-0.38	0
92	13.291	0.048	0.338	0	3.65	123	586	83	90	483	323	516	533	309	433	74	703	4164	0.074	-0.15	-0.44	0
93	13.431	0.048	0.34	0	3.6	123	585	83	90	483	322	514	529	310	432	74	718	4164	0.076	-0.25	-0.44	0
94	13.569	0.048	0.343	0	3.5	123	584	83	90	482	321	512	525	310	430	74	716	4164	0.073	-0.3	-0.43	0
95	13.708	0.048	0.344	0	3.54	123	582	83	90	481	321	510	521	310	429	74	692	4164	0.073	-0.3	-0.32	0
96	13.846	0.048	0.331	0	3.41	123	580	83	90	480	320	508	517	311	427	74	687	4164	0.078	-0.41	-0.3	0
97	13.986	0.048	0.336	0	3.38	123	579	83	90	480	319	506	513	311	426	74	685	4164	0.076	-0.27	-0.12	0
98	14.126	0.048	0.335	0	3.3	123	578	83	90	479	318	504	510	312	424	74	661	4164	0.073	-0.36	-0.45	0
99	14.263	0.048	0.337	0	3.34	123	573	83	90	479	318	501	506	312	423	74	685	4164	0.071	-0.33	-0.32	0
100	14.401	0.048	0.35	0	3.2	122	572	83	90	477	317	499	504	312	422	74	634	4164	0.073	-0.36	-0.13	0
101	14.54	0.048	0.34	0	3.17	122	566	83	90	477	317	498	502	314	421	74	651	4164	0.072	-0.2	-0.38	0
102	14.679	0.048	0.34	0	3.17	122	562	83	90	477	316	497	498	314	420	74	637	4164	0.076	-0.35	-0.24	0
103	14.82	0.048	0.341	0	3.12	121	562	83	90	476	315	494	498	315	420	74	621	4164	0.071	-0.26	-0.38	0
104	14.961	0.048	0.342	0	3.03	121	560	83	90	475	316	492	496	315	419	74	630	4164	0.076	-0.34	-0.08	0
105	15.101	0.048	0.343	0	3.05	121	557	83	90	474	316	490	495	315	418	74	633	4164	0.073	-0.33	-0.12	0
106	15.24	0.048	0.336	0	2.95	121	554	83	90	474	315	488	493	316	417	74	613	4164	0.075	-0.41	-0.24	0
107	15.381	0.048	0.339	0	2.55	120	550	83	90	472	315	486	491	316	416	74	629	4165	0.071	-0.22	-0.36	0
108	15.52	0.048	0.345	0	2.9	120	549	83	90	472	315	484	489	317	416	74	630	4165	0.07	-0.12	-0.3	0
109	15.659	0.048	0.34	0	3.08	120	549	83	90	471	315	482	487	317	415	74	610	4165	0.07	-0.34	-0.27	0
110	15.798	0.048	0.342	0	2.71	120	547	83	90	471	314	481	487	318	414	74	621	4165	0.07	-0.29	-0.19	0
111	15.937	0.048	0.342	0	2.65	120	543	83	90	470	314	479	485	319	413	74	609	4165	0.069	-0.44	-0.36	0
112	16.077	0.048	0.333	0	2.69	119	545	83	90	469	314	478	483	318	413	74	621	4165	0.075	-0.3	-0.31	0
113	16.216	0.048	0.337	0	2.72	119	543	83	90	469	313	476	483	319	412	74	620	4165	0.074	-0.4	-0.12	0
114	16.357	0.048	0.342	0	1.82	119	541	83	90	468	314	475	482	319	411	74	611	4165	0.069	-0.26	-0.37	0
115	16.497	0.048	0.336	0	2.61	119	538	83	90	467	313	473	482	320	411	74	619	4165	0.074	-0.45	-0.13	0
116	16.636	0.048	0.348	0	2.51	119	537	83	90	467	313	472	482	319	411	74	630	4165	0.069	-0.25	-0.24	0
117	16.776	0.048	0.341	0	2.48	119	538	83	90	466	313	471	483	319	411	74	637	4165	0.073	-0.39	-0.1	0
118	16.915	0.048	0.335	0	2.47	119	537	83	90	465	313	470	486	319	411	74	615	4165	0.074	-0.36	-0.25	0
119	17.053	0.048	0.332	0	2.39	118	538	83	90	464	312	469	490	320	411	75	629	4165	0.073	-0.23	-0.36	0
120	17.195	0.048	0.341	0	2.27	119	537	83	90	465	312	468	493	321	412	74	637	4165	0.068	-0.14	-0.39	0
121	17.333	0.048	0.343	0	2.27	118	538	83	90	464	312	467	496	320	412	74	644	4165	0.069	-0.2	-0.17	0
122	17.474	0.048	0.343	0	2.22	118	538	83	90	464	312	467	499	320	412	75	635	4165	0.069	-0.39	-0.19	0
123	17.615	0.048	0.339	0	2.19	118	537	83	90	464	312	466	501	320	412	74	657	4165	0.075	-0.39	-0.16	0
124	17.753	0.048	0.34	0	2.21	118	538	83	90	464	312	465	500	320	412	74	633	4165	0.073	-0.3	-0.29	0
125	17.894	0.048	0.343	0	2.05	118	539	83	90	464	312	465	499	319	412	74	627	4166	0.069	-0.23	-0.34	0
126	18.033	0.048	0.34	0	2.04	118	541	83	90	464	313	465	496	319	411	74	612	4166	0.07	-0.17	-0.44	0
127	18.172	0.048	0.341	0	2.05	117	539	83	90	464	313	464	492	319	411	74	629	4166	0.07	-0.25	-0.21	0
128	18.313	0.048	0.341	0	1.51	118	557	83	90	465	312	464	488	319	410	74	699	4166	0.077	-0.34	-0.16	0
129	18.453	0.048	0.344	0	1.96	119	571	83	90	464	312	463	485	319	408	75	724	4166	0.071	-0.18	-0.26	0
130	18.591	0.048	0.34	0	1.94	119	580	83	90	464	311	462	483	319	408	74	746	4166	0.077	-0.31	-0.13	0
131	18.731	0.048	0.34	0	1.89	120	590	83	90	464	310	461	480	318	407	75	746	4166	0.077	-0.28	-0.27	0
132	18.87	0.048	0.337	0	1.83	120	594	83	90	463	309	460	478	318	406	74	756	4166	0.078	-0.36	-0.35	0
133	19.012	0.048	0.335	0	1.78	121	596	83	90	463	308	459	476	317	405	74	782	4166	0.078	-0.4	-0.07	0
134	19.15	0.048	0.336	0	1.71	121	601	83	90	463	307	459	475	317	404	75	772	4166	0.075	-0.39	-0.32	0
135	19.289	0.048	0.343	0	1.75	122	609	83	90	462	306	457	473	317	403	75	790	4166	0.076	-0.33	-0.11	0
136	19.427	0.048	0.341	0	1.71	122	618	83	90	462	305	456	473	318	403	75	796	4166	0.085	-0.4	-0.06	0
137	19.568	0.048	0.335	0	1.6	123	628	83	89	463	304	454	473	317	402	75	839	4166	0.075	-0.26	-0.36	0
138	19.706	0.048	0.335	0	1.59	124	638	84	90	463	303	453	474	317	402	75	851	4166	0.085	-0.41	-0.35	0
139	19.847	0.048	0.337	0	1.52	124	641	84	89	463	302	453	476	317	402	75	824	4166	0.077	-0.19	-0.4	0
140	19.987	0.048	0.343	0	1.54	124	631	84	90	463	302	452	476	317	402	75	804	4166	0.076	-0.43	-0.03	0
141	20.126	0.048	0.334	0	1.34	124	623	84	90	464	301	451	474	318	401	75	769	4166	0.078	-0.34	-0.26	0
142	20.266	0.048	0.347	0	1.48	123	608	84	90	464	301	450	470	318	400	75	736	4166	0.072	-0.23	-0.2	0
143	20.405	0.048	0.336	0	1.41	122	598	84	90	464	300	449	465	318	399	74	716	4166	0.075	-0.34	-0.42	0
144	20.544	0.048	0.338	0	0.97	122	590	84	90	464	300	448	460	318	398	74	705	4166	0.077	-0.38	-0.08	0
145	20.682	0.048	0.348	0	1.37	122	583	84	90	463	299	447	454	318	396	74	695	4166	0.074	-0.4	-0.08	0
146	20.823	0.048	0.332	0	1.36	121	578	84	90	463	298	446	450	318	395	74	680	4166	0.075	-0.31	0	0

146	20.825	0.048	0.332	0	1.36	121	578	83	90	463	298	446	450	318	395	74	681	4166	0.073	-0.33	-0.41	0
147	20.963	0.048	0.336	0	1.37	121	573	83	90	462	297	444	445	320	394	74	667	4166	0.076	-0.46	-0.07	0
148	21.104	0.048	0.341	0	1.36	121	567	83	90	461	297	443	441	319	392	74	663	4167	0.073	-0.35	0.01	0
149	21.242	0.048	0.341	0	1.34	121	562	83	90	461	296	442	437	320	391	74	656	4167	0.075	-0.33	-0.09	0
150	21.382	0.048	0.334	0	1.25	120	561	83	90	460	295	440	434	321	390	74	643	4167	0.075	-0.28	-0.2	0
151	21.52	0.048	0.341	0	1.28	120	558	83	90	459	295	439	430	321	389	74	650	4167	0.075	-0.38	-0.18	0
152	21.66	0.048	0.345	0	1.23	120	555	83	90	458	294	437	427	321	387	74	643	4167	0.071	-0.36	-0.09	0
153	21.799	0.048	0.343	0	1.32	120	549	83	90	458	293	436	424	321	386	74	626	4167	0.072	-0.4	0.01	0
154	21.937	0.048	0.338	0	0.44	119	547	83	90	456	292	435	422	321	385	74	614	4167	0.073	-0.36	-0.08	0
155	22.075	0.048	0.337	0	1.16	119	546	83	90	456	291	433	419	322	384	74	625	4167	0.071	-0.36	-0.38	0
156	22.217	0.048	0.337	0	1.16	119	541	83	90	455	290	432	417	322	383	74	623	4167	0.07	-0.27	-0.38	0
157	22.356	0.048	0.336	0	1.18	119	538	83	90	454	290	431	414	323	382	74	605	4167	0.069	-0.34	-0.37	0
158	22.496	0.048	0.339	0	1.09	118	535	83	90	453	289	429	412	323	381	74	585	4167	0.069	-0.23	-0.41	0
159	22.638	0.048	0.346	0	1.1	118	534	83	90	453	288	428	410	323	380	74	590	4167	0.07	-0.24	-0.31	0
160	22.778	0.048	0.336	0	1.04	118	530	83	90	451	287	427	408	324	379	74	592	4167	0.067	-0.36	-0.2	0
161	22.916	0.048	0.337	0	1.16	118	530	83	90	451	287	425	406	324	379	74	585	4167	0.069	-0.26	-0.43	0
162	23.055	0.048	0.333	0	1	117	526	83	90	449	286	424	404	325	378	74	557	4167	0.071	-0.27	-0.31	0
163	23.196	0.048	0.349	0	1.01	117	523	83	90	449	285	423	402	325	377	74	570	4167	0.065	-0.3	-0.05	0
164	23.336	0.048	0.337	0	1.02	117	524	83	90	448	285	421	400	325	376	74	585	4167	0.067	-0.31	-0.14	0
165	23.474	0.048	0.338	0	0.96	117	528	83	90	448	284	420	400	325	375	74	579	4167	0.068	-0.38	-0.12	0
166	23.614	0.048	0.344	0	0.98	117	516	83	90	446	283	419	401	326	375	74	564	4167	0.068	-0.36	-0.01	0
167	23.755	0.048	0.34	0	1.37	116	505	83	90	444	283	418	402	326	375	74	540	4167	0.069	-0.24	-0.31	0
168	23.894	0.048	0.333	0	0.91	116	498	83	90	443	282	416	403	326	374	74	536	4167	0.065	-0.36	-0.35	0
169	24.033	0.048	0.342	0	0.96	115	493	83	90	442	281	416	403	326	374	74	545	4167	0.065	-0.28	-0.17	0
170	24.172	0.048	0.336	0	0.88	115	491	83	90	440	281	415	404	326	373	74	523	4167	0.07	-0.39	-0.14	0
171	24.31	0.048	0.336	0	0	114	489	83	90	438	281	414	404	326	373	74	519	4167	0.069	-0.35	-0.17	0
172	24.449	0.048	0.338	0	0.81	114	485	83	90	435	281	414	404	326	372	74	518	4167	0.069	-0.36	-0.16	0
173	24.589	0.048	0.342	0	0.79	114	480	83	90	434	280	413	403	326	371	74	507	4167	0.067	-0.32	-0.28	0
174	24.727	0.048	0.332	0	0.8	113	481	83	90	433	280	412	402	327	371	74	515	4167	0.068	-0.31	-0.14	0
175	24.865	0.048	0.344	0	1.29	113	480	83	90	430	280	412	401	327	370	74	508	4167	0.063	-0.34	-0.33	0
176	25.003	0.048	0.336	0	0.77	113	478	83	90	429	280	412	399	327	369	74	497	4167	0.063	-0.38	-0.21	0
177	25.143	0.048	0.342	0	0.7	112	473	83	90	428	280	411	398	328	369	74	503	4167	0.062	-0.28	-0.28	0
178	25.282	0.048	0.335	0	0.67	112	471	83	90	426	279	410	397	328	368	74	507	4167	0.067	-0.5	-0.14	0
179	25.419	0.048	0.337	0	0.53	112	469	83	90	425	278	410	396	328	367	74	496	4167	0.064	-0.38	0.02	0
180	25.558	0.048	0.335	0	0.72	112	466	83	90	423	278	409	394	328	366	74	492	4167	0.065	-0.41	-0.3	0
181	25.697	0.048	0.34	0	0.51	111	463	82	90	422	277	409	393	328	366	74	488	4167	0.066	-0.48	0.02	0
182	25.834	0.048	0.335	0	0.66	111	463	82	90	421	277	408	392	329	365	74	493	4167	0.067	-0.36	-0.12	0
183	25.974	0.048	0.343	0	0.7	111	462	82	89	419	277	408	390	329	364	74	483	4167	0.067	-0.36	-0.1	0
184	26.114	0.048	0.345	0	0.57	111	463	82	89	418	276	407	389	329	364	74	487	4167	0.063	-0.28	0	0
185	26.253	0.048	0.336	0	0.54	111	461	82	89	416	275	406	387	330	363	74	489	4167	0.067	-0.29	-0.25	0
186	26.392	0.048	0.343	0	1.09	111	459	82	89	415	275	406	386	330	363	74	486	4167	0.062	-0.23	0.04	0
187	26.533	0.048	0.344	0	0.57	110	459	82	89	414	274	406	385	331	362	74	483	4167	0.061	-0.2	-0.3	0
188	26.672	0.048	0.335	0	0.77	110	459	82	89	413	273	405	383	331	361	74	489	4167	0.062	-0.25	-0.28	0
189	26.81	0.048	0.343	0	0.92	110	459	82	89	412	272	404	382	332	360	74	480	4167	0.062	-0.4	-0.05	0
190	26.951	0.048	0.34	0	0.56	110	457	82	89	411	272	403	380	333	360	74	484	4167	0.061	-0.23	-0.28	0
191	27.091	0.048	0.343	0	0.51	110	454	82	89	410	272	402	379	333	359	74	493	4167	0.065	-0.31	0.07	0
192	27.23	0.048	0.339	0	0.48	110	455	82	89	409	271	402	377	333	359	74	491	4167	0.066	-0.34	-0.09	0
193	27.369	0.048	0.339	0	0.41	109	455	82	89	408	271	401	376	334	358	74	475	4167	0.066	-0.38	-0.21	0
194	27.508	0.048	0.344	0	0.51	109	455	82	90	407	270	400	375	334	357	74	484	4167	0.062	-0.35	-0.02	0
195	27.647	0.048	0.334	0	0.45	109	458	82	89	406	270	400	374	334	357	74	491	4167	0.064	-0.31	-0.31	0
196	27.787	0.048	0.338	0	0.42	109	458	82	89	406	269	399	373	335	356	74	483	4167	0.06	-0.36	-0.27	0
197	27.927	0.048	0.337	0	0.46	109	456	82	89	404	269	397	372	336	356	74	484	4167	0.065	-0.35	0.04	0
198	28.066	0.048	0.334	0	0.37	109	455	82	89	403	269	397	371	336	355	74	489	4167	0.061	-0.23	-0.36	0
199	28.204	0.048	0.341	0	0.41	109	455	82	89	403	269	396	371	336	355	74	487	4167	0.064	-0.39	0.04	0
200	28.344	0.048	0.338	0	0.39	109	455	82	89	402	268	395	370	337	354	74	490	4167	0.066	-0.35	-0.08	0
201	28.483	0.048	0.336	0	0.41	109	453	82	89	401	267	394	369	337	354	74	489	4167	0.066	-0.32	-0.03	0
202	28.623	0.048	0.341	0	0	109	454	82	89	401	267	394	369	337	353	74	496	4167	0.064	-0.39	0.06	0
203	28.761	0.048	0.332	0	0.34	109	454	82	89	400	267	393	368	338	353	74	482	4167	0.066	-0.33	-0.05	0
204	28.902	0.048	0.338	0	0.31	109	456	82	89	399	266	392	368	338	353	74	488	4167	0.062	-0.27	0	0
205	29.042	0.048	0.335	0	0.23	109	456	82	89	399	266	392	367	339	352	74	484	4167	0.06	-0.24	-0.28	0
206	29.181	0.048	0.338	0	0.15	109	453	82	89	397	266	391	366	340	352	74	484	4167	0.066	-0.37	-0.15	0
207	29.321	0.048	0.343	0	0.45	109	454	82	89	397	265	390	366	340	352	74	488	4167	0.06	-0.33	-0.22	0
208	29.46	0.048	0.338	0	0.28	109	453	82	89	396	265	390	366	341	351	74	483	4167	0.06	-0.22	-0.09	0
209	29.598	0.048	0.34	0	0.51	108	454	82	89	396	264	389	365	341	351	74	482	4167	0.064	-0.23	0	0
210	29.738	0.048	0.336	0	0.23	108	452	82	89	396	264	388	364	341	351	74	481	4167	0.065	-0.45	-0.03	0
211	29.878	0.048	0.337	0	0.16	108	454	82	89	395	264	387	364	342	350	74	484	4167	0.065	-0.35	0.02	0
212	30.017	0.048	0.34	0	0.11	108	455	82	89	395	264	387	363	342	350	74	485	4167	0.064	-0.34	-0.28	0
213	30.156	0.048	0.343	0	0.14	108	452	82	89	394	264	386	363	343	350	74	480	4167	0.064	-0.31	0.04	0
214	30.294	0.048	0.335	0	0.15	108	449	82	89	393	263	385	362	343	349	74	479	4167	0.063	-0.33	0.11	0
215	30.433	0.048	0.335	0	0.1	108	451	81	89	393	263	385	361	344	349	74	481	4167	0.064	-0.35	-0.23	0

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ET	VOL A	Tunnel	Orifice	VAC	Scale	Tunnel	Flue	Filter	METER	FB REAR	LEFT	RIGHT	TOP	BOTTOM	Avg 1	AMB	IMP	CAT	Draft	O2	CO2	CO
0	0	0.048	0	0	10.96	99.25	393.15	71	77	431	288	458	380	415	394	71	422	4159	0.056	17.7	3.03	0
1	0.141	0.048	0.352	0	11.19	145	342	73	77	430	299	460	372	422	397	74	341	4159	0.052	20.03	1.24	0
2	0.305	0.048	0.347	0	10.86	170	324	76	77	427	311	462	365	427	398	76	342	4159	0.056	19.74	1.43	0.04
3	0.466	0.048	0.351	0	10.78	195	371	79	77	424	322	461	371	431	402	74	363	4159	0.061	19.38	1.6	0
4	0.629	0.048	0.345	0	10.57	166	483	80	77	422	331	455	408	434	410	72	642	4159	0.071	14.56	6.97	0
5	0.791	0.048	0.346	0	10.33	139	543	79	77	419	338	444	412	436	410	71	698	4159	0.071	16.34	4.35	0
6	0.952	0.048	0.349	0	10.32	125	513	78	77	415	343	435	421	437	410	72	662	4159	0.069	17.24	3.68	0
7	1.113	0.048	0.345	0	10.23	118	496	77	78	412	347	427	426	437	410	71	646	4159	0.068	17.62	3.34	0
8	1.273	0.048	0.349	0	10.17	116	487	77	78	408	350	419	430	437	409	71	634	4159	0.067	17.63	3.28	0
9	1.432	0.048	0.344	0	10.09	114	486	77	78	402	352	412	433	437	407	72	641	4159	0.067	17.63	3.32	0
10	1.59	0.048	0.348	0	10.03	112	485	77	78	397	353	406	434	436	405	71	646	4159	0.066	17.68	3.11	0
11	1.749	0.048	0.346	0	10.02	112	487	77	78	390	353	399	434	436	403	71	647	4159	0.067	17.7	3.32	0
12	1.905	0.048	0.338	0	10.58	111	485	77	78	387	353	393	435	435	401	71	648	4159	0.069	17.5	3.26	0.09
13	2.059	0.048	0.34	0	9.85	111	487	77	79	382	352	388	436	434	398	71	655	4159	0.066	17.47	3.45	0.03
14	2.216	0.048	0.341	0	10.05	111	490	77	79	377	351	383	437	433	396	71	661	4159	0.071	17.34	3.58	0
15	2.371	0.048	0.348	0	10.07	111	490	77	79	372	349	378	437	432	394	71	671	4159	0.069	17.51	3.6	0
16	2.525	0.048	0.34	0	9.61	111	491	77	79	367	347	374	437	431	391	70	671	4159	0.067	17.75	3.25	0.07
17	2.678	0.048	0.344	0	9.66	111	487	77	79	364	345	370	437	430	389	70	661	4159	0.071	17.73	3.35	0.11
18	2.833	0.048	0.346	0	9.56	110	477	77	80	359	343	366	436	429	387	70	656	4159	0.065	17.67	3.05	0.37
19	2.985	0.048	0.343	0	9.46	110	473	77	80	356	341	363	435	427	384	71	660	4159	0.068	17.95	3.05	0.52
20	3.138	0.048	0.343	0	9.56	110	472	77	80	352	339	359	434	426	382	70	653	4159	0.065	17.8	3.32	0.28
21	3.29	0.048	0.343	0	9.38	110	469	77	80	350	337	356	433	424	380	70	660	4159	0.066	17.78	3.12	0.66
22	3.442	0.048	0.343	0	9.46	110	469	77	81	347	334	353	433	423	378	70	661	4159	0.068	17.66	3.47	0.36
23	3.591	0.048	0.342	0	10.01	109	470	77	81	344	332	351	433	422	376	70	665	4159	0.068	17.69	3.18	0.61
24	3.74	0.048	0.334	0	9.15	109	471	77	81	342	331	348	433	421	375	70	678	4159	0.071	17.42	3.57	0.39
25	3.89	0.048	0.343	0	9.35	110	475	77	81	339	328	345	433	420	373	70	676	4159	0.065	17.46	3.52	0.41
26	4.04	0.048	0.337	0	9.05	110	479	77	81	337	327	343	434	419	372	70	695	4159	0.068	17.37	3.77	0.24
27	4.191	0.048	0.336	0	9	111	485	77	82	335	325	341	435	417	371	71	711	4159	0.068	17.19	3.94	0.22
28	4.337	0.048	0.345	0	8.89	111	493	77	82	334	323	339	440	416	371	70	718	4159	0.066	16.84	4.08	0.42
29	4.485	0.048	0.336	0	8.75	113	516	78	82	332	322	338	453	416	372	70	751	4159	0.07	15.45	5.35	0.44
30	4.633	0.048	0.339	0	8.71	115	545	78	82	331	319	336	490	415	378	70	759	4159	0.074	12.54	8.17	0
31	4.783	0.048	0.339	0	8.54	116	564	78	83	332	298	339	521	406	379	70	725	4159	0.075	12.05	9.09	0
32	4.929	0.048	0.338	0	8.34	117	581	78	83	335	284	343	549	400	382	71	754	4159	0.077	11.97	9.2	0
33	5.077	0.048	0.331	0	8.32	118	599	78	83	339	275	348	573	396	386	71	758	4159	0.113	11.86	9.17	0
34	5.222	0.048	0.344	0	8.19	119	616	79	83	343	270	354	597	392	391	71	798	4159	0.111	11.78	9.44	0
35	5.37	0.048	0.339	0	7.92	120	626	79	83	349	268	361	620	388	397	71	832	4159	0.134	12.01	9.36	0
36	5.515	0.048	0.335	0	7.76	121	635	79	83	355	268	367	637	385	403	71	837	4159	0.117	12.3	9.03	0
37	5.663	0.048	0.338	0	7.12	121	637	79	84	361	269	375	650	381	407	71	825	4159	0.087	12.91	8.17	0
38	5.809	0.046	0.343	0	7.58	121	635	79	84	368	271	382	658	378	411	71	867	4159	0.089	13.06	8.33	0
39	5.959	0.048	0.348	0	7.78	121	635	79	84	375	274	389	667	376	416	71	855	4159	0.111	13.18	8.21	0
40	6.103	0.048	0.337	0	7.27	122	637	79	84	380	276	397	673	372	420	71	878	4159	0.132	13.2	7.82	0
41	6.251	0.048	0.33	0	7.05	122	642	79	84	386	279	404	679	370	424	71	855	4159	0.126	13.06	7.87	0
42	6.397	0.048	0.339	0	6.49	123	647	79	84	392	282	411	684	367	427	72	850	4159	0.128	12.99	8.08	0
43	6.544	0.048	0.334	0	6.84	123	651	79	85	397	284	418	690	365	431	72	861	4159	0.145	12.88	8.35	0
44	6.688	0.048	0.333	0	6.63	124	658	79	85	403	287	425	698	362	435	72	859	4159	0.143	12.59	8.48	0
45	6.831	0.048	0.341	0	6.85	124	666	80	85	408	289	431	707	361	439	72	889	4159	0.108	12.5	8.81	0
46	6.975	0.048	0.337	0	6.38	126	675	80	85	414	292	438	716	359	444	72	917	4159	0.104	12.52	8.58	0
47	7.122	0.048	0.334	0	6.24	127	682	80	85	419	295	444	733	357	449	72	896	4159	0.121	11.66	9.21	0.06
48	7.267	0.048	0.342	0	6.02	127	694	80	85	425	297	450	750	355	455	72	946	4159	0.123	11.41	9.53	0
49	7.41	0.048	0.33	0	5.92	128	702	80	86	430	301	457	767	352	461	72	960	4159	0.136	11.42	9.63	0
50	7.554	0.048	0.332	0	5.79	129	714	80	86	437	305	464	781	350	467	72	1001	4159	0.192	11.19	9.98	0
51	7.699	0.048	0.339	0	5.52	129	717	80	86	443	308	471	792	348	472	72	994	4159	0.177	11.36	9.94	0
52	7.845	0.048	0.339	0	6.04	129	720	80	86	449	311	478	800	346	477	72	1016	4159	0.136	11.62	9.47	0
53	7.991	0.048	0.339	0	5.34	130	722	80	86	456	315	485	805	343	481	72	1014	4159	0.164	11.7	9.51	0

54	8.135	0.048	0.342	0	5.19	130	727	80	86	463	319	491	808	342	485	72	1011	4159	0.14	11.67	9.29	0
55	8.279	0.048	0.342	0	5.17	130	725	81	86	469	322	498	810	340	488	72	1013	4159	0.155	11.69	9.33	0
56	8.424	0.048	0.341	0	4.99	130	728	81	87	476	326	504	812	338	491	72	1010	4159	0.185	11.83	8.99	0
57	8.567	0.048	0.333	0	4.66	130	727	81	87	482	329	510	812	336	494	73	1003	4159	0.169	11.84	9.2	0
58	8.71	0.048	0.344	0	4.77	130	725	81	87	488	332	516	812	335	497	73	999	4160	0.145	12.01	9.03	0
59	8.854	0.048	0.339	0	4.62	130	726	81	87	494	336	522	813	334	500	72	994	4160	0.192	12.2	8.9	0
60	8.998	0.048	0.345	0	4.42	130	724	81	87	499	339	527	812	332	502	72	994	4160	0.155	12.08	8.88	0
61	9.141	0.048	0.334	0	4.38	130	722	81	87	504	341	531	808	331	503	73	990	4160	0.147	12.44	8.58	0
62	9.285	0.048	0.333	0	4.32	129	718	81	87	509	344	536	803	330	504	73	973	4160	0.121	12.87	7.95	0
63	9.429	0.048	0.342	0	4.23	129	710	81	87	513	346	540	795	329	505	73	954	4160	0.172	13.27	7.79	0
64	9.576	0.048	0.34	0	4.01	129	698	81	87	517	348	545	786	326	505	73	940	4160	0.123	13.74	6.99	0
65	9.719	0.048	0.331	0	3.97	128	690	81	88	519	350	548	777	327	504	73	924	4160	0.168	13.77	7.04	0
66	9.864	0.048	0.338	0	4	128	682	81	88	522	352	552	766	326	504	73	905	4160	0.153	14.23	6.75	0
67	10.01	0.048	0.345	0	3.87	127	677	81	88	524	353	554	754	325	502	73	892	4160	0.091	14.37	6.43	0
68	10.156	0.048	0.334	0	3.76	127	664	81	88	525	354	557	740	325	500	73	872	4160	0.089	14.78	6.12	0
69	10.298	0.048	0.336	0	3.71	126	659	81	88	527	354	559	724	324	498	73	859	4160	0.119	15.03	6.05	0
70	10.441	0.048	0.346	0	3.7	126	649	81	88	527	355	560	708	323	495	73	843	4160	0.085	15.16	5.71	0
71	10.587	0.048	0.339	0	3.65	125	646	81	88	527	356	561	692	323	492	73	824	4160	0.108	15.43	5.3	0
72	10.73	0.048	0.339	0	3.56	125	641	81	88	527	356	562	677	322	489	73	807	4160	0.079	15.42	5.31	0
73	10.875	0.048	0.337	0	3.42	125	633	81	88	527	355	562	663	321	486	73	801	4160	0.1	15.25	5.48	0
74	11.018	0.048	0.341	0	3.54	125	627	81	88	526	355	562	651	321	483	73	784	4160	0.1	15.25	5.68	0
75	11.164	0.048	0.339	0	3.43	124	619	81	88	525	355	561	640	321	480	73	774	4160	0.078	15.39	5.53	0
76	11.307	0.048	0.333	0	3.27	123	612	81	88	524	353	560	629	320	477	73	750	4160	0.091	15.47	5.26	0
77	11.452	0.048	0.343	0	3.27	123	610	81	88	522	353	559	619	320	475	73	752	4160	0.077	15.64	5.38	0
78	11.596	0.048	0.34	0	3.23	123	606	81	89	521	352	558	611	321	473	73	734	4160	0.087	15.38	5.52	0
79	11.74	0.048	0.343	0	3.19	123	602	81	89	520	351	557	604	320	470	73	730	4160	0.075	15.29	5.3	0
80	11.885	0.048	0.337	0	3.08	122	597	81	89	519	350	555	597	320	468	73	724	4160	0.087	15.36	5.19	0
81	12.03	0.048	0.342	0	3	121	595	81	89	519	349	553	590	320	466	73	720	4161	0.08	15.61	5.06	0
82	12.174	0.048	0.339	0	2.9	122	591	81	89	517	347	552	584	320	464	73	711	4161	0.077	15.57	5.22	0
83	12.317	0.048	0.34	0	2.93	121	588	81	89	516	346	550	579	320	462	73	710	4161	0.078	15.6	5.11	0
84	12.462	0.048	0.333	0	2.97	121	587	81	89	515	345	549	574	320	461	73	705	4161	0.079	15.53	5.17	0
85	12.605	0.048	0.336	0	2.96	120	583	81	89	514	344	546	571	320	459	73	695	4161	0.079	15.36	5.51	0
86	12.75	0.048	0.341	0	2.83	120	582	81	89	513	343	544	566	320	457	73	689	4161	0.079	15.47	5.33	0
87	12.891	0.048	0.337	0	2.77	120	579	81	89	512	342	542	561	320	455	73	702	4161	0.079	15.68	5.2	0
88	13.037	0.048	0.341	0	2.69	120	578	81	89	511	341	540	556	320	454	72	687	4161	0.077	15.69	5.14	0
89	13.18	0.048	0.335	0	2.76	120	576	81	89	511	340	538	552	321	452	73	677	4161	0.077	16.01	5.02	0
90	13.322	0.048	0.345	0	2.61	119	576	81	89	510	338	537	548	321	451	73	660	4161	0.075	15.62	5.38	0
91	13.464	0.048	0.339	0	2.58	119	574	81	89	509	337	536	545	321	450	73	663	4161	0.073	15.71	4.89	0
92	13.608	0.048	0.347	0	2.67	119	569	81	89	508	336	533	541	321	448	73	673	4161	0.074	15.57	5.21	0
93	13.749	0.048	0.338	0	2.42	119	567	81	89	507	335	532	539	321	447	72	669	4161	0.074	15.71	4.96	0
94	13.891	0.048	0.343	0	2.43	119	567	81	89	506	334	530	536	322	446	73	671	4161	0.073	15.67	5.27	0
95	14.033	0.048	0.345	0	2.36	119	567	81	89	505	333	528	534	322	444	73	654	4161	0.074	15.78	4.89	0
96	14.177	0.048	0.335	0	1.84	118	562	81	90	504	332	527	533	322	444	73	658	4161	0.076	15.62	5.04	0
97	14.32	0.048	0.343	0	2.27	118	561	81	90	504	332	525	531	323	443	72	653	4161	0.074	15.71	5.26	0
98	14.463	0.048	0.343	0	2.19	118	560	81	90	502	331	523	529	323	442	73	634	4161	0.072	15.84	4.95	0
99	14.608	0.048	0.344	0	2.13	118	561	81	90	503	330	521	526	324	441	73	643	4161	0.078	15.78	5.07	0
100	14.751	0.048	0.338	0	2.22	118	561	81	90	501	330	521	524	324	440	73	644	4161	0.074	15.91	4.82	0
101	14.894	0.048	0.339	0	2.13	118	559	81	90	501	329	519	523	324	439	73	641	4161	0.073	15.68	5.22	0
102	15.039	0.048	0.345	0	1.9	117	557	81	90	500	328	517	523	324	438	73	618	4161	0.076	15.47	5.31	0
103	15.18	0.048	0.342	0	2.05	117	551	81	90	499	328	515	522	325	438	73	626	4161	0.073	15.76	4.96	0
104	15.323	0.048	0.339	0	1.8	117	552	81	90	499	328	514	523	325	438	73	627	4161	0.077	15.45	5.3	0
105	15.465	0.048	0.343	0	1.88	116	547	81	90	499	328	513	522	326	438	73	623	4161	0.073	15.67	5.03	0
106	15.61	0.048	0.343	0	1.81	116	547	81	90	499	328	512	521	326	437	72	635	4161	0.076	15.61	5.37	0
107	15.75	0.048	0.338	0	2.13	116	546	81	90	498	328	511	521	326	437	73	642	4161	0.076	15.64	5.39	0
108	15.891	0.048	0.345	0	1.74	116	543	81	90	498	328	510	522	326	437	73	647	4161	0.074	15.43	5.53	0
109	16.038	0.048	0.34	0	1.77	115	540	81	90	498	328	509	521	326	436	73	662	4161	0.075	15.69	5.08	0
110	16.181	0.048	0.344	0	1.69	115	541	81	90	498	327	508	519	327	436	73	625	4161	0.07	15.82	4.88	0
111	16.326	0.048	0.336	0	1.75	115	540	81	90	498	327	508	516	327	435	73	634	4161	0.073	15.95	4.88	0
112	16.469	0.048	0.341	0	1.55	115	538	81	90	497	326	507	514	327	434	73	666	4161	0.07	16.17	4.48	0
113	16.612	0.048	0.337	0	1.64	115	538	81	90	496	326	506	510	327	433	73	651	4161	0.071	16.2	4.27	0
114	16.755	0.048	0.341	0	1.57	114	535	81	90	495	325	504	507	328	432	73	642	4161	0.074	16.25	4.49	0
115	16.898	0.048	0.341	0	1.62	114	535	81	90	495	324	504	503	328	431	73	628	4161	0.072	16.47	4.08	0
116	17.043	0.048	0.345	0	1.88	114	531	80	90	494	323	502	498	328	429	73	636	4162	0.074	16.53	4.27	0
117	17.185	0.048	0.345	0	1.49	114	529	80	90	493	322	501	493	328	427	73	622	4162	0.07	16.64	3.84	0
118	17.327	0.048	0.34	0	1.52	113	528	80	90	491	320	499	488	329	425	73	627	4162	0.07	16.75	3.88	0
119	17.47	0.048	0.342	0	1.4	113	527	80	90	490	319	498	483	329	424	73	624	4162	0.074	16.57	4.06	0
120	17.612	0.048	0.334	0	0.76	113	526	80	90	489	317	497	478	329	422	73	609	4162	0.073	16.74	4.05	0
121	17.754	0.048	0.344	0	1.45	113	521	80	90	488	316	495	474	329	420	73	622	4162	0.071	16.61	4.13	0
122	17.897	0.048	0.344	0	0.52	113	522	80	91	488	315	493	470	330	419	73	611	4162	0.073	16.78	3.87	0
123	18.039	0.048	0.338	0	1.39	113	523	80	91	485	314	491	466	331	417	73	613	4162	0.074	16.7	4.07	0
124	18.179	0.048	0.341	0	1.36	112	521	80	91	484	312	489	462	331	416	73	605	4162	0.073	16.79	4.05	0
125	18.319	0.048	0.339	0	1.35	112	520	80	91	482	311	487	459	331	414	73	599	4162	0.069	16.69	3.92	0
126	18.46	0.048	0.34	0	1.37	112	518	80	91	481	310	485	455	332	413	73	591	4162	0.068	16.85	3.96	0
127	18.6	0.048	0.342	0	1.3	112	517	80	91	480	309	482	452	332	411	73	596	4162	0.068	16.82	3.84	0
128	18.743	0.048	0.343	0	1.3	113	514	80	91	478	307	480	449	332	409	73	586	4162	0.068	17.01	3.78	0
129	18.884	0.048	0.336	0	1.23	112	512	80	91	477	306	478	445	333	408	73	581	4162	0.071	17.04	3.6	0.03
130	19.025	0.048	0.337	0	1.42	112	510	80	91	476	305	476	442	333	406	73	578	4162	0.072	16.79	3.95	0
131	19.164	0.048	0.342	0	1.17	112	509	80	91	475	304	474	438	333	405	73	567	4162	0.072	16.86	3.92	0
132	19.306	0.048	0.34	0	1.23	112	510	80	91	474	303	472	434	334	404	73	593	4162	0.068	16.74	3.75	0
133	19.445	0.048	0.34	0	0.98	112	510	80	91	473	302	470	434	334	403	73	583	4162	0.068	16.79	3.99	0
134	19.585	0.048	0.346	0	1.17	112	511	80	91	472	301	468	432	334	401	73	580	4162	0.068	16.78	3.78	0
135	19.727	0.048	0.338	0	1.18	112	511	80	91	471	300	466	430	335	401	73	595	4162	0.073	16.82	3.93	0
136	19.866	0.048	0.334	0	0.41	112	511	80	91	470	300	464	428	336	399	73	574	4162	0.07	16.87	3.88	0
137	20.005	0.048	0.338	0	1.11	112	511	80	91	469	299	463	427	336	399	73	583	4162	0.072	16.89	3.92	0
138	20.146	0.048	0.346	0	1.28	111	509	80	91	468	298	460	426	336	398	73	582	4162	0.07	16.95	4.03	0
139	20.286	0.048	0.342	0	1.16	111	505	80	91	467	297	460	424	337	397	72	560	4162	0.072	16.83	3.93	0
140	20.424	0.048	0.341	0	1	111	501	80	91	466	297	458	422	337	396	73	555	4162	0.069	16.85	3.81	0
141	20.565	0.049	0.341	0	1.03	111	496	80	91	465	296	456	420	338	395	73	551	4162	0.071	-0.34	3.59	0
142	20.706	0.048	0.338	0	0.96	110	495	80	91	465	295	455	418	338	394	73	545	4162	0.067	-0.28	3.68	0
143	20.847	0.048	0.338	0	1.03	110	495	80	91	464	295	454	417	338	394	73	539	4162	0.07	-0.29	3.66	0
144	20.986	0.048	0.342	0	1.01	110	496	80	91	464	294	453	415	338	393	73	530	4162	0.067	-0.31	3.92	0
145	21.127	0.048	0.344	0	0.95	110	493	80	91	463	294	452	414	338	392	73	545	4162	0.067	-0.31	3.61	0
146	21.27	0.048	0.346	0	0.96	110	494	80	91	462	293	450	412	338	391	73	545	4162	0.068	-0.22	3.65	0
147	21.409	0.048	0.341	0	0.9	110	493	80	91	461	292	449	411	338	390	73	543	4162	0.066	-0.22	3.71	0
148	21.551	0.048	0.335	0	0.94	110	492	80	91	461	292	449	410	339	390	73	542	4162	0.071	-0.4	3.67	0
149	21.689	0.048	0.339	0	0.83	110	493	80	91	460	291	447	409	339	389	73	541	4162	0.07	-0.4	3.64	0
150	21.831	0.048	0.342	0	0.83	110	492	80	91	459	290	446	408	339	388	73	557	4162	0.068	-0.32	3.89	0
151	21.971	0.048	0.334	0	0.92	110	493	80	91	458	290	445	406	339	388	73	546	4162	0.068	-0.27	3.54	0
152	22.113	0.048	0.339	0	0.74	110	492	80	91	457	289	444	406	338	387	73	548	4162	0.065	-0.36	3.7	0
153	22.256	0.048	0.343	0	0.49	110	491	80	91	455	289	444	405	339	386	73	541	4162	0.067	-0.37	3.99	0
154	22.397	0.048	0.338	0	0.85	110	490	80	91	454	288	442	404	339	385	73	537	4162	0.066	-0.32	3.6	0
155	22.537	0.048	0.34	0	0.79	110	488	80	91	452	287	442	403	339	385	73	543	4162	0.065	-0.23	3.69	0
156	22.677	0.048	0.34	0	0.76	110	487	80	91	451	287	441	402	339	384	73	538	4162	0.066	-0.24	3.64	0
157	22.82	0.048	0.336	0	0.67	110	490	80	91	449	286	440	401	339	383	73	533	4162	0.067	-0.28	3.49	0
158	22.96	0.048	0.345	0	0.71	110	488	80	92	448	286	439	400	338	382	73	535	4162	0.068	-0.24	3.79	0
159	23.1	0.048	0.347	0	0.76	109	483	80	92	447	285	438	399	338	381	73	525	4162	0.066	-0.39	3.84	0
160	23.243	0.048	0.339	0	0.01	109	483	80	92	446	285	437	398	339	381	73	528	4162	0.065	-0.28	3.63	0
161	23.381	0.048	0.338	0	0.69	109	481	80	92	444	284	436	397	338	380	73	516	4162	0.067	-0.25	3.52	0
162	23.52	0.048	0.341	0	0.52	109	482	80	92	443	284	435	396	338	379	73	537	4162	0.067	-0.36	3.79	0
163	23.66	0.048	0.341	0	0.62	109	481	80	92	442	283	435	395	337	378	73	518	4163	0.066	-0.23	3.47	0
164	23.8	0.048	0.343	0	0.69	109	481	80	92	441	282	434	394	336	377	73	522	4163	0.065	-0.23	3.51	0
165	23.941	0.048	0.339	0	0.56	109	480	80	92	440	282	433	393	337	377	73	529	4163	0.07	-0.46	3.72	0
166	24.082	0.048	0.34	0	0.61	109	482	80	92	439	281	432	393	336	376	73	521	4163	0.065	-0.39	3.4	0
167	24.223	0.048	0.343	0	0.42	109	478	80	92	438	280	431	392	336	375	73	523	4163	0.066	-0.43	3.72	0
168	24.362	0.048	0.338	0	0.5	109	477	80	92	437	280	430	391	336	375	73	518	4163	0.069	-0.35	3.47	0
169	24.503	0.048	0.342	0	0.54	109	476	80	92	436	279	429	389	336	374	73	524	4163	0.068	-0.25	3.62	0
170	24.643	0.048	0.34	0	0.49	109	476	80	92	436	279	428	388	336	373	73	526	4163	0.064	-0.26	3.39	0
171	24.781	0.048	0.337	0	0.47	109	476	80	92	436	278	428	387	336	373	73	517	4163	0.069	-0.29	3.43	0
172	24.921	0.048	0.347	0	0.34	109	476	79	92	435	277	427	386	336	372	73	508	4163	0.065	-0.41	3.46	0
173	25.061	0.048	0.338	0	0.46	109	475	79	92	435	277	426	385	335	371	73	509	4163	0.068	-0.32	3.62	0
174	25.202	0.048	0.337	0	0.48	108	476	79	92	433	276	424	384	335	370	73	517	4163	0.067	-0.39	3.39	0
175	25.341	0.048	0.341	0	0.41	109	475	79	92	433	275	424	383	335	370	73	519	4163	0.069	-0.39	3.41	0
176	25.482	0.048	0.343	0	0.21	108	474	79	92	432	275	422	383	335	369	73	512	4163	0.066	-0.28	4.15	0
177	25.622	0.048	0.34	0	0.37	108	474	79	92	432	274	422	382	334	369	73	511	4163	0.065	-0.37	3.72	0.01
178	25.761	0.048	0.344	0	0	108	473	79	92	432	273	421	382	334	368	73	516	4163	0.067	-0.37	3.79	0
179	25.901	0.048	0.347	0	0.4	108	471	79	92	431	273	420	381	335	368	73	512	4163	0.068	-0.27	4.01	0
180	26.04	0.048	0.339	0	0.23	108	470	79	92	431	272	419	381	335	368	73	502	4163	0.067	-0.32	3.73	0
181	26.18	0.048	0.347	0	0.31	108	469	79	92	431	272	419	380	335	367	73	513	4163	0.063	-0.35	3.77	0
182	26.319	0.048	0.341	0	0.28	108	471	79	92	431	272	418	380	334	367	73	507	4163	0.064	-0.2	3.6	0

183	26.459	0.048	0.34	0	0.52	108	467	79	92	430	271	417	379	334	367	72	516	4163	0.065	-0.39	3.54	0
184	26.597	0.048	0.341	0	0.11	108	467	79	92	430	272	416	379	334	366	72	508	4163	0.068	-0.44	3.71	0
185	26.737	0.048	0.339	0	0.43	108	469	79	92	430	271	416	378	334	366	72	514	4163	0.064	-0.28	3.65	0
186	26.876	0.048	0.345	0	0	108	470	79	92	430	271	416	378	334	366	73	511	4163	0.068	-0.43	3.83	0
187	27.014	0.048	0.341	0	0.25	108	469	79	92	430	271	415	378	334	365	73	512	4163	0.064	-0.35	3.7	0
188	27.156	0.048	0.342	0	0.17	108	465	79	92	429	271	415	377	334	365	73	499	4163	0.063	-0.29	3.25	0
189	27.294	0.048	0.336	0	0.14	107	461	79	92	430	271	414	375	334	365	73	498	4163	0.067	-0.36	3.26	0
190	27.432	0.048	0.336	0	0.19	107	459	79	92	429	271	414	374	334	364	73	488	4163	0.067	-0.37	3.43	0
191	27.573	0.048	0.343	0	0.16	107	453	79	92	427	271	414	372	334	364	73	483	4163	0.066	-0.36	3.46	0
192	27.711	0.048	0.342	0	0.29	106	452	79	92	427	271	413	371	334	363	73	504	4163	0.062	-0.22	3.3	0
193	27.85	0.048	0.341	0	0.14	107	452	79	92	425	271	412	370	334	362	73	486	4163	0.067	-0.32	3.4	0
194	27.991	0.048	0.342	0	0.06	106	449	79	92	425	271	412	368	335	362	73	487	4163	0.066	-0.31	3.39	0
195	28.129	0.048	0.338	0	0.08	106	449	79	92	424	271	411	367	335	361	72	491	4163	0.064	-0.37	3.4	0
196	28.268	0.048	0.34	0	0.03	106	445	79	92	422	271	410	365	335	361	72	476	4163	0.061	-0.41	2.97	0
197	28.409	0.048	0.344	0	0.03	106	440	79	92	422	270	409	364	336	360	73	466	4163	0.065	-0.29	3.07	0
0	0	0.048	0	0	11.42	100	404	71	76	436	291	470	390	384	394	69	430	4156	0.058	-0.28	0.69	0
1	0.154	0.048	0.353	0	11.74	149	340	73	76	434	303	473	379	393	396	71	344	4156	0.05	-0.4	1.09	0
2	0.322	0.048	0.351	0	11.4	167	310	76	76	432	314	474	368	398	397	71	334	4156	0.055	19.68	0.95	0.25
3	0.49	0.048	0.348	0	11.31	181	333	78	76	426	324	472	364	402	398	70	338	4156	0.059	19.47	1.13	0.17
4	0.656	0.048	0.345	0	11.15	198	392	80	76	424	332	469	381	405	402	70	411	4157	0.062	19.02	1.59	0.18
5	0.822	0.048	0.35	0	10.92	144	464	79	76	423	338	458	393	408	404	69	552	4157	0.067	15.8	4.55	0.04
6	0.986	0.048	0.348	0	10.9	122	451	78	76	420	341	448	396	410	403	69	534	4157	0.064	16.94	3.84	0
7	1.152	0.048	0.352	0	10.85	115	441	77	76	416	343	440	401	411	402	69	538	4157	0.064	17.71	3.2	0
8	1.315	0.048	0.345	0	10.6	111	433	77	76	411	344	433	405	411	401	69	534	4157	0.065	17.81	3.07	0
9	1.482	0.048	0.346	0	11.14	108	429	76	76	406	344	426	407	412	399	69	526	4157	0.062	17.83	3.02	0
10	1.645	0.048	0.351	0	10.69	105	430	76	77	401	344	419	408	413	397	69	546	4157	0.065	17.94	2.98	0.07
11	1.807	0.048	0.349	0	10.97	109	443	76	77	395	343	414	408	413	395	69	558	4157	0.06	18	2.89	0.1
12	1.969	0.048	0.349	0	10.65	107	432	76	77	390	341	408	408	413	392	69	553	4157	0.062	17.8	3.07	0.15
13	2.13	0.048	0.348	0	10.25	107	430	76	77	384	340	403	407	413	389	69	529	4157	0.063	17.89	3.03	0.11
14	2.292	0.048	0.346	0	10.4	106	426	76	77	378	338	398	407	413	387	69	535	4157	0.061	18.06	2.63	0.5
15	2.451	0.048	0.35	0	10.47	105	422	76	77	373	336	392	406	413	384	69	530	4157	0.059	18.09	2.79	0.35
16	2.607	0.048	0.345	0	9.76	106	425	76	78	367	333	388	406	412	381	69	532	4157	0.064	18.09	2.66	0.63
17	2.768	0.048	0.35	0	10.3	105	416	76	78	362	331	383	406	412	379	69	487	4157	0.061	17.53	3.33	0.56
18	2.927	0.048	0.349	0	10.05	105	419	76	78	358	329	379	408	411	377	69	496	4157	0.059	17.25	3.48	0.55
19	3.085	0.048	0.339	0	10.1	105	425	76	78	354	326	375	411	411	375	69	496	4157	0.064	17	3.81	0.59
20	3.239	0.048	0.344	0	10.07	106	438	76	78	349	324	372	414	410	374	69	484	4157	0.063	16.95	3.84	0.55
21	3.395	0.048	0.346	0	10.12	105	447	76	79	345	314	369	416	406	370	69	516	4157	0.068	16.87	4.16	0.26
22	3.552	0.048	0.346	0	10.04	106	455	76	79	343	294	368	413	399	364	69	520	4157	0.065	16.89	4.17	0.14
23	3.705	0.048	0.334	0	9.75	106	465	76	79	342	279	368	413	393	359	69	523	4157	0.068	16.58	4.22	0.41
24	3.856	0.048	0.344	0	9.81	108	482	77	79	340	267	367	433	390	359	69	553	4157	0.073	14.57	6.17	0.01
25	4.012	0.048	0.348	0	9.65	110	507	77	79	339	259	367	451	387	360	69	601	4157	0.073	13.96	7.09	0
26	4.167	0.048	0.345	0	9.64	110	521	77	80	338	254	368	462	384	361	69	618	4157	0.07	14.63	6.45	0
27	4.32	0.048	0.344	0	9.42	111	528	77	80	338	250	369	472	380	362	69	632	4157	0.074	14.96	6.15	0
28	4.47	0.048	0.345	0	9.43	111	535	77	80	340	249	370	479	378	363	70	628	4157	0.073	15.06	6.02	0
29	4.622	0.048	0.347	0	9.3	112	538	77	80	341	248	372	485	376	364	69	634	4157	0.072	14.85	6.18	0
30	4.776	0.048	0.34	0	9.18	112	540	77	81	343	248	375	493	373	366	69	635	4157	0.071	14.76	6.38	0
31	4.927	0.048	0.335	0	9.07	113	547	77	81	345	248	377	503	371	369	70	636	4157	0.076	14.44	6.43	0
32	5.078	0.048	0.34	0	8.92	113	552	77	81	348	249	379	513	369	372	69	648	4157	0.071	14.44	6.76	0
33	5.229	0.048	0.339	0	8.83	114	554	78	81	350	251	382	524	367	375	70	666	4157	0.078	13.98	6.99	0
34	5.382	0.048	0.345	0	8.68	115	566	78	81	354	252	385	536	365	378	69	683	4157	0.073	13.83	7.18	0
35	5.53	0.048	0.342	0	8.67	115	571	78	82	357	254	388	549	363	383	70	680	4157	0.074	13.54	7.45	0
36	5.677	0.048	0.34	0	8.75	116	579	78	82	361	257	392	563	361	387	70	693	4157	0.076	13.49	7.56	0
37	5.827	0.048	0.337	0	8.3	117	589	78	82	365	259	397	577	359	392	70	704	4158	0.078	13.2	7.69	0
38	5.976	0.048	0.345	0	8.24	117	594	78	82	370	262	401	590	357	396	70	724	4158	0.078	12.99	8.24	0
39	6.124	0.048	0.343	0	8.05	118	603	78	82	375	265	406	606	356	402	70	756	4158	0.075	13.13	8.15	0
40	6.273	0.048	0.334	0	8.23	118	609	78	83	379	269	411	621	353	407	70	779	4158	0.119	12.72	8.45	0
41	6.422	0.048	0.344	0	7.51	119	616	78	83	384	271	417	633	352	411	70	820	4158	0.078	12.88	8.21	0
42	6.571	0.048	0.345	0	7.67	120	622	78	83	389	274	422	644	350	416	70	817	4158	0.091	13.16	7.93	0
43	6.719	0.048	0.337	0	7.61	120	628	78	83	394	277	426	653	348	420	70	809	4158	0.128	13.13	8.2	0
44	6.865	0.048	0.341	0	7.49	120	626	78	84	399	280	434	660	346	424	70	833	4158	0.113	13.4	7.9	0
45	7.01	0.048	0.353	0	7.17	121	625	78	84	403	283	439	665	345	427	70	809	4158	0.087	13.34	7.9	0
46	7.159	0.048	0.34	0	7.77	121	631	78	84	408	286	445	671	343	431	70	816	4158	0.079	13.4	7.78	0
47	7.303	0.048	0.347	0	7.08	122	640	79	84	413	289	450	677	341	434	70	820	4158	0.111	13.03	8.18	0
48	7.453	0.048	0.346	0	6.95	122	644	79	84	417	291	456	683	340	437	70	815	4158	0.085	13.01	8.14	0
49	7.6	0.048	0.339	0	6.72	122	645	79	84	422	294	461	688	337	440	70	847	4158	0.134	12.94	8.13	0
50	7.746	0.048	0.341	0	6.65	123	649	79	85	426	297	467	691	336	443	70	853	4158	0.104	13.11	7.79	0
51	7.892	0.048	0.345	0	6.58	122	651	79	85	430	300	472	694	334	446	70	875	4158	0.079	13.21	8	0
52	8.039	0.048	0.35	0	6.47	123	651	79	85	435	303	477	695	333	449	70	864	4158	0.13	13.08	8.14	0

PRAXAIR

Praxair
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Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22017

DocNumber: 000104677

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PXPKG TUALATIN OR H
10450 SW TUALATIN SHERWOOD
TUALATIN OR 97062

Praxair Order Number: 70187071
Customer P. O. Number
Customer Reference Number:

Fill Date 1/24/2017
Part Number NI CD17CO8E-AS
Lot Number 109702413
Cylinder Style & Outlet AS CGA 590
Cylinder Pressure & Volume 2000 psig 140 cu ft

Certified Concentration:

Expiration Date.		2/22/2025	NIST Traceable
Cylinder Number:		CC144992	Analytical Uncertainty:
17.06	%	CARBON DIOXIDE	± 0.3 %
4.25	%	CARBON MONOXIDE	± 0.6 %
17.02	%	OXYGEN	± 0.1 %
	Balance	NITROGEN	

Certification Information: *Certification Date:* 2/22/2017 *Term:* 96 Months *Expiration Date:* 2/22/2025

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

CO2 responses have been corrected for O2 effect. O2 responses have been corrected for CO2 interference.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON DIOXIDE

Requested Concentration 17 %
Certified Concentration 17 06 %
Instrument Used Horiba VIA-510 S/N 20C194WK
Analytical Method NDIR
Last Multipoint Calibration 2/10/2017

Reference Standard Type GMIS
Ref Std Cylinder # SA10234
Ref Std Conc 20 02%
Ref Std Traceable to SRM # RGM#CC28
SRM Sample # N/A
SRM Cylinder # RGM#CC28033

First Analysis Data: Date: 2/22/2017

Z:	0	R:	20 01	C:	17 04	Conc:	17 049
R:	20 01	Z:	0	C:	17 05	Conc:	17 059
Z:	0	C:	17 05	R:	20 01	Conc:	17 059

UOM: % Mean Test Assay: 17 055 %

Second Analysis Data: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: % Mean Test Assay: 0 %

2. Component: CARBON MONOXIDE

Requested Concentration 4 25 %
Certified Concentration 4 25 %
Instrument Used Horiba VIA-510 S/N UB9UCSYX
Analytical Method NDIR
Last Multipoint Calibration 2/10/2017

Reference Standard Type GMIS
Ref Std Cylinder # CC257812
Ref Std Conc 3 96%
Ref Std Traceable to SRM # 2641a
SRM Sample # 59-C-02
SRM Cylinder # FF13690

First Analysis Data: Date: 2/22/2017

Z:	0	R:	4	C:	4 3	Conc:	4 253
R:	4	Z:	0	C:	4 3	Conc:	4 253
Z:	0	C:	4 3	R:	4 01	Conc:	4 253

UOM: % Mean Test Assay: 4 253 %

Second Analysis Data: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: % Mean Test Assay: 0 %

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution Inc While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user In no event shall the liability of Praxair Distribution, Inc , arising out of the use of the information con tained herein exceed the fee established for providing such information

PRAXAIR

5700 South Alameda Street
os Angeles, CA 90058
el: (323) 585-2154 Fax (714) 542-6689
PGVPID: F22017

DocNumber: 000104677

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

3. Component: **OXYGEN**

Requested Concentration	17 %
Certified Concentration	17 02 %
Instrument Used	OXYMAT 5E
Analytical Method	PARAMAGNETIC
Last Multipoint Calibration	2/5/2017

Reference Standard Type	GMIS
Ref Std Cylinder #	CC112100
Ref Std Conc	19 74 %
Ref Std Traceable to SRM #	2659a
SRM Sample #	71-E-19
SRM Cylinder #	FF22331

First Analysis Data: Date: 2/22/2017

Z:	0	R:	19 74	C:	17 01	Conc:	17 016
R:	19 72	Z:	0	C:	17 01	Conc:	17 016
Z:	0	C:	17 03	R:	19 74	Conc:	17 036

UOM: % Mean Test Assay: 17 022 %

Second Analysis Data: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: % Mean Test Assay: 0 %

Analyzed by: Ying Yu

Certified by: Nassim Haddad

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user In no event shall the liability of Praxair Distribution, Inc arising out of the use of the information contained herein exceed the fee established for providing such information

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22016

DocNumber: 000101815

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR PKG VANCOUVER WA
603 SE VICTORY AVE BLDG 46 S
VANCOUVER WA 98661

Praxair Order Number: 70157889
Customer P. O. Number:
Customer Reference Number:

Fill Date: 11/28/2016
Part Number: NI CD10CO33E-AS
Lot Number: 109633301
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure & Volume: 2000 psig 140 cu ft.

Certified Concentration:

Expiration Date:		12/15/2024	NIST Traceable
Cylinder Number:		CC332147	Analytical Uncertainty:
10.02	%	CARBON DIOXIDE	± 0.4 %
2.52	%	CARBON MONOXIDE	± 0.5 %
10.51	%	OXYGEN	± 0.2 %
	Balance	NITROGEN	

Certification Information: *Certification Date:* 12/15/2016 *Term:* 96 Months *Expiration Date:* 12/15/2024

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

O2 responses have been corrected for CO2 interference. CO2 responses have been corrected for O2 effect.

Analytical Data: *(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)*

1. Component: CARBON DIOXIDE

Requested Concentration: 10 %
Certified Concentration: 10.02 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 12/12/2016

Reference Standard Type: GMIS
Ref Std Cylinder #: CC283552
Ref. Std Conc: 13.99%
Ref Std Traceable to SRM #: 1675b
SRM Sample #: 6-F-51
SRM Cylinder #: CAL014538

First Analysis Data:								Date: 12/15/2016
Z:	0	R:	13.98	C:	10.01	Conc:	10.017	
R:	13.99	Z:	0	C:	10.01	Conc:	10.017	
Z:	0	C:	10.01	R:	13.97	Conc:	10.017	
UOM:	%			Mean Test Assay:			10.017 %	

Second Analysis Data:								Date:
Z:	0	R:	0	C:	0	Conc:	0	
R:	0	Z:	0	C:	0	Conc:	0	
Z:	0	C:	0	R:	0	Conc:	0	
UOM:	%			Mean Test Assay:			0 %	

2. Component: CARBON MONOXIDE

Requested Concentration: 2.5 %
Certified Concentration: 2.52 %
Instrument Used: Horiba VIA-510 S/N UB9UCSYX
Analytical Method: NDIR
Last Multipoint Calibration: 11/18/2016

Reference Standard Type: GMIS
Ref Std Cylinder #: CC257812
Ref Std Conc: 3.96%
Ref Std Traceable to SRM #: 2641a
SRM Sample #: 59-C-02
SRM Cylinder #: FF13690

First Analysis Data:								Date: 11/15/2016
Z:	0	R:	3.97	C:	2.52	Conc:	2.516	
R:	3.96	Z:	0	C:	2.53	Conc:	2.526	
Z:	0	C:	2.52	R:	3.97	Conc:	2.516	
UOM:	%			Mean Test Assay:			2.519 %	

Second Analysis Data:								Date:
Z:	0	R:	0	C:	0	Conc:	0	
R:	0	Z:	0	C:	0	Conc:	0	
Z:	0	C:	0	R:	0	Conc:	0	
UOM:	%			Mean Test Assay:			0 %	

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

PRAXAIR

Praxair
5700 South Alameda Street
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Tel: (323) 585-2154 Fax:(714) 542-6689
PGVPID: F22016

DocNumber: 000101816

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

PRAXAIR PKG VANCOUVER WA
603 SE VICTORY AVE BLDG 46 S
VANCOUVER WA 98661

Praxair Order Number: 70157891
Customer P. O. Number:
Customer Reference Number:

Fill Date: 11/28/2016
Part Number: NI CD17CO8E-AS
Lot Number: 109633302
Cylinder Style & Outlet: AS CGA 590
Cylinder Pressure & Volume: 2000 psig 140 cu. ft

Certified Concentration:

Expiration Date: 12/15/2024
Cylinder Number: SA8042

			NIST Traceable Analytical Uncertainty:
16.99	%	CARBON DIOXIDE	± 0.4 %
4.28	%	CARBON MONOXIDE	± 0.6 %
17.00	%	OXYGEN	± 0.2 %
	Balance	NITROGEN	

Certification Information: Certification Date: 12/15/2016 Term: 96 Months Expiration Date: 12/15/2024

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

O2 responses have been corrected for CO2 interference. CO2 responses have been corrected for O2 effect.

Analytical Data: (R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: CARBON DIOXIDE

Requested Concentration: 17 %
Certified Concentration: 16.99 %
Instrument Used: Horiba VIA-510 S/N 20C194WK
Analytical Method: NDIR
Last Multipoint Calibration: 12/12/2016

First Analysis Data: Date: 12/15/2016

Z:	0	R:	16.02	C:	16.97	Conc:	16.963
R:	16.02	Z:	0	C:	17	Conc:	16.993
Z:	0	C:	17.01	R:	16.04	Conc:	17.003

UOM: % Mean Test Assay: 16.986 %

Reference Standard Type: GMIS
Ref. Std. Cylinder #: CC79405
Ref. Std. Conc: 16.02%
Ref. Std. Traceable to SRM #: 1675b
SRM Sample #: 6-F-51
SRM Cylinder #: CAL014538

Second Analysis Data: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: % Mean Test Assay: 0 %

2. Component: CARBON MONOXIDE

Requested Concentration: 4.25 %
Certified Concentration: 4.28 %
Instrument Used: Horiba VIA-510 S/N UB9UCSYX
Analytical Method: NDIR
Last Multipoint Calibration: 11/18/2016

First Analysis Data: Date: 12/15/2016

Z:	0	R:	4.01	C:	4.33	Conc:	4.276
R:	4.01	Z:	0	C:	4.33	Conc:	4.276
Z:	0	C:	4.34	R:	4.01	Conc:	4.286

UOM: % Mean Test Assay: 4.279 %

Reference Standard Type: GMIS
Ref. Std. Cylinder #: CC257812
Ref. Std. Conc.: 3.96%
Ref. Std. Traceable to SRM #: 2641a
SRM Sample #: 59-C-02
SRM Cylinder #: FF13690

Second Analysis Data: Date:

Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0

UOM: % Mean Test Assay: 0 %

* Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

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ACCREDITED
Calibration Services
Certificate Number 1550.01
Laboratory code. 115953

Dirigo Laboratories
11785 SE Hwy 212, Ste 305
Clackamas, OR 97015

Report Number: DIRI01A05026170627

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Rice Lake	IQ+355E-2A x 100(	A05026	N/A	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
lbs	1	QC033	6/27/17	12/21/16	12/2017

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: 250 Tol: 1	Test Wt: HB44 Tol: HB44	Test Wt: 100 Tol: 1	☐ Good ☑ Fair ☐ Poor
As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	Temperature: 21.7°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
1000	999	999	0.5
700	700	700	0.5
500	500	500	0.5
300	300	300	0.5
100	100	100	0.5
50	50	50	0.5

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Weight Set	Rice Lake	20kg to 1mg	7133	4/20/17	4/2018	20170720

Permanent Information Concerning this Equipment:
2000lbs platform. Has a custom pan.

Comments/Information Concerning this Calibration
6/17 RH = 52.3%

Report prepared/reviewed by: Jake C **Date:** 6/27/17 **Technician:** D.Oudeans
Signature: D.Oudeans

THIS CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF QUALITY CONTROL SERVICES, INC.

The uncertainty is calculated according to the ISO Guide to the Expression of Uncertainty in Measurement and includes the uncertainty of standards used combined with the observed standard deviation of the unit under test. The uncertainty is expanded with a k factor of 2 for an approximate 95% level of confidence. Instruments listed above were calibrated using standards traceable to the National Institute of Standards and Technology (NIST). Calibration data reflect results at the time and location of calibration. Calibration data should be reviewed to insure that the instrument is performing to its required accuracy.

Member: National Conference of Standards Laboratories and Weights & Measures

PT ID: DIRI01

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ACCREDITED
Calibration Services
Certificate Number 1550.01
Laboratory code 115953

Dirigo Laboratories
11785 SE Hwy 212, Ste 305
Clackamas, OR 97015

Report Number: DIRI0182484A0912013i170627

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Scale	Digiweigh	DWP12i 400x.01	82484A0912013i	N/A	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
lbs	0.01	QC033	6/27/17	12/21/16	12/2017

FUNCTIONAL CHECKS

SHIFT TEST	LINEARITY	REPEATABILITY	ENVIRONMENTAL CONDITIONS
Test Wt: 50 / Tol: 0.05	Test Wt: HB44 / Tol: HB44	Test Wt: 50 / Tol: 0.01	☐ Good ☑ Fair ☐ Poor
As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	As-Found: Pass:☑ Fail:☐	Temperature: 21.7°C
As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	As-Left: Pass:☑ Fail:☐	

CALIBRATION DATA

Standard	As-Found	As-Left	Expanded Uncertainty
400	399.69	399.96	0.058
300	300.00	300.00	0.058
200	200.03	200.03	0.058
100	100.02	100.02	0.012
50	50.00	50.00	0.012
20	20.00	20.00	0.012

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Weight Set	Rice Lake	20kg to 1mg	7133	4/20/17	4/2018	20170720

Permanent Information Concerning this Equipment:

Comments/Information Concerning this Calibration

6/17 - RH = 52.5%

Report prepared/reviewed by: Jake C **Date:** 6/27/17 **Technician:** D.Oudeans
Signature: D.Oudeans

THIS CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF QUALITY CONTROL SERVICES, INC.

The uncertainty is calculated according to the ISO Guide to the Expression of Uncertainty in Measurement and includes the uncertainty of standards used combined with the observed standard deviation of the unit under test. The uncertainty is expanded with a k factor of 2 for an approximate 95% level of confidence. Instruments listed above were calibrated using standards traceable to the National Institute of Standards and Technology (NIST). Calibration data reflect results at the time and location of calibration. Calibration data should be reviewed to insure that the instrument is performing to its required accuracy.

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Calibration Services
Certificate Number 1550.01
Laboratory code: 115953

Report of Calibration

Firm: Dirigo Laboratories
Address: 11785 SE Hwy 212, Ste 305
City/State/Zip: Clackamas, OR 97015

Test Completed: 01/15/16
Purchase Order: 1001
Traceable Number: 20152489

Test Item: 20lb and 10lb Individual Grip Handle Weights
Serial No.: Listed in Table

Manufacturer: Unknown

Laboratory Environment at time of test

Temperature °C	Pressure mmHg	Humidity %RH
21.448	760.64	44.58

Conventional Mass Value

Nominal Value	As Found pounds	As Found Correction* (mg)	Uncertainty (mg)	Tolerance (mg)
20lb #098	19.9995450	-206.4	6.4	910
10lb #097	10.0006510	295.3	5.1	450
10lb #051	10.0003421	155.2	5.1	450

*Correction is the difference between the conventional mass value of a weight and its nominal value.

Comments: These weights were received in good condition and were within NIST Handbook 105-1 Class F tolerances As Found. No adjustments or changes were made so As Found values should be considered to be As Left values.

Accredited by the American Association for Laboratory Accreditation (A2LA) under Calibration Laboratory Code 115953 and Certificate Number 1550.01. This laboratory meets the requirements of ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories.* This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and any additional program requirements in the field of calibration.

Quality Control Services, Inc.
Metrology Laboratory Manager
E-mail dthompson@qc-services.com

Date: 01/15/16

Signature David S. Thompson

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Calibration Services
Certificate Number 1550.01
Laboratory code 115953

Report of Calibration

Firm: Dirigo Laboratories
Address: 11785 SE Hwy 212, Ste 305
City/State/Zip: Clackamas, OR 97015

Test Completed: 01/15/16
Purchase Order: 1001
Traceable Number: 20152489

Test Item: 20lb and 10lb Individual Grip Handle Weights
Serial No.: Listed in Table

Manufacturer: Unknown

Material	Assumed Density	Range	Tolerance Class
Cast Iron	7.2 g/cm^3	20lb to 10lb	NIST HB 105-1 (F)

Method and Traceability
The procedure used for this calibration is NIST IR 6969 SOP 7 Single Substitution Weighing Design. Standards used for comparison are traceable to the National Institute of Standards and Technology (reports on file) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and traceability within the level of uncertainty reported. The Traceable Number listed above is Traceable to National Standards through an unbroken chain of comparison each having stated uncertainties.

Standards Used:
Avoirdupois Working Standards were calibrated: 06/18/2014 Due: 06/18/2016 Standards ID: 34AA
Mass Comparators Used: MET-09, 20 **Tested by:** D. Thompson

Conventional Mass: "The conventional value of the result of weighing a body in air is equal to the mass of a standard, of conventionally chosen density, at a conventionally chosen temperature, which balances this body at this reference temperature in air of conventionally chosen density. International Recommendation 33 (OIML IR 33 1973, 1979). "Conventional Value of the Result of Weighing in Air" **(Previously known as "Apparent Mass vs. 8.0g/cm^3).**

Uncertainty Statement: The uncertainty conforms to the ISO Guide to the Expressions of Uncertainty in Measurement. Uncertainty as reported is based on a coverage factor K=2 for an approximate 95 percent level of uncertainty. Uncertainty components include the standard deviation of the process, the uncertainty of the standard used, an uncertainty component associated with the potential drift of the standard used, and the estimated uncertainty related to measuring and determining the air buoyancy effect.

Conventional Mass Values are listed on page 2 of this report.

Quality Control Services, Inc.
Metrology Laboratory Manager
E-mail dthompson@qc-services.com

Date: 01/15/16

Signature David S. Thompson

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DIRIGO LABORATORIES INC.

EPA Method 5 Dry Gas Meter Calibration for γ and ΔH@

Average DGM γ factor = **1.011**

Average Meter Orifice ΔH@ = **56.640**

Manufacturer / Model:	XC-60-ED
ID:	Box-A
Serial Number	1902130
Equipment No.:	Dirigo 053
Calibration Date:	7/14/2017
Next Calibration Due:	1/14/2018
Barometric Pressure:	30.03 inHg
Signature/Date:	DC Stoneze

	Run 1	Run 2	Run 3
Standard DGM Initial Volume (L)	0.000	0.000	0.000
Standard DGM Final Volume (L)	178.164	159.602	138.773
Standard Ave. Meter Temperature (°F), (Tstd)	80.6	82.1	82.6
DGM Initial Volume (cuft)	0.000	0.000	0.000
DGM Final Volume (cuft)	6.345	5.759	5.031
DGM Average Temperature (°F), (T_{DGM})	97.3	103.8	105.3
Time (min)	40.0	40.0	40.0
Orifice ΔH ("H2O)	2.51	2.00	1.50
Vacuum ("H2O)	0.00	0.00	0.00
Total Volume for Standard DGM (Vstd) (cuft)	6.292	5.636	4.901
Total Volume for DGM (V_{DGM}) (cuft)	6.345	5.759	5.031

Dry Gas Meter γ Factor	1.014	1.011	1.009
γ Factor Deviation From Average	0.003	0.000	0.002
Meter Orifice ΔH@	57.491	56.530	55.898
Orifice ΔH@ Deviation From Average	0.851	0.109	0.741

Standard Meter Data

Date	2/4/2016
γ Factor	0.998
Model	SK25DA
Serial Number	1101001

Pre-Calibration Data

Date	9/7/2016
γ Factor	1.010
ΔH@	58.363
Tolerance (5%)	0.051
Deviation	0.001

Pass

Calculations:

1. Deviation = |Average value for all runs - current run value|
2. γ = (Vstd x (Std γ factor) x (P_{bar}) x (T_{DGM} + 460) / (V_{DGM} x (Tstd + 460) x (Pbar + (dH / 13.6)))
3. ΔH@ = 0.0319 x ΔH ((((T_{DGM}+ 460) x (Time^2)) / (P_{bar} x (γ factor^2) x (V_{DGM}^2)))

Measurement of uncertainty = +/- 0.14 cfm

DIRIGO LABORATORIES INC.

EPA Method 5 Dry Gas Meter Calibration for γ and ΔH@

Average DGM γ factor = **1.002**

Average Meter Orifice ΔH@ = **59.707**

Manufacturer / Model:	XC-60-ED
ID:	Box B
Serial Number	1902133
Equipment No.:	Dirigo 054
Calibration Date:	7/7/2017
Next Calibration Due:	1/7/2018
Barometric Pressure:	30.21 inHg
Signature/Date:	

	Run 1	Run 2	Run 3
Standard DGM Initial Volume (L)	0.000	0.000	0.000
Standard DGM Final Volume (L)	173.002	154.114	133.627
Standard Ave. Meter Temperature (°F), (Tstd)	75.1	75.7	76.0
DGM Initial Volume (cuft)	0.000	0.000	0.000
DGM Final Volume (cuft)	6.218	5.623	4.887
DGM Average Temperature (°F), (T_{DGM})	91.8	97.4	98.0
Time (min)	40.0	40.0	40.0
Orifice ΔH ("H2O)	2.50	2.01	1.51
Vacuum ("H2O)	0.00	0.00	0.00
Total Volume for Standard DGM (Vstd) (cuft)	6.109	5.442	4.719
Total Volume for DGM (V_{DGM}) (cuft)	6.218	5.623	4.887

Dry Gas Meter γ Factor	1.005	1.000	1.000
γ Factor Deviation From Average	0.003	0.001	0.002
Meter Orifice ΔH@	59.656	59.825	59.639
Orifice ΔH@ Deviation From Average	0.051	0.119	0.068

Standard Meter Data

Date	2/4/2016
γ Factor	0.998
Model	SK25DA
Serial Number	1101001

Pre-Calibration Data

Date	1/20/2017
γ Factor	1.002
ΔH@	59.708
Tolerance (5%)	0.050
Deviation	0.000

Pass

DGM Calibration Data

γ Deviation Tolerance	0.020
Maximum γ Deviation	0.003
ΔH@ Deviation Tolerance	0.200
Maximum dH@ Deviation	0.119

Pass

Calculations:

1. Deviation = |Average value for all runs - current run value|
2. γ = (Vstd x (Std γ factor) x (P_{bar}) x (T_{DGM} + 460) / (V_{DGM} x (Tstd + 460) x (Pbar + (dH / 13.6)))
3. ΔH@ = 0.0319 x ΔH ((((T_{DGM}+ 460) x (Time^2)) / (P_{bar} x (γ factor^2) x (V_{DGM}^2)))

Measurement of uncertainty = +/- 0.14 cfm

DIRIGO LABORATORIES INC.

EPA Method 5 Dry Gas Meter Calibration for γ and ΔH@

Average DGM γ factor = **0.997**

Average Meter Orifice ΔH@ = **32.836**

Manufacturer / Model:	Apex-AK-600
ID:	Ambient Box
Serial Number	810016
Equipment No.:	Dirigo 055
Calibration Date:	1/18/2017
Next Calibration Due:	1/18/2018
Barometric Pressure:	29.47 inHg
Signature/Date:	DCPowne 1/18/2017

	Run 1	Run 2	Run 3
Standard DGM Initial Volume (L)	0.000	0.000	0.000
Standard DGM Final Volume (L)	178.603	158.956	159.555
Standard Ave. Meter Temperature (°F), (Tstd)	65.1	65.4	65.4
DGM Initial Volume (cuft)	0.000	0.000	0.000
DGM Final Volume (cuft)	6.358	5.617	5.592
DGM Average Temperature (°F), (T_{DGM})	65.0	67.0	70.0
Time (min)	30.0	30.0	35.0
Orifice ΔH ("H2O)	2.50	2.00	1.50
Vacuum ("H2O)	0.00	0.00	0.00
Total Volume for Standard DGM (Vstd) (cuft)	6.307	5.613	5.635
Total Volume for DGM (V_{DGM}) (cuft)	6.358	5.617	5.592

Dry Gas Meter γ Factor	0.984	0.996	1.011
γ Factor Deviation From Average	0.013	0.001	0.014
Meter Orifice ΔH@	32.677	32.834	32.996
Orifice ΔH@ Deviation From Average	0.159	0.002	0.161

Standard Meter Data

Date	2/4/2016
γ Factor	0.998
Model	SK25DA
Serial Number	1101001

Pre-Calibration Data

Date	8/5/2016
γ Factor	1.003
ΔH@	32.499
Tolerance (5%)	0.050
Deviation	0.006

Pass

DGM Calibration Data

γ Deviation Tolerance	0.020
Maximum γ Deviation	0.014
ΔH@ Deviation Tolerance	0.200
Maximum dH@ Deviation	0.161

Pass

Calculations:

1. Deviation = |Average value for all runs - current run value|
2. γ = (Vstd x (Std γ factor) x (P_{bar}) x (T_{DGM} + 460) / (V_{DGM} x (Tstd + 460) x (Pbar + (dH / 13.6)))
3. ΔH@ = 0.0319 x ΔH ((((T_{DGM}+ 460) x (Time^2)) / (P_{bar} x (γ factor^2) x (V_{DGM}^2)))

Measurement of uncertainty = +/- 0.14 cfm

Established 1974

QUALITY CONTROL SERVICES

LABORATORY EQUIPMENT · SALES · SERVICE · CALIBRATION · REPAIRS
2340 SE 11TH Ave. Portland, Oregon 97214 · Box 14831 Portland, Oregon 97293
(503) 236-2712 · FAX (503) 235-2535 · www.qc-services.com

ACCREDITED
Calibration Services
Certificate Number: 1550.01
Laboratory code. 115953

Dirigo Laboratories
11785 SE Hwy 212, Ste 305
Clackamas, OR 97015

Report Number: DIRI0134307497170627

A2LA ACCREDITED
CERTIFICATE OF CALIBRATION WITH DATA

INSTRUMENT INFORMATION

Item	Make	Model	Serial Number	Customer ID	Location
Balance	Sartorius	ENTRIS224-1S	34307497	N/A	Lab
Units	**Readability**	**SOP**	**Cal Date**	**Last Cal Date**	**Cal Due Date**
g	0.0001	QC012	6/27/17	12/21/16	12/2017

FUNCTIONAL CHECKS

ECCENTRICITY
Test Wt: 100 Tol: 0.0003
As-Found: Pass: ☑ Fail: ☐
As-Left: Pass: ☑ Fail: ☐

LINEARITY
Test Wt: 50 x 4 Tol: 0.0002
As-Found: Pass: ☑ Fail: ☐
As-Left: Pass: ☑ Fail: ☐

STANDARD DEVIATION
Test Wt: 100 Tol: 0.0001

1. 99.9999	5. 99.9999	9. 99.9999
2. 99.9999	6. 99.9999	10. 99.9999
3. 99.9999	7. 100.0000	Result
4. 100.0000	8. 99.9999	0.00004

ENVIRONMENTAL CONDITIONS
☐ Good ☑ Fair ☐ Poor
Temperature: 23.5°C

A2LA ACCREDITED SECTION OF REPORT

Standard	As-Found	As-Left	Expanded Uncertainty
200	199.9975	200.0000	0.00014
100	99.9988	100.0000	0.00014
50	49.9995	50.0000	0.00014
20	19.9999	20.0002	0.00014
1	0.9999	1.0000	0.00014
0.1	0.1002	0.1000	0.00014

CALIBRATION STANDARDS

Item	Make	Model	Serial Number	Cal Date	Cal Due Date	NIST ID
Weight Set	Rice Lake	20kg to 1mg	7133	4/20/17	4/2018	20170720

Permanent Information Concerning this Equipment:

Comments/Info Concerning this Calibration:
6/17 RH = 45.8%

Report prepared/reviewed by: Jake C **Date:** 6/27/17 **Technician:** D.Oudeans
Signature: DOudeans

THIS CERTIFICATE SHALL NOT BE REPRODUCED WITHOUT THE APPROVAL OF QUALITY CONTROL SERVICES, INC.

uncertainty is calculated according to the ISO Guide to the Expression of Uncertainty in Measurement and includes the uncertainty of standards used combined with observed standard deviation and readability of the unit under test. The uncertainty is expanded with a k factor of 2 for an approximate 95% level of confidence. Instruments listed above were calibrated using standards traceable to the National Institute of Standards and Technology (NIST) Calibration data reflect results at the time and location of calibration. Calibration data should be reviewed to insure that the instrument is performing to its required accuracy. Calibrations comply with ISO/IEC 17025 and ANSI/Z540-1-1994 quality standards.

Established 1974

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ACCREDITED
Calibration Services
Certificate Number: 1550.01
Laboratory code 115953

Report of Calibration

Firm: Dirigo Laboratories
Address: 11785 SE Hwy 212, Ste 305
City/State/Zip: Clackamas, OR 97015

Test Completed: 03/21/17
Submitted By: John Steiner
Traceable Number: 20170468

Test Item: 200mg and 100mg Individual Weights
Serial No.: Listed in Table

Manufacturer: Troemner

Laboratory Environment at time of test

Temperature °C	Pressure mmHg	Humidity %RH
21.967	753.44	49.44

Conventional Mass Value

Nominal Value	As Found grams	As Found Correction* (mg)	Uncertainty (mg)	Tolerance (mg)
200mg SN 1000101395	0.2000061	0.0061	0.0026	0.01
100mg SN 1000126267	0.1000046	0.0046	0.0028	0.01

*Correction is the difference between the conventional mass value of a weight and its nominal value.

Comments: These weights were new from the manufacturer and were within ASTM Class 1 tolerances As Found. No adjustments or changes were made so As Found values should be considered to be As Left values.

Accredited by the American Association for Laboratory Accreditation (A2LA) under Calibration Laboratory Code 115953 and Certificate Number 1550.01. This laboratory meets the requirements of ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories.* This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and any additional program requirements in the field of calibration.

Quality Control Services, Inc.
Metrology Laboratory Manager
E-mail dthompson@qc-services.com

Date: 03/21/17

Signature David S. Thompson

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Member: National Conference of Standards Laboratories and Weights & Measures

Established 1974

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Certificate Number 1550.01
Laboratory code. 115953

Report of Calibration

Firm: Dirigo Laboratories
Address: 11785 SE Hwy 212, Ste 305
City/State/Zip: Clackamas, OR 97015

Test Completed: 03/21/17
Submitted By: John Steiner
Traceable Number: 20170468

Test Item: 200mg and 100mg Individual Weights
Serial No.: Listed in Table

Manufacturer: Troemner

Material	Assumed Density	Range	Tolerance Class
Stainless Steel	7.95 g/cm^3	200mg & 100mg	ASTM Class 1

Method and Traceability
The procedure used for this calibration is NIST IR 6969 SOP 4 Double Substitution Weighing Design. Standards used for comparison are traceable to the National Institute of Standards and Technology (reports on file) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and traceability within the level of uncertainty reported. The Traceable Number listed above is Traceable to National Standards through an unbroken chain of comparison each having stated uncertainties.

Standards Used:
100g to 1mg Working Standards Were Calibrated: 03/03/17 Due: 03/31/18 Standards ID: 723318
Mass Comparators Used: MET-05 **Tested by:** D. Thompson

Conventional Mass: "The conventional value of the result of weighing a body in air is equal to the mass of a standard, of conventionally chosen density, at a conventionally chosen temperature, which balances this body at this reference temperature in air of conventionally chosen density. International Recommendation 33 (OIML IR 33 1973, 1979). "Conventional Value of the Result of Weighing in Air" **(Previously known as "Apparent Mass vs. 8.0g/cm^3).**

Uncertainty Statement: The uncertainty conforms to the ISO Guide to the Expressions of Uncertainty in Measurement. Uncertainty as reported is based on a coverage factor k=2 for an approximate 95 percent level of uncertainty. Uncertainty components include the standard deviation of the process, the uncertainty of the standard used, an uncertainty component associated with the potential drift of the standard used, and the estimated uncertainty related to measuring and determining the air buoyancy effect.

Conventional Mass Values are listed on page 2 of this report.

Quality Control Services, Inc.
Metrology Laboratory Manager
E-mail dthompson@qc-services.com

Date: 03/21/17

Signature David S. Thompson

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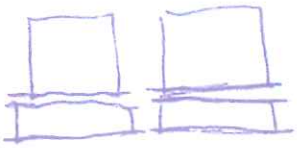
Fuel Load Information

Project Number	Client	Date
0310-5-081-1	IHP	11/7/17

Firebox Volume (ft^3)	1.7	Assessment	Y / N

Longest useable measurement parallel or perpendicular to front of unit.	19.5

Test Fuel Charge Range	11.2 - 12.6
Coal bed range (lbs)	~~[illegible]~~ 2.4 - 3.01

Vol ≤ 1.5 ft^3	Vol > 1.5 ≤ 3.0 ft^3	Vol > 3.0 ft^3
		

Fuel Piece Length	15 5/8 Inches

Run # EPA1

st Run Fuel Moisture (db)

Piece	S1	S2	S3	S4	Hydronic Heater S5	S6	AVG (%)		Weight (Lbs) Fuel	
1	22.5	22.7	22.8	22.5			22.625		2.12	
2	20.9	20.1	19.7	19.9			20.15		2.12	
3	~~23.4~~	~~23.5~~	~~20.1~~	~~23.7~~						
4	23.5	23.1	23.3	24.5			23.6		3.46	
5	23.6	24.5	23.7	23.9			23.93		4.34	
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
Spacer Average	19				Fuel Average		22.58	#DIV/0!	12.04	

Signature

11/7/17
Date

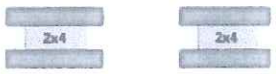
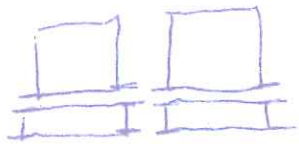
Fuel Load Information

Project Number	Client	Date
036-8-081-1	IHP	11/8/17

Firebox Volume (ft^3)	1.7	Assessment	Y / N

Longest useable measurement parallel or perpendicular to front of unit.	

Test Fuel Charge Range	11.2 - 12.6
Coal bed range (lbs)	2.3 - 2.97

Vol ≤ 1.5 ft^3	Vol > 1.5 ≤ 3.0 ft^3	Vol > 3.0 ft^3
		
		

Fuel Piece Length	Inches

Run # EPA 2

st Run Fuel Moisture (db)					Hydronic Heater				Weight (Lbs)	
Piece	S1	S2	S3	S4	S5	S6	AVG (%)		Fuel	
1	23.5	23.7	24	24.8			24.0		2.03	
2	24	24.3	24.2	23.8			24.07		1.9	
3	25	23.5	22.8	24.9			24.05		3.79	
4	25	24.5	25	24.1			24.65		4.1	
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
Spacer Average					Fuel Average		24.99	#DIV/0!	11.72	

W/Cleats 11.88

Signature

11/8/17
Date

Fuel Load Information

Project Number	Client	Date
236-S-081-1	IHP	11/8/17

Firebox Volume (ft^3)	1.7	Assessment	Y / N

Longest useable measurement parallel or perpendicular to front of unit.	

Test Fuel Charge Range	11.2 - 12.6
Coal bed range (lbs)	2.5 - 3.15

Vol ≤ 1.5 ft^3	Vol > 1.5 ≤ 3.0 ft^3	Vol > 3.0 ft^3
2x4 2x4	4x 2x4	4x4 4x
	15 5/8 L	

Fuel Piece Length	15 5/8	Inches

Run # EPA 3

st Run Fuel Moisture (db)

Piece	S1	S2	S3	S4	Hydronic Heater S5	S6	AVG (%)		Weight (Lbs) Fuel	
1	19.1	19.5	19.2	19.5			19.3		2.03	
2	19.5	19.7	19.5	19.8			19.6		2.03	
3	23.4	20.4	20.4	23.6			22.0		3.97	
4	23.1	20.5	22.4	22.6			22.15		4.56	
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
Spacer Average	19				Fuel Average		20.74	#DIV/0!	12.59	

Signature

11/8/17
Date

Fuel Load Information

Project Number	Client	Date
036-S-081-1	I+P	11/9/17

Firebox Volume (ft^3)	1.7	Assessment	Y / N

Longest useable measurement parallel or perpendicular to front of unit.	

Test Fuel Charge Range	11.2 - 12.6
Coal bed range (lbs)	2.43 - 3.04

Vol ≤ 1.5 ft^3	Vol > 1.5 ≤ 3.0 ft^3	Vol > 3.0 ft^3
Fuel Piece Length	15 5/8 Inches	

Run # FRA4

st Run Fuel Moisture (db)

Piece	S1	S2	S3	S4	Hydronic Heater S5	S6	AVG (%)		Weight (Lbs) Fuel	
1	19.8	20.2	20.2	21.4			20.4		2.45	
2	19	20.2	19.3	19.3			19.45		2.03	
3	~~25~~	~~24.8~~	~~23.7~~	~~24.5~~						
4	25	23.9	24.5	24.5			24.48		3.48	
5	21.7	22.1	22.5	24.9			22.8		4.21	
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
Spacer Average	19				Fuel Average		21.70	#DIV/0!	12.17	

Signature

~~11/8/17~~ 11/9/17
Date